

Advances in Consumer Research

Volume XII



Elizabeth C. Hirschman
Morris B. Holbrook
Editors



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ASSOCIATION FOR CONSUMER RESEARCH

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Elizabeth C. Hirschman and Morris B. Holbrook, Editors.

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PREFACE

The cover and frontispiece of this volume contain a drawing by Morris Holbrook of Alix Hirschman, age one. Alix is playing with her doll. Alix is enjoying her fantasies, feelings, and fun.

We regard Alix as the prototypical consumer and have tried to bring some of her sense of enjoyment to this year's ACR conference. Wherever possible (consistent with the usual standards for scholarship and science), we tried to encourage papers on novel topics, on issues neglected in the past, and on surprising or even strange aspects of the consumption experience. We believe that such divergent thinking by our colleagues contributes strongly to the growth of our field by challenging our capacity to develop and extend its conceptual basis.

In pursuing our objective of including the most diverse and imaginative research approaches in this year's conference, we have benefited enormously from the editorial advice of our reviewers and program committee (acknowledged on another page). We also are deeply grateful to ACR's Executive Committee, who facilitated our efforts in every way. Finally, for helping to illuminate the nature of consumption experiences, we give our loving thanks and dedicate this year's proceedings to Alixandra Chase Hale Hirschman and to Christopher Milton Holbrook.

Our heartfelt gratitude to Gary Ford and Ruth Smith for their outstanding performance as arrangement coordinators. Their task involved keeping track of myriad details, mastering the intricacies of hotel management, and putting up with our frequent haphazard requests. Thanks again for your patience and good spirits!

Carolyn Rawlins provided excellent clerical support and administrative assistance for us. She was the overburdened soul who mailed out the competitive papers, organized reviewers' comments, typed the program, answered authors' queries, sorted the registration forms, typed the name badges, xeroxed the form letters, composed the proceedings table of contents, and compiled the authors' index. Needless to say, the conference could never have occurred without her efforts. Thanks!

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Arch Woodside
Gerald Zaitman
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Thursday, October 11

8:00 a.m. — 5:00 p.m.

Board Meeting

12:00 noon — 1:00 p.m.

Luncheon

6:00 p.m. — 9:00 p.m.

FEDERAL ROOM

Early Bird Reception

Friday, October 12

8:30 a.m. — 10:00 a.m.

SOUTH AMERICAN ROOM

*Hedonic, Esthetic, and Impulsive Consumption
Phenomena*

Chair(s)/Discussant(s):

Rashi Glazer
Columbia University

Hal Kassarjian
U.C.L.A.

A Critique of the Orientations in Theory

A. Fuat Firat
Appalachian State University

*Hedonic and Utilitarian Aspects of Consumption
Behaviors: An Attitudinal Perspective*

Olli T. Ahtola
University of Denver

*7-Up Art, Pepsi Art, Sunkist Art:
The Presentation of Brand Names in Art*

Susan Spiggle
University of Connecticut

*Tattoo Consumption: Risk and Regret in the Purchase
of a Socially Marginal Service*

Clinton R. Sanders
University of Connecticut

Consuming Impulses

Dennis Rook
University of Southern California

Steve Hoch
University of Chicago

Friday, October 12

*The Consumer Researcher Visits Radio City:
Dancing in the Dark*

Morris B. Holbrook
Columbia University

FEDERAL ROOM

Age Group and Cohort Analysis

Chair(s)/Discussant(s):

Mary Lou Roberts
Boston University

William J. Qualls
University of Michigan

Cohort Variation

Bernard Jaworski
University of Pittsburgh

William J. Sauer
University of Pittsburgh

Imagery and Paired-Associate Learning in Preschoolers

Carole Macklin
University of Cincinnati

*Adolescents' Reported Saving, Giving, and Spending
as a Function of Source of Income*

Russell W. Belk
University of Utah

Clifford Rice
University of Utah

Randall Harvey
University of Utah

A Life-Span Perspective of Consumer Behavior

Lawrence R. Lepisto
Central Michigan University

Alternative Age Measures: A Research Agenda

Benny Barak
Baruch College, C.U.N.Y.

Steve Gould
Baruch College, C.U.N.Y.

SENATE ROOM

*Cross-Cultural, Cultural, and Subcultural
Consumer Research*

Chair(s)/Discussant(s):

Paul Bloom
University of Maryland

Seymour H. Fine
Rutgers University

*Cross-Cultural Family Purchasing Decisions:
A Literature Review*

P.J. O'Conner
Baruch College, C.U.N.Y.

Gary L. Sullivan
University of Cincinnati

Dana A. Pogorzelski
University of Cincinnati

*A Proposal for a Global, Longitudinal Measure of
National Consumer Sentiment Toward Marketing
Practice*

John F. Gaski
University of Notre Dame

Michael J. Etzel
University of Notre Dame

*Family Decision-Making Role Perceptions Among
Mexican American and Anglo Wives: A Cross Cultural
Comparison*

Giovanna Imperia
University of Loyola

Thomas C. O'Guinn
University of Illinois

Elizabeth MacAdams
University of Illinois

PAN AMERICAN ROOM

Price, Quality, and Value

Chair(s)/Discussant(s):
Valarie Zeithamel
Texas A & M University

Richard Yalch
University of Washington

Beliefs in Quality Differences and Brand Choices

Carl Obermiller
University of Washington

John J. Wheatley
University of Washington

*Theories of Value and Understanding of Price:
A Developmental Perspective*

Karen Fox
University of Santa Clara

Trudy Kehret-Ward
University of Santa Clara

*The Effect of Brand and Price Information on
Subjective Product Evaluations*

William B. Dodds
Virginia Polytechnic Institute

Kent B. Monroe
Virginia Polytechnic Institute

Friday, October 12

*An Information Processing Perspective on the
Internalization of Price Stimuli*

James G. Helgeson
University of Oregon

Sharon E. Beatty
University of Oregon

GALLERY ROOM

Stimulation, Sensation, and Variety Seeking

Chair(s)/Discussant(s):
Valarie Folkes
U.C.L.A.

Douglass K. Hawes
University of Wyoming

*A Consumer Response to Incongruity Between
Optimal Stimulation and Life Style Satisfaction*

Russell G. Wahlers
University of Notre Dame

Michael J. Etzel
University of Notre Dame

*An Investigation of the Epistemic and Sensory Exploratory
Behaviors of Hedonic and Cognitive Consumers*

Meera Venkatraman
University of Pittsburgh

Debbie MacInnis
University of Pittsburgh

*On Integrating Consumer Needs for Variety With
Retailer Assortment Decisions*

Moshe Handelsman
University of Santa Clara

J. Michael Munson
University of Santa Clara

10:00 a.m. — 10:30 a.m.

Coffee Break

10:30 a.m. — 12:00 noon

SOUTH AMERICAN ROOM

*Hedonic, Esthetic, and Impulsive Consumption
Phenomena (Cont.)*

FEDERAL ROOM

Age Group and Cohort Analysis (Cont.)

SENATE ROOM

Ethnicity

Chair(s)/Discussant(s):

Jagdish Sheth
University of Southern California

New Perspectives on Acculturation

Thomas C. O'Guinn
University of Illinois

Ronald J. Faber
University of Texas

Measuring Hispanicness

Alberto Valencia
Texas Tech University

Relating Ethnic Attitudes and Consumption Values in an Asian Context

Chin Tlong Tan
Singapore University

Jim McCullough
Washington State University

Cultural Values and Behavior

Seth Ellis
University of Arizona

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Washington State University

Melanie Wallendorf
University of Arizona

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University of Singapore

Consumption and Status Across Cultural Boundaries

Mike Reilly
Montana State University

William Rathje
University of Arizona

PAN AMERICAN ROOM

Sales Promotion

Chair(s)/Discussant(s):

Leigh McAllister
M.I.T.

Psychological Mechanisms of the Effects of Cents-Off Promotions

Robert Schindler
University of Chicago

Friday, October 12

Consumer Perceptions of Alternative Sales Promotion Techniques

Alan Sawyer
Ohio State University

Peter Dickson
Ohio State University

Roger Strang

Consumer Response to Promotions in a Competitive Environment: An Individual Level Analysis

Peter Fader
M.I.T.

Leigh McAllister
M.I.T.

Modelling the Coupon Redemption Decision

Caroline Henderson
Dartmouth College

12:00 noon — 1:15 p.m.

CONGRESSIONAL ROOM

Presidential Luncheon

Speaker:

Jagdish N. Sheth
University of Southern California

1:30 p.m. — 3:00 p.m.

SOUTH AMERICAN ROOM

The Vices and Virtues of Being Relevant: Perspectives on Consulting

Chair(s)/Discussant(s):
Jack Jacoby
New York University

Participants:

Jim Bettman
Duke University

Jagdish Sheth
University of Southern California

Jerry Wind
University of Pennsylvania

Russell Belk
University of Utah

Morris Holbrook
Columbia University

FEDERAL ROOM

Methodological Perspectives

Chair(s)/Discussant(s):

R. Dale Wilson
Cornell University

Peter H. Farquhar
University of California, Davis

A Multitrait-Multimethod Analysis of the Validity of Cognitive Response Assessment Procedures

H. Bruce Lammers
California State University, Northridge

Methodological Issues in Simulated Shopping Experiments

Douglas M. Stayman
University of California, Berkeley

Michael R. Hagerty
University of California, Berkeley

Estimating Interactive Utility Models Using Sequential Fractional Factorials

Sunil Gupta
University of California, Berkeley

It's All in How You Slice It—Characterizations of Outcome Distribution in Models of Perceived Risk: A Review and a Proposed Model

John W. Vann
University of Missouri

SENATE ROOM

Telecommunications

Chair(s)/Discussant(s):

Marvin Roscoe, Jr.
AT&T

Leon Schiffman
Baruch, C.U.N.Y.

Gender Differences in the Mature Market

Elaine Sherman
Hofstra University

Ethnic Variations in Telecommunication Behavior

John J. Veltria
AT&T

Homemakers and Working Women: Telecommunication Decision Makers

Marilyn C. Fox
AT&T

Friday, October 12

PAN AMERICAN ROOM

FTC Policy Toward Deception

Chair(s)/Discussant(s):

Gary T. Ford
University of Maryland

Participants:

Howard Bealers
Bureau of Consumer Protection

Jack Calfee
Bureau of Economics

Colloot Guerard
Bureau of Consumer Protection

Marilyn Holme
Attorney-Adviser

GALLERY ROOM

Household Production and the Informal Economy

Chair(s)/Discussant(s):

W. Fred van Raaij
Erasmus University

Liisa Uusitalo
Helsinki School of Economics

A Conceptualization of the Household/Technology Interaction

Alladi Venkatesh
University of California, Irvine

Household Production Approach to Consumer Shopping Time Behavior

Jacob Hornik
Tel Aviv University

Informal Retailing: An Analysis of Products, Attitudes, and Expectations

Elaine Sherman
Hofstra University

Kevin McCrohan
George Mason University

James D. Smith
University of Michigan

Food Provision Level Based on Inputs of Money and Household Production

Danielle E. Aldershoff
Swoka, The Hague

3:00 p.m. — 3:30 p.m.
Coffee Break

3:30 p.m. — 5:00 p.m.

SOUTH AMERICAN ROOM

The Vices and Virtues of Being Relevant (Cont.)

FEDERAL ROOM

Psychometric and Econometric Methods

Chair(s)/Discussant(s):

Albert R. Wildt
University of Missouri

Reza MoInpour
University of Washington

Scaling of Cross-National Survey Data

James B. Wiley
Temple University

Gordon Bechtel
University of Florida

A Case Study of Bias in Parameter Estimates and Forecasts of Multinomial Logit Choice Models in Consumer Choice Studies

Jordan J. Louviere
University of Iowa

Donald A. Anderson
University of Wyoming

Using Structural Zeroes to Simplify the Interpretation of Interactions in Multiway Contingency Tables

Lawrence F. Felck
University of Pittsburgh

SENATE ROOM

Sex Role and Gender Differences

Chair(s)/Discussant(s):

William G. Zikmund
Oklahoma State University

Steven LaTour
Northwestern University

A Study of Psychological Gender Differences: Applications for Advertising Format

Ved Prakash
Florida International University

R. Caell Flores
Florida International University

Friday, October 12

Gender Role Portrayals in Advertising: An Individual Differences Analysis

Maureen Goughlin
Baruch College, C.U.N.Y.

P.J. O'Conner
Baruch College, C.U.N.Y.

Androgyny and Midday Mastication: Do Real Men Eat Quiche?

Lynn R. Kahle
University of Oregon

Pamela Homer
University of Oregon

PAN AMERICAN ROOM

Consumer Perspectives on Health Care Consumption

Chair(s)/Discussant(s):

David W. Stewart
Vanderbilt University

James Shanteau
Kansas State University

Health Care Consumption: A View from a Provider and Trainer

Gerald B. Hickson
Vanderbilt University, Medical School

Information Search and Decision Strategies Among Health Care Consumers: An Empirical Investigation

David W. Stewart
Srinivasan Ratneswahr
Connie Pechman
Gerald B. Hickson
Vanderbilt University

Consumers and Choice

Harris Allen
Rand Corporation

Change in Medical Care Provider

M. Susan Marquis
Allyson R. Davies
John E. Ware, Jr.

GALLERY ROOM

Household Production (Cont.)

6:00 p.m. — 9:00 p.m.

FEDERAL ROOM

Cocktail Party

Saturday, October 13

8:30 a.m. — 10:00 a.m.

SOUTH AMERICAN ROOM

Philosophy/Sociology of Science at the Workbench Level in Consumer Research

Chair(s)/Discussant(s):

Paul F. Anderson
Virginia Polytechnic Institute

Unstructured, Semistructured and Nonempirical Approaches to Consumer Research

Russell W. Belk
University of Utah

Validity: Follow the Cook Book or Create Your Own Recipe

Jerry C. Olson
Pennsylvania State University

J. Paul Peter
University of Wisconsin

The Implications of Relativism for Day-to-Day Research Practice

Paul F. Anderson
Virginia Polytechnic Institute

FEDERAL ROOM

Words and Pictures

Chair(s)/Discussant(s):

Julie Edell
Duke University

Alladi Venkatesh
University of California, Irvine

Effects of Verbal and Visual Information on Brand Attitudes

Yehoshua Tsal
Purdue University

Judgements of Verbal Versus Pictorial Presentations of a Product and with Functional and Aesthetic Features

Teresa J. Demzal
George Mason University

Lynette S. Unger
George Mason University

Saturday, October 13

The Effects of Knowledge and Imagery on Advertising Response to an Innovation

Kathleen Debevec
University of Massachusetts

Patricia W. Meyer
University of Massachusetts

Kenny K. Chan
University of Massachusetts

SENATE ROOM

Attitude Formation and Change within an Advertising Context

Chair(s)/Discussant(s):

Andrew Mitchell
University of Toronto

Anthony R. Pratkanis
Carnegie-Mellon University

Attitude Formation and Change within an Advertising Context

Andrew A. Mitchell
University of Toronto

Category-Based Transfer of Affect in the Evaluation of Novel Brands

Joel B. Cohen
University of Florida

John C. Lynch
University of Florida

The Structure and Function of Consumer Attitudes

Steven J. Breckler
Johns-Hopkins University

Anthony R. Pratkanis
Carnegie-Mellon University

Alternative Perspectives on Attitude Formation and Change

Manoj Hastak
University of Illinois

Jerry C. Olson
Pennsylvania State University

PAN AMERICAN ROOM

Expressions of Satisfaction Up and Down the Phylogenetic Continuum

Chair(s)/Discussant(s):

Richard L. Oliver
University of Pennsylvania

Emotional Expressions in the Satisfaction Response

Robert A. Westbrook
University of Arizona

Richard L. Oliver
University of Pennsylvania

Children's Product Satisfaction

Thomas Robertson
University of Pennsylvania

John R. Rossiter
New South Wales Institute

Scott Ward
University of Pennsylvania

Issues in Measuring Children's Affective Responses to Satisfaction

Robert Novick
Impulse Research Corp.

Assessing Pet Food Palatability

Stephen F. Owen
Ralston Purina Corp.

GALLERY ROOM

Involvement

Chair(s)/Discussant(s):
C.W. Park
University of Pittsburgh

Flemming Hansen
Copenhagen School of Business

Hemispheric Function and Involvement

Debra Stephens
University of Chicago

There are More than Two Types of Consumer Involvement

J.N. Kapferer
C.E.S.A.

G. Laurent
C.E.S.A.

Product Use, Involvement and Expertise

Judith L. Zaichkowsky
American University

10:00 a.m. — 10:30 a.m.

Coffee Break

Saturday, October 13

10:30 a.m. — 12:00 noon

SOUTH AMERICAN ROOM

Applications from Post-Post-Positivistic Philosophy of Science

Chair(s)/Discussant(s):
Michael J. Ryan
University of Michigan

Participants:
Julia Bristor
University of Michigan

John O'Shaughnessy
Columbia University

Jerry Zaltman
University of Pittsburgh

FEDERAL ROOM

Ritualized Behavior

Chair(s)/Discussant(s):
Sidney J. Levy
Northwestern University

Rituals of Restraint and Bingeing Behavior

Dennis W. Rook
University of Southern California

Ritual Costumes and Status Transition

Michael R. Solomon
New York University

Punam Anand
New York University

Effects of Ritual Syntax on Product Categorization and Evaluation

Trudy Kehret-Ward
University of California, Berkeley

Marcia Johnson
Fair, Isaac Comp.

Therese Louie

SENATE ROOM

Consumer Knowledge Structures

Chair(s)/Discussant(s):
James R. Bettman
Duke University

Eric J. Johnson
Carnegie-Mellon University

What Kind of Knowledge Representation Is Best for Consumers' Product Knowledge

J. Edward Russo
University of Chicago

Product Knowledge Differences for Categories Varying in Concreteness-Abstractness

Michael Johnson
University of Michigan
Jolita Kislilus
University of Illinois, Chicago

The Development of Consumer Knowledge Structures in Children

Deborah Roedder-John
University of Wisconsin
John C. Whitney
Harvard University

PAN AMERICAN ROOM

Counterfeiting, Dissatisfaction, and Complaining Behavior

Chair(s)/Discussant(s):
Alan Andreasen
U.C.L.A.
Ralph L. Day
Indiana University

Product Counterfeiting: Consumers and Manufacturers Beware

Gary Bamossy
California Polytechnic
Debra Scammon
University of Utah

Disconfirmation of Equity Expectations: Effects on Consumer Satisfaction with Services

Raymond P. Fisk
Oklahoma State University
Clifford E. Young
Oklahoma State University

A Consumer Complaint Strategy Model: Antecedents and Outcomes

Robert E. Krapfl, Jr.
University of Maryland

Saturday, October 13

GALLERY ROOM

Communication and Involvement

Chair(s)/Discussant(s):
Clark Leavitt
Ohio State University
Donna Hoffman
Columbia University

Viewer Processing of Commercial Messages: Context and Involvement

Gordon W. McClung
University of Pittsburgh
C. Whan Park
University of Pittsburgh
William Sauer
University of Pittsburgh

Involvement, Familiarity, Cognitive Differentiation and Advertising Recall: A Test of Convergent and Discriminant Validity

George M. Zinkhan
University of Houston
M. Aydin Muderisoglu
University of Houston

Understanding the Likability Involvement Interaction: The 'Override Model'

R. Batra
Columbia University

12:00 noon — 1:30 p.m.

CONGRESSIONAL ROOM

Awards Luncheon and Business Meeting

1:30 p.m. — 3:00 p.m.

SOUTH AMERICAN ROOM

Situations and Intentions

Chair(s)/Discussant(s):
William L. Wilkie
University of Florida
Naresh K. Malhotra
Georgia Tech.

Considerations for Situational Research

P. Greg Bonner

The Effects of Time and Situational Variables on Intention-Behavior Consistency

Joseph A. Cote, Jr.
Washington State University

John K. Wong
Washington State University

Explaining Intention-Behavior Discrepancy: A Paradigm

John Wong
Washington State University

Jagdish Sheth
University of Southern California

FEDERAL ROOM

Materialism

Chair(s)/Discussant(s):

Russell W. Belk
University of Utah

Are Americans Becoming More Materialistic?

Monroe Friedman
Eastern Michigan University

History of Mass Consumption

Rosalind Williams

Materialism in the Home: The Impact of Artifacts on Dyadic Communication

Clark D. Olson
University of Minnesota

Social Stratification, Object Attachment, and Consumer Life Pattern

Melanie Wallendorf
University of Arizona

Materialism and Magazine Advertising During the Twentieth Century

Russell W. Belk
University of Utah

SENATE ROOM

Memory

Chair(s)/Discussant(s):

Dipankar Chakravarti
University of Florida

Raymond R. Burke
University of Pennsylvania

Saturday, October 13

The Effects of Mood on Retrieving Consumer Product Information

Robert Lawson
Alfred University

Memory of Scripts in Advertising

Christopher P. Puto
University of Michigan

The Effects of Part List Cuing on Attribute Recall: Problem Framing at the Point of Retrieval

Joseph W. Alba
University of Florida

Amitava Chattopadhyay
University of Florida

Memory Accessibility and Task Involvement as Factors in Choice

Sara Fisher Gardial
University of Houston

Gabriel Biehal
University of Houston

PAN AMERICAN ROOM

Communication and Persuasion

Chair(s)/Discussant(s):

Mickey Belch
University of California

Rebecca H. Holman
Young & Rubicam

The Elaboration Likelihood Model: Its Limitations and Marketing Applications

Mary Jo Biltner
University of Washington

Carl Obermiller
University of Washington

The Overkill Effect of Corrective Advertising: Heiderian Perspective on the Influence of Corrective Advertisement Sponsorship on Cognitive Responses Toward the Company

H. Bruce Lammers
California State University

Rhetorical Strategies in Advertising

John Deighton
Dartmouth College

GALLERY ROOM

Bargaining and Selling Interactions

Chair(s)/Discussant(s):

Wes Johnston
Ohio State University

Harish Sujan
Pennsylvania State University

Decision Making and Information Search in Multiple-Opponent Bargaining

Paul H. Schurr
University of North Carolina

Merrie Brucks
University of North Carolina

Identity Negotiation in Buyer Seller Interactions

Arch G. Woodside
University of South Carolina

James L. Taylor
University of South Carolina

The Effects of Expectancy Disconfirmation and Argument Strength on Message Processing Level: An Application of Personal Selling

Jerome B. Kernan
University of Cincinnati

3:00 p.m. — 3:30 p.m.

Coffee Break

3:30 p.m. — 5:00 p.m.

SOUTH AMERICAN ROOM

Judgments, Decisions, and Choices

Chair(s)/Discussant(s):

Thomas S. Robertson
University of Pennsylvania

Donald H. Granbois
Indiana University

The Impact of Information on Policymaker Judgments of New Technology

Peter Wilton
University of California, Berkeley

An Empirical Investigation of the Relationship Between Consumer Decision Making and Perceived Decision Freedom

John R. Walton
Miami University

Eric N. Berkowitz
University of Massachusetts

Saturday, October 13

Toward a More Comprehensive Theory of Consumer Choice

Richard W. Olshavsky
Indiana University

FEDERAL ROOM

Yes, But...

Presenter:

William Wells
Needham, Harper, Inc.

SENATE ROOM

Communication and Persuasion (Cont'd)

Chair(s)/Discussant(s):

Ivan Preston
University of Wisconsin

Richard J. Lutz
University of Florida

Product Recall Communications: The Effect of Source, Media and Social Responsibility

David W. Jolly
Oklahoma State University

John C. Mowen
Oklahoma State University

The Persuasive Impact of Music in Advertising

Punam Anand
New York University

Brian Sternthal
Northwestern University

An Experimental Investigation Concerning the Comparative Influence of MTV and Radio on Consumer Market Responses to New Music

Lori Baldwin
Florida State University

Richard Mizerski
Florida State University

PAN AMERICAN ROOM

Dyadic Interaction

Chair(s)/Discussant(s):

David Brinberg
Baruch College, C.U.N.Y.

Participants:

William R. Dillon
Baruch College, C.U.N.Y.

Gloria T. Thomas
Baruch College, C.U.N.Y.

Gary F. Soldow
Baruch College, C.U.N.Y.

Danny Moore
University of Florida

David Brinberg
Baruch College, C.U.N.Y.

Nancy Schwenk
Baruch College, C.U.N.Y.

GALLERY ROOM

Product Categorization

Chair(s)/Discussant(s):

Terry Oliva
Rutgers University

Betsy Gelb
University of Houston

*Individual and Product Correlates of Evoked Set Size
Among Women*

Michael Reilly
Montana State University

Thomas L. Parkinson
Lehigh University

*The Prototypicality of Brands: Relationships with
Brand Awareness, Preference and Usage*

Prakash Nedungadi
University of Florida

J. Wesley Hutchinson
University of Florida

*Effects of Product Class Knowledge on the
Evaluation of Comparative Versus Noncomparative
Messages*

Angellina Villarreal
San Diego State University

5:00 p.m. — 6:00 p.m.

ACR/JCR Robert Ferber Award Winning Papers

SOUTH AMERICAN ROOM

Winner:

Merrie Brucks
University of North Carolina

Saturday, October 13

*The Effects of Product Class Knowledge on
Information Search Behavior*

Honorable Mention:

Mita Sujan
Pennsylvania State University

*Consumer Knowledge: Effects on Evaluation
Strategies Mediating Consumer Judgments*

6:00 p.m. — 9:00 p.m.

FEDERAL ROOM

Cocktail Party

Sunday, October 14

8:30 a.m. — 10:00 a.m.

SOUTH AMERICAN ROOM

Imperfect Preferences

Chair(s)/Discussant(s):

Joel Huber
Duke University

David Reibstein
University of Pennsylvania

Learning in Multiattribute Utility Analysis

Robert Meyer
U.C.L.A.

*Subject Specific Selection of Profiles in
Multiattribute Preference Assessment*

Joel Huber
Duke University

William T. Ross
Duke University

*A New Procedure for Inferring Consumer
Uncertainty Over Relevance of Product Attributes*

Imran Currim
U.C.L.A.

FEDERAL ROOM

Advertising Communication Models

Chair(s)/Discussant(s):

John R. Rossiter
New South Wales Institute

William D. Wells
Needham, Harper, Steers

Christopher P. Puto
University of Michigan

*Advertising Communication Models and
Implications for Advertising Research*

John R. Rossiter
New South Wales Institute

Larry Percy
Creamer Inc.

SENATE ROOM

Socioeconomic Effects on Consumer Behavior

Chair(s)/Discussant(s):

Girish Punj
University of Connecticut

*Racial and Socioeconomic Influences on
Development of Consumer Behavior*

George P. Moschis
Georgia State University

Roy L. Moore
Georgia State University

*A Comparison of the University of Michigan and
Conference Board Indices of Consumer Sentiment*

John Mowen
Oklahoma State University

Cliff Young
Oklahoma State University

Patricia Silpakit
Oklahoma State University

*The Impact of Socio-Economic Variables and
Automobile Stock Characteristics on the Purchase of
New Imported Cars*

R. Dardis
University of Maryland

D. Hrozencik
University of Maryland

PAN AMERICAN ROOM

Creativity: An Experimental Workshop

Chair(s)/Discussant(s):

Larry Rosenberg
University of Massachusetts

Sunday, October 13

Participants:

Jerry Olson
Pennsylvania State University

Michael Ray
Stanford University

Jerry Zaltman
University of Pittsburgh

GALLERY ROOM

Phenomenology In Consumer Research

Chair(s)/Discussant(s):

Geraldine Fennell

Participants:

Scott Churchill

Chris Mruk

Elizabeth Myers

Fred Wertz

10:00 a.m. — 10:30 a.m.

Coffee Break

10:00 a.m. — 12:00 noon

SOUTH AMERICAN ROOM

Modeling Consumer Choice

Chair(s)/Discussant(s):

Vithala R. Rao
Cornell University

Participants:

Wayne DeSarbo
University of Pennsylvania

John Payne
Duke University

Joel Steckel
Columbia University

Alice Tybout
Northwestern University

FEDERAL ROOM

New Directions in Copy Testing

Chair(s)/Discussant(s):

Anthony Pratkanis
Carnegie-Mellon University

William D. Wells
Needham, Harper, Steers

Links Between People and Products: Copy Research Approaches

Linda F. Alwitt
Leo Burnett, Inc.

Melody Douglas-Tate
Leo Burnett, Inc.

Applied Research on Memory and Persuasion for Television Commercials: Paradigm Development

Mark Moody
Burke Marketing Services, Inc.

Michael F. VonGonten

An Experimental Investigation of the Relationship Between Advertising Recall and Persuasion

Ann E. Beattie
Columbia University

Andrew A. Mitchell
University of Toronto

SENATE ROOM

Socioeconomic Status and Retail Patronage

Chair(s)/Discussant(s):

Murphy A. Sewall
University of Connecticut

Meryl Gardner
New York University

Explaining Differences in Consumption by Working and Non-working Wives

Shreekant Joag
Oklahoma State University

James W. Gentry
Oklahoma State University

Jo Anne Hopper
Oklahoma State University

Associational Involvement: An Intervening Concept Between Social Class and Patronage

Scott Dawson
University of Arizona

Melanie Wallendorf
University of Arizona

Patronage Behavior Toward Shopping Areas: A Proposed Model Based on Huff's Model of Retail Gravitation

Chow-Hou-Wee
University of Western Ontario

PAN AMERICAN ROOM

Creativity (Cont'd)

TABLE OF CONTENTS

1985 Copyright, Association for Consumer Research

Program Committee, Arrangements, Competitive Paper Reviewers

Preface

Presidential Address	1
Jagdish N. Sheth, University of Southern California	
"A Critique of the Orientations in Theory"	3
A. Fuat Firat Appalachian State University	
"Hedonic and Utilitarian Aspects of Consumption Behaviors: An Attitudinal Perspective"	7
Olli T. Ahtola, University of Denver	
"7-UP Art, Pepsi Art, and Sunkist Art: The Presentation of Brand Symbols in Art"	11
Susan Spiggle, The University of Connecticut	
"Tattoo Consumption: Risk and Regret in the Purchase of a Socially Marginal Service"	17
Clinton R. Sanders, University of Connecticut at Hartford	
"Consuming Impulses"	23
Dennis W. Rook, University of Southern California Stephen J. Hoch, University of Chicago	
"The Consumer Researcher Visits Radio City: Dancing in the Dark"	28
Morris B. Holbrook, Columbia University	
"Cohort Variation"	32
Bernard Jaworski, University of Pittsburgh William J. Sauer, University of Pittsburgh	
"Imagery and Paired-Associate Learning in Preschoolers"	37
M. Carole Macklin, University of Cincinnati	
"Adolescents' Reported Saving, Giving, and Spending as a Function of Sources of Income"	42
Russell W. Belk University of Utah Clifford Rice Randall Harvey	
"A Life-Span Perspective of Consumer Behavior"	47
Lawrence R. Lepisto Central Michigan University	
"Alternative Age Measures: A Research Agenda"	53
Benny Barak, Baruch College (CUNY) Steven Gould, Baruch College (CUNY)	
"Cross Cultural Family Purchasing Decisions: A Literature Review"	59
P. J. O'Connor, Bernard Baruch College, City University of New York Gary L. Sullivan, University of Cincinnati Dana A. Pogorzelski, University of Cincinnati	
"A Proposal for a Global, Longitudinal Measure of National Consumer Sentiment Toward Marketing Practice"	65
John F. Gaski, University of Notre Dame Michael J. Etzel, University of Notre Dame	

"Family Decision Making Role Perceptions Among Mexican-American and Anglo Wives: A Cross Cultural Comparison"	71
Giovana Imperiale Loyola University-New Orleans Thomas C. O'Guinn, University of Illinois at Urbana-Champaign Elizabeth A. MacAdams, University of Illinois at Urbana-Champaign	
"Beliefs in Quality Differences and Brand Choice"	75
Carl Obermiller, University of Washington John J. Wheatley, University of Washington	
"Theories of Value and Understanding of Price: A Developmental Perspective"	79
Karen F.A. Fox, The University of Santa Clara Trudy Kehret-Ward, University of California-Berkeley	
"The Effect of Brand and Price Information on Subjective Product Evaluations"	85
William B. Dodds, Virginia Polytechnic Institute and State University Kent B. Monroe, Virginia Polytechnic Institute and State University	
"An Information Processing Perspective on the Internalization of Price Stimuli"	91
James G. Helgeson, Gonzaga University Sharon E. Beatty, University of Oregon	
"A Consumer Response to Incongruity Between Optimal Stimulation and Life Style Satisfaction" ...	97
Russell G. Wahlers, University of Notre Dame Michael J. Etzel, University of Notre Dame	
"The Epistemic and Sensory Exploratory Behaviors of Hedonic and Cognitive Consumers"	102
Meera P. Venkatraman, University of Pittsburgh Deborah J. MacInnis, University of Pittsburgh	
"On Integrating Consumer Needs for Variety With Retailer Assortment Decisions"	108
Moshe Handelsman, The University of Santa Clara J. Michael Munson, The University of Santa Clara	
"New Perspectives on Acculturation: The Relationship of General and Role Specific Acculturation With Hispanics' Consumer Attitudes"	113
Thomas C. O'Guinn, University of Illinois at Urbana-Champaign Ronald J. Faber, University of Texas at Austin	
"Developing an Index to Measure 'Hispanicness'"	118
Humberto Valencia, Texas Tech University	
"Relating Ethnic Attitudes and Consumption Values in an Asian Context"	122
Chin Tiong Tan, National University of Singapore James McCullough, Washington State University	
"Cultural Values and Behavior: Chineseness Within Geographic Boundaries"	126
Seth Ellis, University of Arizona James McCullough, Washington State University Melanie Wallendorf, University of Arizona Chin Tion Tan, University of Singapore	

"Consumption and Status Across Cultural Boundaries: Nonreactive Evidence"	129
Michael D. Reilly, Montana State University William L. Rathje, University of Arizona	
"An Experimental Technique for Exploring the Psychological Mechanisms of the Effects of Price Promotions"	133
Robert M. Schindler, University of Chicago Stacy E. Rothaus, Beecham Products	
"Modeling the Coupon Redemption Decision"	138
Caroline M. Henderson, Dartmouth College	
"Serving Two Masters: Perspectives on Consulting"	144
Jacob Jacoby, New York University	
"Why Business is Bad for Consumer Research: The Three Bears Revisited"	145
Morris B. Holbrook, Columbia University	
"The Vices and Virtues of Consulting: Responding to a Fairy Tale"	157
Jacob Jacoby, New York University	
"A Multitrait-Multimethod Analysis of the Validity of Cognitive Response Assessment Procedures"	164
H. Bruce Lammers California State University, Northridge	
"Methodological Issues in Simulated Shopping Experiments"	173
Douglas M. Stayman, University of California at Berkeley Michael R. Hagerty, University of California at Berkeley	
"Estimating Interactions in Conjoint Analytic Tasks: The Use of Sequential Designs"	177
Sunil Gupta, Columbia University	
"It's All In How You Slice it -- Characterizations of Outcome Distributions in Models of Perceived Risk: A Review and a Proposed Model"	183
John W. Vann, University of Missouri-Columbia	
"A Conceptualization of the Household/Technology Interaction"	189
Alladi Venkatesh University of California, Irvine	
"The Role of Voluntarism in Providing Collective Goods For Household Production"	195
Lynette S. Unger, Miami University	
"Household Production Approach to Consumer Shopping Time Behavior"	200
Jacob Hornik, Tel-Aviv University	
"Informal Retailing: An Analysis of Products, Attitudes, and Expectations"	204
Elaine Sherman, Hofstra University Kevin McCrohan, George Mason University James D. Smith, University of Michigan	
"Final Food Consumption Level Based on Expenditure and Household Production"	209
Danielle E. Aldershoff, Institute for Consumer Research SWOKA, The Netherlands	

"Scaling of Cross-National Survey Data"	215
James B. Wiley, Temple University Gordon G. Bechtel, University of Florida	
"A Case Study of Bias in Parameter Estimates and Forecasts of Multinomial Choice Models in Consumer Choice Studies"	220
Jordan J. Louviere, University of Iowa Donald A. Anderson, University of Wyoming	
"Using Structural Zeros to Simplify the Interpretation of Multiway Contingency Tables With Interactions"	226
Lawrence F. Feick, University of Pittsburgh	
"A Study of Psychological Gender Differences: Applications for Advertising Format"	231
Ved Prakash, Florida International University R. Caeli Flores, Florida International University	
"Gender Role Portrayals in Advertising: An Individual Differences Analysis"	238
Maureen Coughlin, Baruch College, CUNY P. J. O'Connor, Baruch College, CUNY	
"Androgyny and Midday Mastication: Do Real Men Eat Quiche?"	242
Lynn R. Kahle and Pamela Homer, University of Oregon	
"The Impending Surplus of Child Health Care Providers: Implications for Patients, Practitioners and Pediatric Training Programs"	247
Gerald B. Hickson, Vanderbilt University	
"Information Search and Decision Strategies Among Health Care Consumers"	252
David W. Stewart, Gerald B. Hickson, Srinivasan Tatneshwar, Cornelia Pechmann, and William Altemeir Vanderbilt University	
"Consumers and Choice: The Forgotten Element in Health Care Cost Containment Policy"	258
Harris M. Allen Jr., The Rand Corporation	
"Change in Medical Care Provider: A Causal Analysis of the Consequences of Patient Dissatisfaction(1)"	263
M. Susan Marquis, Allyson R. Davies, John E. Ware, Jr.	
"Effects of Verbal and Visual Information on Brand Attitudes"	265
Yehoshua Tsal, Cornell University	
"Judgements of Verbal Versus Pictorial Presentations of Products With Functional and Aesthetic Features"	268
Teresa J. Domzal, George Mason University Lynette S. Unger, Miami University	
"The Effects of Knowledge and Imagery on Advertising Responses to an Innovation"	273
Kathleen Debec, Patricia W. Meyers, Kenny K. Chan University of Massachusetts/Amherst	
"Consumer Satisfaction Among Children"	279
Thomas S. Robertson, University of Pennsylvania John R. Rossiter, New South Wales Institute of Technology Scott Ward, University of Pennsylvania	

"Hemispheric Function and Involvement"	285
Debra Stephens The University of Chicago	
"Consumers' Involvement Profile: New Empirical Results"	290
Jean-Noel Kapfere, HEC-ISA Gilles Laurent, HEC-ISA	
"Familiarity: Product Use, Involvement or Expertise?"	296
Judith Lynne Zaichkowsky, American University	
"Consumer Behavior From a Contemporary Philosophy of Science Perspective: an Organizational Framework"	300
Julia M. Bristor, The University of Michigan	
"A Return to Reason in Consumer Behavior: An Hermeneutical Approach"	305
John O'Shaughnessy, Columbia University	
"Sharing Models of Inquiry"	312
Christine Moorman, Gerald Zaltman, University of Pittsburgh	
"Rituals, Costumes and Status Transition: The Female Business Suit As Totemic Emblem"	315
Michael R. Solomon, Punam Anand, New York University	
"Improving Recall By Manipulating the Syntax of Consumption Rituals"	319
Trudy Kehret-Ward, University of California Berkeley Marcia W. Johnson, Fair Isaac & Company Therese A. Louie	
"Concreteness-Abstractness and the Feature-Dimension Distinction" ..	325
Michael D. Johnson, University of Michigan Jolita Kisielius, University of Illinois	
"The Development of Knowledge Structures In Children"	329
Deborah Roedder John, University of Wisconsin-Madison	
"Product Counterfeiting: Consumers and Manufacturers Beware"	334
Gary Bamossy, California Polytechnic State University Debra L. Scammon, University of Utah	
"Disconfirmation of Equity Expectations: Effects on Consumer Satisfaction With Services"	340
Raymond P. Fisk, Clifford E. Young, Oklahoma State University	
"Viewer Processing of Commercial Messages: Context and Involvement"	351
Gordon W. McClung, C. Whan Park, William J. Sauer, University of Pittsburgh	
"Involvement, Familiarity, Cognitive Differentiation, and Advertising Recall: A Test of Convergent and Discriminant Validity"	356
George M. Zinkhan, Aydin Muderrisoglu, University of Houston	
"Understanding the Likability/Involvement Interaction: The "Override" Model"	362
Rejeev Batra Columbia University	
"Considerations for Situational Research"	368
P. Greg Bonner, Rider College	
"The Effect of Time and Situational Variables On Intention-Behavior Consistency"	374
Joseph A. Cote Jr., John K. Wong, Washington State University	

"Explaining Intention-Behavior Discrepancy--A Paradigm"	375
John K. Wong, Washington State University Jagdish N. Sheth, University of Southern California	
"Are Americans Becoming More Materialistic? A Look at Changes in Expressions of Materialism in the Popular Literature of the Post-World War II Era"	385
Monroe Friedman, Eastern Michigan University	
"Materialism in the Home: The Impact of Artifacts on Dyadic Communication"	388
Clark D. Olson, Arizona State University	
"Materialism and Magazine Advertising During the Twentieth Century"	394
Russell W. Belk, Univeristy of Utah Richard W. Pollay, University of British Columbia	
"The Effects of Mood on Retrieving Consumer Product Information"	399
Robert Lawson, Alfred University	
"Memory for Scripts in Advertisements"	404
Christopher P. Puto, University of Michigan	
"The Effects of Part-List Cuing on Attribute Recall: Problem Framing at the Point of Retrieval"	410
Joseph W. Alba, University of Florida Amitava Chattopadhyay, University of Florida	
"Memory Accessibility and Task Involvement as Factors in Choice"	414
Sarah Fisher Gardial, Gabriel J. Biehal, University of Houston	
"The Elaboration Likelihood Model: Limitations and Extensions in Marketing"	420
Mary J. Bitner, Carl Obermiller, University of Washington	
"The Overkill Effect of Corrective Advertising: An Heiderian Perspective on the influence of Corrective Advertisement Sponsorship on Cognitive Responses toward the Company"	426
H. Bruce Lammers, California State University, Northridge	
"Rhetorical Strategies in Advertising"	432
John Deighton, Dartmouth College	
"Decision Making and Information Search in Multiple-Opponent Bargaining"	437
Merrie Brucks, Paul H. Schurr, University of North Carolina	
"Identity Negotiations in Buyer-Seller Interactions"	443
Arch G. Woodside, University of South Carolina James L. Taylor, University of Alabama	
"The Effects of Expectancy Disconfirmation and Argument Strength on Message Processing Level: An Application to Personal Selling"	450
James M. Hunt, Michael F. Smith, Temple University Jerome B. Kernan, University of Cincinnati	
"The Impact of Information On Policymaker Judgments of New Technology"	455
Peter C. Wilton, University of California	
"Consumer Decision Making and Perceived Decision Freedom"	461
John R. Walton, Miami University Eric N. Berkowitz, University of Massachusetts	

"Toward A More Comprehensive Theory of Choice"	465
Richard W. Olshavsky, Indiana University	
"Product Recall Communications: The Effects of Source, Media, and Social Responsibility Information"	471
David W. Jolly, John C. Mowen Oklahoma State University	
"An Experimental Investigation Concerning the Comparative Influence of MTV and Radio on Consumer Market Responses to New Music"	476
Lori Baldwin, Richard Mizerski, Florida State University	
"Interpersonal Communication: A Process of Rule Negotiation Through Metacommunication"	482
Gloria P. Thomas, Gary F. Soldow, Baruch College, City University of New York	
"Husband-Wife Decision Making: An Exploratory Study of the Interaction Process"	487
David Brinberg, Baruch College, CUNY Nancy Schwenk, University of Maryland	
"Individual and Product Correlates of Evoked Set Size for Consumer Package Goods"	492
Michael Reilly, Montana State University Thomas L. Parkinson, Lehigh University	
"The Prototypicality of Brands: Relationships With Brand Awareness, Preference and Usage	498
Prakash Nedungadi, J. Wesley Hutchinson, University of Florida	
"Effects of Product Class Knowledge on the Evaluation of Comparative Versus Noncomparative Messages"	504
Angelina Villareal-Camacho, San Diego State University	
"Advertising Communication Models"	510
John R. Rossiter, N.S.W. Institute of Technology Larry Percy, HBM/CREAMER, Inc.	
"Racial and Socioeconomic Influences on the Development of Consumer Behavior"	525
George P. Moschis, Roy L. Moore, Georgia State University	
"A Comparison of the University of Michigan and Conference Board Indices of Consumer Economic Attitudes"	532
John C. Mowen, Clifford E. Young, Patriya Silpakit, Oklahoma State University	
"The Impact of Socio-Economic Variables and Automobile Stock Characteristics on the Purchase of New Imported Automobiles"	538
Rachel Dardis, University of Maryland Diane Hrozencik, Bureau of Labor Statistics	
"Things of Heaven and Earth: Phenomenology, Marketing, and Consumer Research"	544
Geraldine Fennell, Consultant	
"An Introduction to Phenomenological Psychology for Consumer Research: Historical, Conceptual, and Methodological Foundations"	550
Scott D. Churchill, University of Dallas Frederick J. Wertz Iona College	
"Integrated Description: A Phenomenologically Oriented Technique for Researching Large Scale, Emerging Human Experience and Trends"	556
Christopher J. Mruk, St. Francis College	

"Phenomenological Analysis of the Importance of Special Possessions: An Exploratory Study"	560
Elizabeth Myers University of Tennessee	
"A Psychology of Buying: Demonstration of a Phenomenological Approach in Consumer Research"	566
Frederick J. Wertz, Iona College Joan M. Greenhut, City University of New York	
"Two-Way Spatial Methods for Modeling Individual Differences in Preference"	571
J. Douglas Carroll, Wayne S. DeSarbo, AT&T Bell Laboratories	
"Mathematical Approaches to the Study of Power in Group Decision Making: A Review"	577
Joel H. Steckel Columbia University	
"Explaining Differences in Consumption by Working and Non-Working Wives"	582
Shreekant G. Joag, James W. Gentry, JoAnne Hopper, Oklahoma State University	
"Associational Involvement: An Intervening Concept Between Social Class and Patronage Behavior"	586
Scott Dawson, Melanie Wallendorf, University of Arizona	
"Patronage Behaviour Toward Shopping Areas: A Proposed Model Based On Huff's Model of Retail Gravitation"	592
Chow Hou Wee, National University of Singapore, Singapore Michael R. Pearce, The University of Western Ontario, Canada	
"Casey at the Conference: Some Reflections on the ACR Experience"	598
Morris B. Holbrook, Columbia University Ernest Lawrence Thayer, Deceased	

PRESIDENTIAL ADDRESS:

BROADENING THE HORIZONS OF ACR AND CONSUMER BEHAVIOR

Jagdish N. Sheth
University of Southern California

After spectacular rise in the last two decades, the discipline of consumer behavior has matured and seems to be in search for some new excitement and new directions. The discipline seems to be experiencing midlife crisis. In my opinion, it is both an opportunity and an obligation for ACR as the leading organization of the discipline to provide leadership or at least act as a catalyst in exploring new exciting areas of research and theory. Fortunately, it seems that ACR can provide leadership by broadening the product market scope of the discipline. What we need is a strong commitment by ACR membership and other scholars and practitioners of consumer research.

My presidential address will attempt to suggest three specific areas into which the discipline of consumer behavior can easily broaden its scope and generate new excitement.

Need for Worldwide Orientation

Both ACR as an organization and consumer behavior as a discipline are predominantly American in their orientation. As markets and technologies become more global, it will become necessary for us to identify and research problems in consumer behavior on a worldwide basis. Not only will this broaden the market scope of the discipline will become enriched in the process of integrating research traditions and problems in consumer behavior as carried out by non U.S. scholars and practitioners. In short, it is time we admitted that there may be good research and theory developed outside the U.S. from which we can also benefit and enrich.

How can ACR as a catalyst in broadening the discipline's horizons to thinking of the world customer and cross-national consumer behavior?

I propose three specific recommendations for your consideration.

First, we must actively broaden the membership of ACR by encouraging membership from non U.S. countries. In this regard, I have successfully tried to establish ACR National Representatives in more than twenty countries, and have asked Hans Thorelli to act as a coordinator of this effort. But the task has just begun and I hope the future leadership of ACR will be committed to this activity. It would be marvelous if ACR is reorganized as a world organization representing all scholars and practitioners of consumer behavior.

Second, in order to provide impetus to the discipline and its scholars and practitioners, I strongly urge you to think of establishing on a regular basis, a track for all three days of our annual conference which is devoted to cross-national and/or comparative consumer research. It is simply not sufficient to provide one or two sessions on an ad hoc, reactive way when someone, especially from non U.S. membership, begs or puts pressure to pay attention to his neglected area of consumer behavior. In my opinion, a permanent track for all the three days of the conference will generate more interest and activity similar to the special issues of journals.

Third, a truly worldwide organization holds its annual meetings and specialized conferences in all areas of the world and not just in the East, West and the Midwest of United States. Indeed, more mature disciplines of physics, chemistry and mathematics is inevitable and therefore, have begun to organize their conferences and workshops on a more global basis.

I am aware of the potential issues of travel costs, physical facilities and different infrastructures, but look at AIB and especially ESOMAR who seem to have demonstrated that where there is a will, there is a way. I hope we will overcome these issues rather than use them as excuses for not trying at least some special workshops and conferences in other countries.

Beyond Consumer Choice Behavior

The discipline has in the past focused, perhaps very correctly on only one aspect of consumer behavior, namely consumer choice behavior, especially brand choice behavior.

I think there are lots of exciting new areas for research and theory if we broaden the product scope of the discipline. Therefore, in addition to choice behavior, we must encourage research on procurement behavior (storage, delivery, financing), on consumption behavior (preparation, value added activities, frequency and timing on consumption) and on disposal behavior (waste, recycling, discarding).

This means we will have to learn new disciplines such as consumption economics, resource management and organization behavior in addition to our traditional disciplines of social psychology and personal psychology. It also means we should admit that we have suffered from consumer behavior myopia and correct the situation as soon as possible.

How can ACR correct the myopic vision of the discipline? It is less clear. However, let me suggest two things.

First, perhaps ACR can endorse the idea of organizing separate annual workshops or conferences on the neglected areas of procurement consumption and disposal behavior. To me this is very similar to the special annual conferences on attitude research and on marketing theory organized by AMA. Of course the obvious potential side effect of such specialized annual conferences will be less attendance at the regular annual conference. However, I think it can be compensated by greater worldwide orientation suggested earlier.

Second, ACR can try to generate research funds from both the corporate and the governmental agencies which are earmarked for the neglected areas of procurement consumption and disposal behavior. At least, it can assist some institution such as MSI in generating such research funds.

Need for Normative Theory & Research

A third area for broadening the discipline's horizons is

to encourage normative theory and research. As we all know too well, our discipline has been, and still continues to be dominated by the descriptive research traditions. Hence, one more empirical study or one more descriptive theory seems to generate about the same enthusiasm as attending one more committee meeting or going to one more conference.

What we need is a fundamental shift away from the descriptive research tradition. We must think of encouraging more and more prescriptive research traditions appropriate for the policy makers, marketing practitioners and for consumers themselves. This does not mean conducting more empirical descriptive research on existing beliefs and behavior and using them as a basis for making recommendations. What I am suggesting is a basic normative bent prevalent in economics, religion, law and other similar disciplines.

For example, is there an alternative to the advocacy process so inherent in public policy in order to protect consumer satisfaction and even encourage it? To me, this is a normative issue which raises questions with what is presumed to be the most relevant process in consumerism. And, the answer does not or should not lie in asking consumers what they want. It must come by some other research tradition.

Similarly, can the marketing practitioners bridge the gap between producers and consumers by processes other than persuasion? It is my contention the marketing and selling will not be separable so long as persuasion remains the process inherent in marketing plans and tactics.

Finally, should consumers rely on consumer education and information for their protection or should they organize their buying power and use it as a mechanism to protect their interests? Which is more efficient with respect to cost and time?

ACR's role in fostering the normative thinking will be uncomfortable and controversial. Since normative research and thinking is loaded with values, it is very likely that one member's values may be in direct conflict with some other member's values.

As an organization, ACR will have to contend with diverse values of its members if it fosters normative thinking in the discipline. Perhaps it is inevitable that ACR will be asked to get involved in making value judgements as the discipline shifts toward normative research and thinking. In any case, ACR's role will be uncomfortable and controversial.

I sincerely hope that ACR and its members will provide leadership in these new emerging areas and guide the discipline through its midlife crisis.

A CRITIQUE OF THE ORIENTATIONS IN THEORY DEVELOPMENT IN CONSUMER BEHAVIOR: SUGGESTIONS FOR THE FUTURE

A. Fuat Firat, Appalachian State University

Abstract

This paper presents a theoretical/philosophical critique of the state of research and theory development in consumer behavior. This critical evaluation is based on four points: (i) certain variables are taken as givens, (ii) a managerial-technological orientation dominates, (iii) the discipline develops only micro theories, and (iv) not consumer but buyer behavior is studied. The negative consequences of these orientations from the philosophy of science perspective is discussed, a brief review of the historical background for these orientations is presented, and some points for future theoretical studies are suggested.

Introduction

Consumer Behavior (or Consumer Research) is one of the fastest growing and most potent disciplines today. However, this growth, and theory developments which are an important part of this growth, have not yet been subject to a serious methodological and theoretical/philosophical criticism from within the discipline. Especially a fast growing discipline needs such a self-criticism to be able to direct its development into a more consistent and scientific track. Otherwise, it is possible for the scholars in the discipline to take-off on day to day practical problems, forgetting the theoretical and scientific prerequisites for becoming a discipline that is a consistent conceptual whole. Furthermore, a self-criticism process will both contribute to the discipline's growth and will help in understanding the growth phenomenon by studying the underlying reasons. The greatest beneficiary of such self-criticism will be the discipline itself, and this paper has the purpose of contributing to this criticism.

Models of Consumer Behavior

Consumer Behavior research and literature grow in many directions. Among these are, attitude research, buying decision processes, post-purchase attitudes and other cognitive processes, research on psychometric scaling, etc. Within each of these topics many small scale theories are also developed. Attribution theory, cognitive dissonance theory, diffusion of innovations theories are some of these. However, the most important developments in the consumer behavior discipline are the models (or theories) of consumer (or buyer) behavior which combine and comprise the above and other research. Best known among these models are Nicosia (1966), Howard and Sheth (1969), Engel, Kollat, Blackwell (1973), Andreason (1965), Hansen (1972), and Markin (1974) models. These models will be reviewed here for the purpose of criticizing the dominant orientations in theory development in consumer behavior not one by one, but from the point of view of some approaches and assumptions common to all these models.

Models of Consumer Behavior have been criticized and evaluated before. However, earlier criticisms have generally been technical (i.e., methodological), directed at the validity, measureability and testability of the concepts and variables in these models (Jacoby 1978). It is necessary now to direct self-criticism efforts at the substance and conceptual wholeness of these models

and/or theories.¹ A newly developing discipline especially needs this type of criticism.

Criticisms of the models of Consumer Behavior will be made on four major points:

- Relationships, concepts and variables that need to be studied and researched for an understanding of social realities in consumption are assumed as givens,
- Not a scientific, but a technological-managerial orientation is dominant in Consumer Research,
- The discipline develops only micro theories, and
- Not "consumer," but "buyer" behavior is studied.

All these points are, in the last analysis, closely related, and stem from the historical association of the discipline with marketing and the dominant philosophy in "behavioral sciences."

Relationship, Concepts, And Variables That Need To Be Researched Are Assumed As Givens

A close scrutiny of the models of consumer behavior will show that certain basic variables that influence buying decisions and behaviors of consumers directly, or that even form the basis of some consumption choices are assumed as givens, and not made subject to research or study. The most prominent example of this is the fact that the need or need perceptions of consumers for consumption patterns² and categories (or as in some instances called, generic commodities) are assumed as given. While in some cases these needs are acknowledged to be social-cultural variables, this issue is not made a subject of study. Social-cultural processes are considered only as far as reference groups are involved in choices of information sources, or in choices of attributes or criteria in evaluation of alternatives to satisfy the "given" need. Such an orientation leads to two major results. A premise that "human nature is given" is accepted by default, and models of consumer behavior become restricted to choices at certain levels - particularly to brand choice. With the dominating philosophy in the behavioral sciences today clearly biased toward the practical and immediate-action oriented predictive studies and knowledge systems it is not surprising that studies are limited to certain levels of choice. Understanding and/or explaining choices at consumption

¹As the terms "model" and "theory" are used simultaneously in the Consumer Behavior literature, we shall use both terms. The real effort in the field is to come up with theories of consumption decision processes. Models will be the first step in this direction.

²Consumption patterns define consumption choices in a different sphere than product and brand choice, and combine consumptions that represent similar relationships in consumption behavior, such as, for example, a private-individual transportation pattern (or mode). The most prominent representative of this consumption pattern is the automobile. However, other commodities may also represent this pattern (such as, trucks, minibuses, etc.). One of these products will be selected after, or simultaneously, with a choice for the individual-private pattern. For a more detailed treatment and explanations of consumption patterns, see Firat and Dholakia (1977 and 1982).

patterns level, or explaining need perceptions, social choices that favor certain needs and consumption alternatives require questioning of economic, political, social systemic structures and processes. Such inquiries may be perceived outside the limits of the consumer behavior discipline and belonging to sociology or some other social science. Furthermore, such inquiries necessitate an understanding and explanation of social change, whereas consumer behavior studies have historically limited themselves to predicting behavior within the given social formation.

It is clear that such an orientation has important negative effects on the scientificity of the discipline. Investigating phenomena not in their entirety but only in small parts, or leaving certain parts and stages outside the limits of research creates an important weakness: When the phenomenon is not explained or understood in its entirety, facts or "realities" found at a certain stage of the historical process can easily be assumed or interpreted as "true" or "valid" for all history. This scientific weakness which can occur in terms of historical context, can also occur in terms of differences or changes in the environmental (i.e., political, economic, social structures and processes) contexts.

This orientation, that is, assuming important variables as givens or inputs, in the consumer behavior discipline, is really inherited from classical and neo-classical economic philosophy and its reign among the social sciences today. Homo-economicus philosophy accepts the premise that needs of man³ are creations of innate processes within man, and that they are independent of others' needs. In such a premise, the homo-economicus makes rational decisions as the source of needs under environmental constraints. This orientation has been criticized by several scholars, but with no significant impact in economics (Baran 1957; Duessenberry 1949; Galbraith 1971).

We confront the same philosophy in the marketing and consumer behavior literature and models. For example, it is assumed that the consumer of this society needs a television set. Once this is given, the problem attacked is: How does the consumer go about (decision making) finding the best alternative (in terms of brands and differentiated product attributes), considering his own attributions related to this need (self-image, status, personality, etc.). This problematic, then, leads, along with the demand of the major "consumers" of the discipline, businesses, to a study of ways and mechanisms of influencing decisions, finding the most influential stages in the decision process, etc. A quick look at the developed models will be sufficient to observe that it is this process which is elaborated and detailed in those models. Thus, there is no significant difference in terms of philosophy from classical economics, except that the more economic rationale of the homo-economicus has been replaced and/or enriched with other rationales (especially psychological).

There Is A Dominant Technological-Managerial Orientation

When, as mentioned above, the basic subject of the consumer behavior discipline becomes one of buyer decision processes, the variables that influence this process become important, and thus, the historical perspective of marketing, one of being a business function, is inherited (Sweeney 1972; Spratlen 1972). As a functional business discipline, consumer behavior endeavors to predict behaviors of the buyers in order to help business best exploit and gain from tendencies in these behaviors. Thus, prediction gains precedent over understanding and

³The author is apologetic about the use of a term strongly related to one sex for both sexes, but the English language does not present a pertinent substitute.

explanation. This is the major indication of a technological-managerial orientation. Techniques and methods that work, within the given context, as good predictors become important, whether or not they are theoretically sound and/or constitute good explanatory frameworks. The growth of attitude-behavior theories, and the importance of this relationship in the models, plus emphasis on attitude change are examples of this tendency. As long as a certain predictive framework is obtained, which is methodologically easy to administer, and within this framework creating influence and change is possible, then the methods which enable this are developed and stressed. If this framework gives results in the short-term, and within the dominant context in a certain time span, it is used and developed without much concern about understanding why it produces results. This is not something negative per se. However, if a discipline puts the emphasis on the development of such techniques and methods, it fast deviates from being scientific. This is a "management science" syndrome. It grows from putting too much emphasis on influencing, controlling, that is, managing certain phenomena. It combines technology (i.e., an application of facts discovered) with management (i.e., control and judicious use of means to accomplish an end; socio-political technology). The consequence of this dominant orientation is an application of "scientific" facts discovered and concepts developed in all kinds of social science disciplines in the arena of market exchange. This application is at a level that is socially and politically manageable, that is, most specifically, brand choice. Consumption choices at other levels (more aggregate, for example, consumption pattern) necessitate studying and understanding, and at times changing, societal phenomena, fall outside "manageable" limits, and therefore, are assumed as givens. This is the reason why marketing, in general, and consumer behavior, in particular, have not been able to find easily operational areas in public decisions and in other social programs, unless change could be brought about with conventional techniques.

Only Micro Theories Are Developed

Consumer behavior is a micro discipline, because interest in consumers are only as individual buyers, or as households. We could say that this is similar to the micro analysis of the firm in economics. There seems to be a lack of interest in macro processes such as those that tend to equate or disequat demand and supply in society, thus investigating the effects of societal structures and processes on actions of consumer units, and in turn, the effects of the actions of consumer units on societal institutions. Lacking this aspect, the discipline grows in the direction of a behavioral "science" rather than a social science.⁴

Established social science disciplines, such as, economics, sociology, anthropology, etc., all have macro as well as micro theories and orientation. Macro theories that are presenting a system perspective for the phenomenon in its entirety will provide a basis for micro theories to be built upon, thus eliminating inconsistencies and contradictions in the micro theories when evaluated at a comparative level. This does not mean that

⁴We have used the term science in behavioral science within inverted commas because the term behavioral science carries contradictions within itself, although it has a status in the literature today. Science is a wholistic process. Therefore, it is not scientific to separate behavior from thoughts (cognitive structures), thoughts from social experiences within which they find roots, and thus, to create a "scientific" branch such as behavioral science apart from social science. This means that behavior is treated as if it is not a social phenomenon--a mistake many behavioral "scientists" do make.

variability is sacrificed, or that a third party is watching over developments, for there may be alternative macro frameworks. However, without some linkage to a macro framework, micro theories will not be able to deal with many questions regarding constraints, assumptions and input variables, having to accept them as givens without an explanation and/or understanding of their state.

Buyer, Not Consumer, Behavior is Studied

There is a strong tendency in the consumer behavior discipline, as in marketing, to direct efforts at easy application in practice. It is a widely used statement that being too theoretical limits applicability and use in the real world. Many marketing scholars also adhere to this view (Luck 1969). However, too much emphasis on and tendency toward application in practice can lead to a loss of a sense and understanding of reality.⁵ Unfortunately, both disciplines of consumer behavior and marketing have tended to investigate buying behaviors, rather than consumption behaviors, because they enable easily applicable and comprehensible measurements and scales (Jacoby 1978). This is realized by some of the authors of consumer behavior models (Engel, Kollat, Blackwell 1973; Nicosia 1966). The Howard and Sheth Model is named "The Theory of Buyer Behavior." A distinction between buyer and consumer behavior can contribute to knowledge in several ways.

- i) Consumption, and thus, satisfaction of a need, may have to be achieved through means other than buying (i.e., market exchange). Similarly, not being able to satisfy a need, frustrated consumption, is also a consumption behavior.
- ii) Consumer behavior may act as an independent variable in buyer behavior.
- iii) Study of consumer behavior may help in the development of suggestions for better satisfaction of consumer needs, while buyer behavior is more conducive to a "marketing" approach.
- iv) As public policy and public services and goods enter into the field of the discipline, study of consumer behavior may gain importance, because purchase of public goods and services (i.e., through market exchange) may not be important or even pertinent, whereas, their consumption is meaningful and important for social life patterns.

Four major points of departure were used to present a critical evaluation of the orientations in the consumer behavior discipline. While these points help in describing critically the present state of the discipline, an evaluation would not be complete without understanding the historical background of the orientations that dominate the discipline.

Development of Consumer Behavior Models

As the consumer behavior discipline developed as an area of marketing, and as we referred to certain characteristics of marketing in discussions above, it will be useful and necessary to look at the historical development of marketing itself. It is a usual practice in marketing literature to refer to stages in this development (Bartels 1962). Although the commodity, functional, and institutional approach stages constituted

⁵As this is not a scientific treatise it should suffice to say that reality is not always, and many times not, equal to what is apparent in day to day facts. Therefore, scientific inquiry necessitates an understanding of the relationships in the historical process, rather than a compilation of contemporary facts.

the beginning of the discipline, marketing has become established and recognized as a discipline at a time when demand shortages were the basic problem in advanced capitalist economies. This corresponds to the years just before and after World War II and the time when marketing entered the management approach stage. These occurrences are not coincidental. This was a time when Keynesian policies were widely implemented, especially in the U.S., to raise demand and consumption to levels of supply and production. Marketing, as a discipline with potential for management and regulation of demand to meet supply capabilities, developed fast into a managerial discipline with a technological-managerial orientation with the task to develop management techniques for regulating certain variables to orient social demand. This still is the reason for the strong orientation toward regulating demand rather than supply in marketing (Kotler 1975). As a result of the War economy implemented during WWII both the supply capability and buying power had accumulated, and then set free after the War. This enhanced the development of the technological-managerial orientation, as well as the development of the discipline itself.

In spite of all claims about the discipline's being a "science" of need satisfaction through exchange (Kotler 1972, Bagozzi 1975), its characteristics criticized above, especially the technological-managerial orientation, has limited marketing and consumer behavior disciplines to serve producers and distributors, i.e., supplying and marketing organizations, in prompting demand for their products, services, and brands. Broadening the concept of marketing (Kotler and Levy 1969), has been limited to broadening the operational domain of marketing and consumer research techniques and methods, not broadening the philosophical domain of the disciplines (Spratlen 1972). The disciplines have been displaying the greatest ingenuity and success in (i) orchestrating the image and positioning of brands and products, their main attributes dictated by the technological developments and growth necessities of industries, to match the perceived self-images, cultural and symbolic status differences and aspirations, and buying powers of consumers, (ii) preparing relevant promotional campaigns, and (iii) in learning the decision processes that lead to brand choice, once the need is felt. Being technologically oriented, and having businesses as their major customers or audience, the disciplines have placed the emphasis on studying the mechanisms by which these decision processes can be influenced.

Some Further Comments

These characteristics are primarily attributable to marketing, and have developed as a result of societal necessities created by capitalist growth and developments. They are reflected directly on consumer research which has grown first as a branch of marketing. Thus, all the above characteristics are inherited by the consumer behavior discipline. There are important negative consequences of this inheritance. The models and theories are applicable only within the context, time, and social formation within which they have been developed, which means that application, to other contexts creates difficulties and forcing onto these contexts relationships and methods developed in another context, many times causing imbalances. A clear example to this is the situation where not a demand but a supply shortage is present. The only recommendation for relieving this problem by marketers is demarketing (Kotler and Levy 1971; Kotler 1975). This limitation is closely related to limitations in the development of consumer behavior models. The models can explain only the decision processes which take place once the demand (or need) for a commodity is given. Thus, when that commodity is in shortage, the processes of change in demand, and therefore, a reallocation of resources cannot be explained or predicted. As a result, in the situation termed as the

seller's market, the understanding that whatever is produced will be sold, or that there is no need for marketing (except demarketing) continues to reign.

Another consequence of the developments criticized is the tendency to assume the relationships, facts and relevant techniques and methods discovered in one society or context at a certain time in history, as universal and eternal. Such treatment of scientific facts is the major step toward an ideological break with science, because although a scientific investigation may show probability and possibility for change and development, assuming and arguing a stationary state for certain facts and relations will form conceptual frameworks against change and development which may possibly benefit social groups, the environment, etc.

Conclusion

How can a scientific orientation in the consumer behavior, as well as marketing, discipline(s) be developed? First thing to do is to accept all possible variables as variables, not givens and/or constants. Especially, in the case of consumer behavior, needs or need perceptions (because in reality needs are not constants or givens, but they change) must be made subject to study. Making only brand and/or product choice subject to study hurts scientificity in two ways. First is the probability of not being able to explain different relations in brand and product choice processes, were needs, and also consumption patterns dominant in society, to change. Second is one that has heavy ideological undertones. Unless the processes whereby consumer units participate (or cannot participate) in the formation of available alternatives for consumption (from brands to consumption patterns) in society are not understood, and thus, as long as consumer units are perceived as decision makers that make choices only from among what is available, means of wider participation will also be indirectly limited by the discipline. This means that the discipline, with its technological-managerial orientation will support the perpetuation of the power relationship found in the capitalist economies today. Such a result, consciously or unconsciously supported, will, contrary to scientific goals, perpetuate the predicaments of the powerless consumer units (especially those lacking buying power), and therefore, create an ideological barrier to scientific endeavor. Studying the macro societal structures and processes that tend to equate or dis-equate demand and supply, or needs and their satisfaction, while at the same time molding and changing both variables will bring the steps toward scientific marketing and consumer behavior disciplines.

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HEDONIC AND UTILITARIAN ASPECTS OF CONSUMER BEHAVIOR:
AN ATTITUDINAL PERSPECTIVE

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Abstract

Recent criticism of traditional attitude concept and measurement leveled by consumer researchers who emphasize symbolic, esthetic, and hedonic aspects of consumption is reviewed. Traditional attitude concept is reviewed and the validity of the criticism is partly accepted. A new conceptualization of attitude is proposed that incorporates elements from both perspectives. Operationalization of the concept is discussed, and some preliminary empirical findings are referred to.

Introduction

There has been of late an understanding that the traditional measures of consumer attitudes do not adequately reflect the various volitional, internally motivated, approach/avoidance response tendencies in different consumption and/or purchase situations.

A common criticism is that these attitude measures are based on conceptualizations that are too simplistic and/or too narrowly focused. One area of criticism has pointed out that the symbolic, hedonic, and esthetic aspects of consumption are not adequately reflected in these conceptualizations and consequently in the resultant operationalizations (e.g., Holbrook and Hirschman 1982).

The purpose of this paper is to respond to this criticism by proposing a modification to the traditional attitude concept and measurement. This modification incorporates explicitly and as separate constructs both the utilitarian and the hedonic aspects of consumer attitudes. These two constructs determine the general aspect of attitudes. The three constructs and their relationships together form the overall attitude construct.

Hedonic Perspective

Hedonic, or experiential perspective, as it is also called (Hirschman and Holbrook 1982, Holbrook and Hirschman 1982, also Unger and Kernan 1983), does not limit its scope of interest only to attitudes, but many other aspects of consumer behavior are included. Of interest are various cognitive and behavioral responses in addition to affective ones. Also, much attention is focused on consumer and environmental 'input' variables. Perhaps, because this perspective has been discussed in the marketing literature in the form of rather short articles, the overall picture remains still very fuzzy with several more or less overlapping concepts and constructs that remain un- or vaguely defined. For example, Holbrook and Hirschman, in their various articles, discuss concepts such as esthetic products, esthetic criteria, and esthetic response without explaining these terms adequately. Is it, for example, proposed that evaluating esthetic products, esthetic criteria are used, and the resultant response is esthetic? Probably the main contribution of this literature to this date is that it has convincingly exposed the problem of the dominant view having been too limited, and has pointed out to some directions where eventually some solutions may be found.

As the title of this paper indicated, the hedonic perspective is examined here from an attitudinal perspective.

More specifically, from the traditional attitudinal perspective (e.g., Likert 1932, Osgood, Suci, and Tannenbaum 1957). Consequently, the focus is limited to those elements in the hedonic theories that are seen to provide inputs into accepting, rejecting, or adjusting the traditional attitude concept. The interest is thus almost exclusively on evaluative predispositions.

Hirschman and Holbrook (1982) and Hirschman (1983) make a point that we could classify products into utilitarian and esthetic. Traditional marketing research has concentrated on utilitarian products according to these authors and the measurement instruments reflect that fact. They argue that new methods and instruments need to be developed to study consumption of esthetic products (e.g., going to a concert). Furthermore, they argue that traditional attitude measures, such as expectancy-value multiattribute models, measure only affect, which is only a subcategory of emotional response, which again is only a subcategory of hedonic response.

Hirschman and Holbrook (1982) make several valid points describing the conceptual differences between behaviors like "buying a washing machine" and "going to a concert". What remains unclear is whether also the attitudes toward various brands of washing machines are somehow utilitarian in nature as contrasted with emotional or esthetic. That is, is there a qualitative difference in attitudes toward utilitarian products vs. esthetic products? I cannot help feeling that the authors are implying that preferences among what they call utilitarian products are not hedonic or emotive in nature, even though they explicitly state that traditional attitude measures measure affect, which is a subconstruct of emotion. Perhaps most clearly this qualitative difference in evaluative responses is exposed by Holbrook (1983) referring to Holbrook and Zirlin (1983):

"Epistemic and emotional responses tend to correspond, respectively, to utilitarian and esthetic value judgements. Though the parallelism is not perfect, utilitarian (extrinsic) value tends to result from beliefs about the way product imagery serves consumption needs whereas esthetic (intrinsic) value tends to hinge on an emotional response to the sign or significance appreciated for its own sake."

The above mentioned criticism that the traditional attitude models are oriented toward utilitarian behaviors does not accurately reflect at least the intent of the researchers who developed these techniques. The various attitude measurement instruments have almost exclusively been developed by social psychologists, who have been interested in behaviors such as allowing communists to speak in public (Rosenberg 1956, cf. Hirschman 1983) and sexual behavior (Fishbein 1966).

In summary, it remains unclear whether the authors looking at the attitudes from the hedonic/experiential perspective argue that the traditional attitude work is focusing only on one, perhaps minor, aspect of hedonic response, or that this work focuses on responses that are not hedonic at all. Also, it remains unclear whether a rather comprehensive theory that explains both utilitarian and hedonic behaviors

is suggested. Or is it a theory that relates only to esthetic/hedonic behaviors? However, a convincing case is made that we should take a closer look at distinctions between utilitarian value judgements and esthetic/emotional response.

Traditional Attitudinal Perspective

The distinction between esthetic and utilitarian products or value judgements does not appear to have been a concern to those attitude theorists who have had major influence on consumer researchers. Those who consider attitude to be separate from cognitions and conations argue that it can be measured by a procedure which locates the subject on a bipolar affective or evaluative dimension vis-a-vis a given object. (For a review, see Fishbein 1975, Chapter 1.) Consequently, the attitudes are seen as unidimensional, and the same dimension applies to any subject or object. Furthermore, attitude researchers in psychology seem to equate attitude with feeling more than with preference (cf. Holbrook and Hirschman 1982). Many do not seem to make any difference, a notable example being Fishbein (1975, p. 11), who appears to have influenced the consumer attitude research the most. He uses terms "evaluation" and "affect" interchangeably. Also, in his measurement instruments, scales like pleasant/unpleasant and valuable/worthless are averaged to derive a measure of attitude.

It is also interesting that Fishbein in his earlier theoretical writings (Fishbein 1967) conceptualized three basic determinants of behavioral intentions (behavioral intention is considered by him to be the main determinant of subsequent behavior). These three determinants are 1. attitude (affect) toward the behavior, 2. social norms governing that behavior (referent influences), 3. personal norms governing that behavior. He later dropped the third component, i.e., personal norms, because it correlated too high with the behavioral intention, but at the same time, did not add to the predictive power of the model that included only the two other components (Fishbein 1975, pp. 305-6).

Fishbein may have dropped something theoretically meaningful too early based on empirical evidence that was equivocal. My hypothesis is that the personal norms did not help in predictions because these influences are confounded in his attitude (affect) measures and because of how they were conceptualized. He measured personal norms in terms of what the person believed s/he should/should not do with respect to the action s/he was considering. I believe this is too ambiguous.

Furthermore, I believe that his measure of attitude (affect) includes personal norms through the use of the scales like 'wise/foolish'. Even the scale like 'good/bad' that he always uses, is not independent of normative influences.

I should make it clear that my discussion here is focused on the concept of attitude alone, not on the relationship between, say, beliefs and attitudes. The so called expectancy-value models attempt to explain this relationship, that is, they try to measure attitudes through their determinants, and not directly. The direct measures of attitudes, utilized, for example, by Fishbein include techniques such as the evaluative dimension of the semantic differential (Osgood, Suci, and Tannenbaum 1957) and Likert's method of summated ratings (Likert 1932). These measures are used as criteria when the predictions of expectancy-value models are evaluated.

In summary, traditional attitude concept and measurement, especially as defined by Fishbein, was not devel-

oped for the purpose of predicting behaviors toward utilitarian objects. In fact, the distinction between esthetic and utilitarian objects does not seem to appear in this literature even implicitly. However, separately from attitudes, Fishbein (1967) considered but later discarded (Fishbein and Ajzen 1975) a possibility that people may have personal norms (in addition to social norms) which influence their behavior in addition to attitudinal predispositions. I suggest that these personal norms are rather closely related to the utilitarian motives of behaviors.

An Attitude with Utilitarian and Hedonic Components

I suggest that it is useful to make a distinction between utilitarian and hedonic motives underlying consumption decisions. These motives form two of the three aspects of attitudes toward behavioral acts. Utilitarian aspect of an attitude toward a behavior relates to usefulness, value, and wisdom of the behavior as perceived by the consumer. Hedonic aspect relates to pleasure experienced or anticipated from the behavior. Hedonic aspect results from the esthetic/emotional feelings listed by Holbrook and Hirschman (1982) and Hirschman and Solomon (1984), such as love, hate, fear, joy, boredom, etc., in addition to like/dislike.

Both the utilitarian and hedonic aspects are bipolar in nature and vary in magnitude. Hedonic aspect includes painful and unpleasant feelings as well as pleasant. Utilitarian aspect includes judgements about foolishness and irrationality as well as wisdom and rationality.

I want to emphasize that I am talking about a past, present, or anticipated state, not about a process. Consequently, my utilitarian aspect differs from that of Hirschman and Solomon (1984). They seem to talk about rational processing of information, while my focus is on the affective state. These affective states, whether hedonic or utilitarian in nature, may be the result of rational or irrational, components or Gestalt processing (cf. Holbrook and Moore 1981). Consequently, clear distinction need to be drawn between processing of information and the nature of the resultant state.

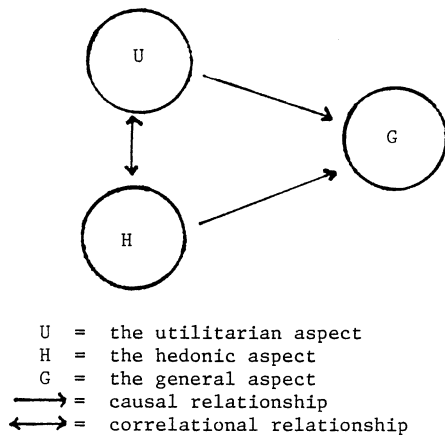
I do not believe it to be conceptually sound to divide behaviors into either hedonic or utilitarian. I feel that practically every behavior has both utilitarian (positive and/or negative) and hedonic (positive and/or negative) aspects. Consequently, it is not theoretically sound to classify behaviors to utilitarian and hedonic, even though it is clear that some behaviors are more hedonically motivated than some others.

Going back to Hirschman and Holbrook (1982) article, their definition of 'hedonic response' is much broader than what is being offered here as 'hedonic aspect of attitudes'. Here it refers only to anticipated or experienced pleasure reactions to an event or a group/sequence of events. The multisensory or fantasy experiences most likely are powerful determinants of this emotional reaction, but they are not considered here to be part of it. Their place is earlier in the causal chain leading to attitudes. A parallel to the above distinction is the relationship between beliefs and attitudes. Rosenberg (1956) considers beliefs to be part of the attitude construct. Fishbein (1967), on the other hand, considers beliefs to be determinants of attitudes, but not part of it. The probable reason for this distinction is that Rosenberg predicts that beliefs can directly affect behaviors while Fishbein assumes that their effect on behaviors is totally mediated by attitudes.

If it is true that the essence of hedonic response can be measured by the pleasure reaction, we are probably much closer to developing an instrument to measure total affect, than if we have to include also multisensory and fantasy measures. Of course, if the purpose is to diagnose emotional reactions, and understand their determinants, we need to develop instruments and

FIGURE 1

The Overall Attitude Construct



methods to study these phenomena. Furthermore, even though it is valuable to measure emotional reactions during the purchase and consumption behaviors for better diagnostics, for the purpose of measuring affective predispositions, it should be adequate to measure anticipated pleasure reactions. The hedonic aspect, however, does not incorporate all the motivational forces. We need to measure also the utilitarian aspect and the general aspect.

The utilitarian aspect is considered to be separate from the hedonic aspect, not a subconstruct of it, as Hirschman and Holbrook (1982) seem to be implying. Again, for the purpose of measuring affective predisposition it should be adequate to measure the anticipated utilitarian value of the behavior. For this purpose it is not necessary to know how different pieces of information were processed to come up with the value.

It is anticipated that the utilitarian and hedonic aspects are normally positively correlated. For example, most cognitive balance theories would predict that.

It is also hypothesized that the utilitarian and hedonic aspects of attitudes together determine the third attitudinal construct that I call the general aspect of an attitude. This third aspect comes closest to the traditional notion of attitude. It relates to the general pro or con orientation toward the behavior. Is the behavior seen as good or bad, positive or negative? The reason I do not conceptualize this general aspect to be the sole or even the central part of the overall attitude construct is because I hypothesize that the hedonic and/or the utilitarian aspects have also a direct impact on behaviors. Their impact is not totally mediated by the general aspect (cf. Fishbein 1967). This is especially likely to be the case when the same behavior takes place under different circumstances. The demands of the situation and the mood of the individual affect the relative influences.

Figure 1 summarizes the proposed overall attitude construct. In the nutshell, what is being proposed here

is that the general aspect of an attitude is a function of two basic components 1. hedonic, and 2. utilitarian. We can measure the general aspect by using scales like 'positive/negative', 'good/bad', 'favorable/unfavorable'. The hedonic component can be measured by using scales like 'pleasing/annoying', 'happy/sad', 'beautiful/ugly', and the utilitarian component by using scales like 'valuable/worthless', 'foolish/wise', 'rational/irrational'. There are probably significant individual, cultural, and situational differences that determine the relative weights for the three components as determinants of behaviors.

I have recently conducted studies where attitudes toward several different behaviors in different populations were measured using evaluative dimension of the semantic differential with a large number of scales. Preliminary findings indicate that when the scales are further factor analyzed, two factors emerge. One factor has the hedonic scales consistently loading on it, and the other factor has the utilitarian scales loading on it. General aspect scales often have high factor loadings on both factors. Sometimes one factor is dominant, sometimes the other. This pattern appears systematic. For example, 'eating candy' has the hedonic factor more dominant, while 'doing laundry' has the utilitarian factor more dominant. The less dominant factor, however, explains also a sizeable part of the total variance in the data. This data is still being analyzed using more sophisticated techniques, such as LISREL, and has not been reported in any published form yet.

Some Related Issues

An interesting related issue is pointed out by Hirschman and Holbrook (1982). That is, it is well documented that people often choose to experience something they expect will cause them emotional pain. Masochism aside, this phenomenon can be explained by utilitarian reasons. As pointed out in the same article, the reason often seems to be a need to learn to deal better with past unhappy events. I would call this utilitarian. Another utilitarian reason might simply be a need to learn more to be better prepared for some future situation. An avid anticommunist may want to read Das Kapital to be more able to argue against communism.

Another related issue is how the proposed conceptualization relates to the work by Fishbein. My interpretation here is that even though Fishbein does not distinguish between hedonic and utilitarian aspects of attitudes, he did try to get to utilitarian aspects of behaviors through his "personal norms" component (even though the relationship between personal norms and utilitarian motives may not be quite straightforward). My recommendation differs significantly from the early and since discarded conceptualization by Fishbein in that it considers the utilitarian aspect to be part of the attitude, not a separate personal normative component like Fishbein conceptualized.

Furthermore, the proposed conceptualization requires a much more careful and restrictive use of scales that load on the evaluative dimension of the semantic differential. Some of those scales are general attitudinal, some are hedonic, and some utilitarian. It is hoped that when the different and unique motivational aspects of these components are considered, better behavioral predictions will also follow. It is, by no means, suggested here that attitudes are the sole determinant of behaviors, but they certainly seem to be one of the most important. Consequently, improvements in their measurement should have a significant effect.

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7-UP ART, PEPSI ART, AND SUNKIST ART: THE
PRESENTATION OF BRAND SYMBOLS IN ART

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Abstract

This paper argues that the appropriation of brand symbols by artists in various art worlds is an important area of inquiry for consumer researchers. A discussion of the features of brand symbols and images which render them unique symbols for conveying meaning by artists is followed by the presentation of data on the use of brand symbols from a content analysis of underground comix. Various explanations of the type of products and brands which appear are explored.

Introduction

Brand symbols and their associated images beckon us from TV, radio, magazines, billboards, newspapers, stores, and our own cupboards. We learn to recognize them as commercial messages and discount, ignore, or embrace them according to our interests, attitudes, and involvement. We also confront brand symbols in a different context. Artists of all types incorporate brand symbols in their art work.

In the 1920s Stuart Davis incorporated Lucky Strike symbols in his paintings. In the 1950s and 1960s Jasper Johns, Andy Warhol, Claus Oldenburg, Tom Wesselman, and Robert Rauschenberg used the symbols of Ballantine Beer, Pall Malls, Budweiser, Campbells, Coke, Underwood, and Brillo along with comic characters and other symbols of mid 20th century everyday life in paintings. Corn Chex, Die Hard, Colombo, Dannon, Coke, Chef Burger, 9 Lives, Moosehead Beer, Pepsodent, STP, Victor Records, Post, Crest, Uncle Ben's, Salem, Winston, and Raleigh are displayed as garbage on the set of the current Boston production of Cats. In a 1984 touring production of Pascual Olivera and Angela del Moral: A Celebration of Spain in Dance and Music, the performers make reference to Sears, Max Factor, Clairol, and Kentucky Fried Chicken in joking with the audience. The rock band, Duran Duran, performs in front of a huge red curtain with the white Coca-Cola wave across it. The films, E.T., The Big Chill, and Gorky Park, conspicuously display such brands as Reeces Pieces, Blaupunkt, Olivetti, and Kelloggs. Street artists have painted a street car in New York City to resemble a Campbells soup can. The syndicated newspaper comic strips, Bloom County and Shoe incorporate the symbols for Lean Cuisine, Bell Telephone, Atari, and K-Mart among others. Underground comix characters are surrounded by such real and fictitious brands as Canada Dry, the Wall Street Journal, Toad Beer, Toxic Shock Tampons, and Pepperidge Farm. A mural painted by children in the dining hall of the 4-H Camp at Abington, Connecticut portrays a suburban landscape out of whose center rises the golden arches of McDonalds.

What is the significance of performers, professional fine artists, comic artists, street artists, and children incorporating brand symbols in their art work? What are consumer researchers to understand about the existence of this phenomenon and which product categories and brands are chosen? This paper speculates about the meaning and potential impact of brand symbols in art. As a first attempt to shed some empirical light on this subject, data from a content analysis of underground comix is presented.

Brand Symbols in Art

Artists working in visual, written, or performance art forms use symbols to convey meaning, whether the intended audience is mass or specialized. Through the choice of symbols and their juxtapositions, artists critique, mock, reflect, idealize, praise, and create new visions of reality. The ability of an artist to accomplish one or more of these objectives is partially a function of which symbols are chosen and the type of meanings they convey to particular audiences.

Brand symbols have particular features which render them unique for incorporation into various art forms. Through the medium of commercial art brand symbols are created with aesthetic guidelines and chosen for their communicative effectiveness. Advertisers have access to immense resources for the production and distribution of their images. High quality artwork and reproductive techniques create ads of considerable artistic merit in which other valued symbols appear along with compelling imagery. Market research and copy testing help to insure that the message delivered will be relevant to the intended audience.

In addition to the wealth of resources which allows the compelling communication of brand symbols, advertising budgets permit their frequent and ubiquitous presence. Most Americans probably encounter Coca-Cola symbols more frequently than symbols of the major religious, governmental, and cultural institutions in society. Not only are they frequently encountered, but they have become part of everyday reality, embedded with and surrounded by noncommercial stimuli. Well funded ad campaigns result in the ability of brand symbols to evoke similar images, emotions, and associations to a nation with access to mass media. As such, brand symbols have come to perform an important integrative function in a still heterogeneous society (Cf. Lohof (1960) on Marlboro cigarettes and Hall (1978) on McDonalds).

Brand symbols and images are pervasive, compelling and widely recognized. Consequently, they provide unique symbols for a variety of artistic purposes. A central question which the marketer of a brand may ask is what implications the use of the brand in art may have in both shaping and reflecting public perceptions of it.

Hirschman (1980) has raised the question of the locus of the source of control over brand symbols and product definitions. She argues that consumers as well as producers may exercise control over product definitions. A third potential source of control over the social definition of products and brands is artists, particularly those who reach large audiences.

Marketers jealously guard the symbols, images, and trade names of their products through registered trademarking and litigation against infringers. Such legal actions are generally directed against market competitors who attempt to trade on consumer awareness and loyalty to a brand built up by the defending firm. Good brand management involves, among other important managerial actions, boundary maintenance actions over the brand's name, symbols, slogans, and images. Artists employing brand symbols in their art are, however, not competitors

appropriating the economic value of a consumer franchise. Rather, they are interlopers who attempt to appropriate the emblematic value of brand symbols to convey their own meaning and purposes.

The impact upon the brand definition may be positive, negative, or neutral depending upon the artist's intent, execution, and audience. Wesselman's 1962 "White for Purity", a sculpture of a white Christian cross with a white Coca-Cola bottle embedded in each arm, may or may not serve the company's purposes. One can easily imagine satiric or pornographic treatments of brands, or brand symbols, combined with unfavorable associations as detrimental to the brand image. Regardless of the impact, the marketer of the brand loses some control over the brand definition.

A more important issue to the brand manager than the potential for losing some control over the brand definition may be the how the use of brand symbols in art reflects upon existing definitions of brands. Do certain brands and product types appear more frequently in different art forms? Are different types of products and brands found in mass versus specialized art? Which are likely to be satirically disguised or presented in a negative manner? Are high share brands, long lived brands, heavily advertised ones, or those with special symbolic or social significance portrayed differently than other ones?

Brand Symbols in Underground Comix

The research presented below analyzes the types of products and brands which appear in underground comix. The first underground comix was privately printed and hawked in San Francisco in 1968. Other artists, whose careers were started by drawing for college humor magazines and the rock poster industry, were joined by comic-fan, amateur artists in creating the fledgling industry which boomed from 1970 to 1972. Economic and cultural factors produced a slump in 1973 followed by a restructuring in 1974, after which comix subject matter became more diverse and the industry more fragmented. Comix are distributed through specialized stores, direct mail by publishers, and by specialized mail distributors. The audience is, thus, limited to those with knowledge of and access to these channels (See Kennedy 1982, Sanders 1975, Brockman 1971).

Underground comix are an interesting art form for the study of brand symbolism in art for several reasons. The audience is small and very specialized. The typical print run is 10,000 to 15,000 as opposed to 200,000 for above ground comics (Kennedy, 1982), or the estimated U.S. audience size of 100 million for Sunday comics (Kassarjian, 1983). In spite of its small absolute size, the audience is part of a larger segment of the population of considerable social significance--individuals with varying degrees of experience with the counterculture. The sheer size and stage of life cycle of this group render them a population segment with significant economic power and political clout.

Underground comic art embraces satire, critique, reflection, praise, and new visions of reality, embodying the values and modes of expression of its culturally specialized audience. Brand symbols appear in undergrounds as the focus of character's attentions, as objects of consumption, and as prominent and hidden background features of the comic panels. Brands are found as identifiable objects lending an air of reality to a scene (a character is reading The Daily Flash), as well as objects of satire (a truck with a Drugs R Us sign), and critical attack (the golden arches of McDonalds over a death camp into which earthlings with Gucci bags are being herded under-

neath which a sign reads "over 100 million seared"). Underground comic artists utilize brand symbols in different ways, providing a basis for looking at how different types of brands are presented.

In addition, the art form combines mass media and individual artistic elements. Underground comix artists produce their art in a relatively simple and inexpensive production and distribution network which gives them a great deal of freedom of artistic expression. In contrast, abovegrounds are produced in a complex and expensive means of production requiring the artists' integration into a large-scale, structured division of labor. Their work is constrained by editorial policy and the necessity to conform to the Comics Code (Kennedy 1982). The similarities and differences between aboveground and underground comic forms and their audiences allow for the possibility of valuable comparisons in the study of brand symbolism in comic art.

The Research

The following data is from a broader study comparing the content of underground comix to Sunday comics. The broader study includes an analysis of the presentation of the roles, goals, and means of characters (following Kassarjian's 1983 work) and of consumer products, retail establishments, and corporations. The data presented here is drawn from a systematic content analysis of a sample of underground comix from two periods, 1971-72 and 1981-82.

Methods

The Sample

The universe from which the sample was drawn is a private comix collection owned by Clinton Sanders. The collection contains all titles from the major publishers of undergrounds from 1968 to the present. A comparison of titles from The Illustrated Checklist to Underground Comix (Wiener 1979) shows the collection to be 79% complete (154 out of 194) for the years 1971-72. The collection contains 74% (154 out of 208) of the titles for 1971-72 listed in The Official Underground and New Wave Comix Price Guide (1983) and 36% (26 out of 73) of the titles for the 1981-82 period. The latter guide includes a more diverse set of titles, especially for the later years when the comix world became more diffused and distributed more fragmented. The sampled universe does not contain every possible title, but is representative of the phenomenon of interest here. In fact, the sampled universe by virtue of its delimited boundaries, is more representative of the phenomenon being investigated than most art worlds and other communications media which researchers content analyze.

The periods 1971-72 and 1981-82 were chosen because they represent different stages in the product life cycle of underground comix. Comix have been published for only sixteen years. The 81-82 period was chosen because it was the most recent two year period for which the collection was complete at the time the data was gathered. The 71-72 period was chosen because it represents the growth stage or boom years of undergrounds and because it provides a decade interval between periods. It further represents the height of the countercultural years.

Every strip was enumerated in each underground comix book and assigned a number from 1 to the number of strips in each period. There were 1542 strips in the 71-72 books and 296 strips in the 81-82 books. Fifty-five strips were then sampled from each period. They were chosen by random numbers generated by a computer program.

Content Categories and Coding

The content analysis categories were constructed to provide answers to the following questions.

1. What brands are shown?
2. Are they real, fictitious, satirically disguised, or generic?
3. Are they shown as the focus of attention of characters, being consumed, or as prominent or hidden background items?
4. Do characters display positive, negative or neutral attitudes toward them?
5. What product types are found?
6. Is the product a durable, nondurable, or a service?
7. What state in the cycle of production, distribution, consumption, and disposal is the product found?
8. Is the product presented by the artist in a positive, negative or neutral manner?

Besides these categories, each strip was defined by period (71-72) or (81-82) and artist's intent. The latter classification was based on a modification of Kassarian's coding scheme (1983) for Sunday comics. He categorized strips in Sunday comics on the basis of whether the intent was laughter or adventure. Because of the different content of underground comix, two additional categories were used, humorous critique and embittered critique. The former represents strips which poke fun at or satirize establishment definitions in a humorous manner. The latter was used with strips which provide humorless and biting critiques of establishment definitions.

The content analysis was conducted by the author and Clinton Sanders. We each independently read and coded every strip. The strips were analyzed for their content on commercial symbols at the same time as their content on several strip-as-a-whole variables and for the roles, goals, means, and other variables of characters. The strip-as-a whole and character coding schemes were developed from Kassarian's (1983) coding scheme and modified where necessary. The brand symbol coding scheme was developed and pretested on strips not included in the sample. The scheme was discussed and modified until both coders reached a 90% level of agreement in their coding assignments.

The scheme was then used to analyze brand symbols in the 110 sampled strips. All objects or references to objects which were identified by a decipherable symbol (verbal or non-verbal) that represented a brand or labeled consumer product were coded as products. We identified 210 products and made 1680 separate judgements on them. We disagreed on 133 judgements resulting in an intercoder reliability rate of 92%. The disagreements were spread approximately equally across coding categories. Coding differences were resolved by both coders' agreement after we discussed the reasons for the original coding assignments.

Findings

Of the 110 strips 44% were classified as laughter, 5% as adventure, 30% as humorous critique, 14% as embittered critique, and 7% were unclassifiable. An increase of embittered critique occurred in the 81-82 period. In 71-72 5% were embittered critique, but 22% were in 81-82.

The adventure and other categories dropped from 20% to 5%, while laughter and humorous critique remained stable.

Of the 110 strips 57% had at least one consumer brand with an average of 1.7 brands per strip. Comparison data has not yet been analyzed for brands in Sunday comics. However, readers familiar with Sunday comics will recognize that a considerably higher proportion of undergrounds contain branded products.

Of the 210 products coded only four real brands appeared twice--Cadillac, Old Crow, Twinkies, and TV Guide (once satirically disguised as TV Cuts). McDonalds appeared once on a bag from which the character Mickey the Rat was having lunch and once as advertising in the newspaper for help in the classified section. Other real, nationally recognized brands included Brillo, Coke (as Cokesi), Drano, Colgate (as Godgate), Jello, Kelloggs, Pampers, Wonderbread, Zenith, Cheer (as Queer), Sunkist, and Wesson. Actual brands were more common than others as Table 1 demonstrates.

TABLE 1

DISTRIBUTION OF BRAND IDENTIFICATION

	Sample	1971-72	1981-82
Actual brands	45%	41%	50%
Fictitious brands	27%	38%	16%
Satirically disguised	10%	6%	14%
Generics	16%	12%	20%
Unclassifiable	2%	1%	2%
N = 210		102	108

Between the 71-72 and 81-82 periods there was a marked decline in fictitious brands accompanied by an increase in actual, generic, and satirically disguised brands.

This trend is consistent with the findings by McNeal, McDaniel, and Smart (1983) in their replication of Bogart and Lehman's (1973) study of the number and types of brands which female consumers could produce through unaided recall. Pointing to increases in the number of nationally advertised brands and generic products between the periods, they correctly hypothesized that respondents would be able to produce a significantly greater average number of brands and a larger proportion of private and generic brands. The fact that the changes between the two time periods in the proportion of brand types in underground comix paralleled those of consumer recall suggests that both reflect trends in the marketing environment. The distribution of products by type and trends over time, however, did not parallel those in the brand repertoires of the unaided brand recall studies. As Table 2 demonstrates the distribution of product types in comix is substantially different from that of unaided recall by female consumers. Food products were of substantially smaller proportions in undergrounds than in the unaided brand repertoires. More striking is the preponderance of information and leisure products which included many books, records, and newspapers in underground comix, while this category was not enumerated in the above studies. Further, alcoholic beverages, the third largest category in underground comix, was minimal in their studies. Likewise, personal and home care products received considerably higher proportions of mentions in the unaided brand repertoire studies than in underground comix. In both brand recall studies and in comix tobacco products were negligible, and automobiles, clothing, and appliances comprised between 3% and 9% of products.

Neither the trends over time, nor the general proportions

TABLE 2

DISTRIBUTION OF PRODUCT TYPES

	Comix Sample	Comix 71-72	Recall 1973	Comix 81-82	Recall 1983
Information & Leisure	43%	46%	-	43%	-
Food	21%	17%	51%	25%	46%
Alcohol	14%	13%	1%	15%	2%
Personal & home care	7%	7%	27%	7%	23%
Autos, vehicles	4%	7%	4%	1%	10%
Appliances	3%	3%	9%	4%	3%
Tobacco	1%	-	2%	1%	2%
Clothing	1%	1%	3%	1%	6%
Other	4%	7%	2%	3%	5%
	N = 210	102	11113	108	3702

Recall data adapted from McNeal, McDaniel, and Smart (1983) to fit comix product categories.

of most product types in comix paralleled those in the unaided brand repertoires. The parallels in brand types and lack of parallels in product types between comix and unaided brand repertoires suggest that for artists and consumers, brand type consciousness may be a function of the brand marketing environment, whereas product type consciousness may be more a function of individual experience and lifestyle. The preoccupation with information and leisure products, food, and alcohol may say more about comix artist's (who are overwhelmingly male) consumption patterns than about those of the larger society. The failure of female consumers to recall information and leisure product brands also likely results from the fact that the typical consumer is more likely to think of brands in product categories whose marketing utilizes consumer package goods techniques than other types.

The presentation of products by the artist and the character orientation toward products remained stable over the two periods. Characters were negative toward 8% of the products, positive toward 13% (as indicated by some behavior other than mere purchase or consumption), neutral toward 49%, and had no relationship to 30%. Artists portrayed 81% of the products in a neutral manner, 2% positively, and 17% negatively. Artist's intent was not related to the manner in which products were presented or characters' orientation toward them. Strips defined as embittered critique and as humorous critique were not more likely to have negative product definitions than those defined as laughter, adventure, or other. Nor were characters more likely to be negative toward products in those types of strips. However, the types of products, whether they were real brands and whether they were the focus of character action or background features, did vary under differing artist's intent.

The distribution of product types across artist's intent can be largely explained by the setting and roles of the characters. In adventure stories one would not expect characters to be using or surrounded by leisure or information products, and one would expect them to be in settings where alcohol was available. Since one would expect appliances to be found in domestic settings, the disproportionate percentage of them in adventures stories is surprising. Although, the small number of products in

TABLE 3

DISTRIBUTION OF PRODUCT TYPES BY ARTIST'S INTENT

	Lei- sure & Info	Food	Alco- hol	P/H Care	Au- tos	Appl- ian- ces	Tob- acco	Clo- th'g	Ot- her	N
Laugh- ter	47%	17%	14%	11%	3%	-	1%	1%	5%	74
Adven- ture	14%	14%	43%	-	-	28%	-	-	-	7
Humr's Crit.	46%	24%	12%	4%	5%	4%	-	-	3%	92
Embt'd Crit.	42%	33%	13%	8%	-	4%	-	-	-	24
Other	43%	7%	21%	7%	7%	-	-	-	14%	14

adventure strips suggests that this may not be important.

A column in Table 3 whose distribution is not readily explained by character roles is food. When artists are drawing humorous and embittered critique comix they show disproportionately more food. Food products are also more likely to be satirically disguised (28%) than other types of products. This satirical treatment of food probably results from comix artists' poking fun at widely recognized and frequently used brands. One might also expect personal care products which share these characteristics with food to be more prevalent in the strips and to also be objects of satire. The different treatment of food may result from special significance attached to products which are literally consumed, or incorporated into the self, as opposed to those that are merely used.

Comix artists communicate their intent in employing brand symbols in how they identify the brand and whether it is employed as a background feature or the object of a character's actions.

TABLE 4

ARTIST'S INTENT BY BRAND IDENTIFICATION

	Real Brand	Ficti- tious Brand	Satiri- cally Disgu- ised	Gen- eric	Other	N
Laughter & Humorous Critique	42%	28%	12%	17%	1%	167
Adventure & Other	35%	47%	4%	9%	4%	21
Embittered Critique	79%	4%	-	13%	4%	24

$$X^2 = 22.08 \quad df = 8 \quad p < .01$$

Comix artists providing embittered critiques are likely to use real brands in their work. However, they do not disguise them as might be expected. Rather, satirically disguised brands tend to appear in comix strips which employ humor. Adventure strips tend to employ fictitious brands.

As Table 5 suggests artists drawing strips communicating embittered critique are less likely to show brands as background features of the panel. Characters are consuming products or focusing attention on them. While not shown in the table, characters are about as equally likely to consume or use (21%) as to focus attention on brands (28%) in humorous strips. In adventure and other strips characters are more than twice as likely to consume brands (37%) as to attend to them (16%). But, in

TABLE 5

ARTIST'S INTENT BY PRODUCT'S RELATION TO CHARACTERS

	Characters consuming or attending to brands	Brand as a back- ground item	N
Laughter & Humorous Critique	49%	51%	167
Adventure & Other	53%	47%	21
Embittered Critique	75%	25%	24

$$X^2 = 5.8 \quad df = 2 \quad p = .05$$

bitterly critical strips they are more than twice as likely to focus attention on brands (54%) and not consume them.

Apart from the type of comix produced, artists use different types of brand identifications for different product categories and incorporate them in different ways in comix strips. Because 80% of the products in the strips were in the categories of food, alcohol, and information and leisure, other product types have been deleted in the remaining tables. Food and information and leisure products were more than twice as likely to represent actual brands, through real symbols or as satirically disguised, than alcohol which is much more likely to be a fictitious brand. Likewise, information and leisure products were only half as likely to be presented as generic.

TABLE 6

PRODUCT TYPE BY BRAND IDENTIFICATION

	Actual Brands	Ficti- tious	Generic	N
Food	57%	16%	27%	44
Alcohol	28%	48%	24%	31
Information & Leisure	55%	33%	12%	94

$$X^2 = 14.67 \quad df = 4 \quad p < .01$$

The differential portrayal of the brand identification of these different product types may be partly a function of the marketing practices of the product industries. Food brands are widely known through the marketing techniques of consumer package goods. In spite of the wide recognition of beer brands of the two major brewers, comix artists draw a high proportion of cans with just "beer" on them and fictitious brands such as "Toad Beer". A high proportion of the information and leisure products were newspapers which when labeled were almost always given the names of actual papers or satirically disguised ones such as "Los Angeles Fishtrapper Herald". Other frequently appearing information and leisure products were record albums and TV shows which also tended to be actual--Talking Heads--or satirically disguised-- "As the World Grinds to a Halt".

Comix artists also incorporate these product types differently in their strips. Characters are more likely to direct their attention to food than to consume it, but are more likely to consume information and leisure products. Alcohol is disproportionately used as a background item in strips with which characters have no relationship. The disproportionate use of alcohol as a

background item and food as background or object of attention may be explained by the setting and roles of characters. As in Sunday comics underground comix characters are typically shown involved in various activities and socializing, recreating, or visiting. Consumption of food and alcohol is sometimes part of these activities, but they are more typically reading the newspaper or listening to record albums.

TABLE 7

PRODUCT TYPE BY RELATION TO CHARACTERS

	Directing Attent- ion to	Consum- ing	Background Object	N
Food	36%	11%	52%	44
Alcohol	6%	29%	64%	31
Information & Leisure	20%	37%	43%	94

$$X^2 = 17.04 \quad df = 4 \quad p < .01$$

Summary of Findings

The data presented here suggests that comix artists use brands in subtle ways to communicate their purposes to readers. Characters are not typically shown praising or impugning brands. Nor do artists typically attack brands in an overt manner. Instead, underground comix artists draw humorously named fictitious brands and satirically disguised brands as background features of panels. They show characters in settings with real brands as background features or as objects of characters' attentions to ground their strips in everyday reality. They also employ real brands when their intention is to provide a critique of the establishment.

The distribution of product types in underground products with its overwhelming emphasis on information and leisure products, food and alcohol may represent comix artists' special preoccupations and lifestyles. A comparison with the distribution of product types in Sunday comics may suggest the extent to which underground comix artists and their audience embrace distinct or mainstream consumer lifestyles. If the distribution is similar in Sunday comics, we may speculate that such product types have special significance for American consumption patterns. If the distribution is dissimilar, we may speculate that the product categories of branded products in comic art reflect consumption patterns and values of groups with distinct lifestyles.

One hundred and twelve actual brands appeared in the sampled strips as real or satirically disguised, but only four brands appeared more than once. Twinkies, Cadillac and TV Guide have special significance as brands for different reasons. Twinkies represents the archtypical, widely consumed, and long lived junk food. Cadillac represents the symbolic epitome of establishment success. TV Guide is one of the most widely circulated publications in the U.S. These three brands, then, have symbolic value and/or large market shares. Old Crow also appeared twice, but has no obvious characteristics that account for its double appearance.

No single characteristic typifies all the 108 actual brands which appeared once. However, a majority were widely known brands currently on the market. Some brands such as Victor Records and Halo shampoo were better known from the past. Many of the brands are market leaders, such as Coke, while others have moderate market shares,

such as Canada Dry. Some were brands of childhood, such as Koolaid, while others represent adult concerns, such as Drano, Schiltz, and Vogue. Finally, some brands are widely consumed, such as Wonderbread, while other are elite products, such as Dior.

Conclusion

The title of this paper is taken from a quote by the pop artist, Claus Oldenburg, who said, "I am for 7-Up Art, Pepsi Art, and Sunkist Art..." (Lippard 1966). The mid-century pop artists pushed the boundaries of art to unacceptable limits for many critics and laymen by incorporating brand symbols and symbols of other everyday, mundane objects, including comic characters in their art. Comic artists also use brand symbols in comic art. However, since comic art is generally not considered a fine art, their use hardly offends comic audiences. In fact, most comic and comic readers probably pay little attention to brands in strips. In both fine art and comic art, brand symbols serve as familiar objects. They may, however, shock the viewer by their unexpected connection to valued symbols from other domains, or be overlooked by their routine incorporation in a normalized setting.

Some brands, such as Coke and McDonalds are found in a wide variety of different art forms, including both underground and Sunday comics. Such brands appear to have special symbolic significance, apart from market share and brand longevity. As brand symbols proliferate in our vistas, it is quite reasonable to expect that artists of all types will employ them to reach us. The systematic content analysis of brands in various art worlds may provide us with insights about brand images and brand definitions. It may also aid us as an unobtrusive measure in understanding consumption values and their variations over time and across groups in society.

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TATTOO CONSUMPTION: RISK AND REGRET IN THE PURCHASE OF
A SOCIALLY MARGINAL SERVICE

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Abstract

This paper employs a sociological perspective to examine the consumption of a socially disvalued service--tattooing. The concepts of purchase risk and possession risk are used to discuss the tattoo consumer's experience with the unconventional service. The tattooee's strategies for dealing with these forms of risk are presented in detail and are used to lay the groundwork for a general understanding of the problems encountered by the consumer of deviant goods and services.

Introduction

In a recent article reviewing the current theories which dominate discussions of consumer behavior, Zielinski and Robertson (1982) stress the need for more work grounded in a sociological perspective. A sociological orientation is of particular importance when, as in the case of services, social interaction is a primary characteristic of the production-selling-consumption process. Recent work in the "production of culture" perspective (e.g., Hirschman and Wallendorf 1982, Sanders 1982, Peterson 1976) also points to the utility of employing a sociological focus when dealing with the process by which cultural products are created and disseminated. Cultural production--from the making of a Hollywood film to the application of a tattoo--is a realm of behavior especially suited to sociological analysis in that it is most basically a form of "collective action" (Becker 1974) in which actors employ shared frames of reference (conventions) to orient and construct their social interactions.

In addition to its relative inattention to a sociological perspective, the consumer research literature contains few, if any, discussions of the consumption of socially marginal, deviant, controversial or unconventional goods and services. While the analysis of socially disvalued commercial activities--prostitution (e.g., Bryan 1966), drug dealing (e.g., Adler and Adler 1983), the distribution of pornography (e.g., McKinstry 1974) and so on--is common in the sociological literature on social deviance, these discussions rarely take into account the categories and insights employed by consumer researchers. In addition to its intrinsic interest, there are a variety of reasons why the examination of socially marginal commercial activities might be of concern to consumer researchers. Disvalued social activities are typically embedded in subcultural groups which provide norms and values which direct and shape patterns of cultural choice (Peterson 1983, Nicosia and Mayer 1976). Knowledge of gatekeeping, opinion leadership, innovation and other features of subcultural impact is directly relevant to an understanding of the social process of consumption. Since many cultural products which eventually find their way into mainstream commercial realms have their roots in the creative activities of marginal groups, the study of these activities provides insight into the dynamic process of cultural diffusion (Hirschman 1981, p. 78).

Secrecy, problems and commitment characterize marginal commercial exchanges. The deviant consumer is, therefore, commonly involved in an overtly conscious, richly complex process of choosing products and services which are central to his or her self-definition. Consequently, the study of deviant consumption can help to shed

light on consumer involvement in decisions shaped by the meaning of products and services with regard to the consumer's understanding of personal identity and other central features of symbolic consumption (Hirschman, 1980, Sirgy 1982). Further, since these commercial activities are potentially discrediting, the marginal consumer normally experiences considerable risk when planning, carrying out and evaluating the exchange. Attention to these neglected areas of consumption may help to expand understanding of perceived risk and its impact on consumer decision making (Ross 1975).

This paper focuses on the microworld of tattooing as a basis for examining some of these issues. The data for this discussion were collected during 54 months of participant observation in the commercial tattoo studios which are the central interactional settings of the tattoo world. The qualitative information consists of detailed ethnographic descriptions of the social action which revolves around the complex process of buying and selling the tattoo service. The field data also contain verbatim transcriptions of interview-conversations in which I was involved as an ongoing, regular interactant in the studios. Additional research material was collected through lengthy, semi-structured interviews with 13 tattooists and 20 tattoo recipients. These interview data allowed me to enrich and refine the analysis inductively generated in the course of the field work phase.

Tattooing as a Consumer Service

The socially disvalued phenomenon of tattooing is a service which involves the direction of a tangible action by a skilled craftsworker at the body of a client/consumer (Lovelock 1984, pp. 51-52). As is the case with haircutting, plastic surgery and similar quasi-tangible services, tattooing: (1) requires that the customer be present throughout the service delivery, (2) entails a close personal involvement between the client and service worker, (3) is a relatively nonstandardized service, and (4) is produced only upon request. Further, the tattoo service involves technical skills with which the client is commonly unfamiliar and which he or she finds difficult to evaluate. While the service is sold, produced and purchased simultaneously, the relative permanence of the service outcome means that appreciation or dissatisfaction continue long after the service interaction is terminated (cf., Kelly and George 1982).

Tattooing is, therefore, a consumer service which is low in search qualities--attributes the buyer can determine prior to purchase. Reliable information on tattooing is almost nonexistent in mainstream social circles and most members of American society have had little or no direct experience with tattooed people or the settings in which tattoos are applied. Tattooing is also a service in which experience qualities--characteristics the client can determine and evaluate only after purchase--are extremely high. The specialized tattoo service is also high in credence qualities--attributes the consumer is unable to ascertain and assess even after having been involved in the purchase experience. Few tattoo consumers, especially first time recipients, possess sufficient knowledge to judge the technical merits of a tattoo or evaluate the relative quality of the service delivery (see Zeithaml 1984 for a discussion of these general issues in service

delivery).

The tattoo is perceived by the purchaser as an "expressive symbol" (cf., Hirschman and Stampfl 1980, p. 18), a purposive alteration of the body which has meaning for the wearer and for those with whom he or she interacts. In conventional social circles the tattoo is commonly stigmatizing. It signals discrediting information about the tattooed individual's character to those who become aware that he or she is so marked. This generally negative social definition is, however, usually not shared by members of the subcultural reference groups with which the tattooed individual interacts or identifies. The tattoo mark is typically both an associative symbol--signifying, at the very least, some connection with other tattooed people--and a symbolic object closely tied to the wearer's self identity (cf., Goffman 1963).

The Tattoo Client and Perceived Risk

It is common for the person entering the tattoo setting to experience considerable anxiety, especially when he or she has little or no prior experience with tattooing. The novice client possesses, at best, minimal knowledge of what the tattooing process entails. Because of the limited number of tattoo studios available in most areas, the potential client generally has little opportunity to compare prices and quality of work. The tattooee does know that the tattoo is permanent and that the application process involves some degree of pain. "Does it hurt?" is the most common question the first-time client asks the tattoo artist. Tattooing also entails the violation of significant norms governing the interaction between strangers. There are few settings in everyday life in which extensive physical contact, the willful infliction of pain and exposure of intimate parts of the body are routine aspects of secondary interactions (Sanders 1983). These factors--inexperience, permanence, expense, pain, exposure and physical contact--cause the tattoo consumer to experience a significant level of risk.

The anxiety felt by the novice tattooee may be understood within the context of the standard categories used by consumer researchers to analyze perceived risk (see Ross 1975, Jacoby and Kaplan 1972). Even when he or she chooses a small design the tattoo client, armed with minimal pre-purchase information, encounters an unexpectedly high financial risk. Confronted by this risk the tattooee may attempt to bargain for a lower price--a practice which is not acceptable in most commercial tattoo studios. It is also common for the initiate to shop on the basis of price alone. The question, "What can I get for \$25?" is defined by the tattooist as indicative of the consumer's ignorance and lack of commitment. As one tattooist observed with considerable heat:

"It's amazing to me! Some guy will blow \$200 on coke and sit around the kitchen table and snort it up in 45 minutes. Then he comes in here and you tell him that the tattoo he wants--a tattoo he is going to wear for the rest of his life--costs \$200. He says, 'that's too much, what can I get for \$100.' It's just stupid."

It is interesting that this feature of low involvement purchase--selection on the basis of price--is so common in what should, by all rights, be a high involvement commercial transaction (Assael 1984, pp. 80-102).

The tattoo process is also more time consuming than most novice clients anticipate. Typically, tattoo artists are reluctant to make appointments. Except in the case of complicated custom work, tattooists usually work on a first-come-first-served basis. The novice

tattooee is commonly required to confront the issue of time loss (cf., Roselius 1971) as an aspect of risk.

The waiting tattooee may fill the time reading the magazines or playing the amusement games provided in most studios, but it is more common for the customer to use the time to increase his or her knowledge of the tattoo process. The client will watch as the tattooist prepares the pigments, adjust tattoo machines and services other clients.

Psychological risk is another facet of the tattoo purchaser's anxiety. The novice, painfully aware of the permanence of his or her choice, experiences uncertainty around such key factors as whether the tattoo design is appropriate and whether the body location specified is wisely chosen.

For most tattoo consumers physiological risk generates the most anxiety. As mentioned earlier, the anticipation of pain is a major factor in the tattooee's psychological set. In addition, the nebulous lay knowledge of tattooing often holds that the tattooee risks contracting hepatitis and other diseases from tattooing, that infection is common and that some people have negative physical reactions to the pigments used in tattooing. Most tattoo artists are overtly aware of, and take great pains to avoid, these potentially negative consequences. The majority of studios are kept scrupulously clean, equipment is autoclaved or kept in anti-bacterial solutions, tattoo needles are not used on multiple clients and unused pigments are discarded rather than being put back into bulk containers.

Tattoo clients are also concerned with the social risk involved in their decision to have their bodies indelibly marked. While various subcultures positively value tattooing as a symbol of commitment and belonging, the tattoo is still commonly defined as a stigmatizing mark by members of mainstream society. The consumer is aware of the potential negative social consequences of being tattooed. Employers, parents and other representatives of "straight" society are justifiably seen as interpreting the tattoo as a symbol of the general deviance and untrustworthiness of the wearer. For example, one woman, when asked about the large rose and snake design she carried on her upper arm, stated:

"I wanted something different and I'd never seen a tattoo like this on a woman before. I really like it but sometimes I look at it and wish I didn't have it." (When is that?)
"When I'm getting real dressed up in a sleeveless dress and I want to look...uh, prissy and feminine. People look at a tattoo and think you're real bad...a loose person."

General uncertainty about technical features of the tattoo application process and the resulting social and psychological consequences of tattoo possession also add to the novice recipient's experience of risk. The client does not have sufficient information to ascertain whether the tattoo service will be, or has been, delivered competently. The tattooee is also concerned about whether the tattoo will meet the social and aesthetic needs he or she has, often vaguely, defined.

As a marginal service, therefore, the purchase of a tattoo entails considerable risk. Lack of familiarity with the purchase setting, anticipation of pain, uncertainty about social and psychological consequences and other unknown factors lead the client to experience a high degree of discomfort. While a certain level of risk is characteristic of all service interactions, it

is particularly significant in settings in which marginal or deviant services (e.g., illegal abortion, prostitution, tattooing) are produced and consumed. In addition, because of the potentially negative legal, social and psychological consequences of acquiring deviant or marginal consumer products (e.g., illegal drugs, pornographic materials), a high degree of risk is a key feature of all deviant consumption. The typical strategies by which conventional retailers reduce perceived risk are not commonly utilized by suppliers of deviant products and services. Retailers of socially disvalued goods and services rarely offer guarantees of satisfaction, legal recourse is generally not available should the consumer experience dissatisfaction, quality is not standardized, purchase settings are commonly dangerous and unfamiliar, and there is a general understanding that the supplier is not altogether trustworthy.

Tattoo Risk Reduction and Postpurchase Satisfaction

In order to reduce the risk inherent in receiving and carrying a tattoo, the consumer makes use of one or more of a variety of choice options. The purchase risk reduction strategies entail taking steps to decrease the consequences of having a bad experience in the purchase setting while increasing the certainty that the purchase encounter will proceed smoothly and result in maximum satisfaction of defined needs. The tattooee, aware of the potentially negative physiological and psychosocial effects of having a tattoo, also attempts to deal with tattoo possession risk. These risk reduction strategies entail decreasing the chances that negative consequences will result while increasing the likelihood that the tattoo purchase will be positively defined and meet the buyer's needs (see Table 1 for a summary of risk reduction strategies).

Table 1

TATTOO RISK REDUCTION STRATEGIES

	<u>Decrease Consequences-</u>	<u>Increase Certainty</u>
of purchase situation	<ol style="list-style-type: none"> 1. use alcohol/depressants 2. enter setting with purchase pal 3. purchase small tattoo 	<ol style="list-style-type: none"> 1. patronize reputable artist 2. attend to physical features of shop 3. observe tattoo process 4. attend to interaction with tattooist 5. acquire word-of-mouth information
of tattoo possession	<ol style="list-style-type: none"> 1. choose small design 2. choose concealable body location 3. selectively reveal tattoo possession 4. attend to aftercare instructions 	<ol style="list-style-type: none"> 1. patronize reputable tattooist 2. rely on purchase pal 3. seek validating information from valued associates 4. compare tattoo with those of others

Typically, the novice tattooee limits his or her commitment and minimizes the potentially negative social consequences. The first tattoo is usually small, relatively inexpensive and placed on a body location which is easily hidden from strangers or casual associates. A small design decreases both purchase and possession

risk. It is inexpensive (financial risk is minimized) and quickly applied (physiological risk is minimized). Choice of a small tattoo placed on a readily concealable body location also acts to decrease the potential negative social consequences of tattoo possession.

The general public commonly assumes that many people who get tattoos are intoxicated at the time. Actually, most commercial tattooists frown on overt drunkenness and refuse to work on obviously inebriated customers. It is difficult to get them to remain still and to follow the instructions by which the tattooist controls the tattooing interaction. It is, however, common for first-time tattooees to have a couple of drinks or use some other form of depressant prior to submitting themselves to the process. Rather than being intended as a de-inhibitor, alcohol is used as a chemical mechanism for reducing the physical and psychological consequences of the risky purchase encounter.

As is common in service interactions generally, the tattoo consumer attends to key features of the service delivery setting and the in-shop experience in order to gain information which will result in the reduction of risk. The cleanliness and order of the studio, the quality and variety of the "flash" (sheets of available standard designs displayed on the studio walls), the appearance and demeanor of fellow customers and photos of past work are important sources of evaluative information. The character of the customer's interaction with the tattooist is also important, since this is the primary source of the information he or she uses to calculate trust.

The literature on patient satisfaction with medical service (e.g., Ben-Sira 1976, Greenley and Schoenherr 1981) persuasively demonstrates that the client's evaluation of the service is, to a major extent, shaped by his or her interactional experience with and relationship to the service deliverer. As is the case in medical service characterized by high credence qualities, the tattooee's postpurchase satisfaction is based, to a great extent, on the psychosocial care provided by the artist. Tattooists who display a friendly demeanor, patiently attempt to answer the client's questions, allow the customer to play a significant role in shaping the service outcome and behave in what is defined as a "professional" manner are most likely to have satisfied customers. Experienced tattoo collectors who purchase custom work and who have developed a personal relationship with an artist consistently express the highest level of satisfaction. On the other hand, tattoo initiates with little or no experience and who impulsively decide to be tattooed in the first studio they enter are far more likely to regret their decision.

As would be predicted on the basis of the literature on high risk purchases (e.g., Cunningham 1967), tattoo consumers who have been satisfied with past work and who choose to get additional tattoos display considerable "brand loyalty." Returning to a tattooist who has provided satisfactory service in the past significantly increases the certainty that the performance of the service deliverer will be acceptable. The artist's technical and creative skills, while perhaps not of the highest caliber available, are a known quantity. Another reason for the loyalty to a particular tattooist typically shown by returnees is found in the personal relationship which is a core feature of all service interactions, especially those which involve significant perceived risk and are correspondingly high in experience and credence qualities (cf., Zeithaml 1984). Tattoo collectors cultivate and value the relationship with "their" artist. They routinely visit the studio,

even when not desiring work, to socialize and discuss tattoo lore. They act as part of the tattooist's "performance team" by testifying to his or her skill, displaying completed work to potential clients and generally helping the tattooist to maintain interactional control over the tattoo setting (Sanders 1983, p. 3; see also Goffman 1959). By fostering a personal relationship with the tattooist the collector is increasing the chances that his or her work will be of the best technical quality possible and thereby maximizing the likelihood that he or she will be satisfied with the service provided. This connection between positive personal interaction and service quality was a theme which arose frequently in my conversations with tattooists. One artist put it this way:

"I can assess people when they come in the door. I know what it is going to take to please that person and who not to waste the effort on. I don't mean not do a good job on someone, cheat them. It's always going to be done properly in here, and they're going to get what they see on the flash, but the people I'm doing the creative work on, the people that come in on Sundays, they're my friends, you know...There's a difference between doing it and putting your heart into it...I'm not going to put any extra effort into something or get into custom free-hand stuff on someone I don't have the rapport with and I can't spend that time with."

A satisfied customer is important to the tattooist. Satisfied clients return for more work and are more cooperative during the tattooing process. Most importantly, the satisfied customer is a walking advertisement. As is generally the case with services, word-of-mouth communication is the major source of new clients. Satisfied clients provide potential tattooees with vicarious information about the experience qualities of the tattoo service, instruct others on the standards by which one may judge quality work and help to decrease the anxiety which may be keeping interested individuals from submitting themselves to what they perceive to be a high risk situation (cf., Zeithaml 1984, pp. 193-194; Robertson 1971).

In short, attending to features of the purchase setting and the character of tattooist/client interaction help to increase the likelihood that the purchase encounter will entail minimal risk. Patronizing a tattooist who has a reliable reputation and/or has performed in a satisfactory manner in past purchase encounters similarly helps to increase the consumer's confidence in the service delivery setting. Satisfied clients, in turn, educate potential customers thereby helping to draw them to a service setting in which they can anticipate minimal purchase risk.

For most first-time tattoo recipients, getting tattooed is a highly social act. The majority of initiates enter the studio in the company of close associates who act as "purchase pals" (cf., Bell 1967). Companions help to reduce purchase risk by consulting with the tattooee about design and location, providing social support for the decision, commiserating during the painful application process and by helping to fill waiting time. Purchase pals also aid the recipient by acting as surrogate social evaluators. They increase the buyer's certainty that tattoo possession will have minimal social and psychological impact by reacting to and validating the consumer's decision.

Postpurchase satisfaction is also based on the evaluation of the buyer's reference group. As with purchase pals, valued associates, through their response to the service outcome, help to confirm the client's decision

(cf., Ben-Sira 1976, p. 6). Associates increase the tattooee's certainty that tattoo possession entails minimal social risk within the context of primary relationships. Negative responses of those whose values and perspectives are not shared by the tattooee also tend to reinforce his or her decision. In fact, those recipients who positively evaluate their tattoos often use the response of others as an indicator of cultural and personal compatibility. For example, a young woman with a ring tattoo on her right hand observed:

"It seems as though I can actually tell how I'm going to get along with people, and vice-versa, by the way they react to my tattoo. It's more or less expressive of the unconventional side of my character right up front. Most of the people who seem to like me really dig the tattoo, too"

(quoted in Hill 1972, p. 249).

It is uncommon for tattooees to express dissatisfaction with being tattooed per se. Those that do express regret tend to focus on the inferior craftsmanship of the service they receive. Concern with inferior quality is most commonly exhibited by more heavily tattooed people who have amassed sufficient experience to be able to evaluate the technical merits of their collection. One heavily tattooed interviewee, for example, emphasized quality and aesthetic issues when asked if he regretted having been tattooed.

"I don't wish I didn't have any (tattoos). Well, I do regret this [he indicates a crudely rendered flying money design]. It just seems out of place with everything else...I don't know why I got it. P [artist] did it when he first got here. You can see how bad his work was then. He scarred me up. I figured I would see what kind of work he did so I picked something simple with only a few lines. I've been trying to find something for a year to cover it up; something that will go with the rest of my work."

As seen in the above quote, regretful tattooees tend to feel personally responsible for the unsatisfactory work they have acquired. They blame themselves for choosing to patronize a particular studio or artist prior to engaging in adequate shopping or other forms of information search. They also attribute their regret to having chosen the wrong body location or design, not communicating their desires more effectively to the artist, or not conscientiously following the aftercare instructions provided by the tattooist. This attribution of dissatisfaction to errors of consumer choice encountered in tattoo recipients is a feature of the postpurchase regret of service clients generally. This tendency to blame the self is understandable given the central interactive nature of service delivery (Zeithaml 1984, pp. 196-197).

Due to the relative permanence of tattooing, there are only a limited number of options available to the dissatisfied tattoo customer. If disappointed with the technical quality of the work the tattooee may return to the original artist and request to have the piece relined or recolored. Most reputable commercial tattooists will agree--albeit reluctantly--to redo their own work free of additional charge. The most common option chosen by regretful tattooees is to have a "coverup" tattoo placed over the unsatisfactory image. In many commercial studios covering up or extensively reworking badly executed tattoos accounts for between 30 and 40 percent of the business.

Individuals who regret having chosen to get a tattoo have three major options. Most simply, they can conceal the offending tattoo with clothing or flesh-

colored makeup. A far more extreme response is seen when dissatisfied tattooees attempt to remove the design themselves. More commonly, extremely dissatisfied tattooees will seek the services of a dermatologist or plastic surgeon. The major medical approaches to tattoo removal are dermabrasion, salabrasion, surgical excision and vaporization of the tattoo pigments through the use of a ruby or carbon dioxide laser (see Goldstein, et al. 1979). Most of these techniques result in unsightly scarring, and none can return the dermis to its pre-tattooed appearance and texture.

The regretful tattooee, having made a purchase decision which is practically irreversible, experiences a high level of cognitive dissonance. If the more extreme options presented above are not defined as viable, the individual must find ways of readjusting his or her perceptions of the tattoo in order to regain some degree of psychological comfort. Typically, consonance is achieved by seeking information which helps to disconfirm the negative evaluation or by adjusting one's definition of the tattoo so as to see it as having positive attributes (see London and Della Bitta 1984, pp. 694-697; Assael 1984, pp. 47-49; Cummings and Venkatesan 1975 for general discussions of dissonance reduction strategies). The tattooee may seek out other tattooed people who can provide information which will support a definition of the tattoo as being reasonable, if not outstanding, quality. The tattoo work carried by others also provides a basis for direct comparison of technique and design. Since much commercial tattooing is of mediocre quality at best, it is likely that the dissatisfied tattooee will have little difficulty finding work which is inferior to his or her own. Alternatively, the regretful tattoo recipient may readjust his or her perception of the meaning of the disvalued tattoo. While the work may not be entirely satisfactory technically or creatively, it can be seen as having other positive attributes. For example, when asked why she did not get a coverup over a crudely rendered "homemade" tattoo, one interviewee replied:

"I was going to get it covered but I decided not to. I've had it since I was 16 and I guess it is part of me now. It is the first tattoo I got...my boyfriend did it with a needle and india ink. It reminds me of what I was into in that part of my life. It's a way of marking the changes."

Conclusion

Examination of the tattoo service provides the foundation for a general understanding of the consumption of socially disvalued products and services. Deviant commercial encounters are characterized by a high level of risk which derives from the buyer's lack of familiarity with and perception of danger within the purchase setting, nonstandardization of the product and the limited options available should the product not perform in a satisfactory manner. The deviant customer attempts to reduce purchase risk by carefully attending to features of the purchase setting, entering the setting in the company of purchase pals, fostering a personal relationship with the seller and patronizing those who are defined as reputable based on past satisfaction or word-of-mouth information.

Because of the discrediting potential of deviant goods and services and the variability of their quality, the consumer also experiences possession risk. In order to reduce possession risk the marginal consumer is selective in revealing his or her deviant tastes and actively seeks validating evaluations from knowledgeable associates.

In the event that the deviant product or service does not adequately meet the consumer's defined needs, he or she may seek redress from the seller, attempt to locate another source or reevaluate product performance and defined needs so as to regain some level of cognitive comfort. The secrecy, potential danger, financial risk and paucity of reliable suppliers which characterize deviant consumption severely limit the options available to the dissatisfied marginal consumer.

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CONSUMING IMPULSES

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Abstract

This paper offers a psychological model of consumer impulse buying episodes. It goes beyond the standard definition of impulse buying (i.e. unplanned purchases) by distinguishing five crucial elements: 1) a sudden and spontaneous desire to act; 2) a state of psychological disequilibrium; 3) the onset of psychological conflict and struggle; 4) a reduction in cognitive evaluation; 5) lack of regard for the consequences of impulse buying. A study of 202 adults was conducted. A consumer impulsivity scale was developed and then related to other consumer behaviors. Drawing upon depth interviews, we identified the distinctive elements that characterize the onset, structure, and psychological content of prototypic consumer buying episodes: product emanations, spontaneous urges to consume, the inner dialogue (cost-benefit analyses, resistance strategies, rationalization, guilt), and impulse persistence and power.

The Significance of Impulse Buying

Many consumer products typically are classified as "impulse" items. What is it about these products that evokes the impulse label? It is not clear that a clear prototype exists, but impulse products are commonly characterized as low-cost, frequently purchased goods that demand little cognitive effort from the consumer. The implication is that impulse items elicit immediate and "mindless" reactive behavior (Langer, Blank & Chanowitz 1978; Langer & Imber 1980). Trade journals frequently note the spectacular sales results achieved through product displays and promotions that are geared specifically to encourage impulse purchases. Two typical examples of successful impulse-oriented marketing report a 400% increase in potato chip, cheese puff, and pretzel sales (Supermarketing Nov. 1977); and a 250% jump in razor blade sales (Supermarketing Jan. 1978).

A "product" orientation has dominated much of the discussion about impulsive consumption. The trade journals emphasize the physical arrangements and modifications that seem to boost buying levels: brighter colors, point-of-purchase displays, placing products with "companion" items, special premiums. This perspective often leads to classifying of products into those that are impulse items, and those that are not; however, almost anything can be purchased impulsively. Expensive clothing, electronic equipment, books and lingerie might be considered non-impulse items, yet their purchase can involve impulsive behavior. Consumer impulse buying is widespread, both across the population and across product categories. Bellenger, Robertson and Hirschman (1977) found that almost 40% of consumers' department store purchases fell into the impulse category, ranging from 27% to 62% of all purchases for each line. Few product lines were unaffected by impulse buying.

Placing sole emphasis upon product type provides a limited perspective, since it is the individuals, not the products, who experience the impulse to consume. What sparks an impulse in one person may not in

another. For example, each day millions of people pass by the National Enquirer as they file through supermarket checkout lines, but only a small percentage experience the urge to delve beyond those energetically prurient headlines. Research needs to focus on the behavioral nature of these impulses to consume. In this paper, we first examine existing conceptualizations of impulse buying, and then offer our own definition. Next we present the results of an exploratory study that examined impulse buying behavior in 202 adults using both qualitative and quantitative methodologies.

What Is Impulse Buying

Past efforts at defining impulse buying have suffered because they have not incorporated the psychology underlying consumers' impulsive episodes. A theme dominating most of the work in marketing depicts impulse buying essentially as "unplanned" purchase behavior (Applebaum 1951; Bellenger et al. 1977; Kollat & Willet 1967; Stern 1962). This is an easily observable and operational definition but it is quite limited (Levy 1970). From this perspective, an impulse purchase could be construed as any purchase not written on someone's shopping list. This definition could be recouched in information processing terms as the difference between "top-down" (on the list) and "bottom-up" (not on the list) processing (Norman & Bobrow 1975). But this is where the idea of unplanned purchasing breaks down; in most cases cognition involves both conceptually-driven and data-driven processing. It is not accurate or useful to consider all the "unplanned" purchases of a half-gallon of milk, a ten-pound bag of potatoes, or toilet paper as impulsive behavior. Clearly consumers use store layout as an external memory aid --- so the fact that a purchase is unplanned is neither a sufficient nor necessary (as we shall show) condition for construal as an impulse purchase.

We have identified five crucial elements that distinguish impulsive from nonimpulsive consumer behavior. First impulsive behavior involves a sudden and spontaneous desire to act, representing a clear departure from the previous ongoing behavior stream. This notion of a rapid change in psychological states fits in well with neurophysiological representations, where an impulse is described as "a wave of active change continuing along a nerve fiber" (Wolman 1977). In the same way that these neurological impulses trigger some biological response, psychological impulses can be viewed as stimulation agents driven by conscious and unconscious mental processes. For example, imagine that you are walking down the pickles and relishes aisle in the supermarket and notice a jar of marinated artichoke hearts; you feel a sudden urgency to buy them and go right home and build a huge antipasto. It is important to understand the difference between this example and buying milk. Both are unplanned purchases brought about by visual stimulation, yet seeing the milk provides a convenient cognitive reminder, while the artichoke hearts trigger a more complex response.

The sudden urge to buy on impulse can throw the consumer into a state of psychological disequilibrium. This second feature of impulse buying can cause an individual to feel temporarily out-of-control. There is an extensive literature on the developmental and clinical

¹Order of authors was determined by a flip of a coin.

aspects of impulsivity and impulse control. The ability to voluntarily refuse immediate gratification, to tolerate self-imposed delays of reward, is at the core of most philosophical concepts of "will power". The most fundamental steps in socialization require learning to control one's impulses and express them only under appropriate conditions, e.g. toilet training. The temptation to succumb to one's consumption impulses may threaten a person's budget, diet, schedule, or reputation. In these situations the consumer's disequilibrium may be substantial. In other instances impulsive consumption may represent spontaneous and creative activity, and involve much less psychological imbalance.

The third element of consumer impulsivity is the psychological conflict and struggle that may ensue (Thaler & Shefrin 1981). Often the consumer feels ambivalent toward the products that are impulse objects. Freud (1920/1956) saw impulses as involving a struggle between two competing forces; the "pleasure and reality principles" (the id and the superego). The consumer is pulled in two directions, and must weigh the benefits of immediate gratification against whatever long term consequences might result. Not all buying impulses necessarily involve conflict. The artichoke example could conceivably involve no conflict at all, but in many situations the "good" that arises from satisfying the impulse must be balanced with some later felt "bad". (Marinated artichoke hearts are fattening, and high in cholesterol and sodium.) Many conflicts occur because current consumption impairs one's ability to consume in the future. Because people tend to overvalue proximate satisfactions relative to more distant ones (Strotz 1956), the closer one is to being able to enjoy that immediate impulse, the harder it is to resist (Ainslee 1975). To illustrate, consider the following two impulses. 1) You are rummaging around the kitchen deciding what groceries you need to buy and you get a craving for Famous Amos cookies. 2) You are walking through a mall and you are instantly overcome by the aroma of freshly baked Famous Amos Chocolate Chip Cookies. Suppose that you were trying to stick to a diet; which impulse would be the hardest to resist? Most likely it would be the latter impulse, because the urge can be satisfied so quickly. People often feel that impulses need to be indulged either right now or never.

A fourth distinguishing aspect of impulse buying is that consumers will typically reduce their cognitive evaluation of product attributes. Weinberg and Gottwald (1982) believe that impulse buying involves distinctive transrational, affective states. Behavior is largely "automatic", high in affective activation, and low in intellectual control of the buying decision. Impulsive consumption is the antithesis of classical models of "economic man" as a rational expected utility maximizer, yet impulse buying is not mindless, low involvement behavior. In fact, we see impulsive buying as a most involving purchase behavior, at least for the moments right after the impulse arises. The sudden urgency of the impulse requires the consumer's complete attention. Moreover, as conflict arises, cognitive activity may increase dramatically, depending upon whether the consumer has the motivation or ammunition to fight off the impulse.

Finally, people often consume impulsively without regard to the consequences. Our framework must acknowledge the pathological aspects of impulsive consumption. Psycho-dynamic interpretations depict impulsivity as a form of neurotic behavior. Building on Freud's (1920/1956) model of civilization as based on impulse repression and sublimation, Reich describes impulsiveness as a "defect in repression" (1925/1974). Grabbing the check-out line candy bar, the pretty blouse on sale, or the friendly lady at the cocktail lounge, may represent perfectly "normal" behavior, yet they could lead to bulimia, bank-

ruptcy and herpes (or worse) respectively. Impulsiveness may deteriorate into a destructive character disorder (Kipnis 1977). Individuals with impulsive pathologies "seem to be living in a state of constant but stable chaos (with) little perspective about the future consequences of their current behavior" (Wishnie 1977).

It is puzzling why people engage in dysfunctional impulsiveness, i.e. opting for smaller short-term rewards instead of holding out for larger long-term rewards. Ainslee (1975) offers three possibilities: a) we succumb to an impulse because we do not understand the consequences of our behavior; b) we know the consequences are bad but we feel impelled by some "lower" principle ("the devil made me do it"); c) we know the consequences but place too much weight upon satisfying present desires. Most people develop an elaborate repertoire of devices to control their impulses, ranging from placing the alarm clock across the room to opening non-interest bearing Christmas Club bank accounts. As we shall see, consumers also employ a variety of devices to control impulsive buying behavior. Even when the satisfaction of an impulse does not involve easily seen long-term negative consequences, people will often want to fight the temptation as a personal signal that they will be able to control themselves when it counts (Mischel 1971).

A Study of Impulse Buying

There were two purposes to this study. First, we wanted to explore the psychological content of consumer's self-reports of their impulse buying episodes. We developed an open-ended, "depth" interview instrument designed to extensively probe individuals' experiences with impulsive consumption. Second, we wanted to develop a scale of consumer impulsivity. Further, we wanted to investigate the relation between impulsivity, general attitudes toward shopping, attitudes toward shopping for particular types of products, and demographic characteristics such as age, sex, and income.

Two hundred two individuals, half male and half female, were interviewed in their homes. The interview began with the depth interview; subjects were encouraged to express their feelings freely to a series of open ended questions and probes. Interviewers wrote down all responses. After this phase, subjects filled out a series of scales. The questions ranged from Likert-type items about general aspects of shopping to more specific questions about impulsive shopping behavior. In addition, subjects were asked to rate how much they enjoyed shopping for various types of products, followed by a short series of demographics. Completion times ranged from 3/4 to 1.5 hours, the average around one hour. The interviews were conducted in the Chicago and Los Angeles metropolitan areas. Respondents were broadly representative of the lower middle to upper middle classes, and were selected in equal proportion from late adolescent (18-24), young adult (25-35), and mature adult (over 35) populations.

The Scaling of Consumer Impulsivity

Subjects rated 24 statements about shopping behavior according to how much each description applied to them. The responses were analyzed by principal components using an oblique rotation. Two clear factors emerged (48% of the variance). The first factor captured general attitudes toward shopping as an activity. (Representative items were "enjoy browsing", "enjoy shopping with friends", "go shopping when depressed" and "don't consider shopping a chore".) The second factor focused on the impulsivity of a subject's shopping behavior ("Buy things spontaneously", "think credit cards are fun", "sudden urges to go out and buy something", and "often buy more than intended"). The 9-item SHOPPING

scale and 8-item IMPULSE scale had reliability coefficients (alpha) of .899 and .864 respectively. (Details on the scales can be obtained from the authors.)

The correlation between the two scales was .51 ($p < .001$); impulsive shoppers tended to enjoy shopping more than those who were more cautious and Protestant in their buying styles. Individuals who scored high in impulsivity were more likely to: 1) like shopping at night ($r = .33$, $p < .001$), 2) enjoy shopping while "high" ($r = .28$, $p < .001$), and 3) like shopping by phone ($r = .21$, $p < .01$). These impulsive consumers also were less likely to schedule shopping on specific days ($r = -.38$, $p < .001$) or write out shopping lists ($r = -.41$, $p < .001$). These results characterize the impulsive consumer as a recreational shopper (Bellenger & Korgaonkar 1980) who shops when the mood strikes, finds gratification in shopping activities, and often buys more than planned.

We also examined the relationship between these two scales and personal characteristics of the respondents. Consistent with earlier findings, females enjoyed shopping more than males, ($t = 4.6$, $p < .001$); they also were more impulsive, ($t = 2.29$, $p < .025$). Many males felt that shopping was "a waste of time" unless it was "functional", i.e. they actually purchased what they had set out to buy. Men enjoyed buying what they considered "non-impulse, utilitarian" items like stereos, automobiles, appliances, and athletic equipment, ($t = 10.5$, $p < .001$). Women enjoyed shopping for aesthetic goods like casual and dress clothing and grooming products ($t = 9.0$, $p < .001$). The sex difference in consumer impulsivity could partly reflect the fact that men and women typically are shopping for different kinds of products. One additional finding was that younger people tended to be more impulsive in their shopping behavior than older people, ($r = .16$, $p = .02$). Although this result is congruent with developmental theories of impulsivity (Mischel 1971), it needs to be investigated more systematically because changes in lifestyle and income (e.g. "empty-nesters", newly divorced) may influence this relationship.

Experiencing Impulse Buying Episodes

From the depth interviews, we sought to develop a general model which could account for both the common process and content elements in consumers' impulsive episodes. Moreover, we wanted to relate this to previous research on impulsiveness and the five distinguishing characteristics of impulse buying developed earlier. To accomplish this, the following discussion reports findings that characterize prototypic consumer impulse buying episodes.

Product Emanations

An impulse buying episode begins with a consumer's sensation of some stimulus object, followed by a sudden urge to acquire it. Once an impulse is aroused, all attentional resources are focused upon the product.

-- I have a real hard time in stores without things grabbing my attention. (F-28)²

-- I was in Field's and this blouse and skirt caught my eye. (F-22)

Respondents often depicted themselves as innocents, minding their own business; they had not intended to buy anything when they suddenly fell victim to "subliminal" product emanations.

-- I was in Beverly Hills just walking around not intending to buy when I saw some shoes on sale. So I went inside and tried them on and they fit fine. At that time I thought about

buying one pair, then I got the feeling I had to try everything. They were just calling to me. (F-24)

-- I was standing in the grocery store checkout line, and the candy bar was staring there at me. (M-26)

-- The pants were shrieking 'buy me', so I knew right then that I better walk away and get something else done. (F-35)

These anecdotes suggest that these consuming impulses originate within the products. Consumers hint about magical, fantastic forces that animate some products. Independent of the objective reality involved, consumers talk of products that somehow mesmerize them to purchase impulsively, almost a case of willing seduction. In a sense these beliefs provide a basis for consumers to abrogate responsibility for actions that society might construe as juvenile or lacking in self-control. Products are imbued with wills of their own; the consumer may recognize the "bad" involved in succumbing to an impulse to buy, but attributes this behavior to external forces (an example of "the devil made me do it" syndrome). Consumers talk of their powerlessness to avoid the temptation, as if they were possessed by products, where only an immediate purchase could complete the marketplace exorcism. This is only one of many different "psycho-logics" (Abelson & Rosenberg 1958) that people use to maintain some semblance of rationality, at least to themselves (Levy 1981).

Spontaneous Urges to Consume

Impulse buying usually begins without conscious planning, arising spontaneously and without warning. Respondents describe being "suddenly overcome with a desire" to buy, coupled with intense urges to consume.

-- I passed by a case containing brownies. I am depressed to begin with, so I bought four and ate them right there. I was glad I did it --- it made me feel better. (F-33)

This sudden desire to buy or consume is not casual; it moves quickly to center stage and demands immediate attention.

-- You suddenly feel compelled to buy something. It feels like getting an IDEA. (M-22)

-- I saw this wild Marimekko comforter and set of sheets. I saw how it could change my whole bedroom into a "hot jungle". (M-29)

People may view their impulses as creative insights, or even spontaneous flashes of brilliance.

Impulses are action-oriented; they trigger responses, usually quite quickly. Some individuals report that impulse buying episodes were of short duration.

-- It's a fast feeling, and if I don't get it right away, I'll think of reasons why I don't need it. (F-32)

-- It just happens very fast. If I like something that much, I will just buy it --- I don't need to think about it much. (F-21)

Many people expressed the feeling that their impulse purchases were unplanned. As mentioned earlier however, "unplannedness" is not a necessary condition for impulsiveness. In fact some people "plan on being impulsive".

-- I grabbed \$300 and went to Water Tower (Mall). I didn't really know what I was going to spend it on --- I didn't want to plan it out, because the best part of shopping for me is seeing something and knowing right away that's what I want. (F-28)

By planning to be impulsive, people can enjoy the feeling of being overwhelmed by spontaneous urges and at the same time maintain some form of impulse control imposed by a budget.

²(Respondent gender is identified with an M or F, followed by age.)

The Inner Dialogue

Sometimes the impulse to buy stimulates the consumer to consider the probity of a prospective purchase. But even in apparently "mindless" situations, the consumer often engages in a serious inner dialogue. This section summarizes the cost-benefit analyses and various resistance strategies consumers employ in coping with their buying impulses. It also identifies the rationalizations and affective states that come into play.

Cost-Benefit Analyses. People have developed broad repertoires for maintaining self-control; they do whatever is necessary to regulate their shopping impulses. The most commonly mentioned means of impulse control involves reasoning with oneself, i.e. increasing the saliency of the negative consequences of the purchase (e.g., monetary constraints) or thinking about better ways to spend the money after saving up.

- Can I afford it, will I regret it? Will I get my utility, or use it once and forget? Do I really need it or want it? Is there a better way to use the money? (M-28)
- I think of other pleasurable things I could do if I could just hold off. (F-29)
- I have to be able to see myself using the product. Otherwise I'll resist. (F-28)

Distancing Strategies. Although many respondents talked about the use of abbreviated cost-benefit analyses, it is not clear how effective people were in fending off their consumption urges. Jones and Gerard (1967) hypothesized that "time-binding" (the capacity to bridge the delay of gratification) hinges on self-instructional processes to increase the salience or dominance of the delay object, a form of self-reinforcement induced by actively anticipating future positive consequences. However Mischel and Ebbsen (1970) found that, at least with children, a better strategy was cognitive avoidance --- children could wait longer by engaging in self-distraction. Sometimes it is best to simply not think about it.

- You've got to walk away --- as soon as I feel an impulse, I immediately leave the area. (M-31)
- I try to distract myself by moving to another display. (F-41)
- I have a rule about eating --- once I finish what is on my plate, I make myself wait half an hour before thinking about dessert. By that time, I'm usually doing something else or I'm not hungry anymore. I do the same thing when shopping. (M-34)
- I steer clear of record stores when I can't afford it. (M-24)
- Often five minutes cools me down. (F-35)

People go to elaborate lengths to avoid tempting situations, essentially by playing little tricks on themselves (Schelling 1978).

Small Rewards. Another means of impulse control involves placating oneself with a small purchase as a reward for resisting a bigger more costly impulse.

- I had money to buy myself a gold chain, but I decided to buy it later. I bought a half-dozen roses for my girlfriend instead. (M-25)
- I almost bought this Gucci handbag, but I resisted. Later I bought some expensive chocolate, treating myself to luxury. It was "affordable" self-indulgence. (F-27)

Precommitment. Respondents recognized that one of the problems with impulse buying is that what you want now may not be what you want later. Tastes and preferences change over time.

- I have a real hard time resisting clothes. My closet is filled with clothes I now regret buying. (M-31)

- To stop myself, I recalled my last impulse purchase that I never ended up using. (M-29)
- I saw a pair of shoes I really liked, but I reminded myself I have many shoes I've never worn. (F-29)

To avoid these problems, people employ various precommitment strategies (Strotz 1956; Thaler & Shefrin 1981), the classic example being Ulysses having himself bound to the mast so that he could listen to the Sirens while his crew sailed the boat with wax in their ears (Elster 1977). People impose rationing devices upon their behavior to preclude impulsivity (e.g., budgets or the use of chop sticks to avoid eating too fast).

- How do I discipline myself? I don't carry credit cards. (F-25)
- I bring little money with me. Going home for more cash gives me time to think. (F-26)
- When I go into stores I make a pact to go straight to the department that carries the thing I'm interested in. (F-32)
- I tell myself that I don't have the time to look at the product closely. (F-24)
- I make my boyfriend go with me. (F-31)

Another precommitment technique involves the making of side-bets (Becker 1960), where future rewards are irreversibly tied to one's ability to avoid more immediate rewards. Lack of self control in the short run would lead to immediate forfeiture of a larger long-term reward. People are willing to place severe constraints on their immediate behavior (e.g. wiring one's jaws shut to lose weight) because they know they cannot trust themselves in the short run.

Rationalizations. Another aspect of consumers' inner dialogues involves rationalizations of impulsive buying, the non-objective recoding of an impulsive purchase as non-impulsive. People are especially adept at maintaining cognitive consistency (vis a vis their own rationality).

- Clinique make-up --- you get a "free" gift if you buy over \$7 worth. I didn't need the product, but I knew I'd use it. My friend bought it, so did I. (F-24)
- Men's designer shirts at 40% off. I saw two I liked and charged them; it was hard to resist the good price, high quality, and besides I didn't need the cash. (M-33)
- I was out with some girlfriends; they were buying things and I felt deprived. So I bought nylons in various colors. I just felt compelled to buy something, but they were inexpensive and needed. (F-25)

And sometimes the rationalizations do not even attempt to assume an air of rationality.

- My mind quickly starts rationalizing how much I need that product, and all the pros and cons go through my mind, except the pros usually outweigh the cons. (M-24)

Guilt. Not all shopping impulses foment cognitive conflict, though many led to heated debates between the straight and wayward (impulsive) sides of a consumer. For some people the mere sensation of any impulse (shopping or not) is immediately met with a sense of guilt, an extreme form of the "Protestant Ethic", with its puritanical demands for self-restraint and its negative attitude toward pleasure (Mischel 1971). Spontaneous behavior is considered inherently bad and frivolous.

- I'm not big on impulses, I watch my money real close. (F-45)
- I'm from a conservative, rural background in which I was taught the value of a dollar. I don't spend money freely and always want the best value for my dollar. (M-31)
- Implicitly I know that impulse buying is not good. (M-39)
- I fear regretting the purchase later, and I think about what would happen if others found out how much it cost. (F-26)

Impulse Persistence and Power

Buying impulses add pressure to the inner dialogue because they are often persistent, and not easily dismissed by rational introspection.

- I didn't feel I could leave the store without the shoes. I imagined myself leaving and it just didn't feel good. (F-20)
- It gnaws at me until I buy it. If I want to get it I keep thinking about it. It won't get out of my mind until I buy it. (F-26)
- The feeling starts when I see something . . . it comes on very quickly and is a persistent nagging. (M-28)

Individuals describe removing themselves from the area of temptation to another part of the store, but the buying impulse may continue to haunt them.

- I saw this 14K gold ring on sale. Tried it on, took it off . . . tried it on, took it off. I left the store, but returned because all I could think about was how good it would look with painted nails, my white silk blouse, black pants and high heels. (F-25)

At their strongest buying impulses are impossible to resist. Some respondents associate consumer impulsiveness with pressing physiological drives or states. One person describes his impulse buying urges as feeling like a "hunger"; another describes the "tingling" that comes over her. Another young man reflects that his impulse buying urges "seem almost physical". The urgency to act is quite powerful and difficult to control. Respondents frequently use extreme terms to describe what it feels like when they experience the impulse to consume: exciting, risky, a "surge", fun!, naughty, great, happy, exhilarating, satisfying, compelling.

Conclusion

In this paper we have explored consumer's experiences with impulse buying. We have attempted to go beyond the view of impulse buying as nothing more than "unplanned purchases". The results were consistent with psychological interpretations, and reveal the complex psychodynamics that underlie impulse buying episodes. The current research is clearly exploratory but it has highlighted several important factors that require further study: 1) how does mood influence impulse proclivity? 2) what situational factors stimulate or discourage impulse buying (e.g. point-of-purchase)? 3) what resistance strategies are more or less effective and how can marketers use their knowledge of impulse control to "push consumers over the edge"? We also need to understand more about the trait of consumer impulsivity: how it is distributed across demographic and lifestyle segments; and how it is related to other forms of impulsive behavior.

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THE CONSUMER RESEARCHER VISITS RADIO CITY: DANCING IN THE DARK

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Abstract

Oh, he isn't like his kind, or like anyone else at all. He's a born dreamer with a raft of great dreams, and he's very serious about them. I've told you before he wanted to get away from his father's business, where he worked for a year after he graduated from Harvard College, because he didn't like being in trade, even if it is a great company that trades with the whole world....

So I kissed him and told him he was the handsomest in the world, and he is. And he said he wasn't worthy because he had so little to offer, and was a failure at what he'd hoped he could be, a poet. So I kissed him and told him he was too a poet, and always would be, and it was what I loved most about him.

--Sara's description of Simon,
A Touch of the Poet (Acts I, IV),
Eugene O'Neill, 1957

Introduction

In college, I experienced a phenomenon that has since been confirmed by psychologists studying intrinsic motivation--namely, that attaching an extrinsic reward (say, grades) to some activity that might otherwise be pursued for its own sake (say, the study of English Literature) can erode the whole basis for its value with disastrous consequences for enjoyment. Accordingly, I resolved to take up some course of schooling that I thought could not rob its subject matter of intrinsic value, largely because that subject matter seemed to lack all such intrinsic value in the first place. I therefore turned to the study of business.

¹ The author gratefully acknowledges the support of the Columbia Business School's Faculty Research Fund. He thanks Eric A. Greenleaf, Elizabeth C. Hirschman, and Sarah M. Holbrook for their helpful comments on an earlier draft of this paper. Incidentally, Mr. Greenleaf disagrees with the negative view of commercialism implied by some parts of this paper. He correctly points out that often academics may need to consult in order to eat. I agree completely and have acknowledged this point in the "Three Bears" piece. I only wish to insist that one should maintain a distinction between eating and researching. In no way do I mean to imply that my own work lies entirely on the right side of that distinction. The best one can hope for is to do some researching between banquets and, when possible, to abstain from excessive snacking between meals. Just as someone who has grown obese through persistent overeating might object to being called "fat" or "fleshy" or "big," some whose livelihoods entail large amounts of consulting may object to parts of this paper. I apologize in advance to such readers and assure them that my intent is to be provocative, not offensive. Accordingly, as a gesture of contrition, all royalties paid on this paper during its first year of publication will be donated to the Rockettes Retirement Fund.

In the course of studying business, however, I have learned gratefully that one aspect of that field of investigation does possess intrinsic value for me. Specifically, the phenomena of consumer behavior strike me as interesting and worth exploring in their own right, apart from any practical implications that might stem from such inquiries. For me, consumer research is an end in itself and not just a means to somebody else's ends. I therefore tend to resist the intrusion of concerns for managerial usefulness, marketing applications, or consulting opportunities and have argued accordingly in my conference paper entitled "Why Business Is Bad For Consumer Research."

I confidently expect that many will disagree with my reasons for pursuing consumer research and my arguments for why the intrusion of managerial interests distorts that process. I invite such readers to interpret my remarks in the spirit of fun-loving debate in which they are intended. I recognize that two sides of the issue exist. I merely wish to stick up for the side that I believe has been unjustly neglected, even downtrodden.

At last winter's marketing-theory conference, I pointed out that the view of science and scholarship as ends in themselves lends their pursuit some components of artistic creativity and confers on their value some aspects reminiscent of esthetic appreciation. As related autotelic, ludic, or self-justifying forms of endeavor and experience, art and esthetics provide close parallels to the development of theory in consumer research. One such parallel, not fully explored in my earlier paper, concerns the possible intrusion and distorting influence of commercialism.

Recently, I attended the performance of a spectacle aptly entitled "Gotta Getaway!" at the Radio City Music Hall. Everything about this show seemed calculated to appeal to the broadest possible audience. It included a star (Liliane Montevecchi) with long experience at the Folies Bergeres in Paris, New York, and Las Vegas. It contained acrobats, magicians, and trained animals. It featured a pipe organ of such staggering sonic proportions that its slightest nuance could be felt as well as heard while its crescendos reached literally bone-shaking intensity. But, most of all, it displayed the nonpareil Rockettes--thirty-two dancing beauties who ascended triumphantly from the orchestra pit on an automated platform and pranced through their famous chorus-line routine with every member of the troupe carrying a torch and sporting a costume that matched with remarkable verisimilitude that worn by the Statue of Liberty.

Judging from the enthusiastic response of the packed Music Hall, the Radio City audience loved this performance. Apparently, only I experienced discomfort. My discomfort stemmed not from any incapacity for enjoyment--I like tame tigers, jugglers, dancing girls, and liberty as well as the next fellow--but from my irresistible inclination to compare this apotheosis of mass appeal with the role of commercialism in consumer research.

High Culture and Popular Culture
In Consumer Research

In describing the activities of artists and craftsmen, sociologists (Becker and Gans) and consumer researchers (Hirschman and Wallendorf) portray a continuum from high to popular culture. One extreme concerns Art (with a capital "A"); it is produced by artists pursuing

creative objectives for their own sake in accord with artistic integrity and is appreciated by those with refined tastes and delicate sensibilities. The other concerns entertainment (with a small "e"); it is produced by professionals who aim at crafting an accessible product capable of winning mass acceptance so as to achieve commercial success by appealing to the common denominator in shared tastes.

Sociologists almost always follow this distinction with an immediate disclaimer against elitism. We are not claiming, they say, that high culture or Art is "better" than popular culture or entertainment. One person's esthetic experience is just as valid as another's. All we claim, they say, is that one type of appreciation requires effort and sophistication, whereas the other is easy and cheap. The former appeals to people with keen sensitivities and the ability to deal with complexity, while the latter attracts those with common tastes and a confirmed intolerance for ambiguity. And certainly there's nothing wrong with that. God must have loved the common people because He or She made so many of them. Amen.

Similarly, in consumer research, one finds parallels to the continuum between high and popular culture. We have our effete corps of researchers with intellectual integrity who pursue interesting issues for their own sake wherever they may lead and whose work is appreciated by a small number of ivory-tower academicians devoted to scholarly pursuits. By contrast, we also have expert investigators concerned with practical applicability who pursue managerial issues of relevance to real marketing problems at least partly for the sake of the financial remuneration to be gained from practitioners who can use such results to bolster their bottom lines.

Just as in the contrast between high and popular culture, the distinction between academicians and practitioners or between scholarship and consulting again raises the dread specter of elitism. Who dares to say that research motivated by intellectual curiosity is in any sense "better" than that motivated by managerial applicability? How dare anyone prefer the scholarly to the practical or the merely academic to the useful? God must have loved consultants because, like the aforementioned common people, She also made so many of them.

My answer to this familiar charge of elitism follows directly from the analogy between consumer research and artistic creativity. Like a work of art, a piece of consumer research may be relatively great and enduring, or it may be comparatively shallow and ephemeral. Just as in the arts, this difference often hinges on the distinction between the pursuit of truth for its own sake and the pursuit of commercial success. Consider what happens when artists forsake their most pure creative visions and turn instead to attempts at seeking a larger audience by trading artistic integrity and esthetic value for the advantages of easy execution and immediate accessibility. Consider, for example, the deterioration of gifted jazz musicians like Wes Montgomery or Herbie Hancock who have diluted and cheapened their styles to seek mass appeal. Compare the supreme gracefulness of Jean-Pierre Rampal playing the Bach suites with James Galway's clumsy stumbles through pop hits such as "Annie's Song." Recall the difference between the serious novels and murder mysteries by Georges Simenon or Graham Greene. Ponder the contrast between the perennially magisterial singing of Mahalia Jackson, who steadfastly refused to touch pop music, and Aretha Franklin's steady decline from a once sublime gospel singer into a dull and repetitive disco act.

Like many artists through the ages, Mahalia Jackson faced a choice about where to aim on the cultural continuum. She could continue devoting her life to the

art of singing gospel songs. Or she could earn a lot of money and make the executives at her record company very happy by recording some pop tunes. We know what Mahalia Jackson did. She told the practitioners to leave her alone; she found guidance in her own pure artistic vision; and she followed what she believed to be the truth. Consumer researchers might learn something from Mahalia's bright and shining example, if we dared.

When considering the continuum from high to popular culture, those concerned with protecting the world against elitism often find consolation in their version of the life of William Shakespeare. After all, wasn't Shakespeare a great dramatist and didn't he write for the common man? Of course he was and of course he did. He filled his plays with all sorts of silliness and ribaldry that the masses could appreciate. He employed fools and jesters to make lewd comments and to tell dirty jokes. But these concessions to popular taste did not win Shakespeare his magnificent reputation as the greatest of English playwrights. In fact, in Hamlet, he goes out of his way to parody the kind of acting that the mob appreciates. Moreover, he lets Polonius proclaim the lapse of truthfulness that may accompany an attempt to govern one's life on the basis of commercial gain and practical business concerns:

Neither a borrower nor a lender be,
For loan oft loses both itself
and friend,
And borrowing dulleth edge
of husbandry.
This above all, to thine own self
be true,
And it must follow, as the night
the day,
Thou canst not then be false
to any man.

--Polonius' farewell to Laertes,
Hamlet (I, iii, 75-80),
William Shakespeare, 1601

Any conclusion that Polonius spoke for Shakespeare would be risky given that character's status as an old fool. But we do not need to speculate on how Shakespeare felt about business because he wrote a play devoted to this subject. I refer, of course, to The Merchant of Venice where business is seen as a force that prompts the worst possible behavior from those who get involved--if not from Antonio (the generous merchant), then certainly from Shylock (the usurious moneylender whose vengeful interest lies in extracting a pound of Antonio's flesh). Apparently, Polonius was right: "Neither a borrower nor a lender be."

When business calls to consumer researchers and urges us to eschew the unfettered pursuit of truth in order to seek commercial gain, it extracts its pound of flesh. It turns our vision away from something honest and pure toward something slightly soiled by self-interest and acquisitiveness. I would argue that, however difficult the course might be, we should move in exactly the opposite direction--away from a preoccupation with practicality toward concerns worth pursuing for their own sake as ends in themselves. This, too, is a recurrent literary theme. It has often been treated metaphorically as the difference between talking and singing or between walking and dancing. However wistfully, we want our research not merely to walk and talk; we want it to sing and dance:

How sweet the moonlight sleeps
upon this bank!
Here will we sit and let the sounds
of music
Creep in our ears; soft stillness

and the night
 Become the touches of sweet harmony.
 Sit, Jessica. Look how the floor
 of heaven
 Is thick inlaid with patens
 of bright gold.
 There's not the smallest orb
 which thou behold'st
 But in his motion like an angel sings,
 Still quiring to the young-eyed cherubins;
 Such harmony is in immortal souls....

The man that hath no music
 in himself,
 Nor is not moved with concord
 of sweet sounds,
 Is fit for treasons, stratagems,
 and spoils;
 The motions of his spirit are
 dull as night,
 And his affections dark as Erebus.

--Lorenzo to Jessica,
The Merchant of Venice
 (V, i, 54-63, 83-87),
 William Shakespeare, 1597

The Dancer and the Dance

A play by Cecil P. Taylor called And A Nightengale Sang... (1977) recently enjoyed a successful off-Broadway revival in New York. Its central theme deals with the psychological transformation of a character named Helen. Helen begins the play as a sad, pathetic wallflower, who feels weighed down by practical family responsibilities and who refers to herself as a "cripple" because she walks with a slight limp. But then Helen falls in love with a young soldier named Norman, who takes her away from her burdensome family duties, teaches her to dance, and thereby transforms her into a person full of life and happiness. The dancing scenes provide Taylor's metaphorical comment on the difference between the practical world and the world of artistic vision. When the playwright died, a friend paid him a tribute to which any consumer researcher might aspire:

Your life could never be the same again having known him. He gave the lens a small turn and brought things into focus, teaching you that some things that had obsessed you were virtually worthless, empty, but that there were others which should never be betrayed.

--Stagebill,
 April 1984, p. 20

In C. P. Taylor's play, the dance serves as a metaphor for what is worthwhile and should never be betrayed. The same imagery recurs in the old Fred Astaire movies. In Cole Porter's Silk Stockings (1957), for example, Cyd Charisse as Ninotchka represents cold, hard, pure scientific truth. Ninotchka is a Russian agent, who concentrates on inspecting factories and power plants and who regards music as "necessary for parades." Fred Astaire was never more artistic, graceful, and eloquent than when teaching Ninotchka how to dance. And Cyd Charisse was never more glorious than in the intimately choreographed scene in which she puts on her first pair of stockings and dances around her boudoir.

Stocking and dancing imagery also pervades Josef von Sternberg's The Blue Angel (1930). As Lola Lola, the heartless cabaret performer, Marlene Dietrich uses her stockings as one unseemly tool to win the affections of Professor Immanuel Rath, played by Emil Jannings. Lola is a real operator--self-interested, glamorous, enticing. She already knows how to sing and dance, as indicated by

the constant repetition of her sultry torch song "Falling in Love Again." Indeed, in a cruel role reversal, she teaches the professor to perform and forces him to dress in a clown's costume and stand upon the stage, crowing like a rooster while a magician breaks eggs on his bald head and humiliates him in front of his fellow professors, his former students, the Assistant Mayor, and other townspeople who once held him in respect. This barnyard imitation, this tragic music-hall dance, conveys Professor Rath's debasement and expresses the sacrifice of everything he had valued. Early in the film, the professor showed indignant outrage when he found one of his students looking at photographs of Lola Lola. Now, after himself falling under Lola's spell, he reaches his nadir when he hawks these same dirty pictures to an unruly and abusive nightclub audience. "How's business?" asks Lola. "Only sold two cards," he complains, "...ignorant crowd." "I live off that 'ignorant crowd,'" she protests. "Better," he replies, "to die like a dog than to live like that."

Which type of consumer researcher would we rather be--Emil Jannings as the professor who pursues the cruel and sordid but eminently businesslike Lola or Fred Astaire as the dancer who miraculously transforms the coldly scientific Ninotchka into a warm and loving paramour? After her transformation, Ninotchka rejects her absurd Russian comrades and delivers lines that suggest an answer:

For the first time in my life, I looked at something and thought, "How beautiful," instead of "How useful".... Let them settle their business, and we will get back to beautiful things.

Epilogue: Among School Children

I shall close with one final comment on the relevance of the dance metaphor to our lives as consumer researchers. As I have suggested, our research is like a dance. It can aim high and leap after truth, or it can aim low and sink like a stone. We can pursue knowledge like beauty for its own sake and soar like Nureyev and Baryshnikov, or we can wrap our feet in utilitarian slippers of lead and perform soggy pirouettes beneath a sea of managerial practicalities. As Charlie the Tuna found out to his dismay, the pursuit of Truth and Beauty gets nowhere on the ocean floor. Sorry, Charlie. Practitioners don't want tunas with good taste. They want tunas that taste good.

Whichever path we choose--the road more or less traveled--we become part of what we do. We assume the characteristics of our research focus. In the words of one great but anonymous philosopher: "Wherever you go in life, that's where you'll be."

This point becomes especially important for those of us who serve as teachers, particularly in Ph.D. programs. The kind of research we do shapes our personal character, and that character may in turn affect our doctoral students. Not only do we become what we do, but our example may guide others. They may model their dance, in part, on our own.

Such thoughts and feelings concerned W. B. Yeats in his poem "Among School Children." He saw the interconnectedness and unity of things--as in the leaf, blossom, and trunk or "bole" of a tree--and evoked the process by which we become what we do:

Labour is blossoming or dancing where
 The body is not bruised to pleasure soul,
 Nor beauty born out of its own despair,
 Nor blear-eyed wisdom out of midnight oil.

O chestnut-tree, great-rooted blossomer,
Are you the leaf, the blossom or the bole?
O body swayed to music, O brightening glance,
How can we know the dancer from the dance?

--"Among School Children,"
William Butler Yeats, 1928

COHORT VARIATION

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Abstract

Consumer behavior occurs within the boundaries of a given historical period. In order to assess how history might affect consumption it is first necessary to define some of the central issues involved in such an inquiry. This paper addresses three issues which are particularly important in any period-specific inquiry. These issues include cohort versus generational analysis, intercohort and intracohort variation, and cohort adaptation. The importance of these issues are considered in relation to previous findings in consumer research.

Introduction

Since the late 1960's a number of social science theorists in subfields such as life-span developmental psychology (Baltes, Reese and Lipsett 1980), life-course sociology (Elder 1974, 1981), age stratification (Riley, Foner and Johnson 1972), and social history (Haraven 1978) have directed their efforts toward the study of behavior in historical context. Historical context encompasses both the historical events and the social conditions which existed/transpired during an individual's lifetime. Recently articles have appeared in the consumer literature which have emphasized the benefits of the historical approach (cf. Rentz and Reynolds 1980, Rentz, Reynolds and Stoult 1983). While viewing consumer behavior from this perspective may provide significant new insights to the field, care must be taken with regard to the use of this approach. This paper builds on this developing area of consumer research by clarifying some of the underlying conceptual issues involved in an analysis of historical effects. In particular we address (1) the distinction between cohort and generational analysis, (2) the variation that can occur between and within cohorts, and (3) cohort adaptations through time. Following this discussion we provide alternative interpretations of previous findings. In the final section we briefly review some of the reasons why cohort analysis has received little attention in consumer research.

Cohort or Generation

The terms "cohort" and "generation" have found increasing use in the marketing literature in the past few years (cf. Rentz and Reynolds 1980, Reynolds and Rentz 1981), and although there is a tendency in both the social sciences and popular literature to equate the two concepts, there are important differences which warrant attention. In order to most effectively utilize either concept, a concise and clear understanding of their meanings and boundaries is necessary.

Early European sociologists who were the first to pursue the concept of generations employed a thirty year unit of measurement (Mannheim 1952). This unit of time was accepted for use since it marked the length of time that characterized the creation of familial descent patterns between parents and children. However, this specific method of conceptualizing generations was more reflective of the rate of change in the family structure than it was an accurate indicator of the rate of social change. Rapid social change and its attendant modifications in values necessitate attention to much shorter time spans as significant units for the study of generations. Today we are more conscious of the fact that generations are not units fixed by the mere passage of time, but are more profitably understood as the result of the inter-

action of individual maturation with the socio-historical environment inhabited by the individual.

Turning to the specific definition employed by Mannheim (1952) we notice that he defined generation in terms of age groups and shared experiences:

The fact of belonging to the same class, and that of belonging to the same generation or age groups, have this in common, that both endow the individuals sharing in them with a common location in the social and historical process, and thereby limit them to a specific range of potential experience predisposing them for a certain characteristic mode of thought and experience, and a characteristic type of historically relevant action (p. 291).

Some years later Ryder (1965), in attempting to examine the utility of cohort also referred to age groups and shared experiences:

a cohort may be defined as the aggregate of individuals (within some population definition) who experienced the same event within the same time interval...Each cohort makes fresh contact within the contemporary social heritage and carries the impression of this encounter through life (p. 844-845).

Finally, during the mid 1970's Bengston and Cutler (1976) suggested the following definition of cohort:

the cohort perspective [is] a focus which emphasizes demographic attributes of age groups. Born during a given period of history, a particular age cohort experiences in similar ways the consequences of historical events (p. 131).

Given these nominal definitions it is not surprising that the terms have been used interchangeably. We believe, however, that the confusion that has arisen can be traced to the ambiguity of "shared experience" within a historical period. One can share an experience with a historical period such as the 1940's or 1960's in at least three distinct ways. The first of these is the cohort approach, which usually centers on some demographic characteristic shared by a group. Typically in the social science literature researchers emphasize age cohorts. This age cohort distinction is reflected in Bengston and Culter's (1976) definition mentioned above. A second type of classification emphasizes the location of a family unit. Researchers pursuing this type of analysis focus on the generational transmission of norms or values. Concerning the differences between cohort and generation, Kertzer (1983) writes "generation, then, is a relational concept bound to the realm of kinship and descent, it is not an appropriate tool for dividing societies into segments or populations into aggregates (p. 128)." In other words, generation should be restricted to family descent while cohort should refer only to the succession of individuals who pass through the social system. A third type of historical grouping has been termed the "historically conscious agents of social action" (Bengston and Cutler 1976). These unique groupings are comprised of subunits within age cohorts.

The distinction between cohorts, family generation, and "social action" cohorts is important. It is not uncommon to find researchers who divide their sample into age groupings (one, five or ten year intervals) and examine how groups differ with regard to a particular phenomenon. Differences which emerge from this analysis are often attributed to age effects. However, it is usually unclear if the authors are attempting to make a case for age, cohort, family, or within cohort effects. We hope the present discussion allows for a broader interpretation of age and historical effects.

Given this qualification, we now turn to the issue of "differential" exposure to historical events by separating cohorts into intracohort and intercohort analyses.

Intercohort and Intracohort Variation

For the term cohort to be utilized as an explanatory concept it must organize persons into distinct groups with empirically demonstrated variation between them. Birth year is often employed as the grouping variable in intercohort analyses. The use of age as a structural variable depends on the extent to which similar experiences are shared by members comprising the age strata. This assumption is integral to the concept of an age cohort. If age does not discriminate individual's responses to broad historical change, then its reliability as an independent variable may be called into question. Chronological age has been shown to be less than compelling as a predictor of values and behavior (Wohlwill 1970) due, at least in part to the heterogeneous nature of age groups (Zaltman, Alpert and Heffring 1980).

Rather than abandoning age as a grouping mechanism, we suggest that researchers begin to think more about intracohort variation. The lack of intracohort awareness has arisen because there is a tendency to regard historical change as a monolithic entity that operates on a societal level. In fact, there is no socio-historical change independent of its effects on specific individuals. The cohort analyst must be prepared to specify the populations in which intercohort and intracohort variation is expected to occur. An example of the value of this approach is illustrated in a program of research by Elder (1974, 1981). Elder examined the variation of two cohorts (one born in 1920 and one born in 1929) by focusing on depression hardship (percentage loss of income) and its effects on adolescent and adult health and behavior. His results indicate that both between and within cohort variation is evident in early and late adulthood.

Elder's work demonstrates the necessity and benefits of combining both the inter and intracohort type of analysis. The difficulty arises when the researcher must decide whether to focus on inter or intracohort comparisons. Although there are no general guidelines, some insights can be gained by considering the movement of cohorts through time. In the next section we focus on a variety of issues related to cohort adaptations.

Cohort Adaptations

The concept of cohort is based on the premise that each cohort carries the imprint of early socialization forward in time. The traits that characterize a specific cohort are expected to be reflected in their behavioral and attitudinal patterns in subsequent years. Again, the power of age to differentiate the characteristics of groups and individuals over several decades of time must be critically examined. The coherent nature of a cohort is partially a function of the relative plasticity of human behavior on one hand, and the rate of social turnover on the other.

Variation exists between individuals when their lives become more different as environmental and self-initiated

pressures force them to change. Whether intercohort effects continue to exist over time will depend on the amount of similarity existing between adults of similar age. One source of pressure to change results from the aging process itself, in that age norms vary (Neugarten and Danan, 1973) and thus precipitate change over the entire course of the life span.

The nature of any single cohort over time represents a problematic area for the further refinement of cohort dynamics. Ryder (1965) stated that "cohorts can be pulled apart gradually by the slow grind of evolutionary change (p. 851)." We assume a similar position with respect to this issue and urge that consideration of the nature and quantity of change in adulthood be related to the cohort perspective in a more systematic manner. The impact of experience may create a need for socialization during adulthood that mitigates the effect of earlier periods of socialization. Various researchers have demonstrated that intracohort differences are greater among older cohorts than among the younger ones (Baltes, Reese and Lipsett 1980). One explanation for this difference may be the fact that older individuals have been confronted with a wider variety of experiences than younger adults, hence, their life course becomes more differentiated with age (Clausen 1973). Consequently, this would create greater differences between adults of similar ages than between groups of dissimilar age.

Previous developments suggest that there may be no fundamental variation in the mechanism of change occurring at various stages of life (Gewirtz 1969). Social-learning theorists, such as Mischel (1969) for example, argue that socio-environmental conditions shape and support one's behavior and attitudes. Inherent in this conceptualization is the notion that a changing environment produces modifications in behavior. This is important for the dynamics of intercohort differentiation in that changes during middle and late adulthood may create forces which pull apart the identifiable nature of cohorts.

As mentioned above, it is necessary to examine all sources of influence if we are to be capable of explaining behavior. Among adults, the effects of past historical changes may affect one's characteristics at present, but more recent socio-historical events are also at work in shaping behavior. In fact, as an individual ages, s/he has been exposed to a greater succession of socio-historical events. It is for this reason that we suggest that a cumulative historical effect may be in operation among adults of varying ages. In other words, an individual's characteristics are molded by a life-long sequence or events, not just those experienced during childhood and early adulthood.

In sum the issues of cohort versus generation, intracohort variation, and cohort adaptation through time provide some interesting perspectives on individual development. However, the impact of these varying perspectives and the "value added" of these distinctions has yet to be addressed in a consumer context. Rather than focus generally on how these issues relate to consumption, in the next section we reinterpret and critique studies that have not made these distinctions. It should be noted that we have selected research of the highest quality for this purpose. In many cases we are simply adding an additional interpretation to the results rather than a critique of the research.

Alternative Interpretations of Previous Research

Areas of research in consumer behavior which emphasize sociological interpretations of behavior, typically, do not consider the issues raised in this paper. In order to stress the importance of these issues, the present section suggests alternative methods of analysis or

reinterpretations of results previously published in the consumer area. In some cases the alternative methods may provide additional insights into the area, in others, it may significantly alter the interpretation of the findings.

Cohort Analysis

Cohort analysis was first introduced into the consumer literature by Reynolds and his colleagues (Rentz and Reynolds 1980, Rentz, Reynolds and Stoult 1983). They proposed that additional insight may be obtained by examining age effects in three ways: age, period and cohort. Age effects represent the standard chronological interpretation of age. Period effects refer to impact of a given historical period and cohort effects relate to life in a given era often indexed by birth year. It is important to consider this pioneering effort since the results they obtained differed from previous age interpretations. In one study they note

In terms of prediction, the results of the study indicate that total soft drink consumption will not decline as a result of larger cohorts...this prediction is in direct contrast to predictions based upon age interpretations of cross-sectional data (Rentz, Reynolds, and Stoult 1983, p. 19)

In light of these findings it is important to critically examine age interpretations of previous findings. This need to reexamine is consistent with an earlier observation that age is typically used as a substitute for other phenomena that are less easily measured (Zaltman, Aipert, and Hefring 1980). Emphasizing only a chronological interpretation of age differences may further result in construct validity problems. That is, age is only a proxy measure for the underlying phenomenon of interest.

The interpretation of age effects is an issue which often arises in sociological interpretations of socialization, norm development and symbolism. Considering first the socialization area. Frequently one encounters studies which have various age groupings (e.g., ages 6-8, 9-12). Results from these studies are typically attributed to age differences or maturational effects (see Ward 1974 for a discussion of these types of studies). Another often used strategy involves the selection of a specific age-groups to assess "age effects" (cf. Moschis and Churchill 1978). The principal limitation with both of these approaches is their failure to consider effects due to the historical period or to cohort differences. By employing chronological age or Piagetian models these approaches suggest that age differences are due to intellectual or maturational development. This interpretation necessarily assumes that these effects are not linked to the historical circumstances of a given era. However, the socialization process of an individual who is age six in 1984 is very different than the socialization process of a child who was age six in 1964. Hence the total effect is more than simply chronological age. Developmental models or socialization, however, are not sensitive to these effects. Cohort analysis, on the other hand, is ideally suited to assess changing patterns in behavior by isolating cohort differences.

The importance of cohort interpretations can also be applied to a very interesting symbolism study by Belk, Bahn and Mayer (1982). They examined the tendency of individuals to make inferences about others based upon their choice of consumption objects (i.e. cars). Analyzing data across six age groups, the authors uncovered several choice patterns. One finding was reported as "...consumption-based stereotyping follows a curvilinear pattern, emerging sometime between preschool and second grade and tending to decline after college age (p. 10)." Thus they interpret this result in terms of chronological age. This interpretation assumes that as college age

students enter "adulthood" they will shift their perceptions to be congruent with the adult age group. Without longitudinal data or a cohort analysis, however, one is unable to untangle age, period, or cohort effects. As a result, two alternative explanations of their data are possible. One is that the effect may be due to the current historical period. That is, there is something unique about the early 1980's that accounted for the differences between the college age and adult samples. A second, and more likely interpretation, would be that cohort effects are responsible for the outcome. Were there events or social circumstances that occurred during the lifetime of the adult sample that resulted in distinct perceptions? Clearly the adult population and college age population experienced unique histories, these unique histories or cumulative effects are cohort effects. Chronological age simply refers to a maturational concept devoid of any historical meaning. In short, we would be more inclined to interpret their findings as cohort effects not age effects.

A similar interpretation issue is evident in family decision making. This is particularly true of proponents of the family life cycle (e.g. Murphy and Staples 1979). In the Murphy and Staples (1979) revision of the FLC the middle age category includes head of household ranges which span upwards of twenty years. Since a central assumption of the FLC is homogeneity within and heterogeneity between categories, this wide age range is particularly troublesome. However, to our knowledge no one has systematically analyzed the within stage variation that may be a function of cohort effects. Isolating these effects would enhance the stability of FLC predictors by lowering the error variance within stages.

Cohort Variation

Variation between cohorts may take two forms: intercohort and intracohort variation. Since the previous discussion centered principally on the need to consider intercohort interpretations, the present section emphasizes intracohort variation.

Rentz et al (1983) emphasized the variation that can occur between cohorts. The cohort categories used in the analysis were based upon age intervals spanning ten year periods. Yet recent developments in sociology and life-span psychology question the breadth of these intervals. For example, Elder's (1974) work on within cohort variation centered on the differential historical exposure within a one year cohort. In the Rentz et al analysis, additional analyses could be performed to assess the possibility of within cohort variation. Is the same cohort effect evident for social class, urban/rural and across each year in the 10 year interval? It might be informative to divide the sample into age cohorts defined by birth year. This would allow one to isolate shifts in consumption in age-adjacent cohorts. Shifts in consumption patterns would signal the development of new market segments and perhaps a shift in firm resources.

The Belk et al (1982) study might also benefit from a within cohort analysis. We would argue that the adult grouping may not represent a homogeneous grouping of individuals. Although social class was examined in the analysis one cannot assume that a narrow variance of perceptions exists in such a broad category. We propose that subgroups within the adult subsample might report perceptions that are congruent with the college age population. Focusing analysis within these groups might allow one to isolate intracohort variations.

Work in consumer socialization also focuses on variations that occur across age groups. However, it might be more informative to consider how socialization differs within a group in a given historical period. For example,

Elder's (1974) analysis of within cohort variation in socialization emphasized the differential effects on economic loss of children. This strategy resulted in a innovative, theoretically grounded split of the cohort, moving beyond demographics to isolate indicators of childhood variation. Similar comparisons could be made in terms of consumer socialization. Are there differences between youths from employed and unemployed families? To what extent are history-linked age norms (Neugarten and Danan 1973), prevalent in the socialization process? Does childhood or adult socialization in the 1960's differ from the 1980's?

Cohort Adaptation

As cohorts move through history they become more differentiated as a result of social and cultural change, age norms, and the cumulative effects of earlier life experiences. Given the number of factors which differentiate individuals it is surprising that the "elderly" are often considered a homogeneous segment. Recently authors have begun to analyze the young-old (65-75) and old-old (75+) as two separate age groupings. Yet this approach is subject to the same criticism. The age intervals are too wide to capture homogeneous segments. In response to the wide variability in the elderly population, a more systematic attempt to develop measures of what age is "supposed" to represent was undertaken (Zaltman, Alpert, and Heffring 1980). They concluded that "chronological age and the stereotypical variables it is sometimes used to represent may not correlate closely and...age may not predict particular other phenomena very well (p. 12)." They suggested that emphasis be given to the specific components of what age represents.

A second issue related to cohort adaptation is the idea of changing age norms. Concerning age norms Neugarten and Hagestad (1976) write:

Lifetime becomes transmitted into social time, and chronological age into social age. Age classes, age grades and age status systems emerge as social constructions. The interactions between age groups is socially regulated; the allocation of persons of different ages to given social roles comes to reflect the underlying age-status system, and age norms form a pervasive network of social control (p. 35)

In other words, being a certain age carries with it certain social expectations and behavior patterns which are defined by society relative to a given historical period. For example, having a child at age thirty four was once considered late now it is closer to the mean age. Unfortunately, very little work has been done to address age norms in the consumer literature.

A final issue concerns the cumulate life experience hypothesis. In order to enhance our understanding of history it is useful to examine cohorts across various time periods. Isolating cultural events and social changes which have occurred during the lifetime of the individual helps to explain their present consumption activities. Historical amnesia is perhaps more characteristic of researchers in scientific disciplines than it is of individual consumers.

Why The Slow Adoption?

With the exception of the Reynolds and Rentz series, consumer researchers have been slow to adopt this perspective. Yet cohort types of analysis can be used to isolate shifts in socialization, norms, values, behavior and so forth.

Why are consumer researchers slow to adopt the cohort

perspective? First, cohort forms of analysis are rooted in sociological/demographic traditions. Since most consumer research is psychological, few researchers have an interest or desire to pursue broad social-historical issues. Second, it is more convenient to explain age differences in terms of age effects. Since cohort analysis has not received much attention in the literature, few researchers would criticize a study for ignoring cohort effects. Third, applying cohort types of analysis to a data set requires additional statistical knowledge. Researchers may be unwilling to invest the time to learn the estimation procedures. Finally, findings based upon cohort effects are ripe for alternative explanations due to the number of intervening factors that may be present during any particular historical era. As a result it may be difficult to reach agreement on the nature and relative impact of historical events. Despite these limitations cohort analyses provides greater insight and understanding into the historical nature of consumption activities.

Conclusion

Although an attempt was made throughout this paper to discuss the implications of historical awareness, it is important to summarize the principal arguments and implications. The simplest message is that focused attention on the concepts of cohort, intracohort variation, and cohort adaptation provides a wider interpretation of factors which influence consumption.

The distinction initially made between cohorts and generations is necessary in order to establish the impact of social and cultural changes. Cohorts constructed on the basis of some shared encounter with history provides only one operationalization of historical effects. A lineage or familial generation and "social action" subgroups comprise the two other forms of historical groupings.

Variation in attitudes and behavior can occur both between (inter) and within (intra) cohorts. This variation can be traced to various individual resources and the effects of life experiences. Finally, cohorts do not experience discrete events. Rather, history leaves its imprint at each stage of life. This implies that older age-cohorts will be most differentiated in terms of life experience.

In this article we stressed the need for precise interpretations of age variation both between and within cohorts. Grouping the elderly into one consumer segment is one example of a lack of understanding of cohort variation. Perhaps more attention needs to be devoted to the "error variance" within subsegments of the population.

Finally, we have suggested some benefits of focusing on cohort movement through time. Emphasis placed on understanding individuals in historical context is not a new idea. However, it is new to consumer research and it makes a great deal of sense at a time of rapid social and cultural change.

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IMAGERY AND PAIRED-ASSOCIATE
LEARNING IN PRESCHOOLERS

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Abstract

An experiment was designed to test the effects of imagery on young children's learning of characters paired with products. Children in one condition, sentence-repetition, repeated a verbal elaboration to assist their remembering. In a second condition, an interrogative one, the youngsters answered "why" questions based on the pairings. Control subjects were not provided any specific learning-strategy instructions. Results indicated no statistical differences in memory between the sentence-repetition and interrogative conditions. However, memory in the sentence-repetition and interrogative groups was better than in the control condition. The results provide implications to both memory strategy instruction and elaboration concepts of memory applicable to marketing contexts.

Introduction

Because the information-processing approach allows for detailed description of cognitive functioning, it assists us in understanding age-related patterns of television viewing. As described by Roedder (1981), a major reason for age differences in the learning of information is the varied abilities of children to use mnemonic strategies. From an information-processing perspective, children are grouped into the following categories that are approximate: 1) limited processors, below age 6, who cannot use mnemonic strategies, 2) cued processors, ages 6 to 9/10, who use strategies sporadically, and 3) strategic processors, ages 10/11 and above, who use them spontaneously.

Older children, strategic processors, appear to respond to televised information like adults. They can rehearse incoming information and store it in memory. Cued processors, ages 6 to 9/10, seem to have the same ability to store and retrieve information, but with one exception. Frequently, cued processors must be specifically prompted to use these abilities. Very young children, limited processors, have been characterized as exhibiting mediational deficiencies; that is, they are simply unable to use strategies to remember better, even when prompted. Recent evidence has accumulated in developmental psychology that younger children, the limited processors, are capable of benefiting from experimenter-induced strategies (Levin 1976). Research provides empirical support for the proposition that children under six years do not use mnemonic strategies when requested to generate such strategies on their own. However, experimenter-induced strategies provide for a more capable view of the young child's processing abilities. A review of the literature on paired-associates learning follows in the next section of this paper.

If empirical work in an advertising context supports Levin's (1976) finding of assistance for limited processors in improving memory, then important implications are possible for advertisers. Can advertisers engage young children in strategies to better remember their products? Do catchy characters, slogans, and jingles assist the preschooler in recognizing advertised products at the point of purchase? The advertiser is keenly interested in the child's ability to distinguish the advertised product from the other product alternatives. Therefore, do aids to increase recognition work with young children who are generally

described as unable to use mnemonic strategies?

The current research will examine the basic question of whether young children can benefit from strategic instructions. An experiment will be described in which imposed images of a character paired with a product are shown to children with different sets of instructions. The central question addressed in the research is under what conditions preschoolers better learn pairs of characters and products in an intentional learning setting.

Paired-Associate Learning in Young Children

During the past decade, developmental psychologists have actively examined children's use of memory strategies (for review, see Kail and Hagen 1977; Ornstein 1978; Kail 1979). In studies of children's paired-associate learning, subjects have typically been presented lists of pairs; for example, two words, pictures, objects, or pictures and words. The task is to learn the appropriate response to each pairmate.

Several different types of imagery have been examined with the paired-associate paradigm (Reese 1977; Pressley 1977, 1982). Elaboration techniques can include pictures, verbalizations, and/or interrogative techniques. The experimenter can provide images in the form of pictures (imposed images), or s/he can instruct the child to create an image (induced images). Additionally, the pairs can be presented in separate pictures (unelaborated) or can be shown in an interactive scene (elaborated) (Rohwer 1973). Pairs are commonly studied in the following combinations: 1) imposed-unelaborated, 2) imposed-elaborated, and/or 3) induced-elaborated. For example, an illustration of a boy and a ball presented separately would constitute pictorials of the first category, imposed-unelaborated. If the boy were shown throwing the ball, then the second category, imposed-elaborated, would be represented. The third category, induced-elaborated, would be invoked if the child were instructed to mentally picture the boy throwing the ball. Elaboration, called verbal labeling, can also be verbal when the child repeats or generates a sentence involving two items. Pairs can therefore be verbally and/or visually presented. For example, if a picture of a boy and a ball were presented separately, but with a sentence for the child to repeat, "The boy threw the ball," then an imposed-unelaborated pictorial/imposed-verbal elaboration would result.

More recently, attention has been given to another technique, based on interrogation, that reportedly results in better learning as compared to verbal elaboration procedures (Turnure, Buium, and Thurlow 1976; Buium and Turnure 1977; Kestner and Borkowski 1979; Pressley and Bryant 1982). These experiments based on interrogation included "what" and "why" conditions. For example, for the pair, soap-jacket, the subjects were asked, "What is the soap doing under the jacket?" and "Why is the soap hiding in the jacket?" (Turnure, Buium, and Thurlow 1976; Buium and Turnure 1977). In general, subjects who answered these questions had higher associative recall of the pairs as compared to those children who repeated a sentence ("The soap is hiding in the jacket.") and those who repeated labels of the items (soap-jacket). Kestner and Borkowski (1979) replicated the results suggesting the

superiority of the interrogative technique in improving memory for paired items. The theoretical explanation offered (Butum and Turnure 1977) was that the interrogative procedure increased the semantic depth to which the items were processed (Craik and Lockhart 1972).

Rohwer (1973) contended that an elaboration is effective with children because it provides a meaning shared by the pairs. Controversy exists as to what types of elaboration (pictorial, verbal, pictorial and verbal, or interrogative) best assist young children's learning (Pressley 1977, Pressley and Bryant 1982). Of particular relevance to the current research to be reported, previous work with verbal elaboration suggests inconclusiveness in terms of its effectiveness with preschoolers. While Rohwer et al. (1971) found the addition of sentences to pairs of objects improved preschoolers' learning better than imposed, pictorial elaborations, other research has not provided concurrence. Reese (1965; 1970) found that preschoolers performed equally well with pictorial and verbal elaborations. On the other hand, using color rather than black and white photos, Evertson and Wicker (1974) reported young children as learning more from pictorially elaborated pairs. In an able summary, Pressley (1977, p. 590) contended that the presentation of the elaboration (pictorial, verbal, or visually and verbally) made little difference in children's learning. Indeed, any differences in elaborations were minor when compared to the results from an absence of any elaboration.

Moreover, Pressley and Bryant (1982) presented research challenging the superior effectiveness of the interrogative technique. In incidental learning situations, the advantages of the interrogative technique did not generalize to children older than five or six. Pressley and Bryant argued that very young children may exhibit improvement with the interrogative technique due to a "low level performance problem." (Pressley and Bryant 1982, p. 1264). When task involvement was increased or when children were informed of the goal of learning, then young children repeating the elaborations learned as much as the children in the interrogative conditions. In intentional learning situations, subjects in the interrogative and sentence-repetition conditions did equally well, with both conditions resulting in higher performance as compared to the labeling-control condition. Therefore, although the interrogative procedure may be useful in some situations with young children, other procedures may work as well in other situations and with older children.

Elaboration procedures have been found useful in school tasks. An increasing number of studies have indicated real-world applications of associative tasks such as learning the capitals of states and facts about Presidents (e.g., Pressley and Levin 1978; Pressley and Dennis-Rounds 1980). The current research will present a preliminary effort at determining the effectiveness of elaboration techniques in a marketing context.

Research Hypothesis

An experiment was designed to assess whether verbal elaboration and interrogative techniques would assist young children's learning of character/product pairs. It was hypothesized that in an intentional learning situation, preschoolers would show improved performance, as compared to control subjects, when asked to repeat an elaborating sentence (sentence-repetition condition) or when asked to answer a "why"

question (interrogative condition). Based on Pressley and Bryant's (1982) finding of no superior assistance of the interrogative technique in intentional learning situations, no statistically significant difference was expected between the two experimental conditions.

It should be noted that a recognition task was selected rather than a recall one. Young children have been previously found to perform well on recognition tasks (Perlmutter and Myers 1978). More importantly, and as briefly discussed in the introduction to this paper, the marketer is keenly interested in the young child's recognizing advertised products from alternative offerings at the point of purchase.

Method

An one factor experiment was designed to test the hypothesis that young children who repeated a sentence or answered a "why" question would outperform preschoolers who received no specific mnemonic strategies. Therefore, the one factor consisted of three levels: 1) overt sentence labeling of the pairs, 2) interrogation posed about the pairs, and 3) control or no specific instructions provided for remembering.

Subjects

Arrangements were made with a daycare center in a suburban community of a large, Midwestern city. Fourteen subjects were included in each condition. Of the forty-two subjects, one-half were four and the other half were five years old. Equal numbers of the younger and older children were included in the treatments. The mean age of the subjects was 58.8 months. There were more boys than girls in the study (57% versus 43%), and they were mostly white (90.5% white, 9.5% black). The children could best be described as coming from middle to upper-middle, dual income income families.

Stimuli

Five characters were paired with five products. The pictures of the characters and products were randomly assigned to 5-1/2" x 9" cards. The images were transferred to the cards by a Kodak-color copying process. These materials were a subset of cards used in another experiment and described by Macklin (1984).

The pictures of the characters were obtained from playing-card materials available from a firm specializing in school supplies. Three of them were animated (2 female/1 male), and two were human (1 female/1 male). The products were available for sale and were intentionally familiar to the subjects. Familiar products were selected to minimize the difficulty of the task and to increase the external validity of the study. Of the five items, there were two chewing gums, one snack item, one candy bar, and one breakfast cereal. A pretest of the items confirmed their appeal and recognizability. None of the items used were judged to be more likable than others at a statistically significant level.

Each card depicted the character on the right side and the product on the left. The cards varied in the following ways by the experimental treatments. For the sentence-repetition condition, a sentence was added; for example, "Luke Lion likes Bubblicious." For the interrogative condition, a question was shown; for example, "Why does Luke Lion like Bubblicious?" For the control group, the card contained no writing but

simply illustrated the character and the product. The order of the cards was randomized but held constant across conditions and subjects.

Procedure

Each child was interviewed individually at the daycare center. The children were randomly assigned to the treatment groups.

The subjects were asked a few questions about themselves in order to insure their ease with the experimenter. The children were then asked if they knew the names of the products. Cards showing the pictures of the products were shown one at a time. If a child did not know the name of the product, then the experimenter prompted the brandname to the child. Few promptings were required, because the products were familiar. As mentioned in the preceding section of this paper, familiar products were selected to minimize the difficulty of the task and to increase the external validity of the study.

The subjects were then told that they would play a game in which they would see a character shown with a product. The children were told that they would look at some cards one at a time and that they should try to remember "who went with what." Thus, the learning situation was intentional. The experimenter paced the exposure so that each card resulted in equal times for all conditions.

In the sentence-repetition condition, the experimenter read the sentence to the child, then the child was asked to repeat aloud the sentence with the experimenter. In the interrogative condition, the child was asked aloud why the character liked the product; for example, "Why does Luke Lion like Bubblicious?" In the no-words control condition, the children quietly studied the pictures of the characters paired with the products.

The recognition task consisted of five, separate answer sheets administered one at a time. Each sheet showed the character and four product alternatives, one of which was correct. The child was asked to point to the correct product. The word "likes" was typed next to the character. The three incorrect product choices were randomly selected from a pool of eight items (the five experimental products and three confederates: one candy bar, one breakfast cereal, and one snack item). The choices were held constant across subjects and conditions. The children seemed to complete the task with ease.

Results

Preliminary results showed no effects due to sex, race, or age of the subjects, therefore, these variables were not included in further analyses. The means and percentages correct for each condition are shown in Table 1.

A one-way analysis of variance for the number correct showed a statistically significant difference of condition ($F = 8.33$, $df = 2$, $p = 0.001$). (Please see Table 2.)

Inspection of the data in Table 1 indicates the children in the sentence-repetition and interrogative conditions performed better than the children in the control condition. This observation was confirmed by a

Table 1
Means and Percentages Correct

	Sentence-Repetition		Interrogative		Control	
	Mean	% Correct	Mean	% Correct	Mean	% Correct
Preschoolers Ages 4 and 5	4.07	81.4%	3.43	68.6%	1.93	38.6%

Tukey-HSD test ($p < .05$). There was no statistically significant difference between the sentence-repetition and interrogative conditions. Therefore, the major hypothesis of the research was supported by the findings.

Table 2
ANOVA Results

Source	SS	df	MS	F	P
Total	13.14	41			
Treatment	33.86	2	16.93	8.33	0.001
Residual	79.29	39	2.03		

Interestingly, and in accord with Pressley and Bryant (1982), the preschoolers who answered a "why" question did not outperform those who repeated aloud a labeling sentence. The "why" responses were most typically in the vein, "...because it's good," or "...because I like it too." A few children answered, "I don't know." Children are assumed to have attended to task equally well in both experimental conditions. Therefore, Buium and Turnure's (1977) theoretical explanation of the two conditions producing dissimilar semantic depths of processing is not supported.

In summary, in an intentional learning setting, the interrogative procedure did not produce better recognition than did the sentence-repetition procedure. This finding does not support the contention of processing differences as suggested by earlier research (Turnure, Buium, and Thurlow 1976; Buium and Turnure 1977). Additionally, mnemonic instruction appeared as enabling preschoolers to remember better characters with pairs.

Discussion

The research findings suggested that young children who receive aids for remembering will outperform children who receive no assistance. While such a finding is not unexpected, it must be cautioned. The current research involved an intentional learning task; that is, the children were told to remember the pairs. Most studies of strategy use by children in associative learning have included specific instructions to learn the pairings (Pressley 1977). It will be remembered, however, that some work comparing sentence-repetition and the interrogative technique has consisted of incidental learning tasks; that is, the children were not told of the goal to learn the pairs (Turnure, Buium, and Thurlow 1976; Buium and Turnure 1977). As described, these studies indicated that, with preschoolers, the interrogative technique assisted children more than the sentence-repetition procedure.

For those interested in advertising implications,

perhaps a more important question is, which type of learning task is more appropriate to the viewing situation? Differences are to be expected as Collins' (1970) work in media applications would suggest. Probably the best answer is that both types of learning situations need to be examined. First, a determination is needed as to whether different types of learning situations indeed make a difference for preschoolers. By the time children are in their early grade school years, intentional learning instructions increase attention to tasks (e.g., Flavell and Wellman 1977).

Second, both types of learning probably occur in natural viewing situations. Although much TV viewing may be undirected, children may view commercials purposefully to learn about specific products. Therefore, from a practical standpoint, both types of learning situations need to be examined.

In addition, children from a broader range of backgrounds need to be studied. Previous studies of children's reactions to television advertising have indicated different responses based on race (Donohue 1975; Donohue, Meyer, and Henke 1978). In addition, children of different ages need to be examined. The current findings were consistent with previous research suggesting the effectiveness of providing strategic instructions for children in the early grade school years (Macklin 1984). Cued processors (ages 6, 7, 8) benefited from instructions to repeat verbal labels; however, strategic processors (ages 10, 11) showed little improvement. It was hypothesized and upheld from theory that older children spontaneously use one or more mnemonic strategies to remember information. Interrogative techniques were not included in the study and, therefore, comparisons between the experimental conditions cannot be addressed.

Finally, the issue of employing recognition or recall measures needs to be addressed. The current work included recognition measures, in part, because of their relevance to the marketer's concerns. As Rossiter (1976) argued, children's visual memory is crucial for in-store product selection. Consumers appear to use information that they have stored in visual memory. Therefore, any mnemonic aids that assist the child in recognizing a product from other alternatives may result in greater incidences of purchase.

Thus, the advertiser may want to voice the slogan, "Mikey likes 'Life,'" in hopes of the young viewer repeating the slogan and then recognizing 'Life' in the grocery store. Alternatively, the preschooler may also be assisted if the announcer in the commercial asks, "Why does Mikey like 'Life?'" Considering this last technique as one to gain closure, it may be particularly effective if one regards viewing to be incidental in nature. An empirical test is needed because of contradictory findings from repetition and interrogative techniques used in traditional, paired-associate tasks (Turnure, Buium, and Thurlow 1976; Buium and Turnure 1977; Kestner and Borkowski 1979; Pressley and Bryant 1982).

In summary, the current results suggested that, in intentional learning situations, preschoolers were assisted by both sentence-repetition (verbal labeling) and interrogative techniques in recognizing character/product pairings. Additional questions need future research. Do these findings generalize to other populations, to other types of dependent measures (recall), and to other types of learning situations

(incidental)? Answers to these questions would be beneficial in context of the current research, as well as in terms of expanded settings that include audiovisual presentations of such mnemonic devices as slogans and jingles.

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ADOLESCENTS' REPORTED SAVING, GIVING, AND SPENDING
AS A FUNCTION OF SOURCES OF INCOME

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Abstract

Based on survey data from 13- to 14-year-old adolescents, it appears that whether children's discretionary income is received as a gift or earned has an influence on how they allocate these funds to spending on self, spending on others, or saving. Findings suggest that giving money to children may foster saving and gift-giving more than spending on self. However, dual sources of income and greater amounts of income are associated with more spending on self. Implications for research and adolescent consumer socialization practices are discussed.

Introduction

This paper investigates the general hypothesis that whether children's income is earned or received as a gift influences their use of this income. While there are several theoretical reasons to expect such a relationship and while such a finding could well have implications for later altruistic versus egoistic behaviors as well as willingness to delay gratifications as an adult, this hypothesis has been the subject of very little prior research. The present research is an exploratory investigation of young teenagers' reported income sources and their association with reported allocations of income to spending, saving, and gifts to others. Effects of sex, personal income amounts, and relative family income are also examined.

Children's Sources of Income and Expenditures

Income Sources

Prior research has provided descriptive data on how children acquire and use money. As McNeil (1979) notes, the major sources of income for children are allowances, earnings, and gifts. Conceptually, allowances are similar to earnings from outside jobs in that they are most commonly received in exchange for specified household chores. Ward, Wackman, and Wartella (1977) found that nearly all children from kindergarten through sixth grade had some discretionary personal income. Receiving money as a gift (usually from parents) was most common. While between 50 and 55 percent of children in each grade received money this way, the percentage varied from 41 percent for higher socioeconomic status children to 66 percent for lower SES children. Allowance was the second most frequent source of income and its receipt was positively correlated with age and socioeconomic status. Outside earnings were the third most common source of income and were most common for sixth graders and medium SES children. These findings support previous findings and reveal no major changes in children's sources of income over the past several decades in the United States (Dunsing 1956, 1960; Rogerson and Whiteford 1960; Powell and Gover 1963; Marketing News 1983). There is some evidence that boys are more likely to have outside earnings and that girls are more likely to babysit as an outside job and are less likely to perform manual labor such as lawn mowing (Rogerson and Whiteford 1960; Powell and Gover 1963). No recent study has examined these differences however.

Expenditures

Children's sources of income are of less intrinsic interest

than their expenditures. As Feldman (1963) points out, children can develop dysfunctional outlooks on money just as adults can. The dysfunctions include what may be thought of as miserliness, prodigality, and excessive giving to others to win their favor. By looking only at allocations of income to saving, spending, and giving to others it is not possible to determine whether children are using money dysfunctionally. Too much saving may indicate miserliness; too much spending may show prodigality; and too much giving may reflect an attempt to buy others' friendship, but what is too much is unclear.

As Herrmann (1970) observes, most of children's and teenager's purchases are discretionary items like toys, clothing, entertainment, and snacks, and since their families are expected to continue to provide the basic necessities, there is little incentive to save. McNeal (1979) reports that while preschoolers spend mainly on sweets, elementary school children buy more in the other categories and are more likely to purchase gifts for others. Gift-giving is more likely among teenagers. This is consistent with other findings that children become less materialistic with age (Marshall and Magruder 1960) as well as studies of children's wishes that show that wishes for material things decline with age (Ables 1972; Amatora 1957; Boynton 1936; Brook and Gordon 1979; Gray 1944; Guarnaccia and Vane 1944; Horrocks and Mussman 1973; Jersild, Market, and Jersild 1933; Jersild and Tasch 1949; Kuhn 1954; Speers 1937, 1939; Vandewiele 1980, 1981; Washburne 1932; Wheeler 1963; Wilson 1938; Winker 1949; Witty and Kopel 1939; Zeligs 1942). The latter studies also find some (not always consistent) differences by sex (Amatora 1957; Jersild, Market, and Jersild 1933; Jersild and Tasch 1949; Speers 1939; Vandewiele), by race (with black children showing greater desire for possessions--Gray 1944; Brooks and Gordon 1979), by socioeconomic status (with lower SES children being more inclined to wish for things--Jersild, Market, and Jersild 1933; Jersild and Tasch 1949; Witty and Kopel 1939), and by culture (with Americans being the most materialistic and foreign cultures and Amish children being less so--Kuhn 1954; Wheeler 1963; Vandewiele 1980, 1981).

The spending studies show that while girls and boys may be equally willing to spend money on themselves, girls are more likely to buy clothing and are less likely to instead spend money in the other purchase categories noted above (Powell and Gover 1963; Ryan 1966). The exact percentages spent, saved, and given to or spent on gifts for others varies considerably from study to study, but it generally appears that children of all ages from 5 through 20 spend more than they give and give more than they save (e.g., Dunsing 1956; Rogerson and Whiteford 1960).

Income Source Relationships to Expenditures

While various authors have suggested that giving children an allowance is likely to make them manage money better (usually interpreted as saving more and spending less--e.g., Dunsing 1956), the only direct evidence of allowance effects suggests that whether or not the child receives an allowance has no effect on expenditure patterns (Marshall 1964). However, the matching procedure used in this study is suspect (Campbell and Stanley 1963), and leaves the question open. Although no significance testing was done, it appears from Dunsing's (1960) data that

high school girls use their outside earnings more than their allowances for gifts, savings, and purchases of clothing. However, the dearth and age of these available data suggest that more testing is needed to examine relationships between sources of income and expenditures. This was the purpose of the present study.

Results

Methods

Hypotheses

What effect does giving children money as a gift (i.e., with no reciprocal tasks or gifts stipulated or understood as conditions for the money) have on their attitudes toward and use of this money? One possible hypothesis is that either because the adult giver acts as a role model or because such one-sided (unreciprocated) transfer causes guilt, children receiving income in this way would tend to be more generous in giving to others. It is also possible to argue however, that for the child who **only** receives income in this way, there is little appreciation of its scarcity or value to the giver and therefore little incentive to do anything but spend it. But considering the special nature of certain money gifts given to the child on occasions such as a birthday, Christmas, or graduation, this hypothesis seemed less plausible to us than the initial suggestions that gifts beget giving. Furthermore, as Hyde (1983) and Caplow (1982) demonstrate, such giving is likely to extend beyond simple two-way reciprocal exchange and involve gifts to others from whom money has not been received.

Children's earned income, whether from an allowance, odd jobs, regular part-time job, or summer job, may be seen as an embodiment of the Protestant Ethic. Frugality is a part of this ethic and suggests that saving should be most likely among children who earn their discretionary incomes. Frugality is also an egoistic trait and is therefore unlikely to be associated with altruism and giving to others. Even apart from questions of frugality, earning an income is more likely to allow children to feel that they **deserve** their money, that it is not easily replaced, and that there is less compulsion for them to spend it on others. Thus we hypothesized that when the adolescent's income is earned it is more likely to be saved and less likely to be used for gifts.

A third condition may exist when a child both earns and is given discretionary income. Because they earn part of their money, these children are apt to feel that they deserve that money. But because they also receive part of their money as a gift, this group is less likely than the preceding group to see such money as hard to replace. We would therefore expect this group to be most likely to spend money on themselves and somewhere between the other two groups in propensities to save and give to others.

Sample

The sample consisted of all 122 seventh graders in a single junior high school in suburban Salt Lake City, a community of approximately one million people. Sixty of these students were 13 and sixty-two were 14 years old during the Spring when the data were collected. Fifty-seven were males and sixty-five were females. It was not possible to collect socioeconomic data on the sample, but families in the area are heavily blue collar. The homogeneity of the community is shown in responses to a relative income question to which 72 percent said their family's income was about the same amount of money as the families of others they knew versus 14 percent each saying their family had more or less money.

Income

The median reported amount of money these children had "to save or spend each month" was \$16.50. The most frequent source of this income was as a gift from parents (70.5%), followed by babysitting (52.5%), allowance (41.8%), summer job (33.6%), gifts from relatives (23.0%), and present job (14.8%). Crosstabulating these sources of income shows that 16 (13.1%) receive money only from parents or relatives (exclusive of allowances), 32 (26.2%) receive money only from the other (earning) means, and 74 (60.7%) receive both gift and earning types of income.

There were no age differences in sources or amounts of the child's income, but sex was related to **sources** of income and relative family income was related to **amount** of the child's income. According to Chi-square tests (1 d.f., corrected for continuity, $\alpha = .05$), girls were less likely than boys to receive money from relatives (15% vs. 32%) or a summer job (22% vs. 48%), but were more likely to receive money from babysitting (78% vs. 23%). While relative family income did not significantly affect **sources** of income, it was significantly positively related to **amount** of reported income ($F = 6.14, p < .0029$). Those who reported that their family had less money than friends' families had an average personal income of \$7.97 per month versus \$17.47 for those whose relative family income was seen to be about the same as friends' and \$21.18 for those reporting greater family income than friends'. Income amounts were not significantly different depending upon whether income was earned, received as a gift, or both.

Expenditures

In terms of expenditures, the overall sample reported spending 38.9% of their incomes, saving 31.5%, and giving others (mostly via non-monetary gifts) the remaining 29.6%. These allocations did not differ by age or sex, but the allocation to spending was marginally different between the three relative income groups ($F = 2.77, p < .0667$). Using an alpha level of .10, Scheffe's multiple contrast test shows that the lower income group's allocation of 17.8% of income to spending on self is significantly lower than either the average income group's 39.7% or the higher income group's 38.7%. This would suggest that allocations to one or both of the remaining categories of saving and giving should be higher for the lower income group. But while it is nominally higher in both of these categories, the analyses of variance for these allocations do not differ among the three income groups at $\alpha = .10$. Since we are analyzing proportional allocations rather than dollar allocations, the lesser personal spending by the lower relative income group suggests that they may be more driven by the self-abnegating Protestant Ethic in their income allocations.

Expenditures were also measured by asking in which of 22 product or service categories the child had made purchases with personal income. These responses as well as any significant sex or relative income effects (there were no significant age effects) are shown in Table 1. In general, the most popular expenditure category was food, followed by entertainment, clothing, and major durables. Females were more likely to report spending money on candy or gum, shoes, and school activities, while males reported spending more money than females on videogames (home or arcade), bicycles, skiing and camping equipment, Walkman-type stereos, skateboards, and motorcycles. Those who reported having less family income than friends, also reported a lesser amount of purchasing of candy or gum, shoes, and skateboards, but are more likely to have spent money on a bicycle, perhaps because they were less likely to receive one as a gift.

TABLE 1

Proportions Buying Various Products and Services

Category	Overall % Buying	SEX (%-where different ¹)		RELATIVE INCOME (%-where different ¹)		
		Male	Female	More	Same	Less
Candy or Gum	84.4	76.8	90.8	94.1	88.4	56.3
Soda Pop	77.9					
Fast Foods	74.6					
Movies	72.1					
Video/Arcade Games	63.1	80.4	49.2			
Records/ Tapes	58.2					
Clothes	57.4					
Magazines	52.5					
Shoes	45.1	35.7	53.8	47.1	50.0	23.1
School Activities	41.8	43.6	58.7			
Sports Equipment	25.4					
Bicycle	20.5	33.9	9.2	29.4	15.1	37.5
Skiing	18.0					
Skiing Equipment	9.0	14.2	3.1			
Home Video- games	9.0	16.1	3.1			
Camping Equipment	9.0	16.1	3.1			
"Walkman" Stereo	8.2	14.3	3.1			
Motorcycle	8.2	19.1	1.6			
Watch	7.4					
Skateboard	5.7	10.7	1.6	17.6	3.5	6.3
Home Stereo	4.1					
Television	.8					

¹Via Chi-square test (1 d.f. tests corrected for continuity); alpha = .05.

Relationship Between Income Sources and Expenditures

The association between type of income and proportional allocations of income by these adolescents is shown in Table 2. While giving did not differ between income

TABLE 2

Proportional Allocations of Income by Income Source

EXPENDITURE	INCOME SOURCE(S)			Significance ¹
	Earned Only	Given Only	Both Earned and Given	
Gifts	27.5%	30.5%	29.7%	NS
Spend	31.7	32.4	43.3	.0457
Save	40.8	37.1	27.0	.0117
Total	100.0%	100.0%	100.0%	

¹Via F test.

source groups, both spending and saving did. Scheffe multiple contrast tests (alpha = .05) reveal that those with both types of income spent a greater proportion of their income and that those who earned all of their income saved a greater proportion of their income compared to the other two groups.

Although income amount was not significantly related to income source, it is also possible that amount of income effects allocations to giving, spending and saving. Correlations between amount of income and **proportional** allocations of that income show reasonably strong and

significant ($p < .001$) relationships in each case. Income correlates .48 with allocation to spending, -.33 with allocation to saving, and -.44 with allocations to giving.

Discussion

It was hypothesized that those with earned income would tend to save more and give less than others. The observed pattern of expenditures supports this hypothesis, although differences between groups in giving allocations were not significant. It was also hypothesized that those relying on gift income would be more inclined to allocate income to gifts and less inclined to allocate income to saving than others. As just noted, giving did not significantly differ between groups, even though mean proportional allocations displayed a pattern consistent with this hypothesis. The gift income group did save proportionately less money than the earned income group. The dual income source group was hypothesized to be most likely to spend money on themselves, and this was found to clearly be the case.

Several cautions are in order in interpreting these results. In addition to the limited nature of the present sample, it is important to recognize that no causal inferences are warranted from these results. For instance, the dual income source group may not spend more on themselves **because** of their income sources. It may be instead that because of their desire to spend more on themselves they are more likely than those relying solely on gift income to seek additional sources of income. However, because receipt of money from parents and relatives is less discretionary than earning money, it is less likely that such a reverse causal flow could explain the relationship found between earned income and saving. That is, it seems less plausible that those with a greater desire to save will seek earnings and reject gifts.

Because there was no significant difference in the dollar incomes reported for the three income source groups, the conclusions drawn from the proportional allocations also apply to dollar expenditures by the three groups. The relationships of sex and relative family income to income sources and expenditures should be considered however. Although males and females differed in the types of jobs and specific sources of gift income they received, they did not differ in regard to whether their income was earned, a gift, or both. The same is true of the three relative income groups, but the lower perceived family income group spent less of their own incomes on themselves. This may appear to indicate that the lower perceived family income group, at least at these ages, is less self-indulgent. But the finding that this group is also the most likely to have spent money on a bicycle, may suggest that their savings are to buy products for themselves that the other groups may be more likely to receive as gifts. The intended purpose of savings as well differences in non-monetary gift receipt are dimensions that need to be investigated in future research. In any case, the fact that relative perceived family income is related to expenditures but not to sources of income, suggests that the findings in Table 2 are independent of relative family income effects. In addition, absolute child income amount is associated with greater proportional allocation to spending and lesser proportional allocation to both saving and giving. But since income **source** is also independent of child income **amount**, the findings in Table 2 cannot be explained by these income effects either. The non-hypothesized effects of amount of children's incomes are also worthy of further investigation to assess the causality of these relationships.

With these cautions in mind, several tentative conclusions emerge from the present study:

1. Giving money to children does not foster

greater spending on self. Dunsing's (1956) pejorative reference to such as income as "dole" does not appear warranted. If anything, such giving seems to beget more giving by the adolescent.

2. Earning money as a sole source of income is associated with a greater tendency to save. It seems that such earnings may encourage the Protestant ethic to work and save for the future.

3. The most self indulgent group consists of those who both earn and receive income. Further research is needed to determine whether the hypothesized explanation that this group feels they deserve money and that it is not scarce, is correct.

4. Higher personal income children tend to spend a greater portion of income and save as well as give a smaller proportion than lower income children. Further research is needed to determine whether this is a social class effect related to the higher relative family incomes of children with higher personal incomes or an effect of the amount of their personal income per se.

In addition to broader investigations of these hypotheses, future research should examine age-related differences over a broader range of ages. All findings should be examined in a broader geographic context as well.

If these hypotheses receive further support, a curious dilemma exists. Assuming that saving and giving to others are more rewarding and socially beneficial than spending on self (Rimland 1982), the three hypotheses together suggest that children should **either** earn or receive money as a gift, but not both, and not too much. However, it is undoubtedly too simplistic to assume that spending money on self is the least desirable of the three choices investigated. Ultimately the **goals** behind such expenditures should be investigated to determine whether the expenditure is seen as an end in itself (in order to **have** the object or experience--"terminal materialism" in Csikszentmihalyi and Rochberg-Halton's [1978] words) or as a means to other ends (in order to **do** things using the object or experience acquired--"instrumental materialism"). Much remains to be done in investigating these issues (see Belk 1984), but hopefully this study is a beginning in the examination of childhood influences on how we choose to utilize our money.

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A LIFE-SPAN PERSPECTIVE OF CONSUMER BEHAVIOR

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Abstract

This paper outlines the pertinent empirical research and theory from developmental psychology that examines the developmental changes adults experience as they proceed through the life-span. This literature suggests that, as a person ages, some characteristics of a person remain stable while other characteristics change. The limited research in consumer research that uses a life-span perspective is surveyed. Finally, suggestions and directions for future consumer research using a life-span perspective are presented.

Introduction

Dramatic changes are occurring in the age composition of American society. Presently, the leading edge of the post-World War II baby boom population bulge is in its late thirties. In five years, this group will be pushing into its forties. As a result, we are experiencing a maturing of America. This maturing society, resulting from the baby boom will cause middle-age consumers to be the growth market of the coming decade.

Only in the most recent history have researchers begun to pay attention to the middle-aged citizen. Developmental psychologists have for decades studied the developmental changes in children. Recently, they have expanded their attention to the elderly. Most developmental psychologists, with their emphasis on infancy and childhood, left the impression that nothing changed between adolescence and retirement. Developmental psychologists are developing a life-span perspective of human development. While this is a recent thrust, new research is providing some understanding of the development of the adult. As the baby boom approaches forty, it is evident that life-span research will be increasingly relevant to a significant portion of society.

The objective of this paper is to review the life-span literature, identify the limitations of its theory, present generalizations that can be made from a life-span perspective, and suggest opportunities and direction for the application of life-span theory and perspectives to consumer behavior research.

Background

Life-Span Research

As an adult ages, some dimensions of a person exhibit stability while other dimensions change. Most of these changes evolve over a long period of time while some other changes are more rapid and dramatic. This section will discuss the research examining the effect of the aging process on the adult.

Physical Changes. The physical changes in an aging adult will hardly be noticeable at first but tend to accelerate in the 50's and 60's. As a person ages, skin dries out leading to lines and wrinkles, strength and endurance ebbs, reflexes slow, hair thins and greys, and the heart and kidneys lose efficiency (Tierney 1982). The spine "settles" as vertebrae move closer together causing an aging person to get shorter (Whitbourne and Weinstock 1979).

Visual acuity (the ability to discriminate) peaks in early adulthood and declines in the 40's and 50's (Corso 1971). Difficulty in depth perception becomes more pronounced in the 40's while restricted blood flow to the retina causes the size of the visual field to reduce in the mid-50's (Whitbourne and Weinstock 1979).

Some degree of hearing loss (generally in higher frequencies) is experienced by men in their early 30's and by women in the late 30's (Botwinick 1973).

It appears that sensitivity to touch and pain change little over the life-span. Similarly, since taste and smell receptors replace themselves when they die, aging seems to have little effect on taste and smell.

Information Processing. Consumer researchers have effectively outlined the changes in information processing in the elderly (Phillips and Sternthal 1977; Ross 1981). These researchers were able to trace some changes in the capacity to process information in middle aged adults. Since a discussion of information processing changes is beyond the scope of this paper, only generalizations of these changes will be made.

In general, the processing of information takes more time as a person ages (Phillips and Sternthal 1977). Even in the early adult stages, more time is necessary to store information into memory (Bee and Mitchell 1980). However, because older adults are more cautious and more concerned with accuracy, their cautiousness may explain some of the reduction in processing speed. It appears that the storage and retrieval of information can also be affected by the relevance of and familiarity of the material being processed, the presence of distractions, the amount of the material to be processed, and the motivation to participate in the experiment (Birren, Cunningham and Yamamoto 1983).

Cross-sectional studies have found a decrease in intelligence scores over age levels (Matarazoo 1972). However, longitudinal studies suggest little decline in intelligence over the life-span until the sixties (Birren, Cunningham and Yamamoto 1983). There is other evidence of a decline in intelligence about five years prior to death. This decline has been referred to as the "terminal drop" (Palmore and Cleveland 1976).

Some research demonstrates that older people are not as good at problem solving as younger adults while others suggest that perhaps adults merely solve their problems differently (Whitbourne and Weinstock 1979). Craik (1977) notes that while it is often expected that adults would be more rigid ("set in their ways") in their approach to problem situations, he found that experience allowed adults to develop different strategies to deal with these situations. Clayton and Birren (1980), likewise, found that as adults age, they accumulate experiences and insights leading to a better understanding of themselves and their world, or in other words, wisdom develops.

It should be emphasized that most studies of cognitive abilities are based on cross-sectional studies. Longitudinal perspectives might suggest additional cohort/historical explanations of the differences in information processing abilities among age levels. As Bee and

Mitchell (1980, p. 367) note, "If we are to understand development in adults, we must study development directly, following groups of people over several years. Cross-sectional studies may be less expensive and easier to run, but they just don't answer the questions that need to be asked." Therefore, care must be taken when attempting to present reasons for differences among age levels when relying on cross-sectional data.

Personality. Recent research in personality change suggests that personality trait changes over the life-span are minimal (Costa and McCrae 1980). However, when studying changes in self-concept, Lowenthal and Chiriboga (1977) found that both men and women described themselves much more positively as they aged. Some studies show changes in internal locus of control over the life-span. As adults approach middle age, internal locus of control increased (they felt in more control over their lives) while little change occurred from middle age to old age (Birren, Cunningham and Yamamoto 1983).

The emotional changes associated with the mid-life crisis experienced by many men and women in their late thirties and early forties has been verified by a number of researchers (e.g., Brim 1976; Sheehy 1976; Hennig and Jardim 1977). Brim and Ryff (1980) note that the levels of testosterone change abruptly in males during this period, as do the levels of progesterone and estrogen in women. These physiological changes coincide with the psychological pressures associated with the questioning of one's job, family, and future expectations that often occur during this period. As a result, for some adults this is a difficult time of instability and reassessment.

Life-Span Theory

Theory of the adult development process or the life-span is in the early stages of development and sophistication. Generally, life-span theories address the changes in priorities and one's view of himself and the world that occurs as an adult ages. Three representative life-span theories will be briefly presented below and are outlined in Figure 1.

Erik Erikson. Erikson (1963) was the first developmental theorist to continue the developmental process past adolescence. He suggests that a person faces the tasks of intimacy versus isolation in ages 19 to 25. If a person cannot achieve intimacy, merging one's identity with another in a relationship, isolation will occur. In their survey of 25 successful single female executives, Hennig and Jardim (1977) found that all of these women took a "moratorium" from their careers in their late thirties. During this break, most of these women developed relationships and half ended up getting married. It would appear that because they were not able to establish relationships (intimacy) earlier, they felt a need to accomplish this later in life. Once these relationships were made, they were able to continue with their careers. During the ages of 26 to 40 (some suggest beyond 40), a person faces generativity versus stagnation. A person's task at this stage is to generate ideas, products, accomplishments, and/or children. Those who do not generate will experience a sense of stagnation or purposelessness. The conflict of ego integrity versus despair occurs beyond 40. Ego integrity refers to an acceptance of one's life pattern, a feeling of well-being, and implies a sense of purposiveness. Those who lack ego integration experience a despair that time is running out and few, if any, life alternatives remain.

Roger Gould. Like Erikson, Gould (1978) suggests that a series of transitions are made as adults age. He feels adult development is a process of moving from a

childhood consciousness (outer control, protection of parents) to an adult consciousness (independence, competence, self-control, self-understanding). The issues faced in life lead to self-understanding and a greater sense of competence. As a person moves into the thirties he turns inward to better understand himself. Once he accepts his mortality in the forties, he can gain a feeling of freedom and an acceptance of responsibility for himself.

Daniel Levinson. Levinson (1978) developed The Seasons of Man's Life into the most detailed of adult developmental theories. He views the life-span process as seasons that follow one another rather than a progression from worse to better (as does Gould). As with Erikson and Gould, Levinson feels a person proceeds through stages of stability and stages of sharper transition. While Gould focuses on internal changes as catalysts of change, Levinson suggests the major causes of change are external. Levinson feels "settling down" in the early thirties and occupational advances or lack of advances trigger transitions in the forties.

Limitations of Life-Span Theory

Life-Span theory is in its early stage of development and sophistication. As a result, a number of limitations of life-span theory have been noted. First, the theories are not staged so as to be empirically testable (Hultsch and Hickey 1978; Gergen 1980). Because most of the theories came out of the clinical psychology tradition, variables and relationships are often not able to be stated with sufficient precision to be operationalized and tested.

A second problem relates to the stages of transition experienced during the life-span that varies substantially from person to person with little explanation by theory (Kurtines and Grief 1974; Runyan 1978). Many theories suggest changes or transition to occur at certain ages, but these transitions occur at different ages for some people and other people never experience those changes. Present life-span theory does not effectively accommodate this variability.

Third, while exogenous life events are significant triggers to changes or transitions, life-span theories have not been able to integrate these variables into their theories (Kohlberg 1973; Dhrenwend and Dhrenwend 1974). The life events that affect children (e.g., learning to walk, developing language, getting teeth) occur at similar ages and result in more predictable stages in the development of children. In adult development these life events vary in variety, intensity, and timing from person to person and stages of development are therefore much less predictable.

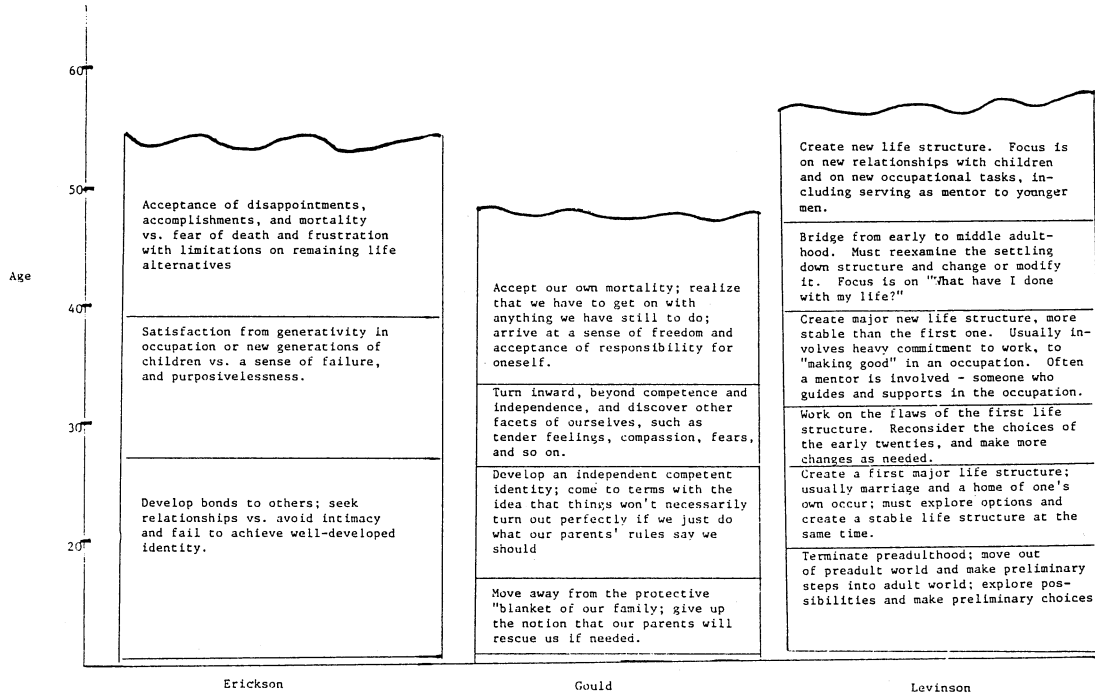
Generalizations From Life-Span Theory and Research

Because the life-span discipline is in its early stages of maturation, its theory and empirical research is only beginning to develop an understanding of the aging adult. However, a number of generalizations from life-span theory and research can be made. These generalizations are outlined below.

1. As an adult progresses through the life-span, some characteristics of adults remain stable while other characteristics change (usually slowly).
2. These changes can be sharper when internal and/or external events trigger "crises" or "transitions."

TABLE 1

THREE REPRESENTATIVE LIFE-SPAN DEVELOPMENTAL THEORIES



Source: Summarized from Bee and Mitchell (1980)

3. Personal understanding of ourselves and our world develops as we accumulate experience and insight.
4. Personal priorities and the importance of issues to evolve as a person ages.
5. Personal understanding of our mortality begins to develop in middle adulthood.

Consumer Behavior Research on Age

Research on the effect of age on consumer behavior has been similar to the history in developmental psychology. There are examples of research using such age groups as children (Moschis and Moore (1979; Wartella 1981), the teenage market (Churchill and Moschis 1979), and elderly consumers (Lambert 1970; Phillips and Sternthal 1977; Ross 1981). However, there is only limited research on consumers between teenagers and the elderly.

In their study of the elderly, Shutz, Baird and Hawkes (1979) studied three age groups; 45-54, 55-64, and 65 and older. These groups were examined using a variety of measures including shopping patterns, brand usage, income management, health care, food and nutrition, transportation, housing, and clothing. Ross (1981) and Shutz, Baird and Hawkes (1979) cite research conducted by the Needham, Harper and Steers advertising agency as reported in Reynolds and Wells (1977) which measures approximately 4,000 adults from the 20's through 65 and over. This data examines media attitudes, consumer information, product beliefs and shopping attitudes, and behaviors of these age groups. In addition, life style data on these groups was also collected. The life style categories used were optimism and happiness, modern-traditional ideas, travel, mobility, anxiety, personal adornment, income and spending, staying at

home, spouse and children, durable goods, housekeeping and cooking, grocery shopping, and health and nutrition. Most categories had only slight variations across age groups. A possible explanation for the lack of differences across age levels was the lack of theoretical guidance in developing the life style questionnaire items. Without tying the items to the types of changes suggested by the life-span literature, it is probably not surprising that the data essentially showed few changes over age.

Hirschman and Solomon (1982) examined the relationship of age with acquisition of rational experiences. In their cross-sectional study, they found younger persons sought out more rational experiences (cognitive stimulation) than older persons while age had no significant effect on arrational experiences (sensory stimulation). Barak and Schiffman (1980) developed a measure referred to as "cognitive age." Instead of assessing chronological age, this measures the age level of a person's interests and how a person feels they look, do, and feel. The studies of Needham, Harper and Steers (Reynolds and Wells 1977) found that a sizable percentage of persons 65 and over perceived themselves to be less than 65 on those measures. Underhill and Caldwell (1983) developed a similar measure called "perceived age" which, when used on a sample of persons over the life-span, generally found that people perceive themselves to be younger than their actual age.

Longitudinal research is necessary to determine the effect of aging, as contrasted with age levels, on behavior. There have been few longitudinal studies in consumer research (Cox, Granbois and Summers 1982; LaBarbera and Mazursky 1983). These longitudinal measurements were very limited in that there was less than a year between measurements. Cohort analysis has

been used to examine consumption rates of products of different cohorts, but other aspects of consumer behavior and consumers were not examined (Reynolds and Rentz 1981; Rentz, Reynolds and Stout 1983).

One area of research that has a slight overlap with a life-span orientation is family life cycle research (e.g., Burns and Branbois 1980; Gupta, Hagerty and Myers 1981). While there may be relationships between events occurring at various stages of the family life cycle (e.g., birth of children or children moving away from home) and changes experienced by the individual, these issues are beyond the scope of this paper. Because the orientation is on the family as it progresses through the life cycle rather than on the individual family members, this body of research has only a limited relationship to life-span research.

Directions For Consumer Behavior Research

Life-span research and theory study the adult progressing through the life-span. This life-span perspective could be insightful when studying many aspects of consumer behavior. This section suggests how life-span research and theory can contribute to consumer behavior research.

Changing Adult, Changing Consumer?

Since changes do occur in adults as they age, systematic research should examine if and how those changes are manifested in consumer behavior. Consumer behavior concepts such as self-concept, evaluative criteria, attitudes, information processing, and perception could be examined at different age levels. Because consumers at different age levels have more life experiences and understand themselves and their world differently, and because of historical differences of each cohort, consumers across the life-span could react differently on these and other consumer behavior variables. It is important that these research efforts should be guided by existing life-span theory and research rather than merely "fishing" for changes in aging adults.

Need For Appropriate Measures

While consumers across the life-span could be compared on traditional research variables, most of the changes adults experience are subtle. This infers the necessity of the development of aging-appropriate measures to compare different age consumers. Examples of these measures are: how one views his role in life; how one views his priorities; or how a person views his strengths, weaknesses, and abilities. These types of measures would have to more delicately assess consumers and would be more attuned to the aging process. For example, while some abilities of adults deteriorate as they age (e.g., speed of processing information) frequently adults develop other capacities to compensate (e.g., "reading between the lines"). Carefully developed research measures would be necessary to assess these kinds of changes.

Stages of Adult Development in Segmentation

Age levels have long been used for segmentation purposes. However, adults of the same age may be at different stages of adult development. Therefore, stages of adult development has the potential to be used as a basis of segmentation. Consumers at the same stage will tend to view their life situation in a similar way which could lead to similar priorities, activities, and possibly, consumer behavior. For example, some men in passing through the "mid-life crises" want to relive their youth and be reassured that they are still masculine and vital. This is a

homogeneous segment of male consumers who could be the target of certain clothing, physical fitness, and grooming products.

Marketing Strategies and the Life-Span

As consumers change as they age, the ways firms market to them may also have to change. Priorities, evaluative criteria, and product usage need not be expected to be constant over the life-span. Advertising appeals and spokespersons for products cannot be expected to have the same effectiveness over the life-span. As Kaylan Pickford, a 53 year old model notes, "Women are bored to death with being forced to look at only one image in advertising. Advertisers would get a very good response if they would put sensuality into midlife models..." (Burstein 1983, p. M10). An obvious benefit of better understanding the aging process will be the ability to market to different age levels with more sensitivity and intelligence.

Need For Longitudinal Research

There is a definite need for longitudinal studies to consumer research over the life-span. Longitudinal analysis has the ability to give insight into the relationship between the aging process and consumer behavior. This technique uses longitudinal data to separate the effect of aging from the historical effects under which each age level was socialized (the cohort effect). That is, if 30 year olds eat more candy bars than 40 year olds, the difference may be caused by the age difference (40 year olds don't like sweets as much as they get older) or because 30 year olds grew up with sugar products being more commonplace (and they will continue to like candy bars when they are 40 year olds).

Only longitudinal research can offer the time dimension to better understand the data and be able to put it in context. For example, sociologists studying the 45-65 year old on a longitudinal basis found that "today's middle-age person is an entirely different critter physically, economically, and psychologically from previous generations" (Yovovich 1983, p. M10). Consumer research in the life-span obviously cannot advance by relying on cross-sectional studies.

Potential for Theory Development

Life-span theory is in its early stages of development. Life-span theory and other life-span research has not been systematically applied to the study of consumers. While this presents problems for researchers, it also presents an opportunity for involvement in the development and testing of life-span theory both in and outside the context of consumer behavior.

Conclusions

Limited consumer research has been conducted to systematically examine the effect of aging on adult consumer behavior. The study of the adult developmental process finds that aging adults adapt to the changes occurring within them and changes experienced in their environment. Life-span theory and research has the potential to suggest fresh insights and perspectives into the buying behavior of adult consumers. Research employing a life-span perspective can offer a significant contribution in studying an increasingly important segment of our society.

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ALTERNATIVE AGE MEASURES: A RESEARCH AGENDA

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Abstract

Chronological age and five alternative age measures were assessed in an exploratory study in terms of interrelationship and association with established age correlates. The research relied on a 1983 self-report survey of female consumers, chronologically 30 to 69 years old. Multiple Regression models were tested to evaluate the relative impact of age-correlates on the six age measures. Results indicate that alternative age measures, particularly 'cognitive and discrepancy age,' may shed insight in various aspects of actual and ideal age-role self-concepts. Surprisingly, 'ideal age,' a measure of ideal age-role self-concept, does not (by itself) have much explanatory power.

Introduction

The aging-process is "coming of age" in the 1980's. Consumers chronologically over 30 have become a majority in the United States, and their number is still expanding rapidly. Research indicates that this population, while long ignored by marketers who prefer 'young' consumers, is well worth investigation. Consumers who are chronologically 30 to 69 years old have more discretionary income to spend than younger populations and dominate the consumer marketplace for a wide variety of product categories (e.g., cosmetics, and food consumed in the home) (Allen 1981; Conference Board and U.S. Bureau of the Census 1984; Newitt 1983; Underhill and Cadwell 1983; Robey 1981; Stolin 1982). In addition, these consumers, for the first time, feel that it is O.K. to pay extra attention to oneself (e.g., by keeping healthy through exercise and diet), and to indulge in guilt free spending of money (Underhill and Cadwell 1983).

Special sessions concerned with aging issues have been presented at recent ACR conferences. It was pointed out at these sessions that most of our knowledge about aging is limited to information about age differences and not with the aging process, e.g., changes with age (Ross 1982). This paper discusses an empirical exploratory assessment of the aging process, in a population chronologically 30 to 69 years old, in terms of chronological age, and several new alternative measures.

Age Measurement

Chronological age is an extremely useful measure--almost always included by researchers to describe population samples studied--and is considered by many to be one of the most relevant segmentation variables available to marketers (e.g., Phillips and Sternthal 1977; Vishabharathy 1982). Chronological age, however, is no longer presumed to be an automatic predictor of factors such as health, intellectual ability, and mental outlook (Zaltman, Alpert and Heffring 1978). A variety of alternative age measures are readily available; for example: identity age (the most common self-perceived age measure in social gerontology--Cutler 1982), cognitive age (Barak and Schiffman 1981), age role/identity (George, Mutran and Pennybacker 1980; Mutran and George 1982), biological age (Bell 1972; Birren and Renner 1977), social age (Bengston, Kasschau and Ragan 1977; Rose 1972), personal age (Kastenbaum et al. 1972) and projected age (Pugliesi 1983). This paper approaches age measurement from several alternative points of view. Five different age scales (all continuous, numerical

and expressed in years) are considered in addition to chronological age. This study explores these six age measures in terms of interrelationship, as well as interaction, with other variables; they are respectively:

1. Chronological Age - the number of years a person has lived.
2. Cognitive Age - an individual's actual age-role self-concept, reflecting his/her age-identity in terms of four age dimensions (feel-age, look-age, do-age, and interest-age) expressed in years.
3. Ideal Age - an individual's ideal age-role self-concept--the age he/she considers to be a person's ideal age, expressed in years.
4. Youth Age - the number of years a person perceives him/herself to be younger (or older) than his/her chronological age, i.e., the discrepancy between a respondent's chronological and cognitive age.
5. Discrepancy Age - the number of years between a person's cognitive and ideal ages, i.e., discrepancy between actual and ideal age-role self-concepts.
6. Disparity Age - the number of years that separate a person's chronological and ideal age, i.e., discrepancy between chronological and ideal age.

Three of the above mentioned age-measures are congruent with the framework of self-concept theory (Sirgy 1982). The first, cognitive age (measured through self-identification with age-decade referent groups--Barak 1979; Barak and Schiffman 1981), is a measure of actual age-role self-concept. The second, ideal age, mirrors a person's ideal age-self concept. As Sirgy (1982) points out, discrepancy between actual and ideal self-concepts reflects a global self-attitude. Discrepancy age, the third age-self concept measure, therefore probably indicates the way someone feels about his/her subjective age (i.e., attitude towards age-self); accordingly a low discrepancy age designates a positive age-self attitude. The other three age-measures considered (chronological, youth and disparity age) are not obvious self-concept measures. Self-concept constructs tend to be concerned with 'subjectively perceived reality' and not with 'objectively measured reality,' as in the instance of chronological age. Both youth and disparity age reflect discrepancy between objective and subjective measures, and as such are not apparent self concept measures.

Age Measurement Research

Data Base

Five hundred female residents of the New York metropolis participated in the study. To qualify, respondents had to specify their chronological age, and be chronologically 30 to 69 years old; this left 430 respondents in the study sample. Data utilized were gathered in Winter 1982/83, via self-report questionnaires, with a quota sampling procedure (chronologically 39 or younger and 40+). The questionnaire required about 45 minutes to be administered, and focused on a variety of leisure time and consumer behavior variables (e.g., psychographics). Table 1 presents chronological, cognitive, and ideal age distributions (expressed in decades) of the sample.

TABLE 1
DISTRIBUTION OF AGE CHARACTERISTICS

CHRONOLOGICAL AGE DECADES	CHRONOLOGICAL AGE DECADES				IDEAL AGE DECADES							
	30s (%)	40s (%)	50s (%)	60s (%)	pre10s (%)	10s (%)	20s (%)	30s (%)	40s (%)	50s (%)	60s (%)	
Thirties	44.9	0.0	0.0	0.0	0.2	0.5	13.0	23.5	7.2	0.5	0.0	
Forties	0.0	27.0	0.0	0.0	0.2	0.9	4.7	13.7	7.2	0.2	0.0	
Fifties	0.0	0.0	24.0	0.0	0.0	0.2	2.1	10.9	7.4	3.0	0.2	
Sixties	0.0	0.0	0.0	4.2	0.0	0.0	1.2	1.2	1.4	0.5	0.0	
COGNITIVE AGE DECADES												
Twenties	20.0	0.7	0.5	0.0	0.2	0.2	6.9	10.2	3.1	0.5	0.0	
Thirties	24.5	16.2	3.8	0.2	0.0	0.7	9.7	25.9	7.6	0.7	0.0	
Forties	0.5	9.7	12.4	0.7	0.2	0.7	3.1	9.5	8.6	1.2	0.0	
Fifties	0.2	0.0	7.1	1.9	0.0	0.0	1.2	3.6	2.9	1.4	0.2	
Sixties	0.0	0.0	0.5	1.2	0.0	0.0	0.2	0.2	0.7	0.5	0.0	

Propositions

With the exception of chronological and self-perceived age measures, the age-measures under investigation have no prior research foundations. Due to its exploratory nature, this study therefore first considers inter-relationships between the age measures--this through the analysis of the following propositions:

PROPOSITION 1: Age measures which assess chronological, cognitive, and ideal age will be related (significant correlation) to each other; yet these same measures will not be similar--they measure different age-dimensions.

PROPOSITION 2: Age measures which assess the discrepancies between chronological, cognitive and ideal age will be related (significant correlation) to each other; yet these same measures will not be similar--they measure different age-dimensions.

The reasoning behind these two propositions relies on the notion that if these age-measures are indeed age measures, then they ought to tap various dimensions of age; yet if they tap age-dimensions then they ought also to be significantly ($p < .05$) related to each other, while simultaneously being different (otherwise they would basically measure an identical age-dimension).

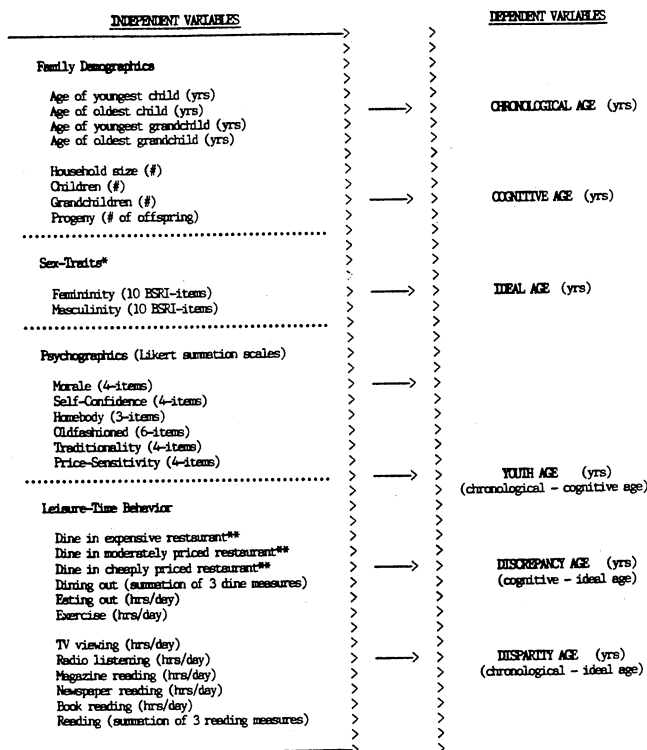
PROPOSITION 3: Age measures are significantly related to variables which past age-research (both chronological and non-chronological) regarded as age-correlates.

Since most of the new age-measures lack a research tradition, the last proposition assumes these measures will follow patterns similar to known age-measures.

Research Variables

Age researchers have paid particular attention to both chronological age (e.g., Meadow, Cosmas and Plotkin 1981; Palmore 1981; Phillips and Sternthal 1977), and self-perceived age (e.g., Peters 1971; Baum and Boxley 1982). These researchers have, over time, conducted many studies to assess the association of chronological and self-perceived age with numerous variables. A number of age-correlates have thus been established; the present study set out to assess these correlates (the independent research variables) in terms of their relationship with the six age measures. Since the intent of the study was to explore the nature of the relationship of the six age measures vis-a-vis age-correlates, it was decided to conduct this assessment through the research flow model shown in Figure 1.

FIGURE 1
RESEARCH FLOW MODEL
(WITH MEASUREMENT AND SCORING METHOD)



* Sex-traits determined thru rotated factor analysis of the Bem Sex Role Inventory (Bem 1974).
** Frequency of dining in the last 3 months.

A multiple regression technique was used to test this model. Only measures considered to be continuous in nature and potential age correlates were assessed. Accordingly the following variables were selected:

FAMILY DEMOGRAPHICS - Underhill and Cadwell (1983) report 'youthfulness' to be associated with children's age (teenage children seem to cause a greater sense of youthfulness than do children under six); this led to the inclusion of the variables measuring age of progeny (stated in terms of chronological age). These measures were respectively age of (1) youngest child, (2) oldest child, (3) youngest grandchild, and (4) oldest grandchild. Barak (1979) had found size of progeny (i.e., number of offspring) to be positively related to both chronological and cognitive age. This led to selection of four additional family measures--(5) household size, (6) number of children, (7) number of grandchildren, and (8) progeny.

SEX-TRAITS (measured with the BSRI) - The BSRI (Bem Sex Role Inventory) is a self-descriptive survey instrument (utilizing 7-point true-untrue items) which assesses masculine and feminine sex-role traits (Bem 1974). As indicated by Pugliesi (1983), prior age-research established a relationship (negative) between BSRI type measures of sex traits and both chronological and self-perceived age. This led to the inclusion of sex-traits in the present study. The traits considered were (1) femininity, and (2) masculinity; both 10-item scales determined with rotated factor analysis.

PSYCHOGRAPHICS (measured with Likert summation scales) - respondents indicated agreement (or disagreement) with a wide range of Activities, Interests and Opinion Statements. Responses were then factor analyzed to establish specific AIO scales (Wells 1975). Social gerontological aging research employs several measures

which are psychographic in nature, with life-satisfaction indexes probably the most prominent (Larson 1978). Research with self-perceived age measures indicates life-satisfaction, and its sub-component morale, to be inversely related with self-perceived age (Barak 1979; Bengston, Kasschau and Ragan 1977; Mutran and Burke 1979; Peters 1971). The same research also reports self-confidence to have such an inverse relationship. Another factor, positively associated with aging, is traditionality (Bengston and Cutler 1976). Phillips and Sternthal (1977), in their review of the aging-process, indicate that an increase in age is often associated with greater price sensitivity. These findings led to the selection of the following six psychographic measures for the present study: (1) morale (e.g., agreement with "I am just as happy as when I was younger"), (2) self-confidence (e.g., agreement with "I think I have a lot of personal ability"), (3) homebody (e.g., agreement with "I am a homebody"), (4) old-fashioned (e.g., "a house should be dusted and polished three times a week"), (5) traditionality (e.g., agreement with "what young people need most of all is strict discipline by their parents"), and (6) price sensitivity (e.g., agreement with "I often deny myself something I want if I feel it costs too much").

LEISURE-TIME BEHAVIORS - Four restaurant-dining frequency measures were selected: dining frequency in restaurants perceived to be (1) expensive, (2) moderately priced, or (3) cheap. A fourth measure, restaurant dining frequency, summated the first three dining frequency measures. Leisure-time activities were also assessed in terms of time (hours/per day) spent on (1) eating out, (2) exercise, (3) watching TV, (4) listening to the radio, (5) reading magazines, (6) reading newspapers, and (7) reading books. An eighth leisure-time measure, reading, summated the three reading measures. Reviews, of studies of elderly consumers, indicate that leisure time activities (like those considered in the present study) are likely to be age-correlates (Phillips and Sternthal 1977; Meadow, Cosmas and Plotkin 1981).

Research Procedures

RELIABILITY - All multiple-item scales in the study were assessed for reliability; only measures with a reliability coefficient of .5 or greater (the rule-of-thumb suggested by Peter 1979) were included. Cognitive age, the only multiple-item age-scale, had a reliability coefficient ALPHA of .91.

PEARSON CORRELATION ANALYSES were performed to determine if relationships exist (1) between the age-measures (to assess Propositions 1 and 2) and/or (2) between the age-measures and the independent research variables (to assess Proposition 3, and to help determine which variables to utilize for further analysis). In addition, WITHIN SUBJECT ANALYSIS of VARIANCE (MANOVA) was utilized to test for differences between age measures (to test that aspect of Propositions 1 and 2). MULTIPLE REGRESSION ANALYSIS was utilized to test the model shown in Figure 1. To limit multi-collinearity, only measures with a PEARSON inter-correlation below .8 were included in the regression analysis (Lewis-Beck 1980).

Results

PEARSON ANALYSES established that the age measures are related ($p < .05$) to each other in the manner suggested by Propositions 1 and 2 (see age-correlation matrix in Table 2). The WITHIN SUBJECT ANALYSIS established the direct age measures, as well as the discrepancy age measures, to be significantly different (see Table 3). Thus, both Propositions 1 and 2 could be accepted.

TABLE 2
PEARSON CORRELATION MATRIX*
AGE-MEASURES

AGE MEASURES	(N)	CHRON AGE (r)	COGNIT AGE (r)	IDEAL AGE (r)	YOUTH AGE (r)	DISCREP AGE (r)	DISPAR AGE (r)
1. CHRONOLOGICAL AGE	430	1.00					
2. COGNITIVE AGE	422	0.75	1.00				
3. IDEAL AGE	430	0.27	0.27	1.00			
4. YOUTH AGE	401	0.42	-0.29		1.00		
5. DISCREPANCY AGE	367	0.51	0.74	-0.53	-0.28	1.00	
6. DISPARITY AGE	430	0.73	0.50	-0.46	0.37	0.81	1.00

* Only significant ($p < .05$) PEARSON correlations are listed.

TABLE 3
AGE MEASURE DIFFERENCES
(WITHIN SUBJECTS MANOVA*)

CHRONOLOGICAL AGE GROUPINGS	MEAN AGES			F	d.f.**	SIGNIFICANCE LEVEL
	CHRONOLOGICAL AGE	COGNITIVE AGE	IDEAL AGE			
	(\bar{x})	(\bar{x})	(\bar{x})			
30 - 39	35.13	29.86	31.64	19.87	2, 380	$p < .005$
40 - 69	44.74	42.21	35.29	295.36	2, 460	$p < .000$
30 - 69	42.33	36.63	33.64	180.71	2, 842	$p < .000$

CHRONOLOGICAL AGE GROUPINGS	MEAN AGES			F	d.f.**	SIGNIFICANCE LEVEL
	YOUTH AGE	DISCREPANCY AGE	DISPARITY AGE			
	(\bar{x})	(\bar{x})	(\bar{x})			
30 - 39	3.28	-2.22	1.06	22.83	2, 310	$p < .000$
40 - 69	8.09	7.51	15.59	59.76	2, 380	$p < .000$
30 - 69	5.92	3.13	9.06	46.91	2, 692	$p < .000$

* Within subjects analyses were conducted (with the aid of the SPSS-X MANOVA procedure) to determine if the age measures differed from each other.

** d.f. = degrees of freedom (group, within cells).

The WITHIN SUBJECT ANALYSIS also revealed that differences between direct, as well as between discrepancy age measures, held across various chronological age groupings (see Table 3). A look at the means of these age measures across the age groupings reveals interesting patterns (see Tables 1 and 3). Ideal age seems to operate in a narrow spectrum across chronological age groups. Older people tend to select an ideal age similar to that of younger people; therefore the disparity between ideal age and chronological age increases with age. Ideal age had been measured before by Needham, Harper and Steers (1980) annual life-style survey, with a similar pattern found for the relationship between ideal and chronological age.

PEARSON ANALYSES also established which independent research variables were significantly ($p < .05$) correlated with the six age measures (see Table 4).

TABLE 4
PEARSON CORRELATION MATRIX*

INDEPENDENT VARIABLES	DEPENDENT VARIABLES						
	(N)	CHRON AGE (r)	COGNIT AGE (r)	IDEAL AGE (r)	YOUTH AGE (r)	DISCREP AGE (r)	DISPAR AGE (r)
AGE OF YOUNGEST CHILD	379	0.71	0.58	0.14	0.25	0.46	0.56
AGE OF OLDEST CHILD	401	0.64	0.55	0.14	0.19	0.43	0.49
AGE OF YOUNGEST GRANDCHILD	419	0.18					0.11
AGE OF OLDEST GRANDCHILD	408	0.39	0.34	0.11	0.24	0.27	
HOUSEHOLD SIZE	430			-0.13		0.18	0.14
CHILDREN	430	0.48	0.46			0.38	0.39
GRANDCHILDREN	430	0.53	0.44	0.15	0.17	0.28	0.38
PROGENY	430	0.59	0.53	0.12	0.14	0.39	0.45
FEMININITY	420	-0.10					
MASCULINITY	418	-0.17	-0.23			-0.22	-0.14
MORALE	430		-0.12	0.10	0.11	-0.18	-0.10
SELF-CONFIDENCE	430	-0.11	-0.15			-0.15	-0.10
HOMEBOY	430	0.25	0.25	0.17		0.11	0.11
OLDFASHIONED	430	0.30	0.18		0.22	0.16	0.26
TRADITIONALITY	430	0.31	0.17		0.23	0.14	0.26
PRICE-SENSITIVITY	430	0.17	0.18			0.13	0.12
FREQUENCY OF EXPENSIVE DINING	430						
FREQUENCY OF MODERATELY PRICED DINING	426	-0.17	-0.21			-0.19	-0.15
FREQUENCY OF INEXPENSIVE DINING	428	-0.19	-0.17			-0.10	-0.11
FREQUENCY OF DINING OUT	423	-0.24	-0.27			-0.20	-0.16
TIME SPENT EATING OUT	429	-0.25	-0.25			-0.20	-0.19
TIME SPENT EXERCISING	428	-0.23	-0.25			-0.21	-0.19
TV VIEWING	424	0.20	0.18			0.14	0.15
RADIO LISTENING	417						
MAGAZINE READING	429						
NEWSPAPER READING	429						
BOOK READING	428		-0.11			-0.11	
READING	426		-0.11			-0.13	

* Only significant (p < .05) PEARSON correlations are listed.

MULTIPLE REGRESSION MODELS, based on the research flow model shown in Figure 1, were tested (for each of the six age measures) relative to established age-correlates (see Table 4). Results show significant (p < .000) MULTIPLE REGRESSION equations for all six dependent age variables on the basis of established age-correlates (Table 5). Profiles, based on the functions (equations) shown in Table 5, designate which of the age-correlates are particularly of prime significance in the determination of each type of age.

TABLE 5
MULTIPLE REGRESSION EQUATIONS*

1. CHRONOLOGICAL AGE

M.R. (CHRON) = + 27.81 + 6.04 AGE OF YOUNGEST CHILD + 6.16 AGE OF OLDEST GRANDCHILD - 1.62 TIME SPENT EATING OUT + 0.40 OLDFASHIONED.

M.R. (CHRON) is significant (F = 100.64; d.f. 4, 327; p < .000); adjusted R Square = .55
2. COGNITIVE AGE

M.R. (COG) = + 30.53 + 4.46 AGE OF YOUNGEST CHILD + 4.47 AGE OF OLDEST GRANDCHILD + 0.66 HOMEBOY - 1.56 TIME SPENT EATING OUT - 0.10 MASCULINITY

M.R. (COG) is significant (F = 42.00; d.f. 5, 315; p < .000); adjusted R Square = .39
3. IDEAL AGE

M.R. (IDEAL) = + 34.36 - 1.09 HOUSEHOLD SIZE - 1.38 AGE OF YOUNGEST CHILD + 0.60 HOMEBOY

M.R. (IDEAL) is significant (F = 10.86; d.f. 3, 355; p < .000); adjusted R Square = .08
4. YOUTH AGE

M.R. (YOUTH) = + 4.31 + 1.39 AGE OF YOUNGEST CHILD + 0.50 OLDFASHIONED

M.R. (YOUTH) is significant (F = 17.53; d.f. 2, 332; p < .000); adjusted R Square = .09
5. DISCREPANCY AGE

M.R. (DISCREP) = - 3.60 + 4.38 AGE OF YOUNGEST CHILD + 4.42 AGE OF OLDEST GRANDCHILD - 0.81 MORALE - 12 MASCULINITY

M.R. (DISCREP) is significant (F = 23.76; d.f. 4, 284; p < .000); adjusted R Square = .24
6. DISPARITY AGE

M.R. (DISPAR) = - 4.54 + 5.27 AGE OF YOUNGEST CHILD + 4.95 AGE OF YOUNGEST GRANDCHILD + 0.64 OLDFASHIONED - 0.66 MORALE

M.R. (DISPAR) is significant (F = 45.60; d.f. 4, 327; p < .000); adjusted R Square = .35

* All multiple regression equations were developed with the aid of a step-wise procedure (SPSS - NEW REGRESSION). The order of presentation of independent variables in the equations is according to size of t-values associated with each variable (not shown here); Aaker and Day (1980) indicate that such t-values help determine which variables have the greatest explanatory power.

Table 5 therefore shows which variables formed (for each of the six alternative age measures) main age-correlates; direction of relationships is indicated by the sign in the equations (i.e., + = positive, and - = negative).

Conclusions and Implications

Progeny ages are significant in the aging process (age of progeny measures correlate with all six age measures; see Table 4); with 'age of youngest child' perhaps the most relevant age correlate--all of the multiple regression models contained that particular progeny age. Promotions which use portrayals of family life with children may therefore be instrumental in the perception of the age associated with the various members of the portrayed household. These findings, of particular interest to promoters of age-sensitive products (e.g., cosmetics) aimed at older consumers, imply that children (portrayed as progeny of a certain age) may influence age-factors in advertisements (probably affecting perceptions of both models and/or products shown).

Age-linked behaviors, e.g., frequency of exercise and time spent dining out, are linked to both chronological and cognitive age, as well as to discrepancy and disparity age (see Table 4). Yet, time spent dining out was the only variable of a behavioral nature to enter the age-regression equations (those for chronological and cognitive age--see Table 5). This leads to the speculation that not all behavior is (as might be expected) obviously age related, even though the cognitive age scale contains a behavioral element (i.e., do-age).

Another finding is that advancement in chronological age is accompanied by increases in both discrepancy and disparity age. A majority (49.3%--Table 1) consider an age in the 30's as desirable. This helps explain why ideal age has so few correlates. On the other hand, discrepancy and disparity age have many correlates. Ideal age is therefore a relevant measure when considered in terms of its discrepant relationship with either chronological or cognitive age. In short, while ideal age (by itself) offers little insight into aging-patterns (relative to the independent variables) discrepancy and/or disparity age are likely to provide understanding of the function of ideal age in the aging-process.

Discrepancy age is perhaps the most intriguing new measure. As a measure of the discrepancy between cognitive and ideal age, it is, when viewed within the framework of self-concept theory, also a measure of the discrepancy of a consumer's actual and ideal self-concept. As such, discrepancy age reflects attitude towards self-perceived age-role. The importance and relevance of this is further confirmed by the nature of the measure's many correlates. Of particular interest here are two findings. The first concerns the close relationship between discrepancy age and morale. The morale scale is basically a measure of happiness (and/or satisfaction) with one's age-status. The strength of the relationship between discrepancy age and morale (morale entered in the discrepancy age regression function--see Table 5) therefore confirms that both measures assess attitude towards aging. The second finding concerns the relationship between discrepancy and disparity age. This association highlights the importance and relevance of ideal age. Disparity age (like discrepancy age) reflects attitude towards one's own 'objective age,' i.e., chronological age. This notion is confirmed by the finding that the morale variable entered the disparity age regression function (see Table 5). As such, disparity age indicates how a person feels about his/her chronological

age (cohort's age), e.g., a low disparity age implies high satisfaction with one's chronological age status. The study's findings infer that both discrepancy and disparity age tap different dimensions of attitude towards aging (see Table 3, as well as the regression equations in Table 5) notwithstanding their high correlation ($r=81$ --see Table 2).

Further investigation is needed to determine when to use either of these two age-attitude scales. For instance, promotional researchers interested in evoking idealized age imagery in their promotional efforts could consider the magnitude of their target market's disparity age (since consumers with a high disparity age are likely to have a greater sensitivity for messages that cause them to feel closer to their idealized age-role) when they want consumers to aspire to seem like an idealized figure. If the promoters set out to have their target consumers 'identify' with models' age-roles, as portrayed in advertisements, measures such as cognitive and/or discrepancy age are likely to be of greater relevance.

Youth age, like disparity age, is a measure of the distance between chronological age and a subjective age measure. Surprisingly, youth age (unlike disparity age) has very few age correlates and its regression equation possesses a low R Square (.09--see Table 5). Youth age is therefore not as relevant as expected.

Overall, the most interesting new alternative age measures are cognitive, discrepancy, and disparity age. Researchers concerned with aspects of self-concept and reference groups will find these three age measures especially intriguing. Cognitive age, as an age self-image measure, focuses on identification with age-role reference groups. Thus marketers who would like consumers to identify with promotional models could select models that fit such age-role reference groups. More research is needed to help determine how marketers can best utilize the cognitive age variable. Present findings indicate that cognitive age might have special value as a psychographic segmentation variable since it has many correlates (see Table 4) and high explanatory power ($R\text{ Square} = .39$ --see equation in Table 5). Disparity age is likely to be of relevance when reference groups utilized in promotion are to reflect the ideal a consumer is to yearn for, rather than identify with. Discrepancy age may help to find the middle ground between these two types of notions. Consumers with high levels of discrepancy age will find it difficult to identify with reference groups (shown in commercials) who portray their ideal age. These consumers are therefore likely to be more sensitive, than those with a low discrepancy age, to age-related cues provided by such reference groups.

This exploratory study attempted to provide insight into different aspects of the aging-process; implications are that a clear pattern of structural relationships exists between the various age-dimensions (tapped for the first time by the new alternative age measures). Additionally, the research functioned as a replication study (i.e., a reassessment of established age-correlates). The findings support and confirm the conclusions reached by past age-research--the majority of independent variables assessed were age correlates. However, more study is needed of the nature of structural age relationships to find answers to questions such as: Is perception of age dependent on gender, i.e., do men experience age differently from women? What do the differences between chronological age and the new alternative age measures imply? Do alternative age measures help marketers to understand consumers' aging process better? And, how can such an understanding be beneficial to aging consumers?

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CROSS CULTURAL FAMILY PURCHASING
DECISIONS: A LITERATURE REVIEW

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Abstract

A number of published studies of cross cultural family decision making which involve both economically advanced and lesser developed societies were reviewed. The objective was to determine whether cultural differences explain variations in family decision making for products. Rival explanations for observed effects are presented and evaluated and methodological strengths and weaknesses of the current literature are discussed. Pertinence of such research to multinational marketers is addressed.

Introduction

Over the past few decades, foreign investment by United States business firms has been consistently increasing (Plummer 1977). This increasing commitment by multinational corporations has not been limited to capital investment or manufacturing operations, but has come to include a greater share of marketing activities. Yet the expansion of the role of marketing has not been accompanied by any systematic investigation of the differences in buyer behavior around the globe as well as the causes of such differences. This situation is notably unfortunate since a lack of understanding has resulted in inefficiencies in resource allocation from the perspective of the firm as well as the countries involved (Sheth and Sethi 1977).

When planning a global marketing strategy, a firm must consider how local customs and attitudes will affect consumer behavior (Assael 1981). In recognition of this, a number of studies have been conducted in the area of comparative marketing, which deals with the systematic detection, identification, classification, measurement, and interpretation of similarities and differences among entire nations (Jaffe 1980). Many comparative marketing studies are macro in nature, comparing entire marketing systems, (e.g., retailing institutions in the United States versus those of France). These studies tend to be descriptive in nature and lack a conceptual framework or underlying hypotheses. Typically, comparisons are drawn between such variables as number of households, per capita expenditures, or food production. For the most part, differences are identified and emphasized (Boddewyn 1981).

Micro comparative marketing studies, on the other hand, have focused mainly on market segments. These studies have dealt with such consumer behavior issues as: shopping (Douglas 1976; Green and Langeard 1975), innovator characteristics (Green and Langeard 1975), female role perception (Douglas 1976; Douglas and Urban 1977), media usage (Douglas 1976), life styles (Douglas and Urban 1977; Plummer 1977), information seeking (Anderson and Engledow 1977; Thorelli, Becker, and Engledow 1975; Becker 1976), attitudes toward advertising (Anderson, Engledow, and Becker 1978; Kaynak and Mitchell 1981), reactions to product attributes (Green and White 1976), media preferences (Urban 1977), perceptions of foreign products (Nagashima 1970), risk aversion (Hoover, Green, and Saegert 1978), fashion involvement (Tigert, Kind, and Ring 1980), repeat buying behavior (Ehrenberg and Goodhardt 1968), product evaluation (Lehmann and

O'Shoughnessy 1974), product information sources (Dolich et al. 1980), and product value perception (Chadabra and O'Keefe 1981).

The objective in micro studies tends to be to uncover similarities between various cultures and the investigator's domestic culture in order to identify comparable market segments. Such studies provide valuable information and have practical strategic implications. For an excellent review of comparative marketing studies, see Boddewyn (1981).

Family Decision Making

Increasingly, marketers have come to realize that a great deal of consumer behavior is not the result of individual unilateral decision making. Rather, consumers are, for the most part, organized into families which, due to special constraints, (i.e., shared resources and collective needs), produce joint decisions. Joint decision processes take such forms as consensus, bargaining, and negotiation, and are a function of differential influence by disparate family members.

As a consequence, it is clear that measurement of intra-family power and influence which relies on the report of only one family member may be seriously flawed. Indeed, substantial evidence exists that the reported perceptions of both husbands and wives needs to be considered in order to predict or explain family purchasing decisions (Davis 1970; Davis 1976; Ferber 1973; and Hempel 1974). Since the family is a major consumer decision making unit around the world, this caveat applies to cross cultural studies as well. However, attention to husband/wife influence has been less notable in cross cultural research than in studies conducted on American consumption patterns.

The purpose of this paper is to examine the variability in family purchasing and decision making across differing cultures. This will be accomplished by reviewing the somewhat limited but noteworthy studies which have been conducted in this area. Some theoretical issues that relate to this topic will also be discussed.

Cross Cultural Research

Comparisons between cultures with respect to family decision making are based on the degree to which the husband or wife dominates the decision process, and on the degree of autonomic or syncretic decision making present. Variables which may affect marital dominance include: product category, the resources of each spouse, stage of the decision process, stage of societal development, and cultural prescriptions.

Major Theoretical Frameworks

Theoretical tenets purporting to explain the similarities and differences in family purchasing have been developed by Blood and Wolfe (1960), and elaborated upon by Rodman (1967, 1972), Ferber (1973), and Granbois (1972). In the main, three general hypotheses have been advanced. First, the greater the resources, contribution, and status of the person relative to his

or her spouse, the greater is his or her influence. Second, greater experience as a decision making unit results in a lessening of joint decisions. Third, greater interconnection in the family's social network and greater social distance of the family from the middle class (higher or lower) also results in a lessening of joint decisions. Rodman (1972) also proposed development of a societal taxonomy for explaining cultural differences in marital power and influence. Another area relating to cross cultural purchasing behavior involves differences in husbands' and wives' perceptions of their respective roles.

A Decision Process Approach

Roles are examined in Hempel's (1974) study of home purchasing which focuses on stages in the purchase decision process. In this research, an examination was conducted of husband/wife dominance and shared involvement across five related decisions of families in Connecticut and Northwest England. It was found that both countries exhibited an initiator role and an information seeker role in the purchase process. In the initiator role, English couples were more likely to report a shared input, whereas Connecticut couples tended to report the husband as more dominant. Information seekers obtain and evaluate information prior to the purchase. In both cultures, there was a good deal of joint decision making, (i.e., role sharing), at this stage. Interestingly, it was found that "sexual differences in role perception were greater than international differences" (Hempel 1974, p. 297).

Wives in both samples seemed to dominate the social expressive decisions of the home buying purchase (e.g., style, neighborhood), while husbands were more involved in financial and instrumental decisions. The English were less likely to report husband dominance, and more likely to report shared decision making. Additionally, in both cultures, conflicts were often settled in the wife's favor (Hempel 1974).

Marital Role Perceptions

Safilios-Rothschild's (1969) work in this area supports Hempel's findings about differences in husband/wife role perceptions. As is the case with domestic research, validity may be compromised if only one spouse's responses are elicited. This study specifically explored this aspect of cross cultural decision making and found incongruencies in perceptions of power between subjects in Athens and Detroit. In an effort to set methodological guidelines for research in this area, Safilios-Rothschild recommended interviewing both marital partners, incorporating the entire range of decisions, and determining the major influencer. It was concluded that these perceptual differences were present across cultures and socioeconomic levels. The incongruence of perceptions in decision making "may be due to one or both spouses' need to adhere to equalitarian norms" (Safilios-Rothschild 1969, p. 301).

The results of this study differed from those of Hempel in that both spouses claimed more influence with respect to the control of money and the choice of friends and leisure time. These are instrumental and expressive roles, respectively. Such findings conflict with Hempel's designation of expressive roles to wives and instrumental roles to husbands across cultures. Perhaps this may be due to the fact that Hempel only studied a single decision situation, home purchasing. One final result of this study was that even in these

two cultures, which differ in terms of societal development and family ideology, some decisions are perceived by both spouses as being predominantly masculine or feminine or joint (Safilios-Rothschild 1969). Such cross cultural similarity in the area of gender dominance, or appropriateness, indicates that cultures may be better described by degree of difference, rather than absolute distinctiveness.

Test of Resource Theory

Kandel and Lesser's (1972) study of urban Danish and American families attempted to clarify Blood and Wolfe's theory of resources. They intended to determine power in marital decision making by estimating relative participation in specific family decisions. However, only wives responded concerning the degree to which either spouse made decisions unilaterally or jointly. Care must be taken in evaluating their results for this reason.

Still, a great deal of joint decision making was reported in both countries with slightly more indicated for Denmark. When marital power was cross-tabulated with socioeconomic and demographic variables, theory of resources was not supported in some instances. The occupation of the husband showed a curvilinear relationship with husband's power. However, education level and employment of the wife outside the home was positively related to marital power. The authors suggested that "the wife's contacts outside the home increased the wife's power within the home because she had a chance to improve decision making skills (a resource) outside the family" (Kandel and Lesser 1972, p. 135).

Role Consistency across Cultures

Cross cultural differences in husband/wife involvement have also been investigated by Douglas (1979). While this research encompassed a domain of decisions which extends beyond consumption choices, it does provide valuable insight into cross cultural purchasing behavior. The study involved five countries which can be divided into French and English speaking groups. Seventeen different household activities were examined in order to compare degrees of husband/wife responsibility and to test the resource theory.

It was determined that across all five samples (Chicago, Glasgow/London, Paris, Brussels, Quebec City) there was substantial similarity in terms of husband/wife involvement in various activities; and marital roles were seen as traditionally masculine or feminine. Where there were differences in relative involvement, they often divided by language group. For instance, in the French speaking samples, there was greater involvement in the typically feminine tasks of supermarket shopping and vacuuming, and more shared involvement in some traditionally male responsibilities such as men's clothing decisions. Involvement in all the samples was often activity specific. Socioeconomic variables affected the degree of involvement, but in a similar manner across all samples (Douglas 1979).

It should be noted, however, that the data cited in the above study was subsequently reanalyzed for measure unreliability (Davis, Douglas, and Silk 1981). Two measures of reliability, within family response agreement and within respondent consistency, were employed. The results indicated that significant between sample reliability differences exist for the measures employed in these cross cultural surveys. It was also reported

that measure equivalence is more difficult to obtain for attitudinal and perceptual variables than for demographic items. These difficulties result in large part from translation idiosyncracies.

Culturally Derived Roles and Values

Henry (1976) investigated how cultural values affected the likelihood of ownership of particular generic automobile categories. Though this study is not cross cultural in scope (all the data were collected in Los Angeles), it still contains some important ideas. The results provide evidence that supports the notion that culture is a basic determinant of consumer behavior, since cultural values were found to affect automobile ownership. Instead of merely describing similarities or differences which exist between disparate cultural groups, this study indicates that a knowledge of cultural values is an important prerequisite for development of appropriate marketing strategies.

Observers of family life in the westernized world have documented the increasing proclivity of women to step outside the restraints of their culturally prescribed roles and involve themselves in activities formerly relegated to the husband (Arndt and Crane 1974). This trend is also evident in Green, Verhage, and Cunningham's (1981) study of American and Dutch wives. Respondents in Houston and Rotterdam were given a list of products and services along with 38 specific decisions which need to be made when purchasing each. They were asked to identify whether each decision was normally made by the husband, the wife, or jointly. Again, note the potential for invalidity present due to surveying only one marital partner.

Significant differences, except for savings, were found between the two nationalities for the products and services investigated. Three dimensions of differences were noted. First, American wives reported making more autonomous decisions than their Dutch counterparts. However, this increased autonomy is actually a matter of degree. Second, in many cases the Dutch sample is marked by greater levels of joint decision making. Third, in some cases roles are more highly structured by gender in the Dutch sample than in the American sample. These differences tend to hold up irrespective of the employment status of the wife (Green, Verhaeg, and Cunningham 1981).

Level of Economic Development

It is clearly apparent that many of the studies investigating cross cultural family purchase decisions have been conducted in highly developed industrialized countries. The preponderance of similarities uncovered may be due to this artifact of similar socioeconomic stage of development. One paper which looks outside this domain is Green and Cunningham's (1980) comparison of purchasing roles in the United States and Venezuela. Since these two countries do not share the cultural proximity and stage of economic development found in American/European studies, it was expected that greater differences in decision making patterns would be found.

Again, though, only married women were sampled in Houston and Valencia, and the data were collected four years apart in the two cities. As is the usual case, respondents were asked to specify whether specific decisions were normally made by the husband, the wife, or both, for decisions associated with the purchase of nine products and services. Significant differences in husband dominance were found between the two samples

for seven of the nine products and services. In each of these instances, the Venezuelan husband had more power and influence. In like manner, American families are characterized by greater levels of mutual decision making. These findings are felt to be illustrative of the greater variation which exists in family purchasing roles among more diverse cultures (Green and Cunningham 1980).

Time Allocation

A very interesting study conducted by Hawes, Gronmo, and Arndt (1978) focused on comparisons of time budget expenditures. Using relatively larger samples than most researchers (3,040 Norwegians and 1,115 Americans in nationwide samples), they examined differences in shopping time versus leisure time activities.

Results indicated very clear cross cultural differences in the use of leisure time. These are reflected for both genders as well as for other demographic categories. Despite these variations in leisure time activities, connoting differing life styles, a great deal of similarity in shopping time was found between the two countries. For example, in both countries, heavy shoppers (i.e., those who spend more time shopping) spend less time at work and more time at home in sedentary activities. In general, it seems that time spent on shopping varies across differing consumer categories and directly affects the time spent on other pursuits. It was also suggested that non-traditional, non-economic variables may play a more significant role in purchasing behavior than previously believed (Hawes, Gronmo, and Arndt 1978).

Employment of Wives

Douglas (1976) compared working versus non-working wives in France and the United States. The objective was to determine if working wives who would tend to have similar problems, such as constraints on the time available for shopping, would adopt similar purchasing strategies distinct from their non-working brethren. Alternatively, would national differences in behavior patterns prove greater than employment differences? Areas investigated included grocery purchasing, clothing purchasing, attitudes toward female roles, and family background variables.

The results indicated that differences between the two national samples were more significant than between working and non-working wives across all four sets of variables. This was true even after adjusting for socioeconomic and demographic differences. The main differences between the two samples in grocery shopping was in the type of store where they shopped. American wives tended to do more shopping in large supermarkets and less in neighborhood and corner stores than did French housewives. However, the author points out that these differences are largely due to the differing retail environment since large supermarkets are more prevalent in the United States and small neighborhood stores are more common in France. Still, the reverse can be argued, that the differences in the retail institutions available in each country reflect underlying differences in preferences and attitudes in the two countries, (i.e., cultural differences). In general, there is little support for the idea that a strategy of cross national segmentation concentrating on the employment status of wives is likely to be meaningful (Douglas 1976).

Stage of Societal Development

One of the more comprehensive studies of cross cultural family purchasing behavior was recently undertaken by Green, Leonardi, Chandon, Cunningham, Verhage, and Strazzeri (1983). The theory of resources and the new typology of societies theory was investigated in five countries. The authors explain that the original resource theory was appropriate for many countries, but is inadequate when applied to less developed countries such as Greece or Yugoslavia. In order to deal with this, Rodman (1967, 1972) hypothesized that certain criteria must be present for the theory of resources to be applicable, criteria which are typically found in modern societies. These include: a transition toward an equalitarian marital ethic; a high level of flexibility about the distribution of marital power; and the importance of education, occupation, and income in defining a person's status.

In less modern societies, educational level may bring about an increase in an equalitarian marital ethic. Thus, a husband with a lot of education (a resource) in a less developed country may not have increased influence in the family, which contradicts the resource theory, but is explained in terms of the culture--it is not modern. Rodman (1972) also concluded that in addition to comparative resources of the partners, marital power is influenced by cultural and subcultural expectations concerning the distribution of marital power.

Green et al. (1983) examined a typology of societal development based on differences in the applicability of the theory of resources. It had been hypothesized that there are four types of societies: patriarchy, characterized by little variation in strong patriarchal norms and overly stratified groups (e.g., India); modified patriarchy, where masculine authority is accompanied by rapid modernization (e.g., Greece); transitional equalitarianism, where equalitarian norms are replacing patriarchal norms (e.g., United States); and equalitarianism, characterized by strong husband/wife sharing of power (e.g., Denmark). Green et al. (1983) tested this typology's applicability to understanding husband/wife involvement in purchasing in the United States, France, Holland, Gabon, and Venezuela.

Results indicated that certain product categories are universally male or female stereotyped. In all the countries surveyed, the wife had major influence in grocery decisions whereas husbands were more likely to dominate automobile and insurance decisions. However, variations do exist which can be accounted for by cultural differences. For instance, developing countries exhibit greater autonomous decision making in various product categories. Additionally, two country comparisons of the data were conducted. An overall trend indicated that husbands in less developed countries made significantly more decisions than those in modern countries. Gabon exhibited stricter purchasing roles than Venezuela, (i.e., more autonomous decision making). Venezuela showed more joint decisions than Gabon. There were fewer differences among the three more developed countries (Green et al. 1983).

Analysis of this data tends to support Rodman's typology. Gabon is in the patriarchy stage, with husband dominance and little shared decision making. Venezuela seems to be a modified patriarchy, with a greater degree of shared decision making. The remaining countries, the United States, France, and

Holland, are in the transitional stage with some specified autonomous roles, but with a large degree of shared decision making as well (Green et al. 1983).

The cross cultural distinctions noted above could be due to the fact that in less developed folk societies life centers around the family and behavior tends to be based on customs and tradition. In modern industrialized societies, life centers less around the family and more around other social institutions, and customs and tradition are not allowed to impede progress (Redfield 1956).

Conclusions

In general, these studies suggest that some tentative conclusions may be drawn with respect to cross cultural family decision making. Some decision situations are believed to conform to either masculine or feminine roles across widely differing cultures. In more modern societies, the resources that a spouse brings to a marriage affect his or her relative power. A nation's stage of economic and social development can also explain some variations in family decision making. Researchers need to investigate a number of product categories when attempting to delineate cross cultural family purchasing patterns. Because much cross cultural research has been exploratory in nature, there is a continuing need for extensive and programmatic research in many nations. The study of cross cultural differences and similarities can provide explanations which are useful in the development of international marketing strategies.

Still, several factors may need to be considered to explain consumption related differences across countries. For instance, daily shopping by wives may be due to such stage of development characteristics as the absence of home refrigeration facilities, although preferences for personal relationships with neighborhood shopkeepers, a cultural factor, may also be important (Goldman 1974). Other factors to consider include the idea that shopping may serve as a desired social outlet, or that consumers may be unable to finance extensive home inventories.

With respect to the development of international marketing strategies, virtually all aspects of the marketing mix come into play. Understanding the significance and social symbolism of products in differing cultures is important in designing positioning strategies for foreign markets and for such related decisions as pricing and packaging (Levy 1959). The choice of distribution channels in foreign markets is often restricted by cultural prescription. And, of course, the development of advertising themes and messages raises the question of their appropriateness in different cultures. Marketers must be careful to assess all aspects of the cultural environment prior to marketing strategy implementation.

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A PROPOSAL FOR A GLOBAL, LONGITUDINAL MEASURE OF
NATIONAL CONSUMER SENTIMENT TOWARD MARKETING PRACTICE

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Abstract

There have been a number of published measures of generalized consumer attitudes, perhaps the most familiar being the Index of Consumer Sentiment of the University of Michigan's Survey Research Center. What this paper proposes is an "index of consumer sentiment toward marketing," to be reported at regular intervals to the marketing community. The paper describes the proposed measure and measurement procedure, and also reports some preliminary validation evidence. The authors hope that by subjecting this index to the scrutiny of consumer behavior researchers it can be further refined and improved.

Background

The measurement of general consumer attitudes and sentiment has been of interest to academic and commercial researchers for many years. The marketing literature contains a number of efforts to develop global measures of consumer satisfaction with business in general (notably Lundstrom and Lamont 1976, Barksdale and Darden 1972, Hustad and Pessemier 1973), and the "index of consumer sentiment" and "consumer confidence index" of the University of Michigan Survey Research Center and The Conference Board, respectively, receive the attention of even the general public. Michigan's survey of consumer sentiment, initiated in 1946, uses a rotating, monthly, nationwide probability sample of about 800 households, random-digit telephone interviewing, and a five-item instrument (tapping the dimensions of personal finances, economic prospects, and buying plans) to assess general attitude toward buying. The Conference Board, with data collected by National Family Opinion, Inc. from a mail panel of 5000 households, produces a monthly measure of consumer confidence. Opinions relating to business and employment, current and future economic conditions, and personal financial situation are collected. The survey has been in operation since 1967.

In addition, the research firm Yankelovich, Skelly, and White, Inc. tracks trends in consumer social attitudes with its "Monitor" service. Begun in 1970, the data are collected through an annual national sample survey of 2500 consumers, using personal interviews. Attitudinal trends measured include "focus on self," "upward mobility/money," "attitudes toward institutions," and "the family." And Sindlinger & Co. of Norwood, Pa. does virtually the same thing as the Michigan Survey Research Center, except with a four-item instrument, a sample of 260, and daily telephone interviewing.

These consumer polls, of course, are intended as a basis for forecasting future activity and are used in business planning, but they remain, essentially, reflections of current sentiment.

Referring again to the marketing literature, at two-year intervals during the period between 1971 and 1979, Barksdale, Darden, and Perreault (1976; Barksdale and Darden 1972; Barksdale and Perreault 1980) measured overall consumer attitudes toward manufacturers with a five-item Likert scale instrument incorporating these items:

Most manufacturers operate on the philosophy that the "consumer" is always right.

Despite what is frequently said, "let the buyer beware" is the guiding philosophy of most manufacturers.

Competition ensures that consumers pay fair prices.

Manufacturers seldom shirk their responsibility to the consumer.

Most manufacturers are more interested in making profits than in serving consumers.

They also measured attitudes toward certain marketing phenomena including product quality and advertising. In general, it was found that

In the 1970s, there was substantial stability in consumer attitudes concerning . . . the business sector. . . . (C)onsumers were as skeptical about the operating philosophy of business in 1979 as they were nine (sic) years earlier (Barksdale and Perreault 1980).

At the present time, however, there appears to be no validated index of general consumer sentiment toward marketing practice being regularly or periodically reported to the marketing community. Such an index is to be proposed herein. This type of device would permit the continual monitoring of the basic public perception of, and satisfaction with, the establishment of marketing. In view of the apparent long-standing public hostility toward marketing practice and marketing institutions (Miller 1974, Barksdale and Perreault 1980), it would seem to be desirable to provide such an information service for those in the field for several related reasons: (1) It may sensitize marketers to consumers' perceptions; (2) it would serve to identify the nature of the public relations task (and, possibly, more fundamental tasks) facing marketing; (3) it should assist in gauging whatever progress, or lack of it, is being made; and (4) it may even make a positive contribution toward marketing's public image, i.e., by demonstrating that marketing cares about the public enough to ask the public what it thinks. Most generally, the index would serve as a continuing indicator of "how marketing is doing" in the eyes of the public. The provision of a regular, validated measure of the public impression of marketing should be of interest not only to marketing researchers and practitioners, but to public policy makers and the general public as well.

Methodology

The Sample

Consumer sentiment toward marketing is to be measured with data collected from the Consumer Mail Panel of the research firm Market Facts, Inc., which is generously making its resources available. This mail panel contains a pool of over 130,000 households and is "nationally balanced," i.e., continually updated to reflect the most recent U. S. Census data in terms of geographic region, annual income, population density (urban/rural location), age, sex, and family size. The sample size is 2000, with a response rate of 75%

expected on the basis of historical performance.

Description of the Instrument

Exhibit 1 shows the proposed questionnaire items to be presented to the national sample of consumers to measure attitudes toward the four major elements of marketing practice. The four categories of items are intended to roughly correspond to the four components of the "marketing mix," as they impact on consumers. Promotion is represented by the advertising section and also the personal selling-related items from the final section, which is also intended as a surrogate for distribution/retailing.

Some scale items were developed by selecting and adapt-

ing ones that had appeared in the literature, but most were created ad hoc. This was done in consultation with the Market Facts personnel responsible for data collection. It is anticipated that the scales will undergo "purification" through reliability analysis using Cronbach's alpha. (Pre-test reliability evidence follows.) Perhaps the two items from each scale exhibiting the lowest item-to-total correlations will be deleted, leaving four sets of five-item scales.

Items include both favorable and unfavorable statements, to offset any affirmation/negation response tendency. Responses will be scored from +2 to -2, with most favorable answer (i.e., "agree strongly" with a positive statement, "disagree strongly" with a negative statement) receiving the highest score, indicative of the

EXHIBIT 1
QUESTIONNAIRE ITEMS

- Listed below are seven statements pertaining to each of the four marketing areas. There is also a fifth section labeled "MARKETING IN GENERAL." It appears on the next page, and contains four statements.

For each statement, please "X" the box which best describes how strongly you agree or disagree with each statement. For example, if you strongly agree the quality of most products today is as good as can be expected, then "X" the AGREE STRONGLY box. On the other hand, if you strongly disagree the quality of most products today is as good as can be expected, then "X" the DISAGREE STRONGLY box. Remember to "X" one box for each statement.

PRODUCT QUALITY	AGREE	AGREE	NEITHER	DISAGREE	DISAGREE
	STRONGLY	SOMEWHAT	AGREE NOR DISAGREE	SOMEWHAT	STRONGLY
The quality of most products I buy today is as good as can be expected.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
I am satisfied with most of the products I buy	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Most products I buy wear out too quickly.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Products are not made as well as they used to be	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Too many of the products I buy are defective in some way.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
The companies that make products I buy don't care enough about how well they perform.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
The quality of products I buy has consistently improved over the years	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

PRICE OF PRODUCTS	AGREE	AGREE	NEITHER	DISAGREE	DISAGREE
	STRONGLY	SOMEWHAT	AGREE NOR DISAGREE	SOMEWHAT	STRONGLY
Most products I buy are overpriced	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Businesses could charge lower prices and still be profitable.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Most prices are reasonable considering the high cost of doing business.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Competition between companies keeps prices reasonable.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Companies are unjustified in charging the prices they charge	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Most prices are fair	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
In general, I am satisfied with the prices I pay	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

ADVERTISING FOR PRODUCTS	AGREE	AGREE	NEITHER	DISAGREE	DISAGREE
	STRONGLY	SOMEWHAT	AGREE NOR DISAGREE	SOMEWHAT	STRONGLY
Most advertising provides consumers with essential information	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Most advertising is very annoying.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Most advertising makes false claims.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
If most advertising was eliminated consumers would be better off.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
I enjoy most ads	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Advertising should be more closely regulated.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Most advertising is intended to deceive rather than to inform consumers.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

RETAILING OR SELLING	AGREE	AGREE	NEITHER	DISAGREE	DISAGREE
	STRONGLY	SOMEWHAT	AGREE NOR DISAGREE	SOMEWHAT	STRONGLY
Most retail stores serve their customers well	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Because of the way retailers treat me, most of my shopping is unpleasant.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
I find most retail salespeople to be very helpful	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Most retail stores provide an adequate selection of merchandise	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
In general, most middlemen make excessive profits.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
When I need assistance in a store I am usually <u>not</u> able to get it	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Most retailers provide adequate service.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

most favorable attitude.

Scores for the items in each category will be summed, and then importance-weighted according to responses from section #4 in Exhibit 2, scored from one to five for "not at all important" through "extremely important." The measure of overall consumer sentiment toward marketing is then

$$\sum_{j=1}^n (w_j \sum_{i=1}^m x_{ij})$$

with x_{ij} = scale item response i in category j

w_j = importance weight for the marketing mix category j

m = number of items in category

n = number of categories

This represents an attitude score for an individual respondent. The mean score across all respondents can then be calculated and converted to an index number as a measure of general sentiment.¹

¹Some readers may question the legitimacy of calculating mean sentiment scores, since division requires ratio data. However, since the principle is well-established that ordinal data may be treated as interval (Kerlinger 1973, pp. 426-7), and since the neutral response ("neither agree nor disagree") may be considered a natural origin, the authors believe it is reasonable to treat responses to the Likert scales as quasi-ratio data. There is precedent for this approach in the literature (Harrell and Bennett 1974).

A similar assumption is made for the importance-weight scale. A score of one, rather than zero, assigned to a response of "not at all important" simply reflects the belief that none of these aspects are likely to be of absolutely no importance to a respondent.

EXHIBIT 2

QUESTIONNAIRE ITEMS

MARKETING IN GENERAL	NEITHER				
	AGREE STRONGLY	AGREE SOMEWHAT	AGREE NOR DISAGREE	DISAGREE SOMEWHAT	DISAGREE STRONGLY
Most businesses operate on the philosophy that the consumer is always right	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Despite what is frequently said, "let the buyer beware" is the guiding philosophy of most businesses.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Most businesses seldom shirk their responsibility to the consumer	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Most businesses are more interested in making profits than in serving consumers.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

2. Now, I'd like to know how satisfied you are, in general, with each of these four marketing areas. Please "X" the one box which best describes your overall satisfaction with each marketing area.

	NEITHER				
	VERY SATISFIED	SOMEWHAT SATISFIED	NOR DISSATISFIED	SOMEWHAT DISSATISFIED	VERY DISSATISFIED
The <u>quality</u> of most of the products available to buy	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
The <u>prices</u> of most products.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Most of the <u>advertising</u> you read, see, and hear	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
The <u>selling conditions</u> at most of the stores at which you buy products	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

3. Listed below are four questions which ask about how often you have had problems with the products you buy, the prices you pay, the advertising you read, see, and hear, and the stores at which you shop.

After each statement, there are five numbers from 1 to 5. The higher the number means you have experienced the problem more often. The lower the number means you have experienced the problem less often.

For each question, please "X" the box which comes closest to how often the problem occurs. Remember to "X" one box for each question.

	Very seldom		Very often		
How often do you have problems with or complaints about the <u>products</u> you buy?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
How often do you have problems with or complaints about the <u>prices</u> you pay?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
How often do you have problems with or complaints about <u>advertising</u> ?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
How often do you have problems with or complaints about the <u>stores</u> at which you buy products?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

4. Finally, I'd like to know how important product quality, the price of products, the advertising of products, and the retelling or selling of products is to you.

Please "X" the box which best describes how important each of these four areas are to you. For example, if you feel the quality of most products available to buy is extremely important, then "X" the EXTREMELY IMPORTANT box. On the other hand, if you feel the quality of most products available to buy is not important at all, then "X" the NOT AT ALL IMPORTANT box.

Remember to "X" one box for each question.

	EXTREMELY IMPORTANT	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT TOO IMPORTANT	NOT AT ALL IMPORTANT
How important to you is the <u>quality</u> of most <u>products</u> available to buy?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
How important to you are the <u>prices</u> you must pay to purchase most products?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
How important to you is most of the <u>advertising</u> you read, see, and hear?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
How important to you are the <u>selling conditions</u> at most of the <u>stores</u> at which you buy products?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Validation and Pre-Test Results

Reliability of each category of the measure will be assessed by the aforementioned coefficient alpha. Discriminant validity can be verified by comparison of the alphas with inter-category correlations, with the former expected to be greater.

Convergent validation for the entire measure may be achieved by identifying correlations with the alternate measures depicted in Exhibit 2 (Sections 2, 3, and "Marketing in General"). Again, responses here are to be scored from -2 to +2 for least favorable to most favorable in each case, and summed across items in the scale. A possible variation of measures 2 and 3 could be produced by multiplying each item score by importance weights (section 4) before summing. (The items in "Marketing in General" were adapted from the Barksdale-Darden-Perreault instrument.) Some preliminary validation from a pre-test can now be reported.

The pre-test involved a mailing to 50 panelists, with 41 completed questionnaires returned (21 male, 20 female respondents). The coefficient alphas and item-to-total correlations for each of the four scale categories are presented in Table 1.

TABLE 1

MEASURES OF RELIABILITY FOR COMPONENTS OF CONSUMER SENTIMENT MEASURE

<u>Product Scale</u>		<u>Price Scale</u>	
Item	Item-Total Correlation	Item	Item-Total Correlation
1	.628	1	.468
2	.561*	2	.324*
3	.642	3	.653
4	.671	4	.548
5	.693	5	.359*
6	.534*	6	.757
7	.615	7	.715
$\alpha = .854$		$\alpha = .812$	

<u>Advertising Scale</u>		<u>Retailing/Selling Scale</u>	
Item	Item-Total Correlation	Item	Item-Total Correlation
1	.506	1	.531
2	.551	2	.713
3	.533	3	.562
4	.383*	4	.565
5	.328*	5	-.024*
6	.514	6	.605
7	.499	7	.243*
$\alpha = .753$		$\alpha = .726$	

*Items tentatively designated for removal in purification.

As can be seen, all alpha coefficients are satisfactory, demonstrating internal consistency or reliability. This can be regarded as indirect evidence of validity (Churchill 1976, pp. 251-2), as a necessary but not sufficient condition.

Table 2 shows the correlations among the four categories of the measure. Since each category/scale has an alpha coefficient considerably higher than its correlation with any of the other scales, discriminant validity is established.

TABLE 2
CORRELATIONS BETWEEN SCALE CATEGORIES

	<u>Price</u>	<u>Advertising</u>	<u>Retailing/Selling</u>
Product	.561 (.000)	.407 (.004)	.371 (.008)
Price		.300 (.028)	.527 (.000)
Advertising			.384 (.007)

(Significance levels in parentheses.)

Finally, some evidence of convergent validity for the composite measure is found in the correlation coefficients between this measure and the alternate global measures of sentiment from Exhibit 2. Correlations are .755, .724, and .724, respectively, between the operative measure and the "Marketing in General" measure, the "Satisfaction" measure (Section 2), and the "Problems" measure (Section 3), with all coefficients significant at the .001 level. (None of the alternate measures were weighted for importance.) Adequate convergence, for pre-test purposes, seems to be present.

In all, the validation evidence provided by the pre-test data is considered to be promising, and a likely strength of the measure relative to others that have been presented in the literature.

Operational Details and Plans

It is anticipated that this survey of consumer sentiment toward marketing will be conducted annually, at the same time each year. For ease of longitudinal comparison, the mean score will be converted to an index number with the initial measure serving as base period. The information contained in each survey, including the focal index number, will be reported to the marketing community.

At this point, it may appear as though it will be many years before enough evidence has been collected to provide meaningful inter-temporal comparisons. However, since this project also involves replication of the Barksdale-Darden-Perreault (B-D-P) measure, comparison can be made with consumer sentiment in the 1971-79 period immediately. The procedure is as follows:

First, recognize that the "Marketing in General" scale from Exhibit 2, with the addition of the fourth item from the Price section of Exhibit 1, is equivalent to the B-D-P instrument. The only differences are (1) substitution of the word "businesses" for "manufacturers," and (2) a slight, but comparable, restatement of the original B-D-P item #3 described earlier (regarding competition and prices). It is proposed here that these differences are negligible and the items used in this research amount to an adequate replication of

B-D-P. (B-D-P item #3 had been excluded from the "Marketing in General" scale because it is the only item that is addressed specifically to one of the "mix" elements, and also for validation purposes, i.e., so as not to have an identical item in two alternate measures.)

Next, since the operative measure of consumer sentiment is being converted to an index number of 100, the same can be done for the B-D-P replication measure, rendering the two interpretable on the same basis. That is, since both measures are indicants of general consumer sentiment, the obtained mean score on the operative measure (-14.9, from pre-test data; range: -280 to +280) can be regarded as equivalent to the mean on the B-D-P replication (-.85; range: -10 to +10), which is done when both are represented by an index number of 100.

Then, future indices of consumer sentiment toward marketing can be related to the historical B-D-P measures if those measures are also converted to index numbers, as they can be from the B-D-P published results. The mean scores of the B-D-P historical measures, and associated index number equivalents, are shown in Figure 1, which portrays the pattern of consumer sentiment observed over time. (The mean B-D-P scores were calculated by scoring responses from -2 to +2 for least favorable to most favorable.) There appears to have been some improvement in consumer sentiment toward marketing in recent years, although it still lies in the negative range.²

If results similar to those of the pre-test are obtained from the actual survey being conducted, it could be an indication that (1) marketing practice has improved, (2) marketing's public relations efforts are paying off, (3) environmental circumstances have changed in a way that produces less consumer hostility toward marketing, or (4) some evolution of consumer maturity and wisdom has taken place so that consumers are less inclined to blame marketing for their problems.

Interpretation of the previous B-D-P findings is also possible. A low point of measured consumer attitude toward marketing occurred in 1975, a time which marked the end of a decade of public disaffection with national institutions. Aside from experiencing the Viet Nam war and Watergate, respondents had recently endured the first oil shortage, a period of rapid inflation, and a

²If the raw data can be obtained from the B-D-P authors, the significance of the observed differences between time periods can be assessed.

severe recession. This was also a period of intense consumerism. The 1977 measure, on the other hand, may have reflected economic recovery and the sizeable reduction in the inflation rate achieved during the Ford administration. Then, the 1979 nadir signaled "Oil Crisis II," another period of rapid inflation, an impending recession, and the national "malaise" reported by President Carter.

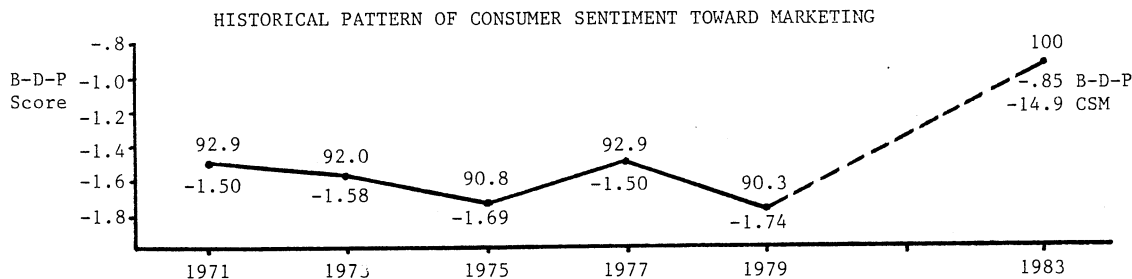
Of course, there may be some concern that the B-D-P replication will produce a spurious result. Reasons for this could include: (1) Sampling differences--although B-D-P also conducted a national mail survey, their response rates were lower (between 42% and 45%), and it may be that their respondents, on average, were more involved in the issue because of more dissatisfaction, and this could be responsible for the lower sentiment ratings reported. However, it does appear that both the B-D-P and Market Facts procedures produce representative national samples. (2) The slight differences between the original and replicated instruments, i.e., changing "manufacturers" to "businesses"--although the measures appear virtually identical, it is possible that "manufacturers" is a more negatively-charged term for consumers. Perhaps the B-D-P measure should be duplicated exactly in future validations.

In spite of the possible limitations, it is hoped that a longitudinal record of consumer sentiment toward marketing will be of some interest and value to marketing scholars and practitioners, as well as other audiences. Thanks to the work of Barksdale, Darden, and Perreault, historical perspective is available from the inception of this proposed index.

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FIGURE 1



B-D-P = Barksdale-Darden-Perreault pre-test replication.

CSM = Operative Consumer Sentiment toward Marketing pre-test measure.

Index numbers calculated as: $100 \times \text{raw score distance from measure's lower limit} / 1983 \text{ raw score distance from lower limit}$, e.g., for 1979,

$$100 \left[\frac{-1.74 - (-10)}{-0.85 - (-10)} \right] = 100(8.26/9.15) = 90.3$$

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FAMILY DECISION MAKING ROLE PERCEPTIONS AMONG MEXICAN-AMERICAN AND ANGLO WIVES:
A CROSS CULTURAL COMPARISON

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Abstract

This investigation compared Mexican-American and Anglo wives' perceptions of the manner in which their families make purchasing decisions involving major durables. Analysis of these perceptions indicate that Mexican-American families tend to be more husband dominant than Anglo families where the purchase of major durables are concerned. Anglo families also appear to engage in more joint purchase decision making. These findings present interesting and potentially valuable implications for marketers wishing to optimize their performance in an increasingly heterogenous marketplace.

Marketers have long recognized the potential influence of such factors as social class, ethnicity, and culture on buyer behavior. Yet, investigations of these factors have generally taken a largely macro perspective, and have only recently turned significant attention to the most fundamental of all consumption groups, the family. This is indeed an oversight since the family represents the primary environment in which roles related to these very important socioeconomic factors are learned and expressed. One of their most significant forms of expression is buyer behavior.

While the influence of culture and subculture on family purchasing has received some attention (Douglas 1976; Safilios-Rothschild 1969), it remains, however, a largely unexplored area of buyer behavior. This is particularly true in the case of comparisons involving subcultures. There, the need for investigation is acute. The manner and degree to which subcultural identification influences family decision making roles and processes has simply not been the subject of significant empirical research.

The investigation reported here sought to compare the manner in which Mexican-American and Anglo wives perceive family decision making roles when the purchase of major durables is involved. It was, therefore, a buyer behavioral manifestation of Mexican-American ethnicity expressed within the family decision making role structure that this investigation sought to demonstrate by means of a direct comparison with the dominant Anglo culture.

Previous Research

While the study of family decision making has come to represent a significant research area in buyer behavior, there has been little effort to explore subcultural differences in family decision making. This is unfortunate in that the expression of so many of the characteristics and attributes of an ethnic subculture are mediated through the family (Mindel and Habenstein 1976). In many ways, families serve as a cultural reservoir of norms and values which may help ethnic groups to maintain a distinct physiognomy, some elements of which may be expressed in terms of buyer behavior. This may very well be the case of family purchasing decision roles.

Previous research has indicated that the Mexican-American family has several traits in common with the traditional Mexican family. These include father dominance, masculine superiority, sharply defined separation of sexes, and submission to authority (Howard 1952; Madsen 1964;

Padilla and Ruiz 1973). In comparison to the dominant Anglo culture of the United States, the Mexican-American subculture seems more patriarchal, and particularly resistant to family role deviance. Murillo (1971) has suggested that this may be due to the fact that Mexican-American Latin values are more clearly defined and behavioral patterns more closely adhered to than is common in the dominant Anglo culture. Even though many Mexican-Americans may be in the process of cultural assimilation, and are neither Anglo nor Mexican, one must still suspect a continued reliance on the parent culture. Such a reliance seems even more likely given the formal and institutionalized bilingual/bicultural policy of both the public (bilingual education) and private (bilingual mass media programming and advertising) sectors. This reliance may manifest itself in many ways, including buyer behavior, perhaps playing a very significant role in the manner in which families decide on the purchase of specific goods and services.

Present Study

This investigation attempted to demonstrate hypothesized differences in the manner in which Mexican-American and Anglo wives perceive family decision making roles. Given a traditionally patriarchal family structure, one would suspect greater husband dominance within Mexican-American families than within Anglo families (H1), and conversely, fewer wife dominant decisions within Mexican-American families as compared to Anglo families (H2). Of course, one other likely effect of such an orientation would be the presence of significantly fewer joint decisions within Mexican-American families than within Anglo families (H3). These three hypotheses are formally presented below.

H1: Mexican-American wives will report significantly more husband dominant purchasing decisions involving durables than will Anglo wives.

H2: Mexican-American wives will report significantly fewer wife dominant purchasing decisions involving durables than will Anglo wives.

H3: Mexican-American wives will report significantly fewer joint purchasing decisions involving durables than will Anglo wives.

Method

In order to test these hypotheses, data were collected from a sample of Mexican-American and Anglo wives residing in a medium size city in the Southwestern United States. Data were gathered from 125 Mexican-American and 159 Anglo wives. One should remember that the focus of this investigation is the identification of cross cultural differences as perceived by the wives of the two respective cultures. Wives were chosen as the focus because they seem central to the differences which may exist between the two cultures, one patriarchal, the other less so. While it is generally considered preferable to collect data from both husband and wife, there is no reason to suspect the presence of any type of systematic error capable of either obscuring or producing the hypothesized subcultural differences.

Measures

Decision dominance was assessed by asking the respondents to identify the spouse who normally makes certain decisions regarding the purchase of four different categories of durables, or to identify those decisions that are best categorized as joint. The decision components represented three to six common and relevant dimensions of each purchase, eg., price, store, model, size, etc. The exact list varied with the specific item, and is presented in Table I. The four product categories were furniture, appliances, automobile, and house or apartment.

TABLE I
Decision Components

<u>Furniture</u>	<u>House or Apartment</u>
1. When to buy	1. Size
2. How much to spend	2. Price
3. Which store	3. Location
4. Which products to buy	
<u>Automobile</u>	<u>Major Appliances</u>
1. Which make	1. When to buy
2. Which model	2. How much to spend
3. What color	3. Where to buy
4. When to buy	4. Which brand
5. Where to buy	5. Which model
6. How much to spend	

A full range of demographic measures was also collected in order to more fairly and comprehensively compare these two groups. Demographic measures included age, national origin, years at present address, employment status, occupation, husband's occupation, years of education for both husband and wife, income, home ownership, and number of children. Both a Spanish and an English language instrument were developed, back-translated, pre-tested, and checked for semantic congruity.

Sample

Data were collected via a multistage disproportionately stratified sample. A simple random sample of equivalent size would not have provided an adequate basis for determining whether emerging differences were due to ethnic origin or to some other socioeconomic factors. Factors such as income, education level, and employment status are often correlated with race, and for this very reason the sample was stratified by both income and race. A stratification by both seems more appropriate than a stratification by race alone since it increases the heterogeneity of the Mexican-American subsample and reduces its skewness toward lower income levels. It was assumed that differences in employment status and education are also reflected in income, thus eliminating the need for further stratification.

Stratification was accomplished by selecting census tracts in those areas where the association of race and income was at its lowest. One such tract was then selected within each of four income strata: less than \$10,000 annual family income, \$10,000 to \$15,000, \$15,001 to \$20,000, and \$20,001 to \$30,000. In the next stage, city blocks were randomly selected within each of the census tracts. Finally, three respondents per block were systematically selected. Five-hundred questionnaires were originally distributed to 250 Mexican-American wives and to 250 Anglo wives. A total of 285 were returned in usable condition, thus yielding an overall response rate of 57.0 percent. Mexican-American wives returned 126 of the 250 questionnaires, or 50.4 percent. Anglo wives returned 158 or 63.2 percent of the questionnaires.

Respondents were contacted in their homes and asked to fill out a questionnaire at their convenience. Arrangements were then made to pick up the completed

questionnaires. This drop-off technique incorporates the advantages of both personal interviews and self-administered questionnaires, and is relatively inexpensive. It also has the advantage of yielding a higher response rate than mail questionnaires, since it allows the researcher to select beforehand suitable respondents who are willing to complete the questionnaire (Stover and Stone 1978).

Analysis

The three interval level dependent measures were created by summing separately the number of husband dominant, the number of wife dominant, and the number of joint decisions for all the decision components (e.g., price, model, store, etc.) involved in the selection of the four durables. Separate univariate F-Tests were then used to compare the mean number of husband dominant, wife dominant, and joint decisions of the Mexican-American and Anglo groups. This exactly replicates the analytical procedure used by Green and Cunningham in their 1974 study of feminine role perceptions. In order to test for the possible non-independence of the dependent measures a three-way analysis of variance using race, income and employment status was also performed.

Findings

The results indicate two important differences in the way in which Mexican-American and Anglo wives perceive decision making roles within their families when the purchase of major durables is involved. In the initial phase of the analysis, three univariate F-tests compared the mean number of husband dominant, wife dominant and joint purchasing decisions for Mexican-American and Anglo families. As Table II indicates, two of these differences were statistically significant ($p < .05$).

TABLE II
Mean Number of Purchasing Decisions for Mexican-American and Anglo Families

	<u>Mexican Americans</u> (n=126)	<u>Anglos</u> (n=158)	<u>F-Ratio</u>
Husband	5.808	3.478	19.385 _a
Wife	2.928	3.038	0.066
Both	10.528	13.371	20.264 _a

_a indicates that $p < .01$

In the first instance, the mean number of husband dominant durable product purchase decisions was significantly greater in the Mexican-American group than in the Anglo group, thus confirming H1. This, of course, indicates the perception of greater male dominance in Mexican-American families when the purchase of durables are involved. Table II also reveals a mean number of Mexican-American joint decisions significantly smaller than that of the Anglo group, thus indicating fewer shared decisions in Mexican-American families. This confirms hypothesis H3. There was, however, no statistically significant difference in the number of wife dominant decisions between the Mexican-American and Anglo groups. Hypothesis H2 was, therefore, rejected.

Due to the fact that income and employment status are often related to race, and that both can presumably affect family decision making, three separate three-way ANOVAs were performed, one for each of the three dependent measures. While income was a five level ordinal measure, race and employment status had only two levels. In the case of the latter, the two levels corresponded to employment of least 20 hours a week, or unemployed. Tables III and IV present the two

analyses in which significant effects were found.

TABLE III
Analysis of Variance
Husband Dominant Decisions by Race, Employment Status
and Income

SOURCE	SS	DF	MS	F	p
Main Effects	460.530	6	76.755	4.431	.001
Race	174.058	1	174.058	10.047	.002
Employment	67.466	1	67.466	3.894	.050
Income	133.853	4	33.463	1.932	.106
2-Way Interactions	141.386	9	15.710	.907	.520
Race X Job	1.411	1	1.411	.081	.776
Race X Income	51.536	4	12.884	.744	.563
Employment X Income	75.440	4	18.860	1.089	.363
3-Way Interactions	75.658	4	18.914	1.092	.361
Explained	SS	DF	MS	F	p
Residual	667.574	19	35.662		.007
TOTAL	3932.515	227	17.324		
	4610.089	246	18.740		

TABLE IV
Analysis of Variance
Joint Decisions by Race, Employment Status and Income

SOURCE	SS	DF	MS	F	p
Main Effects	572.005	6	95.334	3.346	.004
Race	351.176	1	351.176	12.325	.001
Job	17.361	1	17.361	.609	.436
Income	99.748	4	24.937	.875	.479
2-Way Interactions	77.949	9	8.661	.304	.973
Race X Job	6.298	1	6.298	.221	.639
Race X Income	10.499	4	2.625	.092	.985
Employment X Income	66.508	4	16.627	.584	.675
3-Way Interactions	91.728	4	22.932	.805	.523
Explained	741.682	19	39.036	1.370	.143
Residual	6467.840	227	28.493		
TOTAL	7209.552	246	29.307		

Suspensions that the subcultural differences in family purchasing behavior observed in the initial analysis were simply a statistical artifact attributable to employment status and/or disparate income levels, were not borne out by this additional analysis. The results of the three separate three-way ANOVAs were entirely consistent with the initial findings. Just as before, the main effect of race was statistically ($p < .05$) significant when the number of husband dominant and joint decisions were considered as dependent measures. Likewise, no significant effects, main or interaction, were detected when the number of wife dominant decisions served as the dependent variable. Most important, however, was the fact that there were no statistically significant interaction effects, two-way or three-way, detected in any of the three analyses, thus confirming the relative independence of the dependent measures.

Discussion and Implications

The findings of this investigation revealed two major differences in the manner in which Mexican-American and Anglo wives perceive family decision making roles when the purchase of major durables are involved.

First, the findings clearly indicate a stronger pattern of husband dominance in Mexican-American families than in Anglo families. These findings also suggest that Mexican-American families engage in significantly less joint decision making than do Anglo families, at least when major durables are involved. In both cases, these cross cultural differences appear to be genuine and not merely the product of disparate income levels or differences in employment status. It should also be noted that the number of wife dominant decisions in both Mexican-American and Anglo homes was extremely low. Not only does this explain why H2 was not confirmed, but it also suggests that wife dominant decisions on major durables are simply rare in both cultures. The major difference between the two cultures is that more Anglo wives have reached equality in decision making, not that they have supplanted their husbands as the primary decision maker.

The findings seem to suggest several potentially valuable implications for marketers. Although our findings show that Hispanic husbands are more dominant in decision making than Anglo husbands, marketers should avoid believing in the stereotype of the autocratic Hispanic husband. For both Anglo and Mexican-American families, joint decision making was the dominant mode. Thus advertising and promotion for durables cannot effectively be geared to just one sex. However, an emphasis in copy which stresses points that are more important to one spouse than the other might vary for ads aimed at different cultural groups. For example, ads targeting Hispanics might place attributes which males rate as important in the headline or earlier in the copy than those rated highly by females. Such actions could help make advertising targeted to Hispanics more culturally relevant, and thus more effective.

While these findings are interesting and yield potentially valuable implications, they were derived from an investigation which was clearly exploratory in nature and simple in design. Future investigations should attempt to go beyond this basic conceptualization and methodology. They should attempt to determine how sex related differences among different ethnic groups vary through the steps of the decision process. For example, who first recognizes or articulates the need for the product? Once the need is expressed, are there consistent sex differences in terms of the perceived importance of product attributes? Are there clear and consistent cultural differences at the actual time of purchase? We need to know if and how cultural differences affect each of these questions in order to effectively influence purchasing decisions among different cultural groups.

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BELIEFS IN QUALITY DIFFERENCES AND BRAND CHOICE

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Abstract

In a laboratory setting and in a field study subjects who believed or were led to believe that there were large quality differences among brands in several product categories tended to use price as a product quality cue. Conversely, those who did not believe or were led not to believe in quality differences tended not to use price information in the same manner.

Introduction

Evidence of the existence of a link between beliefs about quality variation among brands in a product class and preference for the higher priced alternative has been suggested by several researchers (Leavitt 1954, Tull, Boring and Gonsior 1964, Lambert 1972). While suggestive, these earlier studies were not quite convincing because no attempt was made to measure preference when "real" money, or something approximating it was involved.

In a recent study, Obermiller and Wheatley (1983) attempted to answer the question, "Why do consumers buy the higher priced brand in product choices among brands that may be similar?" They proposed that evidence of similarity, either supplied information or use experience, should increase preference for the lower priced of two similar (identical) brands, but the effects of such information would be mediated by the strength of prior beliefs in brand quality differences. They conducted an experiment in which subjects received evidence of the similarity of two brands from two sources--a Consumer Reports mock-up and taste experience. Prior beliefs were manipulated by replicating across two products, cola represented a product about which consumers had strong prior beliefs in brand quality difference and popcorn, weak prior beliefs. The results provided support for their hypotheses: cola showed greater initial preference for the higher priced brand and greater resistance to evidence of similarity of two brands.

The two studies reported here extend the Obermiller and Wheatley investigation. Two questions are raised:

(1) While the Obermiller and Wheatley study did attempt to introduce external validity with respect to the issue of a monetary transaction being involved it was flawed by a possible confounding of prior belief strength and product x subject characteristics. To eliminate this problem and isolate strength of prior belief in brand quality difference as the independent variable, a lab study (study 1) was conducted. (2) Subjects in the original Obermiller, Wheatley study were undergraduate students. Study 2 determined whether the effects would generalize to other samples, patrons of a supermarket, who were expected to be less educated, less perspicacious in the ways of experimental research. The second study also replicated across a new product category.

Study 1

In the previous study Obermiller and Wheatley reported greater initial preference for the higher priced brand and more resistance to information of similarity of brand qualities for cola than for popcorn. They then argued that the effects were the result of stronger prior beliefs in brand quality differences for cola than for popcorn. In fact, subjects were pre-screened to in-

sure differences in prior belief strengths. There are two problems with this procedure. The first is a problem of construct validity that is unavoidable whenever a specific object, task, or instance is chosen to represent a position on a theoretical dimension. Cola and popcorn likely do represent products characterized by high and low strength of consumer beliefs in brand quality differences; but they may also represent different positions on other dimensions that could provide alternative explanations. One possibility is that cola is characterized by high social risk, since it is frequently consumed with the brand visible and is heavily promoted in terms of life style, whereas popcorn is neither. The second problem is selection bias. By screening subjects to insure strong prior beliefs for cola and weak prior beliefs for popcorn, they may have confounded the treatment with some other individual difference characteristics of the subjects. An expression of strong prior beliefs in brand quality differences may have been less associated with the two products as with such characteristics as dogmatism or cognitive complexity. Dogmatists may insist on their ability to detect differences and be less willing to accept contrary information; cognitive complexity might reduce willingness to express any strong beliefs and result in openness to new information.

In order to avoid both confounds of stimulus characteristics and selection biases, an experiment was designed in which subjects were randomly assigned to belief strength conditions. Belief strength was manipulated by giving subjects information about brands in a given category that suggested either that brands were similar or dissimilar in quality. Subsequently, subjects chose between two new brands at different prices. The research hypothesis was that subjects who were given data consistent with a belief in large brand quality differences would make a price-quality inference and prefer the higher priced alternative and that subjects who were given data consistent with a belief in low brand quality would not infer quality from price and would, therefore, prefer the lower priced alternative.

Procedure

Fifty-five undergraduate business students acted as subjects in a classroom situation. Subjects were given booklets with decision problems, each followed by a choice situation and a rating scale. The booklet was titled Management Decision Analysis and described as an exercise in management decision-making with incomplete information. Directions indicated that students should base their decisions only on the information given, however limited, not on their personal experiences. Each problem described someone faced with a purchase decision and presented some information about "other" brands; the decision was a choice between two new brands. No information was given about the two new brands except that one was priced 20% (15% in one case) higher than the other.

The information provided about other brands was intended to manipulate prior belief in brand quality differences. Each of the four problems provided a different basis for the formation of these beliefs. In the first problem, the product was an industrial precision cutting tool, and the information was 3 years of data on the % successful cuts and life expectancies of three "other" brands. For the low difference belief condition, the data were similar (mean success = 94.3%, σ success = 1.8; mean

life = 210,000 units, σ life = 4200). For the high difference belief condition, the data were dissimilar (mean success = 95%, σ success = 8.7; mean life = 209,000 units, σ life = 19,500). For the second problem, the product was institutional bedding supplies and the information was an expert opinion, a memo from a former purchasing agent that indicated that brands available in the past had either no difference or substantial differences in quality. The third problem was a choice between electric blow dryers, and the information described the brands as either differing in familiarity due to remembered advertising or uniformly unfamiliar. The final problem was a choice between boat trailers. The information was from an expert source a quote from Consumer Reports that stated there is either no difference or a great deal of difference in quality from one brand of boat trailer to another.

Results

TABLE 1
Quality Difference^a and Preference^b for Four Conditions of Low vs High Difference Priors

	Priors for Difference Beliefs			
	Low Difference		High Difference	
	Quality Difference	Preference	Quality Difference	Preference
Laser Cutting Tool (performance data)	2.2	6 vs 19	3.3	22 vs 7
Institutional Bedding (personal opinion)	1.8	1 vs 28	3.1	12 vs 13
Blow Dryer (amt. of adver.)	2.2	2 vs 24	2.2	8 vs 21
Boat Trailer (expert source)	1.9	3 vs 26	3.8	18 vs 5
Overall	2.0	10 vs 97	3.1	60 vs 46

^aQuality Difference was a scale that characterized the available brands, ranging from 1=no difference to 5=great difference.

^bPreference is reported as the number of subjects that preferred the higher vs the number that preferred the lower priced brand; read "higher vs lower".

The dependent measures included a manipulation check and a choice. The results of both are displayed in Table 1. The manipulation check was a scale rating the difference among brands, with higher numbers indicating greater difference. The mean responses to the quality difference questions indicate a successful manipulation overall (2.0 for low difference vs 3.1 for high) and stronger effects for three of the four conditions. The use of different recall of advertising in the blow dryer problem did not result in different beliefs in brand quality differences. The failure of this manipulation suggests dropping these responses from the analysis. T-tests showed the remaining three groups to be statistically significantly different in the quality difference score (laser cutting tool, $t_{53} = 5.15$; institutional bedding, $t_{53} = 5.72$; boat trailer, $t_{53} = 5.75$; for all, $p < .001$).

Overall preference reflected the manipulation of prior bases for quality difference beliefs. Overall, when prior information suggested little difference among brands, subjects preferred the higher priced alternative only 10 times vs 97 times for the lower priced brand. In contrast, when prior information suggested larger brand quality differences, subjects preferred the higher to the lower priced brand by 60 to 46. (If one ignores the blow dryer data, these differences are even more pronounced, 8 vs 73 for low difference and 52 vs 25 for high difference.) These results were analyzed with a repeated measures Anova. Each subject responded to four preference questions, two high difference and two low

difference situations. The main effect of prior bases for quality difference beliefs was statistically significant ($F_{54,1} = 53.5$; $p < .001$).

Discussion

Beliefs in brand quality differences may be formed in many ways. In this experiment, manipulations of performance data, expert opinion, and the conclusion of an expert source were successful in creating different strengths of prior beliefs in brand quality difference. The manipulation of extent of recalled advertising was unsuccessful. Level of advertising may, nonetheless be an important basis for quality difference beliefs; it is likely that a statement that brands were remembered as differentially advertised or not is a poor substitute for actual differences in advertising exposures. A stronger and more correspondent manipulation of advertising level differences would be required to verify the relationship.

Another explanation for the failure of the advertising manipulation rests upon subtler response to ads. While it is possible that large advertising expenditures are a way of signaling consumers that the advertised product is of high quality (Nelson 1974), such efforts may not lead to meaningful changes in consumers' beliefs. In the case of low cost consumer products in particular, it is quite likely that many consumers process ads peripherally (Petty, Cacioppo, and Schuman 1983). Thus, attitudes and preferences may be influenced by heavy advertising, but the lack of involvement with the ads diminishes the probability the beliefs about the product category will be affected.

Preference between brands of different prices was shown to be largely determined by prior belief in brand quality differences. When people were led to believe that product alternatives were similar, they exhibited a strong preference for the lower priced brand, and when they were led to believe that product alternatives were dissimilar, they exhibited a strong preference for the higher priced brand. These results suggest that inferences from one attribute to another do not occur automatically as the result of a generalized heuristic. Price-quality inferences occur as a function of product category beliefs. People will only infer one from the other when they believe the two to be correlated. If quality does not vary, and price does, the two cannot be correlated. If both quality and price vary, the two may or may not be correlated, but when choices are made under uncertainty, variation in both attributes may be sufficient evidence for one to infer correlation and rely on a generalized price-quality heuristic.

Study 2

The strength of study 1 is the isolation of the construct of interest. Its weakness is also the isolation of that construct; we are not much surprised that with minimal variation in any mundane factors, changes in the bases for quality variation beliefs about a product category are reflected in preferences between two alternatives. A stronger demonstration of the generalizability of this effect would be differences in preferences for real products in real choice situations that could be explained by measures of prior belief in brand quality differences for that product. Study 2 was designed as such a demonstration.

Procedure

Eighty four customers were intercepted in two locations of a large grocery chain in Seattle. After being identified as a user of the product in question (Margarine), each subject was given a response booklet that included measures of belief in differences among brands,

brand usually purchased, and usage frequency. After completing the preliminary measures, subjects were shown two samples of the product, labeled X_b and W_t . Brand X_b was given a price that reflected the high end of the price range for that product in the store; brand W_t had a price from the low end. Subjects were asked to rate the two brands on quality and select between prizes of one pound of brand X_b or one pound of brand W_t plus the difference between the X_b price and the W_t price in cash. These measures were taken before any similarity evidence was presented.

Informational similarity was presented on the next page of the booklet for every other subject. This information stated that scientific experiments conducted by the National Food Survey indicated that it was impossible for consumers to distinguish among brands of margarine and that Consumer Reports found all margarines to be very similar. The remaining half of the subjects also received information, but it described margarine nutrition, and packaging and was irrelevant to brand differences. Thus, one group received informational evidence of brand similarity; the other did not.

At this point all subjects were given an opportunity to taste the two brands, which were, in fact, identical. Thus, all subjects were given experience evidence of similarity. Following the taste, each subject was given a second choice between X_b and W_t plus the cash. Then subjects filled out measures of their abilities to detect differences, self-rating of expertise, influence of price in their choice, comprehension checks for the information they had been given, agreement with that information, beliefs in price as an indicator of quality, and demographics.

Results

The results shown in Table 2 reveal that 59% of those subjects who felt that there were only small differences among brands of margarine preferred the less expensive brand while only 33% of the subjects who said that there were large differences among the various brands selected the cheaper brand and the 30¢ in cash which represented the difference in price between the two. A χ^2 test of these data yields a value of 3.19 $p = .08$.

Those consumers who said that they felt that there were large differences among brands of margarine also said that brand X_b was of higher quality than brand W_t . This evaluation was based on a visual inspection of identical products in identical dishes. The difference in means, $X_b = 2.85$ vs $W_t = 3.72$ (lower score means higher quality here); was statistically significant, $p < .05$. As might be expected, the subjects who said that they felt that the difference among brands of margarine was small rated the two brands almost identically, $X_b = 3.00$ vs $W_t = 3.05$.

TABLE 2

Perceived Quality Difference^a Among Brands of Margarine and Preference^b for Higher vs Lower Priced Brand

Small Difference		Large Difference	
Quality Difference	Preference	Quality Difference	Preference
1.3	9 vs 13	4.6	18 vs 9

^aQuality Difference was a scale that characterized the available brands, ranging from 1 = small difference to 5 = large difference. 5's in the small difference group indicated a score of 1 or 2; 5's in the large difference group a score of 4 or 5.

^bPreference is reported as the number of subjects who preferred the higher priced brand vs the number who preferred the lower priced brand; read "higher vs lower".

On the other hand, when these subjects were subsequently questioned directly about whether they agreed with the statement that they "personally believed that the retail price of margarine was a good indicator of its quality" or, more generally, whether "prices are a good indicator of the quality of most products," there was no statistically significant difference between the two groups. Once again, it is apparent that consumer preference or choice is not the result of a simple rule-of-thumb; it is beliefs about differences among brands in a product class that seem to result in inferences about quality based on price information.

Table 3 shows the effects of sampling the product and reading a message that said most consumers could not tell the difference between brands of margarine because most of them were very similar in terms of sensory cues. Only 44% of the 43 subjects who were not exposed to the message and not given an opportunity to taste the two samples preferred the lower priced brand. However, 66% of the 41 subjects who had the opportunity to sample the two products and who were exposed to the message picked the cheaper alternative. This difference is statistically significant, $\chi^2 = 3.15$ $p < .02$.

TABLE 3

Effect of Tasting and Information on Preference

		Taste and Information	
		Yes	No
Price	High	14	24
	Low	27	19

Discussion

The results of study 2 and those of study 1 provide evidence of convergent validity. Prior beliefs about quality differences among brands apparently influence product choice. When presented with price information, a sample of in-store customers, all of whom were margarine users, tended to pick the lower priced alternative when they believed that there were small differences in the quality of margarine brands. Conversely, when consumers felt that there were large differences among brands they were more inclined to choose the higher priced brand. When given an opportunity to sample the product and information suggesting the similarity of the two brands another sample of consumers responded by showing a strong inclination to choose the lower priced alternative. From a social standpoint, it is, unfortunately, a very expensive proposition for a seller to furnish such a demonstration in the marketplace.

Limitations

While avoiding the problem of confounding prior belief strength and product-subject characteristics, all of the subjects in both studies were still confronted with a forced choice situation and no information, other than price, was presented to them. Buyers are, of course, likely to use other informational cues when making quality judgments or purchase.

The effect of price as a quality cue may have been diminished, however, because of the type of subjects used in both studies. Shapiro (1975) has reported that well educated persons are less prone to rely on price information as a product quality cue than those with lower educational attainments. Both the college students in study 1 and the adult subjects in study 2 were significantly better educated than the general population.

Conclusions

Although it seems unlikely to hold true in every case, the hypothesis that prior beliefs about large quality differences among brands in a product class lead a number of consumers to select the higher priced of two alternatives seems tenable. It is also clear that many consumers, even those with strong prior beliefs, can be persuaded to choose the lower priced alternative when they are allowed to sample the product and are provided with information about it.

Perhaps the most intriguing finding in these two studies is the sizable proportion of subjects who still pick the higher priced alternative after strong encouragement to do the opposite. Approximately one third of the supermarket consumers selected the higher priced margarine despite sampling the identical products, reading reports from two credible sources pointing out that the products were indistinguishable, a 30¢ incentive, and, one would suppose, a suspicion that they were being urged to choose the lower priced alternative. Similar results were reported by Obermiller and Wheatley (1983) and Wheatley, Yalch and Chiu (1980). Distortion of quality perceptions is one explanation. The use of price-quality heuristic under uncertainty is another.

The two studies provide evidence for the importance of beliefs in quality differences as a product specific individual difference variable that mediates inferences from price to quality. A continued investigation of the characteristics of consumers and products that influence such inference processes is necessary if we are to make sense of the confusion of findings in the price-quality literature and if we are to view obstinate preference for the higher-priced brand as psycho-rational behavior.

Finally, the studies provide weak evidence that an inference from one attribute to another does not require specific evidence of a correlation between them. Given a generalized heuristic (such as from price to quality), subjects in study 1 made the inference when evidence suggested variation in quality, without any specific evidence of a price-quality correlation. Thus, the requirements for an influence in a specific situation may be relatively weak; evidence need not be sufficient for an inference of a correlation between two attributes, provided it is necessary.

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THEORIES OF VALUE AND UNDERSTANDING OF PRICE: A DEVELOPMENTAL PERSPECTIVE

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Abstract

Reasoning about the source of value reflected in particular prices develops in qualitatively different stages as a child matures. In early childhood the developing individual has a concept of price only in the sense that he knows a fixed amount must be paid; he cannot articulate a source of value. In middle childhood both costs and use emerge as sources of value, with the concept of relative scarcity emerging as middle childhood progresses. Increasing skill at coordinating the points of view of buyer and seller, as well as increasing knowledge about and experience with market transactions make for changes in the developing individual's understanding of how prices are determined: young children see pricing through the seller's eyes, older children see pricing decisions through the eyes of a seller who is keeping his eye on the consumer, and adults see pricing through the eyes of a seller who is keeping his eye on other sellers as well as on buyers.

Introduction

In his 1973 review of research on buyers' subjective perceptions of price, Monroe concluded that we know little about how price influences purchase behavior. Monroe consciously used the term "perception" to refer to the consumer's experience of price information, because price information is not merely registered; it is actively interpreted by the consumer, who judges prices to be "fair," "a bargain," and so on.

There is evidence that both external and internal variables affect price perceptions. External variables such as the reference price and the price range affect a consumer's ability to perceive two prices as the same or different (Emery 1970), and internal variables such as experience with the product class affect, for instance, the likelihood that a consumer will use price as a cue to quality (Lambert 1970, 1972).

Another internal, or organismic, variable which affects price perception is the individual's theory of value. A theory of value attempts to explain how prices work and answers two questions: (1) What is the source of value? and (2) What is the measure of value? For example labor is the source of value in a labor theory of value, and labor-time would be a corresponding measure of value.

Ideas concerning the source of value are partly positive and partly normative, in that they represent (1) an attempt to understand how the world works and (2) moral ideas in light of which long-run price levels will be judged to have good or bad welfare implications. In economics, value theory began by focusing on factors of production such as land or labor (cost of production theories of value), and as value theory evolved, consumption factors were added. Although relative scarcity theory takes both cost and consumption into account, differing convictions about where the source of value resides -- whether in a particular factor of production or in the efficient production of want satisfaction -- remain at the heart of economists' arguments about whether particular prices are fair. So too with consumers, whose experience leads them to formulate more or less self-conscious personal theories of value, theories which affect their evaluations of price behavior.

The nature of consumers' theories of value should be of concern to marketers because these theories affect consumers' perception of price behavior in the marketplace. During inflationary periods, people ask "What constitutes a fair price?" "Who/what is responsible for price increases?" and "Should prices be regulated?" Consumers'

(or voters') answers to these questions depend in large measure on their theory of value, i.e. on whether price is seen to reflect a return to some factor of production such as labor or capital, or whether it is seen to reflect patterns of consumer preference.

The same questions are asked when prices rise precipitously in a particular industry. An Opinion Research Center survey, taken in the period of rising gasoline prices following the 1973 oil embargo, found that consumers thought oil companies made sixty cents per dollar of sales. Chevron prepared commercials informing the public that Chevron's profit per dollar was less than six cents, but when the commercials were pretested, over thirty percent of their sample did not believe the message (Winters 1977). Many consumers held that the oil crisis was itself fabricated by greedy corporations as a pretext for raising prices. Companies which understand consumers' notions of price would be better able to plan effective strategies to deal with misinformation and consumer hostility during times of rising prices.

Formal instruction in economics would appear to shape consumers' notions about price. A major survey of knowledge of and attitudes toward the American economic system revealed that only formal college-level instruction in economics made a difference in their factual knowledge (Compton Advertising 1975). But since few people have had formal instruction in economics, their notions of price apparently reflect their developmental experience (Fox 1978). Therefore we need to determine whether there are regularities in the experiences of developing individuals that make for qualitatively different theories of value at different ages.

Previous studies of the development of reasoning about price have largely ignored childrens' notions of the sources and measures of value as reflected in price. Instead previous studies have explored childrens' ability to recall and correctly estimate prices (Stephens and Moore 1975 examine adolescents' ability to estimate correct prices for specific products) and their conceptions of the relevant dimensions of value, i.e. what attributes of a product, if varied, are perceived to be correlated with price differences (Strauss 1952; Burris 1976; and Moschis & Churchill 1978).

The findings in these studies are consistent with what developmental psychologists have learned about which aspects of objects are salient to people at different developmental stages: gross perceptual attributes in early childhood, functional attributes in middle childhood, and contextual attributes -- including social meanings -- in adolescence. For 5-year olds, price is seen to vary with attributes such as size and number of pieces, by 9-year olds to vary also with quality, and for 13-year olds to vary also with social utility such as the popularity of a particular brand or style. Older subjects also mention aspects of the economic system itself, such as the retailer's need to replenish inventory, as relevant to pricing practices. Such responses reflect the maturing individual's developing ability to think abstractly and to reflect consciously on the fact that value is not so much inherent in an object as it is the result of an object's position in a system that defines which dimensions count and which do not.

In Strauss's early study (1952) of the development of monetary meanings, early-childhood subjects offered more or larger coins for a larger candy. Middle-childhood subjects offered "worth for worth" and the meaning of worth became increasingly heterogeneous. A developmental study of exchange by Burris (1976) observed a similar

progression, noting that the concept of worth develops in two stages, a stage in which physical size is the determinant attribute and a later stage in which function is the determinant attribute. Murray (1980) found that in adolescence social scarcity comes to be perceived as another determinant attribute of price.

Finally, Moschis and Churchill in their 1978 study of consumer socialization took a particular dimension of worth, namely quality, and looked at the extent to which adolescents agree that price reflects quality. They observed a deterioration of this belief as adolescence progresses. This finding is consonant with Strauss's finding that older children are willing to entertain the idea that a seller may "overcharge."

All these studies assume a common source of value -- namely a product's utility to the consumer -- and need to be complemented by studies of how other sources of value develop and how the maturing individual connects a particular source of value to a measure of value such as price.

Developing the Model

Background

In this section we discuss the various influences shaping a child's developing theory of value. These are 1) experience with buying and selling, 2) experience with taking the perspective of others, and 3) experience reasoning about moral questions.

Experience with buying and selling. We expected that conceptions of the source and measure of value would incorporate the child's knowledge and experience with buying and selling. Young children want things to use and know that these things are purchased in stores, but since their experience of shopping is vicarious at best (they accompany their parents on shopping trips), the use-value of goods is likely to be more salient than other aspects of goods such as manufacturing cost or relative scarcity.

As they get older, children have money of their own to spend and so acquire first-hand experience with the process of evaluating alternative choices. If their spending money is limited, the process of making trade-offs could lead to a relative-scarcity theory of value.

They may also acquire experiences which suggest the idea of labor or material inputs as a source of value. Such experiences could include making some of the things they use (e.g. cooking, sewing, and building models or other toys) and earning money through selling their labor.

Which of these sources of value -- use, material or labor inputs, or relative scarcity -- is salient to a particular child may depend on the child's experience, and to the extent that we are able to observe a developmental pattern in reasoning about the source of value underlying price, that pattern may be attributed at least in part to regularities in the kind of experience children of different ages have with the roles of buyer and seller.

Perspective taking. We also expected children's theories of value to reflect their developing skill in social cognition -- in particular their skill in social perspective taking (the ability to take the point of view of other actors in an exchange). There are three principal stages in the development of social perspective taking skill (Shantz 1975):

* At Stage 1, the developing individual is aware that others are, like him, active information processors, but that their responses/thoughts may be different from his own. He can engage in simple refocusing of perspective, shifting from his own to another's perspective, and as he acquires information about others is able to conjecture about the content as well as the separateness of the

other's thoughts. This ability usually emerges around 6 years of age, although for other persons well known to the child, nonegocentric perspective taking has been demonstrated by children as young as 4.

* At stage 2 the child becomes aware that just as he can think about what others are thinking, so his own thoughts may be the object of others' thoughts. This awareness that people can act with one another's thoughts in view makes possible the ability to coordinate the perspectives of self and others sequentially, an ability that usually appears around 8 or 9 years of age.

* At stage 3, the developing individual acquires the ability to step outside the self-other dyad and coordinate the perspectives of actors simultaneously. This achievement appears some time after the age of 10.

If we substitute the buyer and seller for self and other, it is reasonable to think that the story the developing individual tells about how the seller determines price will be influenced by his/her perspective taking ability.

Moral reasoning. Even 5-year olds know that paying for goods is a morally approved means of acquiring property in them. However a variety of stories can be told about why one ought to pay (rather than for example just taking what one wants). Such accounts are examples of moral reasoning, and might be expected to parallel the observed developmental stages for reasoning about moral dilemmas.

Kohlberg (1969) has identified 6 stages in the development of moral reasoning, of which the first four are described below.

* At stage 1 of moral reasoning, the developing individual justifies the observation of rules for social interaction by appealing to authority and the consequences of disobedience.

* At stage 2 of moral reasoning, observation of social rules is justified on pragmatic grounds -- that doing so has good consequences for the individual. Reciprocal exchange -- the idea that if you conform to a social contract the other party will also -- is a frequently cited example of stage 2 moral pragmatism.

* At stage 3 moral behavior is justified because it makes one feel good about oneself.

* At stage 4 individual adherence to social norms is justified because it leads to good outcomes not just for the individual but for society as a whole.

Pilot Study

We conducted a pilot study in order to see how children's experiences of buying and selling combine with their developing skill in reasoning about social behavior to create a conception of the kind of value underlying price. For our pilot study we used a cross-section of subjects aged 4 (nursery school), 5, and 9. These ages were chosen because children of these ages seem to reason differently on a variety of tasks.¹ Children were asked to talk about their shopping experiences, and were then asked the following questions:

1) When you go shopping, how do you decide what to buy?

¹It has become customary to use age as a proxy for stage of cognitive development as defined by Piaget, even in studies which make no attempt to assess developmental stage using Piagetian reasoning tasks. See, for example, Capon and Kuhn 1980 who studied children aged 5, 9 and 13 because these ages "coincide" with Piaget's preoperational, concrete operational, and early formal operational stages of reasoning. Using age as a proxy for stage means greater variation in performance on tasks presumed to be mediated by stage of cognitive development.

(Question 1 was asked to ascertain what aspects of goods are salient sources of value when the child looks at them from his own perspective.)

2) Who decides what the price of something will be? (This to identify the actor whose theory of value is at the center of the child's theory of price.)

3) How does that person decide what the price will be? (This to ascertain the child's ability to articulate a source and measure of value).

4) Why do we have to give money when we buy things in a store? (This to ascertain the child's ability to coordinate the point of view of buyer and seller and assess the child's ideas about the moral aspects of exchange.)

Answers were probed using prompts such as "Anything else?" and "Can you tell me a little more about that?"

Results of the Pilot Study

The pilot study suggested 3 levels in the development of children's reasoning about price, with the third level having two sub-levels.

Level 0: Nursery School. At this level children are unable to articulate a theory of value. Their description of what happens on a shopping trip does not include the idea of price. Children explain that the reason you give the seller money is so that he can give you back some. Giving money is seen as part of a ritual, not part of an exchange, and children do not have the idea of a price -- i.e. of a fixed amount that must be given.

Level 1: Age 5. In early childhood, the individual has an operational theory of value in the sense that he knows and can describe the properties that make him want to buy something ("It tastes gooder" or "It's prettier"), and he also knows that prices are fixed and that they vary with certain properties of objects (e.g. size). He can shift perspective (think like someone else) to the extent of postulating that the seller must have a source of value in mind when he decides on the price, and he knows that when the seller looks at a product, he may have different things in mind than he himself does when he is deciding whether to buy it. However his limited knowledge about the seller means he can neither explain why the seller uses certain properties in determining price nor tell a story about price that coordinates the seller's sense of the source of value with his objectives as a buyer.

Although the young child seems to have an operational measure of value (he knows that the price is usually marked on the product), his ability to articulate the source of value which the seller uses is limited to asserting that the seller "can just tell" how much a thing is worth by inspecting it (and apparently by noting such features as its size). This does not mean that he thinks of the perceptible useful properties of the object as constituting the seller's source of value. Unlike the somewhat older child, who defends the practice of paying for goods in terms of the fairness of giving something in exchange for an object's use, the level 1 reasoner will defend the practice of paying by pointing out the consequences of not paying ("It would be stealing, and then the police will send you to jail"). Appeal to authority/fear of punishment represents Stage 1 of Kohlberg's hierarchy of moral reasoning. Moreover, when asked why, for instance, a bigger candy bar might cost more, instead of appealing to its use value ("Because it lasts longer") his answer is tautological: "Because they want more money for the bigger thing and just a little for the littler things."

In sum, the child reasoning at level 1 cannot articulate the theory of value that the seller uses, but the theory that can be inferred from the behavior he describes has authority itself as the source of value and the numbers on the price sticker as the measure of value.

Level 2A: age 9. By middle childhood, the developing individual is able not only to take the perspective of each actor in a dyad, but to imagine each actor taking the perspective of the other. His knowledge that individuals can take account of one another's thoughts enables him to coordinate the perspectives of actors sequentially, shifting from the perspective of one to another in a way that makes a coherent story (Feffer 1959). This enables him/her to tell a story about price which coordinates the motives of buyer and seller.

His ability to take the point of view of the seller leads him to attribute a motive to the seller: the desire to make money to feed his family. The seller realizes he can make a living by selling things because he (the seller) can take the perspective of the buyer: he knows that buyers want to acquire the use of goods and that they are willing to pay to get them. Price is determined by the seller's focus on his side of the exchange process, namely his costs in acquiring the product or the qualities of the product as he perceives them.

To the extent that price is seen to vary with attributes of the product, there might seem to be inchoate elements of demand: the use-value of a product implies a user, but the buyer's utility is not mentioned at Level 2A. Use value is said to be determined by the seller consulting his own sense of quality: "He checks the items over and sees how much he thinks they're worth." You have to pay for goods because "the seller needs money to buy food and if he just gave things away free he's losing something and not getting anything in return." In other words, the child attributes to the seller a "value for value" theory of price. Such an idea of reciprocal exchange is consistent with Kohlberg's Stage 2 of moral reasoning.

In sum, when the Level 2A reasoner attempts to identify the source of value relevant to the determination of prices, he cites either attributes of the good (use value) or costs (labor and other manufacturing inputs), or both. The corresponding measure of value is, in the case of use value, price in the sense of the \$ value of the use, and in the case of cost, the \$ value of manufacturing inputs.

Level 2B: Age 9. As he progresses through middle childhood, the developing individual becomes adept enough at the regress of perspective taking to realize that the seller realizes that his (the buyer's) thoughts about value are relevant to his (the seller's) pricing behavior. At this level of reasoning, particular prices are attributed to the seller's placing the buyer's perspective at the center of his pricing strategy: in determining price "he'd have to think the buyer's way." He may cut prices in order to attract the price-sensitive buyer, or he may try to raise prices via marketing strategies which augment the buyer's perceived use value ("If they --sellers -- put a commercial on television, they think they'll probably make more than if they don't have a TV commercial because people watch TV"). The reason for paying is the same as at Level 2A: You have to pay because that's the way the seller earns money.

For the child at this level the source of value is cost and either seller-augmented use or relative scarcity: the price conscious buyer postulated by the Level 2B reasoner is aware of relative scarcity. The measure of value is the \$ cost of manufacture and any associated marketing augmentation, or in the case of relative scarcity, price in the sense of market equilibrium.

The Study Proper

Method

We hypothesized that age and its associated increments of experience and social skill accounted for the qualitative differences between the identified levels of reasoning about price. It is of course possible that some aspects of the stories told by our subjects could be attributed

to their being members of different school cohorts. For instance, what we are calling Level 2 thinking about price could have been already present in our 9-year olds when they were of kindergarten age as a consequence of a particular method of economics instruction -- say an experience-based curriculum such as Kourilsky's Kinder-Economy, which combines substantive content with economic role-playing (see Kourilsky 1977). If this were the case the observed differences would be attributable to cohort rather than to age. To control for the effects of cohort, we chose one of Baltes' (1968) sequential designs which allows for the simultaneous analysis of cohort and age effects. We chose a cross-sectional sequential design because it permitted us to complete our data collection in four years, whereas a longitudinal-sequential design would have required us to collect data over an 8-year period.²

We interviewed five- and 9-year olds at two different times: in 1976 and four years later in 1980-81. The 5-year olds interviewed in 1976-66 (1971 birth cohort) were interviewed again in 1980-81, when they were nine, while the 9-year olds interviewed in 1976 (1967 birth cohort) were interviewed only once, as were the 5-year olds interviewed in 1981. Children of nursery-school age were not interviewed in this study. A total of 42 child subjects were interviewed, 17 of whom were interviewed twice.

Exhibit 1: Cross-Sectional Sequential Research Design

Birth Cohort	Age	
	5 Years	9 Years
1967	Sample B, N=17 Tested 1976-77	Sample A, N=11 Tested 1976-77
1971	Sample C, N=14 Tested 1980-81	Sample B, N=17 Tested 1980-81
1975	Sample C, N=14 Tested 1980-81	

In addition, twelve adults -- parents of children in the cohort to be interviewed twice -- were interviewed to permit comparison of children's responses with those of adults.

Subjects

All subjects were residents of a stable upper-middle-class suburb on Chicago's North Shore. Between the first and second times of interviewing, only one subject moved away.

Procedure

Subjects were interviewed individually at the school they were attending. Interviews were tape recorded for later transcription and scoring. Subjects were asked to talk about their shopping experience, and were then asked the same four questions put to the children in the pilot study. Parents were interviewed by telephone.

Scoring

Interviews were scored in accordance with a scoring manual developed during pilot testing. Each child's level score represents the highest level at which he/she responded.

² An additional confounding factor in developmental studies such as ours with a longitudinal component may be time of testing. Some researchers (Baltes 1968) have argued that time of testing is a third variable to be controlled for, and captures changes in the larger socio-economic environment. Others (Buss 1973, Wohlwill 1970) point out that differences attributable to cohort are defined in terms of cohort-specific changes in environment and culture; this means that environmental effects are necessarily confounded with cohort effects and ought not to be considered a third independent variable to age and cohort. The other source of time-of-measurement variation is temporary variations in the testing situation; this is a research design issue, not a construct issue.

Interviews were scored by two independent readers, and the interscorer reliability was 93%. Cohen's kappa, which corrects for chance agreement, was 82%.

Results: Child Study

Interviews scored in terms of the reasoning levels identified in our pilot study revealed qualitative differences in reasoning (see Table below) attributable, as predicted, to age. All the Level 0 and 1 reasoners were 5 years of age, and only 2 (7%) of the Level 2 reasoners were under 9. No cohort effect was observed for reasoning at levels 1 and 2. Whereas the average cohort difference in percent of 5 and 9-year olds reasoning at level 2 was not significant, the longitudinal change for the 1971 birth cohort was 100%, and is significant when tested with a repeated measures procedure.

Since specifying age and cohort determines time of testing, the confounding of the latter with the former measures means we cannot simultaneously analyze the effect of time of testing. For anyone interested in reanalyzing our data with time of testing as one of the variables considered, we will point out that the kindergarteners tested in the 1980-81 school year were tested at the end of the school year, while those tested in 1976-77 were tested at the beginning of the school year. So to the extent that school experience is a factor in maturing reasoning about price, the 5-year olds tested in 1976-77 had only a month of school experience beyond nursery school, a fact that may account for the 29% still reasoning at Level 0.

Table: Level of Reasoning about Price by Age

Age	Level of Reasoning			
	0	1	2A	2B
5 (1971 cohort)	29%	71%		
5 (1975 cohort)	0%	86%	14%	
9 (1967 cohort)			88%	12%
9 (1971 cohort)			82%	18%

These results provide empirical validation for the sequentiality of the reasoning levels postulated on the base of the pilot study. We have used the term "levels," as opposed to the term "stages," to describe the qualitatively different kinds of reasoning observed because cognitive developmentalists reserve the term "stage" for multifaceted global changes in the structure of thinking across tasks and conceptual domains. Since we in fact discovered the hypothesized parallelism between reasoning about moral dilemmas (the two interview techniques yield reasoning that follows roughly parallel age trends), this provides evidence for convergent validity and a type of validation for the assumption of structured wholeness in the development of social cognition.

Results: Adult Study

Whereas the majority of 9-year olds tested were reasoning at Level 2A, focusing on the seller's side in explaining price, only 33% of the parents were reasoning at that level. Most of the adults interviewed took the buyer into account in their explanation of how prices are determined, although their reasoning was qualitatively different from what we have identified as Level 2B reasoning. It seems to be the case that reasoning about price, like other kinds of social reasoning, continues to mature throughout adolescence and into adulthood. The pattern of reasoning we observed in the adults in our sample suggests a third level of reasoning about price:

Level 3A: Adulthood. In adulthood no new source of value is added to those adumbrated in middle childhood (use value, costs, and relative scarcity). The mature thinker elaborates the story he told in middle childhood by multiplying uses and costs: the idea of display utility is added to other kinds of usefulness (relative social scarcity becomes a source of use value), and costs now

include the costs of retailing, paying business taxes, and so on.

These elaborations do not in themselves make for a theory of price qualitatively different from the one held in middle childhood. What does make for a structurally different theory is the maturing individual's ability to step outside the buyer-seller dyad of which he is a part and coordinate perspectives simultaneously (rather than just sequentially), and to put himself in the place of other actors doing the same. He reasons that the existence of many buyers and sellers all playing the same game with the same ability to understand one another's motives means that the behavior of an individual buyer-seller dyad is constrained by the behavior of other buyer-seller dyads, and talks not only about individual buyers and sellers but about aggregates of sellers called "competitors" and about aggregate buyer-seller behaviors called "demand" and "supply."

The Level 3 reasoner believes that the seller determines price, but that he does so "by looking at the quality of competitors' products and what they are charging." The source of value is use value for the individual focusing on comparative quality and relative scarcity for the individual focusing on price, and the associated measures of value are \$/increment of quality, and where relative scarcity is the source of value, price. The Level 3 reasoner justifies the pricing system in terms of its ability to lead to good welfare outcomes for all its members: "If the necessity of paying were abolished overnight, some people would go into the stores and take everything and others wouldn't have anything, and the seller would have no incentive to provide more goods." (This is an example of Kohlberg's Stage 4 of moral reasoning.³)

Level 3B: Adulthood. At Level 3B the individual no longer believes that the seller determines prices by consulting his own objectives while keeping a wary eye on buyers. When asked "Who determines prices?" he says "I don't know that any ONE PERSON determines prices: competition determines price levels." Where the Level 3A reasoner is standing outside his own dyad and looking at the aggregate behavior of groups of buyers and sellers, the Level 3B reasoner is standing outside the groups and looking at the pricing system as a whole. For the Level 3B reasoner the source of value is relative scarcity and the measure of value is price.

Of the twelve adults interviewed, 4 (33%) were reasoning at Level 2A, 2 (17%) were reasoning at Level 2B, 4 (33%) were reasoning at Level 3A, and 2 (17%) were reasoning at Level 3B.

Discussion

One question we have not addressed so far is whether later-developing levels of reasoning about price are in some sense "higher" than earlier levels -- either in terms of their conceptual completeness or in that they represent a closer approximation to approved norms of socio-economic thinking.

Conceptual complexity of levels. Let us begin with the question of whether later-developing levels represent "higher" levels of concept development. It is clear that the story told at each level is more complete than the accounts given at earlier levels. For example, at Level 0 the child observes money change hands, but has no understanding that the buyer must proffer a certain amount; at Level 1 he/she knows the amount is fixed in advance, but cannot say how; at Level 2A a theory of price is

³Kohlberg's Stage 3 (in which conformity to norms is justified because it makes one feel good about oneself) seems not to appear in reasoning about price -- perhaps because the acknowledged self interest of buyer and seller precludes it.

elaborated based on the seller's knowledge of his costs and his product, and at level 2B that theory is elaborated to include the seller's knowledge of the buyer. On the other hand, there is no elaboration of the source of value after Level 2: although explicit sources of value do not emerge until Level 2, by the end of middle childhood, the list is complete: use-value, cost, and relative scarcity).

There is nothing in our model to suggest that individuals whose theory of value is based on cost as the source of value are reasoning at a higher level than individuals whose theory of value is based on use as the source of value or vice versa. Later developing levels differ only in the number of actors in the story (a manufacturer and various middlemen are added to the buyer-seller dyad) and in the amount of information actors are assumed to have about one another's motives and behavior.

The importance of information about other actors in Level 2 and Level 3 reasoning does mean that individuals reasoning at these levels are not simply better acquainted with markets than those reasoning at level 1. At level 2 the additional actors are linked by a regress of perspective taking: the child imagines the seller thinking about the wholesaler thinking about the manufacturer thinking about his suppliers, and the buyer and seller are linked in one- and two-loop recursive perspective taking: the child thinks about the seller thinking about him (the buyer) thinking about the fairness of his (the seller's) prices.

To the extent that 5-year olds are not capable of this kind of thinking, levels 2 and 3 do in fact represent higher kinds of reasoning. One implication is that educational programs designed to teach children the idea of relative scarcity, or to make them more value or quality-conscious consumers will not necessarily endow them with a higher level of reasoning about price. Such programs, if they are deemed desirable, should also provide experience in taking the role of buyer and seller and, when a buyer, thinking what the seller is thinking, and vice versa.

Buyer Attitudes toward the Pricing System. In thinking about the desirability of facilitating a child's movement up through the several levels of reasoning about price, we might begin by asking whether someone reasoning at higher levels is better able to judge whether a particular price is "fair" than someone reasoning at lower levels. Someone reasoning at Level 2 or Level 1 is clearly incapable of judging whether particular prices are fair. At higher levels buyers can make judgments of fairness, but those judgments depend at least in part upon the buyer's beliefs about the source of value. For example, a good seamstress might decline to buy a dress on the basis that its price was far in excess of the labor it would take to make (cost is her source of value), whereas someone for whom use is the source of value might consider the same dress a bargain at any price. Alternatively, someone whose source of value is cost might find it hard to pass up any item offered "at cost" regardless of its usefulness. Finally, someone whose source of value is relative scarcity will judge fairness by comparing prices at a given quality level.

Our model does not distinguish between explanations of price in terms of source of value beyond Level 2B. This means that knowing an individual's level of reasoning about price does not provide information about the criterion used in determining the fairness of a particular price.

With respect to attitudes toward price levels in general however, it is clear that the individual reasoning at Levels 2B and 3 is more likely than individuals reasoning at lower levels to entertain the possibility that prices may be more or less divorced from costs, and that they may have their basis in attempts to manipulate either

the buyer or the market, in order to alter the nature of demand or the structure of competition. This view of price as a tool of the seller may make the individual who holds it a more careful and self-reliant shopper, or it may simply make him/her a more suspicious and dissatisfied one. It would be interesting to correlate levels of reasoning about price with general and particular attitudes toward business. It may be that Level 2B and 3A reasoning is correlated with negative attitudes but not Level 3B, since at Level 3B the individual seller is no longer seen as the source of price determinations. Alternatively, at Level 3B we may see dissatisfaction not with particular prices or sellers but with the pricing system itself as a mechanism for economic decision-making.

Our results suggest that some children are already prepared to turn a jaundiced eye on pricing practices by the end of middle childhood. To be sure, our subjects came from an upper-middle class neighborhood; children from less affluent families may arrive at Level 2B reasoning later (Enright, Enright, Manheim, and Harris 1980 found that children of lower socioeconomic status lag behind higher status children in reasoning about distributive justice). Alternatively, children from lower middle class homes may have direct early experience of scarcity that may make the idea of relative scarcity salient at an earlier age: in our study relative scarcity was not mentioned as a source of value until Level 2B, and it might appear earlier among lower middle class children. To be sure, our model suggests that experience is necessary but not sufficient to effect changes in reasoning about price: perspective-taking skill also plays a role. This means asking how socioeconomic status affects opportunities for enacting various roles, or alternatively, how it affects the propensity of parents to articulate for the child the thoughts and feelings of others.

Conclusion

"It may be tempting," Ward said in his 1974 review of the consumer socialization literature, "simply to identify age-related differences in . . . how accurate (children) are in pricing consumer goods and services . . . (but) it may be most fruitful to focus on the processes (by which price is evaluated)." It may, in other words, be less important to understand price consciousness (in the sense of the ability to recall price information) than to understand children's sense of how price coordinates the seller's source of value with their own objectives as consumers. We have described qualitatively different stages in reasoning about how prices are determined. Further research is needed to establish the relationship between these reasoning levels and attitudes toward the pricing system itself.

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THE EFFECT OF BRAND AND PRICE INFORMATION ON SUBJECTIVE PRODUCT EVALUATIONS

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Abstract

This paper reports an experiment on the effect of price and brand information on perceptions of quality and value, and on willingness to buy. The research also investigated whether perceptions differed when prices were odd or even. The results indicate that price positively influences the perception of quality, and inversely influences the perception of value and willingness to buy. Brand information enhanced the price effect, but there were no differences due to odd vs. even prices.

Introduction

Do buyers use price as an indicator of product quality? Over the past thirty years researchers have attempted to answer that question. Yet, perhaps because there are some problems in how previous research has investigated the price-perceived quality relationship, there is conflicting evidence on the issue. Moreover, the effect of brand information on the perception of quality has received limited attention, again with inconsistent results. A third enigma on how price may influence buyers' evaluations of products is whether buyers respond more favorably to odd prices than to even prices. Despite the limited evidence indicating buyers do not respond differently between odd and even prices, basic marketing textbooks and sellers continue to believe in the odd-even phenomenon.

This paper reports an experiment that studied the influence of price and brand information, and the influence of odd and even prices on subjective product evaluations. After a brief review of the relevant literature, specific hypotheses are presented, and the research design, measures, and results are described. The conclusion discusses the results in terms of the influence of price and brand information as well as the odd-even price phenomenon on subjective product evaluations.

Background Literature

The Effect of Odd-Even Pricing on Quality Perceptions

Do consumers perceive a difference in product quality and value based on small price differences? Do consumers react differently to a price of \$39.95 as compared to a price of \$40.00 for a given product? McCarthy and Perreault (1984, p. 619) feel marketers use odd prices because of the belief that consumers respond more favorably to these prices, perhaps because consumers perceive an odd price as substantially lower than the next highest even price. A random perusal of other introductory marketing texts indicates that other writers share this opinion. For example, Kotler (1980, p. 410) writes that many sellers believe that buyers favor odd prices over even prices. Instead of pricing a stereo amplifier at \$300, the seller will price it at \$299.95 or \$295. Presumably, the customer perceives this odd price as a \$200 price rather than a \$300 price, or perceives it as a discount from the full price. Evans and Berman (1982, p. 538) point out that the evidence justifying the use of odd and even prices has been founded on "feelings" rather than research data. Stanton (1981, p. 264), while outlining the seller's basic belief in odd pricing,

indicates that there is little concrete evidence to support sellers' beliefs in the value of odd prices.

While there is little empirical evidence that odd prices produce a more favorable buyer response than even prices, two studies in the past 15 years have addressed this question. Georgoff (1969) using a quasi-experimental design in a field setting examined ten products in a six store chain of department stores. Retail price endings were manipulated over a four week period with the dependent measures being sales. Results showed only random variations between price policy and sales. Lambert (1975) experimentally showed inconsistent findings on the impact of odd pricing. When paired with an even price at five different price levels, the odd price was perceived by subjects as statistically significantly lower in two situations, statistically significantly higher in one, and not statistically significantly different in the other two pairs. In a review of the price perception literature, Monroe (1973) indicated that the odd-even phenomenon assumes that the consumer is perceptually sensitive to certain prices (odd prices), and a departure from these prices (to an even price) results in a decrease in demand. Monroe concluded that there was no significant evidence supporting the psychological explanation of increased perceptual sensitivity. Moreover, research has shown that consumers have differential price thresholds such that a small difference in price will not likely produce a perception that the prices are different (Monroe and Petroschius 1981). Lambert's results seem to support this conclusion, yet the practice of using odd prices exist.

The Effect of Price on Quality Perception

Previous research on the relationship between price and perceived quality can be examined in two ways. First, single-cue studies generally have found a statistically significant price-perceived quality relationship. However, Olson (1977) has documented the limitations of single-cue studies in that they are overly simplified and the results concerning price effects have doubtful external validity, and limited internal validity.

Second, the multi-cue studies have manipulated other cues such as brand name, store image, and other information in addition to price. While attempting to overcome the limitations of the single cue studies, these multiple cue studies have typically found positive price-perceived quality relationships, although they have not always been statistically significant (Monroe and Krishnan 1984).

Potential confounds in the multi-cue studies that have led to this guarded conclusion may be similar to the role brand has played in these price-perceived quality studies. One key concern is whether the price differences in the price manipulations would likely produce perceptual discriminations by the subjects. Monroe and Krishnan (1984) suggest that not finding a statistically significant price-perceived quality relationship is inconclusive, if this result could be due to indiscernible price differences. Instead of relying on statistical significance to examine the relationship, Monroe and Krishnan (1984) examined effect sizes, and concluded that although there was

support for a positive price-perceived quality relationship, the limited data base warranted a more intensive research effort.

The Effect of Brand on Quality Perception

Olson's (1977) review noted that the effect of brand name generally was strong in the price cue literature, appearing both as a main effect and as an interaction effect. However, a review of the six studies that examined both price and brand effects reveals a lack of a consistent and clear relationship. Table 1 shows that differences in the types of products utilized, the price manipulations, and the brand manipulations offers plausible reasons for the mixed outcomes. Monroe and Krishnan (1984) observe that previous conclusions indicate that brand name information dominated price information in the perception of quality. However, in their assessment of this literature, they discovered that price had a more positive effect on product quality perception when brand information was present than when brand information was absent. This finding suggests that the interaction of price and brand information not only is strong, but that the influence of price on quality perception becomes stronger in the presence of brand information than by itself. Thus, since past studies did not conceptualize the relationship in this manner, the magnitude of the interaction effect between price and brand name has not been investigated.

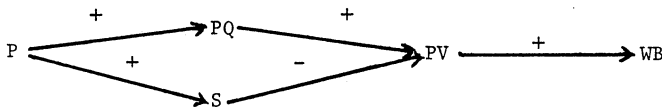
Research Method

Research Issues

The hypotheses to be tested in this experiment are based on the conceptualization of the price perceived quality relationship as posited by Monroe and Krishnan (1984). In this structure three constructs, perceived quality, perceived value, and willingness to buy are utilized to model the role of price and quality perceptions. Arguing that perceived value and perceived quality are distinct constructs, these authors view perceived quality purely as an evaluative measure, whereas perceived value is represented as a tradeoff between perceived quality and sacrifice. As shown in Figure 1, price plays a dual role in this tradeoff. Higher prices will lead to greater perceived quality, and consequently, to a greater willingness to purchase based on perceived quality. At the same time, the higher price represents a measure of what must be sacrificed to purchase the good and leads to a lesser willingness to buy. Perceived value represents a tradeoff between the two variables, perceived quality and sacrifice. Willingness to buy is positively related to perceived value.

FIGURE 1

Relationship Between Perceived Quality and Willingness to Buy



Where P is Price, PQ is Perceived Quality, S is Sacrifice, WB is Willingness to Buy, and PV is Perceived Value.

Based on this conceptualization and literature review, the following hypotheses were examined:

- H1: As price increases subjects' perception of product quality, ceteris paribus, will also increase.
- H2: (a) As price increases, subjects' perception of value, ceteris paribus, will at first increase and then decrease.
(b) As price increases, subjects' willingness to buy, ceteris paribus, will at first increase and then decrease.
(c) As price increases, subjects' perception of value and willingness to buy will follow the same pattern of change.

As price increases beyond an acceptable upper price, it would be expected that perceived quality would continue to increase. But, perceived value and also willingness to buy would both decrease because the sacrifice demanded becomes too important in the tradeoff with perceived quality. Thus, it would be expected that perceived value and willingness to buy would decrease after first increasing.

- H3: Odd and even prices of the same general magnitude are not perceived by subjects differently; therefore there will be no differences in perceived quality, perceived value, or willingness to buy for odd or even prices of similar magnitude.

This hypothesis argues that consumers do not perceive a \$79.95 product as a \$70 or \$79 model, but instead perceive it as essentially an \$80 product. If there is a psychological reaction to an odd price, then it should conform to the price-perceived quality framework summarized above.

- H4: The interaction of brand name and price will cause subjects to perceive the product to be higher in quality and value, and to be more willing to purchase the product, than subjects in a brand absent condition, at any given price.

This hypothesis argues that brand does not dominate price by its strong main effect, but rather enhances the price effect. Price and brand as extrinsic cues will individually and interactively enhance the quality perception of a product.

Research Design and Procedures

As shown in Figure 2, a 2x3x3x2 between groups factorial design was used. The three independent variables were brand, price, and odd-even prices. Brand was manipulated as either present or absent. Subjects were exposed either to a description of a Sony Walkman FM stereo cassette headset player or to an FM stereo cassette headset player without brand information. The data for the study was generated in an experimental setting where subjects were asked to assume interest in buying an FM stereo cassette headset player. The subjects were a convenience sample of 368 undergraduates enrolled in introductory marketing classes randomly assigned to 12 treatment groups with equal cell size of 29.

FIGURE 2

EXPERIMENTAL DESIGN

	Odd			Even		
	\$29.95	\$79.95	\$129.95	\$30	\$80	\$130
Sony	1	2	3	4	5	6
No Brand	7	8	9	10	11	12

TABLE 1
SUMMARY OF PRICE AND BRAND EFFECTS ON QUALITY PERCEPTIONS

Reference	Dependent Variables	Independent Variables	Products	ANOVA Design	Results (P-Values)			Price Manipulation	Brand Manipulation
					Price	Brand	Price x Brand		
Andrews & Valenzi (1971)	Perceived Quality	Price Brand Store	Sweaters Shoes	Within	.01	.01	.01	\$ 7.00 \$15.00 \$30.00	Unknown Brand Moderately Known Brand Very Well Known Brand
Gardner (1971)	Perceived Prod. Qual. Willingness to Buy Attitude Toward the Product	Price Brand Product	Men's Dress Shirt Crest Tooth-paste Suit	Within	.50	.01	.30	\$3.99, 5.25, 6.50, 8.25, 10; \$0.53, .58, .64, .69, .75; \$60, 67.50, 75, 92.50, 110	Brand Absent Brand Present
Jacoby, Olson & Haddock (1971)	Perceived Quality & Sensory Perceptions	Price Brand	Beer	Within	.30	.25	.50	\$.99 \$ 1.35 \$ 1.60	Brand Absent Brand Present
Peterson & Jolibert (1976)	Perceived Quality	Price Brand Nationality	Soft Drink Concentrate	Between	.333	.004	.134	\$.29 \$.59 \$.89	Jet Bulls Jet 24
Raju (1977)	Overall Quality Durability Performance Exp. Satisfaction Exp. Post Purchase Satisfaction	Price Brand Product Familiarity	Stereo Receiver	Within	.01	.01	.01	\$100, 130, 175, 225, 250, 275, 325, 375, 400	Three Brand Names
Wheatly Walton Chiu (1977)	Overall Perceived Quality	Price Brand Prior Experience	Skis	Within	.01	.01	.10	\$75.00 \$165.00	Head Davos

Three pairs of prices were used. Three prices were even (\$30.00, \$80.00, \$130.00) and three prices were odd (\$29.95, \$79.95, \$129.95). Although the price treatments were nested within the odd-even factor, for the analysis, the odd/even and price manipulations were viewed as independent variables when crossed with the brand treatments.

The headset player was chosen because college students have shown interest in this product and would be assumed to have sufficient knowledge to evaluate the product. Each subject read a product description for the product and the retail price. A seven point rating scale was used for fourteen dependent indicators to measure the constructs of perceived product quality, perceived value, and willingness to buy. After responding to the specific treatment, subjects provided information about their demographic characteristics and their past experience with the product. Subjects also indicated what they thought the researcher was trying to determine in the experiment. This check on possible demand artifacts revealed no

knowledge of the manipulation of independent variables nor of the price-perceived quality relationship.

Results and Analysis

Reliability

Multi-item measures were used to assess the three constructs, perceived quality, perceived value, and willingness to buy. To assess the reliability of the measures, a correlation analysis and a factor analysis with a varimax rotation was performed on the fourteen dependent variables. The scale used was the same used by Petroschius (1983) except, based on her reliability assessments, three items were not used in this research.

In the factor analysis two predominant factors emerged accounting for 70.9% of the variance. The two factors described the constructs of perceived value and perceived quality. The third factor with an eigenvalue of .83, accounted for an additional variance of 6%, and

had only one high loading item. Two other items planned a priori to load heavily onto this factor to give a multi-item measure of willingness to buy did not give anticipated loadings and were not analyzed with the single indicator for willingness to buy. The reliability of the product quality and value of offer constructs when analyzed using Cronbach's alpha resulted in values of .926 and .917 respectively. It was concluded that these two groups of indicators provided reliable measures of the perceived quality and perceived value constructs, permitting separate MANOVAs to be conducted for these constructs. The third construct, willingness to buy, with only one indicator was analyzed using ANOVA.

Analysis of Odd and Even Prices

The process of examining for an odd-even price effect was accomplished by breaking the overall design into three independent subdesigns where the low-priced pair (cells 1, 4, 7, 10), the medium-priced pair (cells 2, 5, 8, 11), and the high-priced pair (cells 3, 6, 9, 12) of prices were independently crossed with the brand/no brand treatments (Figure 2). The summaries for these three comparisons (Table 2) show statistically insignificant odd/even effects for the low-price and high-price pairs. But, the results for the middle-priced pair indicated statistically significant differences in perceived quality between the pair of prices. Since this finding runs counter to the hypothesized outcome of no effect, an inspection of the univariate statistics was done. All results at this level were statistically insignificant. Four measures favored the odd price and one highly insignificant result (p=.5) favored the even price.

TABLE 2

OVERALL MANOVA SUMMARY: ODD/EVEN

Source of Variation	\$29.95 vs. 30.00	\$79.95 vs. 80.00	\$129.95 vs. 130.00
	F# (Prob.)	F# (Prob.)	F# (Prob.)
Perceived Quality			
A. Odd/Even	.74 (.59)	2.25 (.05)	.77 (.58)
B. Brand	16.12 (.00)	10.97 (.00)	9.44 (.00)
C. AxB	1.09 (.37)	.57 (.72)	1.19 (.32)
Perceived Value			
A. Odd/Even	.22 (.97)	1.36 (.24)	.98 (.44)
B. Brand	6.99 (.00)	4.28 (.00)	3.53 (.00)
C. AxB	.15 (.99)	2.54 (.02)	1.11 (.36)
Willingness to Buy**			
A. Odd/Even	1.61 (.21)	.70 (.41)	.83 (.36)
B. Brand	31.62 (.00)	9.90 (.00)	6.22 (.01)
C. AxB	.62 (.43)	6.93 (.01)	.00 (.95)

**ANOVA SUMMARY

#F-value corresponding to Wilk's lambda

Degrees of freedom: perceived quality (5,108)
perceived value (6,107)
willingness to buy (1,112)

The middle-priced results also had significant interactions between the odd/even price and brand/no brand for perceived value and willingness to buy. Since these interactions could be masking main effects, the middle-price comparison was reduced to two one-way designs (cells 2 and 5, and cells 8 and 11) to remove the interaction of the brand treatment. Table 3 shows a mixed result where the odd-even price treatments with brand information are significantly different in perceived quality and willingness to buy. There were no statistically significant differences in perceived value for the two prices. On the other hand, when the prices were evaluated without brand information, exactly opposite results were found for each construct.

TABLE 3

MANOVA SUMMARY: MIDDLE PRICES

Source of Variation	Prices \$79.95 & \$80.00	
	With Brand F (Prob.)	Without Brand F (Prob.)
Odd/Even Effect		
Perceived Quality	2.27 (.06)	.86 (.52)
Perceived Value	.72 (.63)	3.37 (.01)
Willingness to Buy	5.95 (.02)	1.64 (.21)

*ANOVA Summary

Degrees of freedom: perceived quality (5,52)
perceived value (6,51)
willingness to buy (1,56)

To explain this difference in results, the univariate statistics were examined. For the odd-even with brand information, two dependent measures, reliability and workmanship, were statistically significant at p=.02 and .04 respectively, and are the reason for the overall significance for perceived quality. When the significance of perceived value without brand information is examined, only one dependent measure, value for the money is statistically significant at p=.001.

Analysis of Price

Strong price x brand interactions (Table 4) precludes any direct interpretation of the price effect. After breaking the design into odd and even price designs (Figure 2), the strong interaction remained, although not in a consistent pattern. This result was expected due to the conclusion that there was no perceived difference between odd and even prices.

TABLE 4

OVERALL MANOVA SUMMARY: PRICE

Sources of Variation			
Perceived Quality			
A. Price	25,1234	2.57	(.00)
B. Brand	5,332	33.79	(.00)
AxB	25,1234	1.45	(.07)
Perceived Value			
A. Price	30,1326	9.32	(.00)
B. Brand	6,331	10.18	(.00)
AxB	30,1326	1.99	(.00)
Willingness to Buy*			
A. Price	5,347	5.31	(.00)
B. Brand	1,347	42.59	(.00)
AxB	5,347	2.61	(.02)

*ANOVA Summary

For the odd price set (Table 5), perceived value and willingness to buy was influenced by a strong price x brand interaction. But, in the even price set, the perceived quality and perceived value constructs had strong interactions. To interpret these results, the two subdesigns were further reduced by separating out the brand treatments (Figure 2). Strong evidence that the three constructs change over a range of prices is provided by three of the four summary results (Table 6). Only the odd prices/no brand model showed a statistically insignificant price effect for willingness to buy. Further examination of the contrast showed the \$79.95 model to have the most favorable response, followed by the \$29.95 and then the \$129.95 model.

TABLE 5
TWO WAY MANOVA: Price

Source of Variation	df	Odd Prices		Even Prices	
		F	(Prob.)	F	(Prob.)
<u>Perceived Quality</u>					
A. Brand	5,164	15.66	(.00)	19.10	(.00)
B. Price	10,328	2.77	(.00)	2.73	(.00)
AxB	10,328	1.36	(.05)	1.33	(.21)
<u>Perceived Value</u>					
A. Brand	6,163	5.76	(.00)	5.10	(.00)
B. Price	12,326	13.43	(.00)	11.43	(.00)
AxB	12,326	2.57	(.00)	2.47	(.01)
<u>Willingness to Buy*</u>					
A. Brand	1,168	29.67	(.00)	14.54	(.00)
B. Price	2,168	10.55	(.00)	2.79	(.06)
AxB	2,168	1.27	(.28)	4.59	(.02)

*ANOVA Summary

TABLE 6
FOUR MANOVAS FOR PRICE EFFECTS

Source of Variation	df	Odd Prices		Even Prices	
		F	(Prob.)	F	(Prob.)
Brand:					
Perceived Quality	10,160	1.94	(.05)	1.94	(.05)
Perceived Value	12,158	5.69	(.00)	10.94	(.00)
Willingness to Buy*	2,84	23.34	(.00)	8.67	(.00)
No Brand:					
Perceived Quality	10,160	2.03	(.03)	2.89	(.00)
Perceived Value	12,158	7.64	(.00)	5.66	(.00)
Willingness to Buy*	2,84	0.65	(.53)	3.17	(.05)

*ANOVA Summaries

To be more precise in testing the hypothesis, the direction and the magnitude of the individual differences has to be done through multiple comparisons. Using Student Newman-Keuls multiple comparisons, when perceived quality was analyzed across price, strong evidence supported the hypothesis. Nineteen of twenty indicators over the four designs showed that as price increased from the low-price group to the medium-price group, perceived quality increased. Nine of these nineteen indicators were statistically different. Between the medium- and high-price groups, fifteen of twenty means were in the hypothesized direction although none were statistically different. The five directional discrepancies came within the odd price, brand name treatment, were the \$79.95 model was perceived better in quality than the \$129.95 model.

As might be expected, some indicators were more consistent than others. The dependent indicator workmanship produced only one significant difference between the \$29.95 and \$129.95 model without brand information. Perceived value with six indicators accumulated over the four designs consistently decreased as price increased. Twenty one of the twenty four contrasts were statistically different between the low- to medium-price groups. The contrasts between the medium and high price groups were also consistent, but only 9 of 24 were significantly different.

The construct willingness to buy, with the inherent problem of only one indicator, gave consistent results. As price increased, the willingness to buy was shown to decrease, with low price models most favorably viewed as attractive for purchase. Between the low- to medium-price models, three of the four groups showed

a decreased willingness to buy with only one difference statistically significant. The contrast between the medium-priced models and the high-priced models supported the direction of the hypothesis with three of four groups showing a decreased willingness to buy. Using the results of Table 6 and the contrasts, the evidence is strong to argue for support of the price hypothesis. Perceived quality will increase and perceived value and willingness to buy will decrease as price increases.

Analysis of Brand Information

As discussed above, the brand main effect was masked by the interaction of price and brand. Because of this interaction, the same pattern of analysis was followed as in the evaluation of price effects. The results (Table 2) indicate that at the low and high prices the treatments with the brand name were significantly better over the three constructs. In general, for each of the indicators, the brand effect favored the brand name and in most cases, the differences were statistically significant. A puzzling and contradictory result occurred in the high-price group, where the direction of the perceived value effect favored the no brand treatment for five of the six indicators, with one of the indicators statistically significant. Replication could resolve whether this is a statistical oddity or a pricing phenomenon that deserves further attention.

To examine the middle-price group the design was broken apart by odd and even prices (cells 2, 5, 8, 11). The MANOVA results showed that the brand effect for a price of \$79.95 was statistically significant for perceived quality, with no effect for perceived value, and willingness to buy. An analysis of the contrasts showed all indicators favored the brand treatment for perceived value and willingness to buy. The results at \$80.00 indicated statistically significant results for all constructs. An examination of the indicators of perceived value indicated that three of the five indicators favored the no brand treatment as being higher in perceived value.

Discussion and Conclusions

This experiment was conducted to examine the effect of brand and price information on how individuals subjectively evaluate products. Multiple constructs, perceived quality, perceived value, and willingness to buy, were measured in a 2x3x2 factorial design that varied brand information, price levels, and even presentations for a given price level.

Price Levels

The hypothesis claiming subject's perception of product quality to increase as price increases is confirmed. For the product used in this study, evidence was strong that a price-perceived quality relationship existed. The relationship appeared to be strong for a low to medium price comparison than the medium to high price contrast. One anomaly stood out alone with evidence against the hypothesis. The \$79.95 Sony Walkman was perceived to be of better quality than the \$129.95 Sony Walkman. This result did not arise in the other sub-designs where no brand information and/or even prices were used.

The first two parts of the second hypothesis were rejected since most contrasts showed the low-priced stereo player to be consistently highest in perceived quality and willingness to buy, while the medium and high priced players showed decreasingly lower evaluations for the two constructs. An explanation for this

result would be that the hypothesis was assuming that the price points being tested ranged over the acceptable price limits whereas the low- and high-price treatments may have been outside this range. Therefore, only the decrease in perceived value and willingness to buy was shown empirically to occur. Since these two constructs did follow the same pattern, then the third part of this hypothesis is accepted.

Odd and Even Prices

The overall conclusion is to accept the third hypothesis that odd and even prices are not perceived by subjects differently. The high and low price pairs were strongly convincing with their statistically insignificant values, while the middle price group needed more extensive analysis to find evidence of no effect. For perceived quality, the significance of the odd-even effect was explained by the insignificant but opposite direction of the means of the univariate measures. For the perceived value and willingness to buy constructs, the observation is that only a few of the multiple measures influenced the significance of the odd-even effect, possibly due to chance. While not totally conclusive, the evidence seems to support no difference in perceived quality, perceived value, and willingness to buy between odd and even prices over the three price levels and the two brand treatments.

Brands

The interaction of brand name and price caused subjects to perceive the three constructs to be higher in quality and value, and to be more willing to purchase the product than when brand name is absent. Not only this, but the evidence is sufficient to argue that the brand effect did not dominate price by its strong effect but enhanced the price effect.

In conclusion, using a brand name significantly increased perceived quality and willingness to buy as compared to using no brand. This statistically significant effect held over all price levels. Perceived value showed the hypothesized effect in the low-price level but failed to act consistently for all indicators in the medium- and high-price treatments.

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AN INFORMATION PROCESSING PERSPECTIVE ON THE INTERNALIZATION OF PRICE STIMULI

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Abstract

A scheme is presented which reflects what is currently known or conjectured about the processing and internalization of price stimuli. Each stage of the scheme is explained in relationship to the processing of price, and additional variables relating to the processing of price, are suggested. Additionally, a number of research questions, which were generated from the price processing scheme, are presented.

Introduction

Scholars in consumer behavior (e.g., Jacoby and Olson 1977; Olson 1980) have called for the use of an information processing perspective for the study of price stimuli. Olson (1980) notes that, "...for researchers interested in deeper, more causal explanations of consumers' reactions to price, the information processing perspective can provide a valuable framework for conceptualization and empirical research." (p.15)

From the work of Lachman, Lachman and Butterfield (1979) and Olson's (1982) address to the A.M.A. doctoral consortium, the following assumptions can be made in regard to the information processing perspective:

1. Humans have internal representation (symbols) of stimuli and knowledge.
2. Humans are symbol manipulators and perform such operations as encoding, comparing, locating, and storing, on these symbols.
3. The internal elements (symbols) are arranged in organized storage arrangements (e.g., propositional networks).
4. These storage arrangements (networks) are formed and changed via a process of spread of activation through the network (i.e., activation theory).
5. Humans have limited cognitive capacity.

This summary of the information processing paradigm delineates some of the central and generally accepted assumptions of this paradigm. To provide a richer perspective regarding the application of the information processing paradigm to the processing of price stimuli, a scheme of this processing will be presented. This scheme will be utilized to discuss what is currently known and not known about the processing of price stimuli. The scheme represents the union of information processing research and theory, price research and theory, and some conjecture.

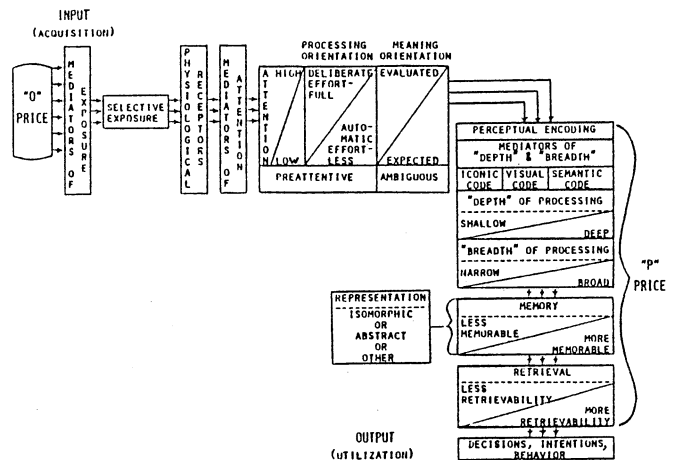
Figure 1 presents the scheme of the processing of price stimuli. "O" price refers to the objective price, the literal dollars and cents of the price stimulus. "P" price represents psychological price and refers to the internal cognitive representation of "O" price (Jacoby and Olson 1977). The discussion that follows generally coincides with the flow of stages presented in Figure 1.

"O" Price

Price has been found to be one of the most important pieces of information consumers acquire in the decision making process (e.g., Berning and Jacoby 1974.) About 40 percent of the information consumers sought in decision process studies was that of price information (e.g., Jacoby, Chestnut, Weigl, and Fisher 1976). Part of this acquisition of price information is actually reacquisition to compare price changes to

an individual's acceptable price level and to other cognitive structures. Brand name does appear to take precedence over price as an item of information sought by consumers (Gardner 1971; Jacoby, Szybillo, and Busato-Schach 1977; but brand name probably carries some information on price as well, as part of an overall "chunk" of information.

FIGURE 1
 Scheme of the Processing of Price Stimuli



Mediators of Exposure

Exposure, or contact with environmental stimuli, presents the opportunity for the individual to experience sensation from the stimuli followed by perception and other information processing. Price information, possibly being the most ubiquitous form of product information, would present many exposure opportunities. Exposure may occur intentionally or unintentionally. Consciously examining price information on brands of jogging shoes would be an intentional exposure situation. Noticing a brand on sale while walking by the store window is an unintentional exposure situation.

Although no research has been done specifically dealing with consumers' mediators of exposure and selective exposure to price information, such items as price consciousness, budget constraints, involvement with being an efficient shopper, and so forth, could be proposed as such mediators. The use and nonuse of unit price information would appear to be one of the few examples of selective exposure from the price literature. It has been found that a majority of consumers do not use this information (Carmen 1973; Monroe and LaPlaca 1972) and are probably not intentionally exposing themselves to this information.

Mediators of Attention

Several criteria have been proposed as mediators in the allocation of attention. First, some type of internal cost/benefit assessment could be calculated by the individual. The benefit of allocating limited processing capacity could be mentally and instantly compared to the cost of this allocation. Second, limitations in the stimuli (data) being examined may produce heightened attention. The stimuli may be deteriorated, unclear, muted, and otherwise difficult to pro-

cess, thereby requiring greater amounts of attention. Next, involvement with the stimuli may be considered a mediator of attention, with greater involvement manifesting greater attention. Other possible mediators for directing attention to price information could include: (1) price-promotion displays and advertisements, (2) prices different from the expected or familiar price, (3) price consciousness (See the Zeithaml (1984) discussion of the conceptualization of this and other related constructs), (4) product involvement, (5) situational variables (e.g., income, cash on hand), (6) motivation or reasons for purchasing the product, and (7) consumer habits (e.g., brand loyalty).

Attention

The term attention includes much of what is meant by the term consciousness. Lachman, Lachman, and Butterfield (1979) present the following explanation of attention: "...like consciousness, attention connotes awareness. To attend is to be conscious of something. Attention also implies selectivity; when we pay attention to something, we have selected it and ignored other things. Attention also means alertness. A person must be awake to pay attention, and alertness influences information processing. (p.186)

The myriad of stimuli to which individuals are exposed continually requires selectivity in the allocation of limited cognitive capacity. Attention performs this allocation function. Attention can be viewed as operating on a continuum from low to high attention.

Various processing continua have been proposed which have an attention allocation base. Several of these continua and the individuals associated with each are presented in Table 1. Three continua summarize the bulk of the distinctions being conveyed in Table 1. These continua are: (1) attention, which ranges from low to high, (2) meaning orientation, which ranges from expected to evaluated, and (3) processing orientation, which ranges from automatic to deliberate (also see the center portion of Figure 1). These distinctions are evident as we move from the low attention/expectancy oriented column to the high attention/evaluatively oriented column of Table 1.

TABLE 1

Two Approaches to Processing Stimuli

LOW ATTENTION/ EXPECTANCY ORIENTED	HIGH ATTENTION/ EVALUATIVELY ORIENTED	
1. AUTOMATIC PROCESSING	DELIBERATE PROCESSING	(SHIFFRIN & SCHNEIDER, 1977)
2. CONTEXT DRIVEN	DATA DRIVEN	(SHIFFRIN & SCHNEIDER, 1977)
3. EFFORTLESS	EFFORTFUL	(POSNER ET AL, 1971 & 1975)
4. SCANNING	INTERUPTS	(BETTMAN, 1979)
5. SCHEMA WITH	CORRECTIONS	(BARTLETT, 1932)
6. SCRIPT POINTER AND	TAG	(GRAESSER, 1981)
7. SHALLOW/SENSORY PROCESSING	DEEP/SEMANTIC PROCESSING	(CRAIK & LOCKHART, 1971)
8. FAMILIAR	UNFAMILIAR	(CHASE & SIMON, 1973)
9. TOP-DOWN PROCESSING	BOTTOM-UP PROCESSING	(LINDSAY & NORMAN, 1977)
10. SURFACE STRUCTURES	DEEP STRUCTURES	(CHOMSKY, 1957)

The concepts and processing techniques in the low attention column of Table 1 are processing capacity enhancing mechanisms. These mechanisms expand the amount of information that an individual can process by allowing him/her to jump to conclusions, fill in gaps, and make assumptions based on prior experience, learning, and familiarity. Low attention, automatic processing usually generates meaning based on expectations. For example, Bettman (1979, p. 81) suggests that frequently occurring patterns based on experience, may be recognized as gestalts or total configurations and processed by a low attention, automatic processing approach.

The counterpart to the low attention, expected meaning, automatic approach to processing stimuli is the high attention, evaluated meaning, deliberate approach. In this "evaluated meaning" approach much cognitive capacity is allocated to a stimulus via high attention and greater detail is discerned.

Perceptual Encoding

The first stage of what has been designated "P" (psychological) price in Figure 1 is encountered at the point of perceptual encoding. Perceptual encoding is a process of organizing, interpreting, and deriving meaning from stimuli. Perceptual encoding is influenced by previous experience, knowledge, motivation, values, personality, and so forth. A component of perceptual encoding is categorization of new experiences into existing classifications. Processing may be guided by what a stimulus seems to be, based on expectations and context, as well as by the actual features of the stimulus. Perceptions may depart from reality if expectations are strong (Bettman 1979).

There have been a number of perspectives taken on the perceptual encoding of price stimuli. For example, the referent, or expected, price has been viewed by researchers as: traditional past prices (Scitovsky 1944-45), fair price (Kamen and Toman 1970), price last paid (Uhl 1970), price most frequently charged (Olander 1970), price normally paid (Gabor and Granger 1966), and, more recently, as evoked price (Rao and Gautschi 1982), which is "the price the individual subjectively assigns to the product appropriate to the specific purchase context," (p. 64).

A theory that has been used to explain the formation and utilization of referent prices (expected prices) is adaptation level (A-L) theory (Helson 1964). There is evidence that referent prices serve as adaptation levels in price judgments (Monroe 1973).

Comparative presentations such as the "was-is" and "manufacturer's list--our price" pricing approaches strive to establish referent (expected) prices (Fry and McDougall 1974; Sewall and Goldstein 1979). Blair and Landon (1981) found that though consumers discount comparative price presentations, they still overestimate the savings obtained more than if no referent price were presented. Apparently, this pricing approach has some success in establishing a referent price in the mind of the consumer.

Memory and "Depth" of Processing

At the physiological level, the initial memory for a visual stimulus is called an iconic trace (sensory memory). For an auditory stimulus, there is an analogous echoic trace. The concept here is that there is a rapidly fading, literal icon or echo of a stimulus registered by the human after coming into contact with the stimulus. A good example of this type of memory is the residual pattern perceived when watching a July 4th sparkler being waved about on a dark night. The residual pattern left by the path of the moving sparkler against the dark background is its visual icon. This type of memory fades completely in about one second, and most of the useful information has deteriorated by .3 seconds (Lachman, Lachman, and Butterfield, p.229). Initial visual contact with a price stimulus can produce this type of iconic image.

The structurally oriented view of memory, with its three components (i.e., sensory memory, short-term memory, and long-term memory) has been replaced as the generally held view of memory. Currently, the most widely accepted theory of memory is the levels of processing (LOP) approach which views memory as a process rather than from a structural point of view (Craink and Lockhart 1972).

Within the LOP approach, strength of encoded information or memorability is related to the amount and type of processing that a stimulus receives. "Depth" of processing is one metaphor usually used to describe this strength or memorability. With regard to visual stimuli, the most "shallow" processing of a stimulus would result, possibly, in only a fading icon. A "deeper" level of processing is reached when a visual code is recorded of the physical features of the stimulus, e.g., the literal numeric symbols representing a price. This code may be rehearsed to assure its place in memory.

At still a "deeper" level more abstract meanings of price may be stored. This greater level of abstraction is called semantic processing. These more abstract meanings may include: (1) classifying a price in a category (e.g., inexpensive, average, expensive, etc.); (2) classifying a price relative to a referent price; (3) assigning some quality meaning to the price (Tull, Boring, and Consior 1964, etc.); (4) affixing some idea of value to the price (Barnes 1974); or (5) associating price with prestige/social status; etc. Cognitive structures are progressively more complex, internally consistent, and stable as "deeper" levels of processing are reached. Some recent research efforts have focused on the "level" of encoding of price stimuli (e.g., Ziethaml 1982).

Mediators of "Depth" of Processing

Attention would be a prominent mediator (or determinant) of "depth" of processing. The higher the level of attention, the greater the amount of cognitive capacity allocated to the stimulus and the "deeper" the resultant processing. Other mediators that have been proposed as determinants of the level of processing include: (1) links of stimuli to emotions (Zajonc 1980), (2) the imagery producing ability of stimuli (Pavio 1971) (this mechanism would not seem to be operative in most price stimuli processing), (3) stimuli rehearsal, (4) familiarity and past experience with stimuli, and (5) involvement producing capacity of stimuli (Mitchell 1981). These proposed determinants of level of processing are somewhat conjectural. Olson (1979) notes that a "...major problem with the LOP framework concerns the lack of clarity regarding the 'mechanism' or the 'factors' responsible for the depth effect," (p. 156).

Format in which prices are presented can have an effect on "depth" of processing. For example, the use of unit prices and hierarchical lists of prices can affect "depth" (and "breadth") of processing (Russo 1977; and Ziethaml 1982). Other mediators also undoubtedly exist. Regarding price stimuli, other mediators of "depth" of processing possibly include: (1) time constraints, (2) importance of the purchase, (3) percent of budget required by the purchase, (4) use of the product (i.e., personal use or gift), and (5) whether the information is for immediate or for later use.

"Breadth" of Processing

The mediators of "depth" of processing, suggested in the previous section, can also be viewed as mediators of "breadth" of processing. "Breadth" of processing (or elaboration) is another proposed mechanism that affects the strength and memorability of memory traces. "Breadth" of processing has been defined as the number and types of traces produced during encoding (Anderson and Reder 1979).

With greater "breadth" of processing, more links to a stimulus (elaboration) will be made within a propositional network (a propositional network is an array of concepts and their interrelationships). The elaboration hypothesis would predict, for example, that if several brands had the same price, that price would have enhanced memorability due to the multiple links

of the various brands to the price. The multiple links to the to-be-remembered item (e.g., price) produce the enhanced memorability by providing multiple access paths to the item. As Figure 1 conveys, the type of code (e.g., visual, semantic) and the concomitant "depth" and "breadth" of processing engaged in at the encoding stage has a direct effect on the memory and retrieval stages.

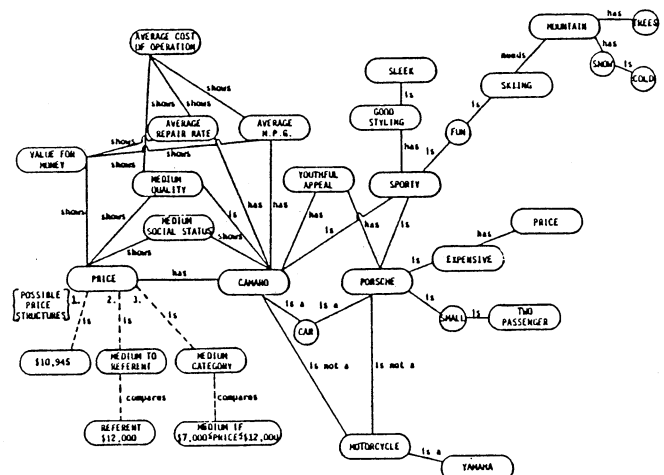
The "depth" and "breadth" of processing of a price stimulus determines much about its encoded memory trace. The specific concepts to which a price is linked in propositional networks, the type of concepts to which it is linked, and how closely and directly a price is linked to these concepts impact on the meaning assigned to a price stimulus.

Meaning

In examining the meaning assigned to price stimuli, it is necessary to discuss how price is cognitively represented. Price may be represented as a fading icon or simply represented at a sensory level. As deeper processing occurs, the literal price may still be encoded and/or a more abstract form may be taken where price is stored relative to a referent price or by categories of price (e.g., high, low) (Olson 1980). Semantic, "deeper" meaning-oriented, encoding and "breadth" of processing may best be examined within the propositional network framework.

Within propositional networks, concepts obtain meaning by referring to their relationship to other concepts within the network. If a stimulus is linked to semantic or more abstract concepts, greater "depth" of processing occurs. The more concepts to which a stimulus is linked, the greater will be the "breadth" of processing, and possibly the more meaning that will be affixed to a stimulus. This phenomenon is termed configural meaning (Anderson 1980). Price may be related to other concepts in a network, such as presented in the hypothetical memory network displayed in Figure 2. In this figure, the nodes (i.e., concepts) are connected by links (i.e., interrelationships) to other conceptual nodes. As shown in Figure 2, price is linked to brand name (i.e., Camaro) in our hypothetical structure. Other possible items to which price may be linked that have received examination in the marketing literature are also shown in Figure 2 (i.e., value, quality, social status). Three possible ways price may be represented in this network are also presented (i.e., isomorphic to numeric symbols, relative to a referent, and organized by category).

FIGURE 2
Hypothetical Propositional Network



Another fundamental concept represented in Figure 2 is that of semantic distance. This is the central organization principle of the propositional network (Collins and Loftus 1975). Semantic distance suggests that the nearer a concept is to another in a propositional network, the more memorable it will be when the first concept is brought to mind. This can be shown in Figure 2 by looking at the distance between "car" and "Camaro" and "car" and "skiing."

Another type of "meaning" linked to price stimuli in propositional networks is that of feeling or emotion. Prices and categories of prices can lead to commensurate feelings. For instance, an individual may experience a feeling of extravagance while also categorizing a price as expensive. Jacoby and Olson (1977) include discussion of the effect of price information on attitude (generally referred to as affect or the overall liking of an object) and state that "...the extant research clearly demonstrates that consumers do have attitudes toward specific prices" (p. 82).

Probably the most studied meaning attached to price stimuli is that of quality. Monroe and Krishnan (1983) examined 28 studies in the price/quality literature, via a statistical technique they recommend using in review articles, concluding that consumers tend to positively relate price and quality.

Although by far the most research has been done on the quality meaning of price, a number of other meanings have been advanced. These meanings include:

1. Cost, with a near a linear relationship found between "0" price and consumer judgment of cost (Della Bitta and Monroe 1973).
2. Price acceptability (Gabor and Granger 1970; Kamen and Toman 1970).
3. Brand attractiveness (Olander 1970).
4. Perceived worth (Rao 1972).
5. Social significance of the choice (Lambert 1972).
6. Value for the money (Barnes 1974).

Other possible meanings of price information that do not appear to have been researched include: (1) brand preference, (2) brand importance, (3) performance expectation, (4) satisfaction with the information, (5) brand prestige, and (6) perceived savings (Walton and Berkowitz 1980).

Retrieval

The next step in the examination of the information processing of price is information retrieval from memory. The currently held perspective on this topic is that once an item is encoded and enters memory, it is stored there permanently. All items of information, however, are not easily accessible. There are physiological mechanisms that permanently retain information in the absence of injury to the brain. However, only a small portion of the vast amounts of information that we learn is "accessible" at any given time.

In a prior section, several mechanisms that would enhance memorability and also retrievability were mentioned. These included the number of links to an item in propositional networks in memory, strength of the relationship between items in memory, and general "depth" and "breadth" of processing.

Retrieved information can be thought of as being brought to active or working memory (Anderson 1980). The terms "active" or "working" convey the idea that information is being held for use in mental procedures. It is knowledge that is currently in use. A presently held view of how items are retrieved and brought to active memory is known as "the spread of activation" (Collins and Loftus 1975). This spread of

activation has been compared to the flow of electrical current through a wiring system. The various facilitators of memory retrieval, in a sense, reduce the resistances in the wires (i.e., the links). Some pathways through the propositional networks are much more readily traveled. The persistent covariation of price and quality in the minds of consumers may be an example of a readily activated, much traveled (low resistance) pathway between two concepts.

An additional item that impinges on the retrievability of a memory trace is the context through which an item of memory is retrieved. In looking at Figure 2, snow would probably be more retrievable in the context of mountains than it would be in the context of cars. Similarity of the context of encoding and the context of retrieval can enhance retrievability.

Retrieval and Price Studies

In general, studies have found strong differences in the accuracy of price retrieval across brands, product categories, and consumers (Gabor and Granger 1961; Brown 1970). In the Gabor and Granger study, for instance, 57 percent of the prices were correctly retrieved from memory. A Progressive Grocer (1964) study found that 86 percent of the subjects knew the price of Coca-Cola; whereas only two percent knew the price of shortening. Determining exact price was generally difficult for consumers, but price ranges were much more retrievable. The high variability in recall accuracy has precipitated studies that include different dimensions that might explain this variability. Such dimensions as: socioeconomic (Gardner 1971), sex, age, and income (Progressive Grocer 1964), shopping behavior (Brown 1970), and various attitudinal items have been examined. Recent studies reported that a surprisingly large number of consumers could not accurately report prices of common grocery products (e.g., Progressive Grocer 1982).

It has been found that the prices of the lowest and highest priced brands of a product are those that are the most retrievable (and most noticeable) (Oxenfeldt 1966; Monroe 1968). The low end price has usually been found to be more retrievable than the high end price and probably exerts an influence on marginal purchasers. These retrieval phenomena appear to be examples from the price literature of a broader human processing tendency. This tendency is to spend more time attending to and assigning heavier weight to information that is extreme and/or negative (Lynch 1979; etc.).

Research Questions

Many research questions can be generated from the above discussion and an examination of Figure 1. The following explores some of these questions, generally presenting topics in the order found in Figure 1.

What impact do the mediators of exposure and attention have on the processing of price stimuli? Which mediators are operative and when these mediators are operative could be examined. Regarding mediators of attention, high levels of involvement (e.g., product involvement, purchase involvement) or price consciousness may lead to more attention being given to price stimuli. Based on the discussion presented earlier in this paper, it should be noted that throughout these proposed research questions, high attention would generally be associated with "deeper" and "broader" processing, more meaning assignment, and enhanced retrievability. These relationships are potential topics for research in themselves.

How does the existence and amount of useful product information, other than price, impact the allocation of attention to price stimuli? As the amount of other

useful (i.e., available, comprehensible, and discriminable) information on a product decreases, the amount of attention allocated to price stimuli may increase.

For example, out of the price/quality literature there is evidence that the influence of price on quality perception tends to decrease as other important product attributes become available as cues (e.g., Jacoby, Olson, and Haddock, 1971). As noted in the prior paragraph, along with an increase in attention an accompanying "deeper," "broader," etc. processing of price stimuli may occur.

What is the impact of consumer price expectations on the processing of price stimuli? As price stimuli move farther away from price expectations, does greater attention allocation occur along with greater "depth" and "breadth" of processing and greater retrievability? The basic effect of price expectations on price perception would be interesting to examine. The question whether price perception is pulled in a price expectation direction (an assimilation effect) or repelled away from price expectations (a contrast effect) should be addressed in future research.

The differential effect of positive versus negative disconfirmation of price expectations also provides research potential. Again, attention, "depth" and "breadth" of processing, and retrievability may be affected differentially by the opposing directions of disconfirmation. The idea of this differential effect would follow from general findings in other areas regarding the effect of negative (negative price disconfirmation in this case) and extreme information (see the end of the previous section).

How do individuals derive "meanings" from price stimuli? The much studied covariation of price and quality perception offers further research possibilities in an information processing context. Individuals who perceive a strong covariation in price and quality may direct more attention to price stimuli, manifest greater "depth" and "breadth" of processing, and may display enhanced retrieval capabilities over those individuals who do not perceive such a strong relationship.

Studies are also possible which examine the variety and number of meanings (including affective meanings) assigned to internalized price stimuli. Regarding this topic, the greater the number of meanings assigned to a price stimuli, the better the retrievability of the price information should be.

Summary

Price is obviously an important feature of a market offering; still, little is known about the internalization of price by consumers. Adopting the information processing perspective has been recommended for greater understanding of the effect of price stimuli on consumers. Applicable theory and research from the information processing psychology, consumer behavior, and price literature were reviewed here. Presentation of this review generally followed the proposed scheme of the processing of price stimuli (Figure 1). The goal in presenting this figure within an information processing perspective was to provide some new insights and research directions into price processing research. A number of concepts were proposed as mediators of the various information processing stages. A number of possible research questions were generated. Further, it is hoped that understanding of the processing of price was facilitated by this review.

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A CONSUMER RESPONSE TO INCONGRUITY BETWEEN OPTIMAL STIMULATION AND LIFE STYLE SATISFACTION

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Abstract

Several studies have found a relationship between the presence of a high optimal arousal level among consumers and behaviors that reflect stimulation seeking. The present study extends that research, going beyond absolute optimal arousal level to a consideration of the difference between optimal and actual arousal and its effect on behavior. The results, based on a sample of 588 consumers who provided information on optimal levels of arousal, life style stimulation and preferences for an ideal vacation, provide strong support for the notion that the amount of stimulation desired by a consumer depends upon the directional difference between optimal and actual levels of arousal.

Introduction

The concept of arousal has interested psychologists since Freud and has been a major component in numerous behavioral theories (Hebb 1949; Duffy 1957; Malmo 1959; Berlyne 1960) of the relationship between the state of an organism and its reaction to stimuli. The common theme of these theories is that a behavioral response will be influenced by the stimulus object, the level of arousal experienced by the organism at the time of the exposure, and the organism's optimal level of stimulation.

Berlyne (1960) proposed that all stimulus situations have four attributes (novelty, uncertainty, conflict and complexity) in varying degrees. These attributes, combined with the perceived reward or punishment associated with the stimulus, create its arousal potential. When the arousal potential of an individual's environment is too low, increased stimulation is sought. Conversely, when the arousal potential of a situation is too high, the individual will seek ways to escape. The relationship between arousal potential and an individual's level of arousal has been described as an inverted-U, in which low levels of arousal potential in the environment stimulate greater arousal in the individual up to some optimal level. Beyond that level, increases in arousal are dysfunctional such that further increases in arousal potential produce lower levels of arousal as the individual seeks a more moderate situation.

Whether the arousal potential of the environment is perceived as too high or too low depends on the individual's optimal level of stimulation or ideal arousal. This optimal level, according to Berlyne (1960, p. 211) is determined by "personality factors, cultural factors, learning, and psychological states."

Arousal and Consumer Behavior

Arousal is an endogenous construct in most consumer behavior models (Howard and Sheth 1969; Hansen 1972; Bettman 1979). According to Howard and Sheth (1969), individuals strive to maintain an optimal level of stimulation. At this optimal level, the individual is satisfied. When circumstances move the individual away from this level, effort is expended to reestablish congruity between actual and optimal stimulation. One category of responses to an imbalance or incongruity between actual and optimal stimulation involves a striving on the part of the individual to increase stimulation. This phenomenon has been described in the

marketing literature as novelty seeking, exploratory behavior, and variety seeking (Raju 1980; Venkatesan 1973; Faison 1977; Rogers 1979; Hirschman 1980; Raju and Venkatesan 1980). The alternative imbalance, involving efforts to decrease stimulation, has been of little interest to marketers and is not widely discussed in the literature.

Optimal stimulation has been the subject of a limited amount of marketing research. The need for high levels of stimulation has been related to the acceptance of new retail facilities (Grossbart, Mittlestadt, and Devere 1976), new product trial (Mittlestadt et al. 1976) and risk taking, innovativeness, and information seeking (Raju 1980). These studies suggest a relationship between optimal stimulation and behavior. That is, individuals with high optimal stimulation levels (OSL) are more likely to engage in behavior which increases stimulation than individuals possessing low OSL.

However, more meaningful than the absolute value of optimal stimulation is the relationship between OSL and actual arousal. Rather than view only individuals exhibiting high OSL as stimulation seekers, it is more appropriate to consider the relative magnitudes of OSL and actual arousal. Regardless of an individual's absolute OSL, actual arousal is either greater, equal, or less than OSL. If they are equal, the individual is satisfied. However, if OSL is greater than actual, theory would suggest that the individual will be bored with his/her surroundings and thus seek stimulation to restore congruity. In contrast, if OSL is less than actual stimulation, a person is receiving too much stimulation from the environment. In this situation, he/she would be expected to attempt to avoid or moderate the stimulation in order to restore balance. Given these conditions, the present paper addresses the following hypotheses:

- H1: Individuals whose optimal levels of stimulation exceed their life style stimulation will demonstrate a preference for a more active consumption alternative.
- H2: Individuals whose optimal levels of stimulation are less than their life style stimulation levels will demonstrate a preference for a more passive consumption alternative.

The Study

To test the hypotheses it was necessary to measure OSL, life style stimulation (LSS), and preferences relative to a stimulus activity. OSL was measured using Version V of Zuckerman's Sensation Seeking Scale (1979). Zuckerman describes sensation seeking as a "trait defined by the need for varied, novel, and complex sensations and experiences and the willingness to take physical and social risks for the sake of such experience" (1979, p. 10). The basis for the development of the Sensation Seeking Scale was that "Every individual has characteristic optimal levels of stimulation (OSL) and arousal (OLA) for cognitive, motor activity, and positive affective tone" (Zuckerman 1979, p. 92). The Sensation Seeking Scale has been shown to correlate with Garlington and Shemona's (1964) Change Seeking Index (Acker and McReynolds 1967; Farley 1971; McReynolds 1971) and Penney and

Reinehur's (1966) Stimulus Variation Seeking Scale (Looft and Baranowski 1971). Satisfactory split-half test-retest reliabilities are reported by Zuckerman (1979). The Sensation Seeking Scale (SSS) consists of 40 forced-choice items. Sample items are presented in Exhibit 1.

EXHIBIT 1

SAMPLE ITEMS FROM ZUCKERMAN'S SENSATION SEEKING SCALE

1. A I like "wild" uninhibited parties.
B I prefer quiet parties with good conversation.
2. A There are some movies I enjoy seeing a second or even a third time.
B I can't stand watching a movie that I've seen before.
3. A I often wish I could be a mountain climber.
B I can't understand people who risk their necks climbing mountains.
4. A I get bored seeing the same old faces.
B I like the comfortable familiarity of everyday friends.
5. A A sensible person avoids activities that are dangerous.
B I sometimes like to do things that are a little frightening.

(etc.)

Life Style Stimulation (LSS) is defined as the stimulation level perceived by an individual in his/her normal work and leisure activities. A fourteen-item forced-choice scale was designed by the authors to measure this construct. The scale is presented in Exhibit 2. Items were scored such that high scores indicate the individual is experiencing a stimulating life style and vice versa. To test for validity, LSS responses were correlated with Pearson's (1970) Desire for Novelty Scale. The resulting significant negative correlation ($r = -0.51$, $p = .0001$) was as expected. That is, an inverse relationship was found between the stimulation in an individual's life and the desire for novelty.

The stimulus activity of concern in this investigation was "an ideal vacation of two or more nights away from home that you may wish to take in the near future with the traveling party of your choice." This "ideal" vacation was described by nineteen adjectives, each accompanied by a six-point "highly desirable feature" to "highly undesirable feature" scale. The items are presented in Table 1. Vacation behavior was selected for the study because it is an experience that can be designed by the individual to meet specific needs, it incorporates the potential for a wide variety of stimulation levels, and it is a highly involving consumption decision about which consumers should have relatively strong feelings.

The data were collected via a mail questionnaire from the Wright State University consumer panel in the summer of 1983. The average respondent is 50 years of age, married, with some college education, and has a household income of approximately \$25,000. Half were male and half female. The results reported here are based upon 588 responses.

The questionnaire contained five components pertinent to this project: the Zuckerman Sensation Seeking Scale, the Pearson Novelty Seeking Scale, the Life Style Stimulation scale, the ideal vacation description, and several demographic profile questions.

Analysis and Findings

With respect to the questionnaire section addressing vacation perceptions, the initial set of descriptive

EXHIBIT 2

LIFE STYLE STIMULATION SCALE ITEMS

1. *A My job is usually challenging and exciting.
B My job is often dull and boring.
2. *A My job requires me to be physically active.
B My job doesn't require much physical activity.
3. *A My job schedule is fairly hectic.
B My job schedule is fairly relaxed.
4. *A My hobbies and leisure time pursuits often involve a lot of physical activity.
B My hobbies and leisure time pursuits do not require much physical activity.
5. *A My hobbies and leisure time pursuits are mentally challenging and stimulating.
B My hobbies and leisure time pursuits don't involve many mentally challenging activities.
6. *A My "after hours" lifestyle involves a variety of socially stimulating activities.
B My "after hours" lifestyle usually involves spending time at home relaxing.
7. A I am usually bored doing my chores around the house.
*B I often find new and varied ways of doing my chores around the house.
8. A After my daily work is done, I don't have time for other activities I enjoy.
*B My daily schedule usually allows me ample time to do other things I enjoy.
9. *A Overall my life is exciting and involves many stimulating activities.
B Overall my life is fairly boring and monotonous.
10. *A In my daily routine I come in contact with many interesting people.
B In my daily routine I seldom come in contact with interesting people.
11. *A Overall my life is more stimulating than the average person's.
B Overall my life is less stimulating than the average person's.
12. *A Overall my life is more stimulating than I would like it to be.
B Overall my life is less stimulating than I would like it to be.
13. *A The people around me are unusual.
B The people around me are ordinary.
14. A My home life is very structured and organized.
*B My home life is frequently unpredictable.

NOTE: * = Higher stimulation experience within each pair of items.

attributes relating to ideal vacation preference was subjected to principal components analysis. This procedure was used to identify any underlying ideal vacation preference dimensions against which subjects' OSL and LSS scores could be examined. The results of the principal components analysis are found in Table 1. As shown, seventeen of the ideal vacation descriptors were found to yield factor loadings greater than 0.5. Two of the original items, "aesthetic" and "active," did not load cleanly on any of the factors and were therefore excluded from any further analyses. Five ideal vacation dimensions emerged from this analysis, each exhibiting an eigenvalue larger than one and collectively accounting for 61.4 percent of the total variance. Based on an inspection of the attribute loading pattern, the five vacation preference dimensions were termed: (1) new and different, (2) cerebral, (3) change of pace, (4) rejuvenation, and (5) traditional. Factor scores were generated for each respondent on these five vacation preference dimensions.

TABLE 1

PRINCIPLE COMPONENTS OF IDEAL VACATION ATTRIBUTES
(Rotated Factor Pattern)

Descriptive Attribute	Factor 1: New/Different	Factor 2: Cerebral	Factor 3: Change of Pace	Factor 4: Rejuvenation	Factor 5: Traditional
Different	.79	--	--	--	--
Unique	.75	--	--	--	--
Unusual	.72	--	--	--	--
Impressive	.69	--	--	--	--
Adventuresome	.66	--	--	--	--
Intellectual	--	.87	--	--	--
Educational	--	.86	--	--	--
Cultural	--	.79	--	--	--
Stimulating	--	--	.79	--	--
Refreshing	--	--	.75	--	--
Change of Pace	--	--	.53	--	--
Exciting	--	--	.51	--	--
Relaxed	--	--	--	.86	--
Restful	--	--	--	.82	--
Familiar	--	--	--	--	.75
Responsible	--	--	--	--	.63
Planned	--	--	--	--	.52

NOTE: Factor loadings less than 0.5 are omitted.

Each subject's responses to the 40-item Sensation Seeking Scale (SSS) instrument were subsequently scored to represent an operational measure of ideal or optimal stimulation level (OSL). The scale is constructed such that higher SSS values are associated with higher optimal stimulation levels and vice versa. To facilitate a comparison with the LSS scale, the OSL scale was transformed to a ratio index (0 to 1.0) by dividing the SSS score by forty. (The untransformed range of Zuckerman's SSS index is normally 0 to 40.) The resulting OSL index values ranged from 0 to 0.85 with a mean of 0.28 across all respondents.

Each subject's responses to the 14-item Life Style Stimulation (LSS) instrument were scored to represent an operational measure of current, experienced life style stimulation. In this scoring procedure, the alternative statements comprising each of the fourteen items were coded 0 or 1 corresponding respectively to the lower or higher stimulation experience within the pairs. The fourteen item values were subsequently summed and divided by fourteen to yield a ratio index value potentially ranging from 0 to 1.0 such that higher values were associated with higher experienced life style stimulation and vice versa. These LSS scores, having a mean of 0.53, ranged from 0 to 1.0 across all subjects reflecting a wide variation in experienced stimulation among respondents.

Using the OSL index scores as an indicator of the subjects' ideal stimulation preferences and the LSS index scores as a measure of respondents' actual life style related stimulation levels, a decision rule was devised to categorize the subjects into either of two groups. Individuals exhibiting a higher optimal stimulation index than the experienced life style stimulation score (i.e., $OSL > LSS$) were classified as stimulation "seekers" representing those who experience less than their ideal amount of relative stimulation. Thus, the $OSL > LSS$ state reflects stimulation deficiency strictly in a relative sense. Likewise, subjects who exhibited a lower ideal stimulation score than the experienced life style stimulation index value (i.e., $OSL < LSS$) were classified as stimulation "avoiders" representing individuals who appear to experience more than the ideal, preferred level of stimulation in their lives. The $OSL < LSS$ state thus reflects a stimulation overload situation, again strictly in a relative manner. One subject

exhibiting equivalent ideal and experienced stimulation index scores (i.e., $OSL = LSS$) was excluded from further analysis under the presumption that his or her stimulation needs were satisfied from a relative perspective. Based upon this classification schema, the resulting groups of stimulation "seekers" and "avoiders" consisted of 90 and 497 subjects respectively with corresponding means $OSL-LSS$ difference scores of 0.14 and -0.33.

The assertion that the stimulation deficient subjects (seekers) and the stimulation saturated respondents (avoiders) manifest different types of vacation preferences was examined by investigating differences in ideal vacation dimension factor scores between groups. The magnitude and nature of these differences are summarized in Table 2.

TABLE 2

COMPARISON OF MEAN FACTOR SCORES
BETWEEN STIMULATION SEEKERS AND AVOIDERS

Ideal Vacation Dimensions	Mean Factor Scores		Probability
	Seekers (n=90)	Avoiders (n=497)	
(1) New & Different	.282	-.051	p<.01
(3) Change of Pace	.281	-.051	p<.01
(4) Rejuvenation	-.019	.003	p=.67
(2) Cerebral	-.342	.062	p<.01
(5) Traditional	-.383	.069	p<.01

Using a two-sample t-test procedure (conservatively assuming unequal dimension variances between groups), the mean factor scores associated with four of the ideal vacation dimensions were found to be significantly different. That is, a statistically significant distinction was observed between stimulation seekers and avoiders with respect to vacation preference dimensions 1, 2, 3, and 5. The mean factor scores on dimension 4 were not significantly different between the groups. Thus, the proposition that subjects' relative stimulation satisfaction (measured via difference between OSL and LSS) is linked to reported vacation preference was supported by the data.

Further, the nature of this linkage was revealed by an inspection of the mean dimension scores corresponding to the two groups. Stimulation seekers were observed to score higher on dimensions 1 and 3 which tends to suggest a relative characteristic of activity or action proneness in a vacation consumption context. Conversely, the group of stimulation avoiders were found to score higher on preference dimensions 2 and 5 reflecting a relative characteristic of passivity proneness relative to vacation preference. Thus, this pattern of mean factor score differences between groups was viewed to support the study's hypotheses.

Conclusions and Implications

The results show that consumption preferences are influenced by the relationship between optimal stimulation and life style stimulation. Irrespective of the absolute value of OSL, individuals experiencing less stimulation in their lives than they desire expressed a preference for greater activity and action on an ideal vacation. Conversely, individuals experiencing more than their desired levels of stimulation exhibited a preference for a more tranquil, passive ideal vacation. Interestingly, no difference was found with regard to restfulness or the rejuvenating characteristic of an ideal vacation. That is, both groups viewed their ideal vacation as restful and relaxing.

The findings are a refinement of previous OSL research. They suggest that the appropriate distinction in understanding the individual's stimulation seeking behavior is not so much an issue of high versus low OSL in absolute terms, but rather whether the individual's difference between OSL and life style stimulation is positive or negative.

While the present findings are based on a vacation preference criterion, in an actual choice context presumably consumers can use purchasing behavior to add zest and excitement to their lives (a not too subtle message in much advertising). It would appear from this study that consumers can also adjust their product and service choices as a means of reducing stimulation and introducing greater tranquility into a hectic life style.

Further research addressing the role of the optimal stimulation construct in the individual's consumption decision process is clearly needed. Vacation preference, the category of interest in this investigation, appears by its nature to reflect a classic opportunity for stimulation seeking. In terms of future research directions, the relationship between OSL and life style stimulation level needs to be examined in actual consumption contexts involving other product classes as well. Further research in this area needs also to involve other samples--investigating demographic differences across groups exhibiting varying levels of stimulation arousal. Additionally, an opportunity exists to investigate the study's hypothesized relationships in actual product choice situations using alternative OSL measurement scales found in the behavioral sciences literature. Finally, continued research needs to address the issue of experienced life style stimulation measurement in terms of identifying the appropriate underlying dimensions of environmental stimulation.

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THE EPISTEMIC AND SENSORY EXPLORATORY BEHAVIORS OF HEDONIC AND COGNITIVE CONSUMERS

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Abstract

This paper identifies four groups of consumers based on their predispositions to seek experiences. These are hedonic and cognitive consumers, experience seekers and experience avoiders. Further, it defines two dimensions of consumer exploratory behavior: epistemic and sensory. Relationships between these two dimensions of exploratory behavior for the different groups are proposed and tested. Several interesting findings are reported. First, hedonic consumers, cognitive consumers and experience seekers exhibit more exploratory behavior than experience avoiders. Second, all consumers, regardless of predisposing tendencies predominantly use the sensory mode when engaging in information search. Third, individual differences influence different consumers perception of the same product as functional or esthetic.

Introduction

The predominant perspective in consumer behavior is that the consumer is a thinker. According to this perspective, consumers are rational, cognitive, and active seekers of verbal and factual information. They are utility conscious and evaluate and integrate large amounts of information when making purchase decisions. This perspective tends to focus on "functional" products; packaged goods, brands, and durables that consumers purchase in order to solve consumption problems (Howard, 1969; Bettman, 1979; Lussier and Olshavsky, 1979). A different perspective is that the consumer is a feeler. According to this perspective, consumers are hedonic. They consume products such as movies, art, novels, and opera for the multisensory sensations, feelings, images and emotions such products generate (Hirschman and Holbrook, 1982; Holbrook and Hirschman, 1982).

Both perspectives have implications for the ways in which individuals explore their environments in general, and the consumer environment in particular (Berlyne, 1960). Exploratory tendencies have been extensively studied in psychology (Berlyne, 1960; Fiske and Maddi, 1961) and have been extended to the consumer behavior context (Venkatesan, 1973; Raju, 1980; Price and Ridgeway 1982). In a consumer context, these behaviors include exploration through shopping, interpersonal communication, brand switching, innovativeness, and information seeking (Raju, 1980). These exploratory behaviors can be parsimoniously classified into two broad domains: vicarious exploratory behavior (including information search, exploration through shopping) and exploratory purchase behavior (including variety seeking and innovativeness) (Price and Ridgeway, 1982).

Exploratory behaviors have generally been studied from the perspective of the consumer as a thinker. While this perspective has contributed much to our understanding of exploratory behaviors, it has neglected the feeling or sensory aspects of exploration. It seems reasonable to propose that while consumers engage in search (vicarious exploratory behavior) by seeking verbal and factual information, they also seek information by sensorily experiencing products, seeing how they feel, look, taste, and smell. Similarly, consumers may not only variety seek and innovate with packaged and branded products, they may also do so with esthetic products.

We use two terms to describe consumer exploratory behavior. The term epistemic exploratory behavior refers to

responses that typify the "thinking" mode. In the context of search, epistemic exploratory behaviors include verbal information search, or the search for factual product information. In the context of exploratory purchase, epistemic exploratory behaviors include variety seeking and innovating with functional products. The term sensory exploratory behavior refers to exploratory behaviors consistent with the feeling mode. In the context of search, these include information gathered through the senses. In the context of exploratory purchase, sensory exploratory responses include variety seeking and innovating with esthetic products.

Integrating the information processing and hedonic perspectives raises several interesting questions. First, do individual differences influence the mode of exploratory behavior? In other words, are there some individuals who engage in epistemic (sensory) exploratory behaviors across consumption situations? Second, do intraindividual differences characterize exploratory tendencies? Are sensory (epistemic) exploratory behaviors engaged in more frequently relative to epistemic (sensory) ones? These two issues are the focus of the present study.

Interindividual Differences

We propose that there are individuals who use one mode of exploration more extensively than the other in different consumer contexts. Some individuals are primarily thinkers. These "cognitive individuals" are rational and logical and enjoy cognitive stimulation, such as discovering how things work. Their cognitive curiosity is likely to make them exploration oriented in a consumer environment. Their exploratory behavior may, however, take a particular form.

It is proposed that cognitive consumers make extensive use of verbal information when searching for products, and satisfy curiosity about products by finding out how they work. They are likely to seek out factual information, such as how products rate across various attributes based on reports in independent product testing magazines (Thorelli and Engeldow, 1980; Anderson and Engeldow, 1977). Furthermore, they are likely to engage in such behaviors as reading advertisements that contain a lot of information (Raju, 1980). Cognitive consumers may investigate new brands of functional products, and brand switch or variety seek with common, packaged goods. They may also choose products, not because they are functional, but because they are cognitively stimulating (Hirschman, 1982)

Other individuals, whom we call "hedonic individuals" are primarily feelers. They enjoy receiving stimulation since it provides intrinsic gratification, arousal and emotion. Given their desire for stimulation, they are also likely to be explorers in novel consumption environments. They explore, however, in ways different from cognitive individuals. Information search for them refers to sensory information search. For example, they would like to touch and feel products when shopping. They are hypothesized to engage in exploratory purchase behaviors (variety seeking and innovativeness) with products that provide sensory stimulation, emotion and images. These are mainly esthetic and hedonic products (Hirschman and Holbrook, 1980; Holbrook, 1980).

Some consumers may have both cognitive and hedonic orientations. We term such consumers "experience seekers". Like cognitive and hedonic consumers, experience seekers are likely to engage in exploratory activities; however, they are likely to use both modes of experiencing in their exploratory behaviors. They may use both factual/verbal and sensory information when searching, and may variety seek and innovate with esthetic and functional products.

Diametrically opposed to individuals who are both cognitive and hedonic are individuals who are low on both cognitive and hedonic tendencies. We term these individuals "experience avoiders".¹ In a consumer context, they are hypothesized to be neither predominantly cognitive nor hedonic in their mode of search and purchase. Rather, they are likely to prefer established ways of purchasing and are most likely to prefer known to unknown products and experiences, both of a functional/cognitive and esthetic nature.

It is hypothesized that consumers exhibit epistemic or sensory exploratory behaviors in a way that is consistent with cognitive or hedonic predispositions. Consumers with a cognitive orientation are hypothesized to exhibit primarily epistemic exploratory behaviors (verbal/factual information search and variety seeking and innovativeness with functional/cognitive products) relative to consumers who are not cognitive in their orientation. Thus, experience seekers and cognitive consumers should exhibit more epistemic exploratory behaviors than hedonic consumers and experience avoiders. Consumers who are hedonic in their orientation are hypothesized to exhibit primarily sensory exploratory behaviors (sensory information search, variety seeking and innovativeness with sensory/esthetic products) relative to consumers who are not sensory in their orientation. Therefore, experience seekers and hedonic consumers should exhibit more sensory exploratory behaviors than cognitive consumers and experience avoiders.

Intraindividual Differences

While the first issue examines differences between individuals in exploratory behaviors, this issue focuses on intraindividual exploratory tendencies. It examines the tendency of consumers to use epistemic (sensory) exploratory behaviors relative to sensory (epistemic) ones. Do individuals in general make greater use of sensory than verbal information searching? In the domain of exploratory purchase, do individuals prefer to variety seek and innovate with functional products or esthetic ones? Or is it the case that there can be no consistencies found across all individuals in the type of searching or purchasing they prefer?

It is hypothesized that hedonic consumers will exhibit significantly higher sensory exploratory behaviors than epistemic ones. Cognitive consumers are hypothesized to exhibit significantly greater epistemic exploratory behaviors than sensory exploratory behaviors. Neither experience seekers nor experience avoiders are expected to show more epistemic as compared to sensory exploratory behaviors.

¹The typology presented here is consistent with one by Hirschman (1982). Several differences should be noted. We did not include a "novelty seeking" consumer because cognitive, hedonic and experience seekers are all proposed to be novelty seekers. Second, we include experience avoiders as a baseline group against which exploratory tendencies can be compared. Third, while Hirschman has focused on consumption, we extend the discussion to include search as well.

Measures

To explore these issues, measures which tap cognitive and hedonic predispositions were needed. Also needed were measures of exploratory search (both verbal and sensory) and exploratory purchase behaviors (variety seeking and innovativeness) for different types of products (functional and esthetic).

Cognitive Orientation

To identify the cognitive consumer, the objective was to select a test that assessed the extent to which consumers are rational, logical, and cognitive. Several measures of rational cognition seeking have been suggested by Hirschman (1982, 1984). Of these, the Cognition Seeking Scale seemed most appropriate because it measures the desire for cognitions across a wide variety of experiences and not intellectual ability. This measure was developed by Swanson (1978) and was first used in the consumer behavior literature by Hirschman (1982). It has a standardized reliability coefficient of .64 (Hirschman, 1982).

Hedonic Orientation

As defined earlier, the term hedonic encompasses experiencing through the senses (touch, feel, taste, sight, and aroma), and the feelings of fantasy and emotional arousal (Hirschman and Holbrook, 1982). A test measuring desires to seek these multisensory experiences was, therefore, needed. A number of scales that measure this construct have been developed. The more well known are (1) the Zuckerman Sensation Seeking Scale (Zuckerman, 1979) and (2) the Arousal Seeking Tendency Scale (Mehrabian and Russell, 1974). The Zuckerman Sensation Seeking Scale was selected for this study. It measures the desire for varied, novel, and complex sensations. Research demonstrates that it measures both internal sensation seeking (through imagery and fantasy) and external sensation seeking (through direct sensory stimulation and adventurous activities) (Pearson, 1970). The scale has a reported reliability coefficient of .75 (Zuckerman, 1979).

Exploratory Behavior

Measures of six exploratory behaviors were developed for the purposes of this study. These are (1) verbal information search, (2) sensory information search, (3) variety seeking with functional products, (4) variety seeking with esthetic products, (5) innovativeness with functional products and (6) innovativeness with esthetic products. These measures were developed in accordance with Churchill's (1979) guidelines for scale development. A literature review was first conducted to determine the domain of sampling for the items that would comprise the scales. This ensured the content validity of the scales. A set of six to eight items was then generated to represent each of the six hypothetical constructs. Items were drawn from scales developed by Raju (1980), Hilgard (1979), Swanson (1978), Mehrabian and Russell (1974), Pessemer and McAlister (1981) and papers from the Symbolic Consumer Behavior Conference (Hirschman and Holbrook, 1980). Half of the items were recast to be negatively stated.

Method

Data Collection

The Cognition Seeking Scale, the Sensation Seeking Scale and the six scales of exploratory behavior were administered to 309 undergraduate male and female students from two universities. Data for 10 students were eliminated because of incomplete information or failure to fill out the questionnaire properly. Thus 299 subjects represent

ed the final subject pool.

Purification of Measures

Following data collection, the first objective was to purify the measures of each construct. Item-to-total correlations and standardized Cronbach's alpha coefficients were calculated to assess the reliabilities of each scale. Items were deleted from their respective scales if item-to-total correlations were low and if items did not contribute to the reliability of the scale. The scales and their standardized Cronbach alpha reliability coefficients are presented in Table 1.

TABLE 1
THE RELIABILITY COEFFICIENTS
FOR THE EXPLORATORY BEHAVIOR SCALES

Scale	No. of Items	Reliability Coefficient
Verbal Information Search	6	0.64
Sensory Information Search	7	0.61
Variety Seeking--Functional Products	4	0.55
Variety Seeking--Esthetic Products	4	0.43
Innovativeness--Cognitive Products	3	0.52
Innovativeness--Esthetic Products	6	0.62

The reliability coefficients for the six exploratory scales ranged from .43 to .64, with all but one scale showing a coefficient greater than .50. These coefficients are modest and may in part be attributable to the small number of items comprising each scale (Nunnally, 1978). However, given the small scale size, and the fact that the scales are in their developmental stages, they are adequate for this exploratory research. They satisfy the criteria for a reliable scale suggested by Nunnally (1978).

The 40 items Sensation Seeking scale had a standardized Cronbach's alpha reliability coefficient of .82, while the Cognition Seeking Scale with 14 items had a reliability coefficient of .69. Both coefficients are consistent with reliability estimates obtained in previous research (Zuckerman, 1979; Hirschman, 1982).

Index Formation

Scores on the Cognition Seeking Scale and the Sensation Seeking Scale were calculated by adding the scores on each item. Based on a median split, the four groups were formed. Experience avoiders were operationally defined as those scoring below the median on both the Sensation Seeking and Cognition Seeking scales (n=94). Cognitive Consumers were defined as those who scored above the median on the Cognition Seeking Scale but below the median on the Sensation Seeking Scale (n=72). Sensory Consumers were defined as those with above median scores on the Sensation Seeking Scale and below the median on the Cognition Seeking Scale (n=70), while experience seekers were defined as those above the median on both Sensation Seeking and Cognition Seeking scales (n=63). The six exploratory behavior scales were calculated by summing scores on items comprising each scale. Each scale was then divided by the number of items so that the scores could be compared between and within groups.

Results

Interindividual Comparisons

A series of one way analyses of variance confirmed that between group differences existed for each dependent variable. To examine the exact nature of these differences, t-test comparisons were performed. The

results for the interindividual comparisons (comparisons between the four groups on exploratory behaviors) are presented in two parts. The first compares hedonic consumers, cognitive consumer and experience seekers with experience avoiders. It determines whether the exploratory behaviors of the first three consumer groups differ from those of experience avoiders and if so, how? The second set compares experience seekers, hedonic consumers and cognitive consumers to determine whether the proposed differences between groups are supported.

TABLE 2

MEAN VALUES FOR THE EXPLORATORY BEHAVIORS OF
EXPERIENCE AVOIDERS, COGNITIVE CONSUMERS,
HEDONIC CONSUMERS, AND EXPERIENCE SEEKERS:
INTER-GROUP AND INTRA-GROUP COMPARISONS

Exploratory/ Experience Behaviors	Means			
	Avoiders (N=94)	Cognitive Consumers (N=72)	Hedonic Seekers (N=70)	Experience (N=63)
Search				
Verbal	2.01	2.31	1.98	2.41
Sensory	2.49	2.73	2.54	2.74
Variety Seeking				
Functional	2.13	2.27	2.30	2.41
Esthetic	2.05	2.34	2.26	2.42
Innovativeness				
Functional	1.79	1.90	2.10	2.25
Esthetic	1.88	2.18	2.23	2.53
Reasons				
Functional	2.82	3.00	2.47	2.85
Esthetic	6.17	6.00	6.52	6.14

Comparisons of Cognitive Consumers, Hedonic Consumers and Experience Seekers with Experience Avoiders. Cognitive individuals engage in significantly more verbal information search than experience avoiders, however the two groups do not differ in epistemic purchase behaviors (Refer Table 3). They do differ significantly in the purchase of esthetic products, with cognitive consumers exhibiting more variety seeking and innovativeness with esthetic products than experience avoiders. Thus, cognitive consumers seek more verbal information than experience avoiders and exhibit significantly higher esthetic purchase behaviors.

Hedonic Individuals do not use more sensory information search than experience avoiders. Nor do they engage in more variety seeking behaviors with esthetic products than experience avoiders. They do, however, engage in more innovative behavior with esthetic products. As expected, the two groups do not differ on verbal information search, or variety seeking with functional products, however, hedonic consumers innovate more with functional products than experience avoiders. In summary, hedonic consumers are significantly more innovative with both functional products and esthetic products than experience avoiders.

As hypothesized, experience seekers differ significantly from experience avoiders on all dimensions of exploratory behavior. Experience seekers are significantly more likely than experience avoiders to make use of verbal and sensory information during search. They prefer variety seeking and innovating with functional and esthetic products significantly more than experience avoiders.

In general, there is support for the proposition that experience seekers, hedonic consumers and cognitive consumers exhibit significantly higher exploratory behavior tendencies than experience avoiders. The pattern of

differences that emerges differs from expectations and is explored in later sections.

TABLE 3

INTER-GROUP COMPARISONS

<u>Experience Avoider Vs Cognitive Consumer</u>		
Search-verbal info.	t=3.07,	p=0.00
Search-sensory info.	t=2.83,	p=0.00
VS-esthetic	t=2.72,	p=0.00
INN-esthetic	t=3.09,	p=0.00

<u>Experience Avoider Vs Hedonic Consumer</u>		
VS-esthetic	t=1.89,	p=0.06
INN-functional	t=2.78,	p=0.01
INN-esthetic	t=3.51,	p=0.00

<u>Experience Avoider Vs Experience Seeker</u>		
Search-verbal info.	t=4.39,	p=0.00
Search-sensory info.	t=2.70,	p=0.00
VS-functional	t=2.84,	p=0.00
VS-esthetic	t=3.32,	p=0.00
INN-functional	t=4.01,	p=0.00
INN-esthetic	t=6.81,	p=0.00

<u>Hedonic Consumer Vs Experience Seeker</u>		
Search-verbal info.	t=4.27,	p=0.00
Search-sensory info.	t=1.93,	p=0.06
INN-esthetic	t=3.00,	p=0.00

<u>Cognitive Consumer Vs Experience Seeker</u>		
INN-functional	t=-2.88,	p=0.00
INN-esthetic	t=3.48,	p=0.00

<u>Cognitive Consumer Vs Hedonic Consumer</u>		
Search-verbal info.	t=3.11,	p=0.00
Search-sensory info.	t=1.96,	p=0.05

Comparisons of Hedonic Consumers, Cognitive Consumers and Experience Seekers. As indicated in Table 3, cognitive consumers use verbal information search significantly more than hedonic consumers, however, none of the other differences in exploratory behaviors were significant. The proposition that cognitive (hedonic) consumers exhibit significantly higher epistemic (sensory) exploratory behaviors than hedonic (cognitive) consumers was not supported.

Consistent with the hypothesis, hedonic consumers do not differ significantly from experience seekers in tendencies to engage in sensory information search or variety seeking with esthetic products. It was found, however, that experience seekers are significantly more innovative than hedonic consumers with respect to esthetic products. It was expected that hedonic consumers would exhibit significantly fewer epistemic exploratory behaviors than experience seekers. This hypothesis was confirmed for search, however, no differences were found for epistemic purchase behaviors. In sum, experience seekers seek more verbal information and innovate significantly more with esthetic products than hedonic consumers.

No significant differences between cognitive consumers and experience seekers in epistemic exploratory behaviors were expected. This hypothesis was supported for verbal information search and variety seeking with functional products. Experience seekers were found to be significantly more innovative with functional products than cognitive consumers. For sensory exploratory behaviors, the results indicate that experience seekers do innovate with esthetic products significantly more than cognitive consumers, however, the groups do now differ from each other on other sensory exploratory dimensions. In sum, experience seekers innovate significantly more than cognitive consumers with esthetic and

functional products.

Discussion of the Interindividual Differences

The broad conclusions that can be drawn for the inter-group comparisons are that experience seekers generally exhibit greater exploratory tendencies as compared to functional or hedonic consumers. Also, the exploratory behavior tendencies of hedonic consumers are generally similar to those of cognitive consumers. The most significant difference between cognitive and hedonic consumers is in the area of search. Cognitive consumers tend to be more search oriented than hedonic consumers, making extensive use of information, from both sensory and verbal sources. Hedonic consumers, search less, but when they do search, use more sensory information.

Few differences emerged between the groups on the variety seeking dimension. It may be that these scales fail to tap variety seeking behaviors appropriately. Alternatively, it may be that variety seeking simply does not differ among consumers with different exploratory tendencies. A third hypothesis is that consumers do not classify products as either esthetic or functional in the same manner that marketers do. Rather, cognitive consumers may see functional attributes in every product, while the hedonic consumers may see esthetic attributes in every product. Thus, hedonic and cognitive consumers may variety seek with the same product, but for different reasons.

Experience seekers are significantly more innovative than the hedonic and the cognitive consumers, who are generally more innovative than the experience avoiders. In general, innovativeness does differentiate between the groups of consumers, though the pattern of differences in epistemic and sensory innovativeness is not as expected. Again, it may be the case that innovativeness, like variety seeking, needs to be examined in terms of the products as seen from the eyes of the consumer, rather than the product as a priori defined. This possibility represents an intriguing one which the authors felt needed additional research.

The possibility that consumers with different predispositions engage in exploratory purchase for different reasons was tested for the innovativeness domain. The sample of 299 subjects was used. The respondents were given a set of 18 items that consisted of two motives each for innovating with nine products. For each product, a sensory reason and a cognitive reason for innovating was provided. For example, one "functional" product used was the newspaper. Consumers were asked to respond on a 5 point likert scale of agreement whether they "Liked to read a new newspaper like the USA today because they contained information on all fifty states (cognitive motive)." They also indicated how much they "Liked to read a new newspaper like the USA today because they liked to look at the colored pictures (sensory motive)."

Subjects received a score of 1 on the variable "cognitive reasons" if their cognitive motive score was higher than their sensory motive score for the same product. They received a score of 1 on the variable "sensory reasons" if their score was higher for the sensory motive than the cognitive one. These scores were summed to create two variables, cognitive reasons and sensory reasons, each of which had a potential range of 0 to 9. Together, they added to a score of 9.

As hypothesized, cognitive consumers innovate not with respect to "functional or cognitive products", but because of cognitive reasons associated with these innovations. Similarly, hedonic consumers innovate not with respect to "esthetic" products but for sensory motives. The analysis presents an interesting hypothe-

sis for the pattern of results found for the exploratory purchase behaviors. It suggests that the apriori classification of products as esthetic or functional may not be appropriate. One has only to think of the movie freak who remembers the case of practically every movie or the housewife who buys Charmin because it is soft to support the thesis that every product has both hedonic and functional value. How consumers view the product depends upon their predispositions.

Intraindividual Comparisons

While the previous set of analysis examined differences in exploratory behaviors across groups with different hedonic or cognitive orientations, this analysis examined the frequency of exploratory behaviors within groups of consumers with the same predisposition. The comparison here is between sensory and epistemic behaviors within the same group of individuals. The question is, do consumers use more sensory (epistemic) exploratory behaviors relative to epistemic (sensory) ones?

TABLE 4
INTRA-GROUP COMPARISONS

Search-verbal Vs sensory info.	<u>Experience Avoiders</u> t=6.21, p=0.00
Search-verbal Vs sensory info.	<u>Hedonic Consumers</u> t=5.93, p=0.00
Search-verbal Vs sensory info. INN-functional Vs INN esthetic	<u>Cognitive Consumers</u> t=4.94, p=0.00 t=2.82, p=0.00
Search-verbal Vs sensory info. INN-functional Vs INN-esthetic	<u>Experience Seekers</u> t=4.05, p=0.00 t=3.30, p=0.00

On the information search dimension, a consistent pattern of results was found (Refer Table 4). For every group, consumers make greater use of sensory information as compared to verbal information when searching. In a typical consumer search context therefore, sensory information search dominates verbal and factual information search. Several factors may explain these results. It may be that sensory information is often more readily available than verbal information. Furthermore, it is easier to make use of sensory information than verbal and factual information. Sensory information may also serve as a heuristic for more complex search behaviors.

The other consistent finding is that across all groups, consumers variety seek with "esthetic" products no more than they do with "functional" products. Individual differences in predisposing tendencies, therefore, have no bearing on which type of product consumers tend to variety seek with relative to another type of product. Again, this result may be due in part to the fact that reasons, rather than products, contribute to variety seeking tendencies.

The results for innovativeness seem to indicate that the consumers are more likely to innovate with esthetic products than they are with functional products. Thus, while there are no intra-individual differences for sensory and epistemic variety seeking, differences do exist for epistemic and sensory innovativeness. The results, however, are strongest for the cognitive consumers and the experience seekers.

This research reports three interesting findings. First, individuals with hedonic and/or cognitive predispositions tend to be explorers in the marketplace relative to those without cognitive or hedonic predispositions. This was most clearly the case for experience seekers who differed from experience avoiders on all types of exploratory behaviors studied here.

Second, hedonic and cognitive consumers engage in exploratory purchase because they value the sensory or cognitive attributes they perceive in particular products. Given the same product, they may value it for different reasons. Hedonic consumers perceive the hedonic aspects of a product, whether it is bathroom tissue, movies or opera. Cognitive consumers, on the other hand, see the practical/functional value of a product, be it football or peanut butter. The results do not support the hypothesis that consumers predispositions influence exploratory purchase with products that marketers define as "functional", "cognitive", "sensory" or "esthetic".

Third, information search is primarily expressed through sensory information search. Consumers prefer the sensory modality of search over the verbal and semantic mode regardless of hedonic or cognitive predispositions. This is an interesting finding since it suggests that exploratory search may primarily be a sensory activity, not a cognitive one. If this is true, much of the current work in consumer exploratory behavior has focused on the least prevalent and perhaps least interesting aspects of search. Future research needs to explore the nature of search as a sensory or esthetic experience. More of a hedonic rather than an information processing perspective can be fruitfully brought to bear on the nature of exploratory behaviors.

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ON INTEGRATING CONSUMER NEEDS FOR VARIETY
WITH
RETAILER ASSORTMENT DECISIONS

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Abstract

Interest in consumer variety seeking behavior has recently gained momentum. A consumer's variety drive must be satisfied by the marketer's assortments of products and services. This paper calls attention to an important problem; the necessity for retailer strategies which satisfy consumer needs for variety. More specifically, it investigates four issues: (1) factors influencing consumer's need for variety and their impact on the retailer's assortment strategies; (2) the utility consumers derive from the assortment; (3) the dimensions and factors which define the framework within which retailers must develop their assortment strategies; (4) the likely existence of an "assortment range" which can respectively satisfy the needs and constraints of both consumers and retailers.

Introduction

Research into consumers' need for variety has gained considerable momentum in the last few years, (e.g., McAlister and Pessemier 1982; Hoyer and Ridgway 1983). Consumers' need for variety is satisfied by the "assortment" of products and services that are provided by manufacturers, wholesalers, and retailers. However, the "assortment provider's" perspective has been ignored by researchers; moreover, no attempt has been made to combine the consumers' and providers' assortment perspectives. Hence, major thrusts of this paper are twofold: (1) to increase the awareness among marketers of the necessity to match consumer variety needs with retailer assortment strategies, and (2) to investigate how each of these two groups perceive the assortment problem and its implications for retail assortment strategy.

A recent survey of retail executives (Achabal, McIntyre, and Kriewall (1983) reported that the current economy was forcing management and employees to be more critical of their organizational productivity. Executives felt that the potential for future "front-end" labor (sales staff) reductions is extremely limited. Future productivity gains must come from "behind-the-scenes improvement," especially in the area of improved assortment. However, this practical use of assortment to achieve "managerial goals" (ex., productivity, profitability) has not been complemented by the development of an adequate theoretical framework to explain either the consumers' and/or retailers' conception of assortment size. This is one reason why retail management textbooks tend to treat merchandising as an "art" as opposed to a science (Mason and Mayer (1981). There is a great need for research that will explain and quantify consumers' and retailers' behavior concerning assortment size.

This paper will define "assortment size" as having two major dimensions: (1) Breadth: the number of different product categories offered by the retailer; (2) Depth: the array of product choices within the individual categories. The paper attempts to investigate four aspects relevant to assortment strategy: (1) the consumers' variety seeking behavior, its causes and their implications for retail assortment strategies; (2) the possible existence and shape of the consumer's assortment utility function; (3) the dimensions and factors which influence and might serve to define the framework within which retailer's must make assortment decisions;

(4) the possible existence of an "optimal assortment, range" as seen from dual perspectives - the consumers and the retailers' and its implications for retail strategy.

The following section discusses aspects of "varied behavior" among consumers. Consumers are divided into two purchase behavior segments: one whose purchase behavior can be anticipated by retailers, and a second whose purchase behavior is less predictable--the variety seeking segment.

Consumers' Perspective of Varied Behavior

Segments Whose Purchase Behavior Can Be Anticipated

Consumer populations can be viewed from the retailers' perspective as being composed of several different purchase behavior segments. For example, the brand loyal, bargain hunter, and the variety-seeker segments differ from each other with respect to their purchase motivation and therefore with regard to the applicable assortment strategy. Retailers may establish a different assortment strategy for each segment to which they cater. The amount of difficulty involved in setting a strategy and the probability of success in implementing it depend on both the ability to predict each segment's behavior and to understand its motives.

Consumer segments whose purchase behavior is relatively easy to anticipate include the bargain hunters, the innovators, and brand loyal segments. "Bargain hunters" purchase a brand from a product line assortment based on which brand is on sale. These consumers are not primarily motivated by the need for variety. Retailers' assortment strategies will accommodate this segment whenever at least one brand in the product class is on sale.

Another segment includes the novelty (innovation) seekers. Some consumers seek new brands which they have never tried before. To satisfy their need a retailer has to include the latest brand in his assortment (e.g., high fashion retailing).

Many consumers are brand loyal to one brand over long periods of time. This segment's size amounts to 40%-70% for appliances (Newman 1977), and 30%-39% for product classes with shorter repurchase periods (Handelsman 1982). These consumers have no need for the total assortment offered by a retailer. They patronize a retail outlet only if their favorite brand is there. How to satisfy the brand-loyal segment is obvious; however, the selection of which specific brands to include in the assortment is not.

The Variety Seeking Segment

Generating a retail marketing strategy to satisfy the variety seeking segment is more complex than for the aforementioned segments. This is due to the complexity of variety seeking behavior and the difficulty of anticipating it. Studies which have been done suggest that variety seeking behavior is inconsistent across product classes; i.e., it is a product specific consumer characteristic. Attempts to explain and predict variety seeking are exacerbated by the fact that it is difficult to assign an index of "variety seeking" to consumers.

The reasons for varied behavior are numerous. However, most variety seeking behavior can be categorized into two types: (1) behavior "derived" as an outcome of external or internal motives, independent of pursuing variety for its own sake; or (2) "direct" behavior as an end in itself, where consumers pursue variety because it is inherently satisfying in and of itself. Each of these major categories are discussed below.

Derived Causes of Varied-Behavior

Satiation, multiple needs, and multiple conditions are included here. One may categorize these causes of varied behavior into a finer classification, where satiation's elements are defined as endogenous causes, while multiple needs and conditions are defined as exogenous forces. Multiple needs include such factors as multiple users, contexts, and uses, while multiple conditions include changes in the feasible set of alternatives, changes in tastes, and changes in constraints (McAlister and Pessemier 1982, Laurent 1978).

It may be helpful to divide satiation into two categories: First, satiation at a given point in time in conjunction with attribute balancing (Farquhar and Rao 1976, McAlister 1979). Second, as a result of continuous consumption of objects which leads to boredom (Howard and Sheth 1969, Brickman and D'Amato 1975).

Direct Causes of Varied Behavior

Intrapersonal Causes. A number of direct causes of varied behavior can be named: curiosity, novelty, information seeking, balancing, etc. These have all been viewed as desirable goals of the individual because they are "inherently satisfying" (Maddi 1968). Psychologists have been investigating these phenomena since the beginning of this century (Dashieil 1925, McDougall 1908).

More recently the concept of drive reduction (people being motivated toward minimizing stimulation) has begun to be replaced by a newer concept--the Optimal Level of Stimulation (OLS) as an explanation of variety seeking behavior. Noteworthy OLS researchers include several (e.g., Berlyne 1960, Driver and Streufert 1964). Venkatesan (1973), McAlister and Pessemier (1982), and Raju (1981) have summarized and compared the OLS approaches. Basically these approaches suggest that as stimulation (novelty, complexity, etc.) increases past the individual's subjective "ideal level," he will try to simplify the input. When the stimulation falls below the subjective ideal level, the individual experiences boredom and tries to seek greater stimulation.

The heterogeneity of consumers with respect to OLS has direct bearing on the assortment provider's decisions regarding assortment size. Researchers have suggested that maintaining a certain level of stimulus change, novelty and complexity is essential for effective human functioning. They also assumed that individuals differ in their optimal stimulation level and that OLS is related to personality characteristics. However, the specific retail strategy which might be deduced from knowledge about any consumer's OLS is much less clear than are strategies for addressing the purchase behavior of segments such as the bargain hunters, brand loyal, or novelty seekers. One might argue, for example, that the same assortment of X items will be perceived differently by consumers whose OLS's differ. A consumer with a relatively low OLS will perceive that assortment as overwhelming; while another with a higher OLS will evaluate it as just right, and a third with a relatively high OLS will perceive it as unsatisfactory.

Another factor that complicates the situation is that each consumer's optimal stimulation level may change with time and conditioning level (i.e., exposures to the stimulation). At a specific point in time, several

people with the same OLS will experience different levels of stimulation from the assortment depending on their prior exposure to stimuli. Thus, even if researchers may be able to develop an accurate index of OLS for consumers by employing some measure of OLS (Raju 1980), the problem remains of determining "how much" stimulation has already occurred prior to the consumer's entering a store.

Novelty Seeking as a Cause for Variety Seeking Behavior

Variety-seeking is an innate drive that may be satisfied by an idiosyncratic level of stimulation (Handelsman 1982). To reach this optimal stimulation level, a consumer has to explore (i.e., gain continuous contact with) novel items. A particular item loses its novelty as the consumer's experience with it increases, so that the consumer has to switch from one item to another, and by this he expresses "varied buying behavior." To maximize variety, a consumer has to simultaneously switch among brands perceived to be maximally dissimilar, and in each switch to choose that brand with which he has minimal experience.

Information Seeking as a Cause of Variety-seeking Behavior

Howard and Sheth (1969) suggest that active seeking of information occurs when ambiguity of brands is felt by a consumer, i.e., the consumer is not sure of the benefits offered by each brand and is not capable of discriminating among them. This seems to be consistent with Hirshman's (1980) hypothesis that motives for varying choice among "known" stimuli do not concern information needs. One way to collect information is through trial of different brands, which results in varied buying behavior.

Interpersonal Causes of Varied Behavior

Group affiliation and personal identification are two interpersonal motives of varied purchase behavior. Regarding group affiliation, some of an individual's variety seeking behavior may arise from desires to conform to salient group norms. Affiliation needs can often lead to imitative purchase behavior. Much of research on social class and fashion behavior supports this observation (McAlister and Pessemier 1982). Regarding the need for personal identification, much variety seeking behavior may derive from the individual's attempts to communicate "unique" aspects of self through using a specific product (e.g., Landon, 1974; Munson & Spivey 1981).

In sum, retail marketing strategies for satisfying variety-seekers' assortment needs are much more difficult to formulate, and are much less clear-cut than are the strategies for dealing with the bargain hunters, brand loyal, and innovator segments.

Consumer's Utility Function For Assortment Levels

One can implicitly assume that a consumer's "need for variety" is often satisfied by the various assortments of products and services offered in the marketplace. However, this assumption must be validated by answering a key question: Do consumers consider "assortment size" as a salient store attribute in patronage decisions? If not, there is no point investigating the shape of the consumer's utility function derived from various assortment sizes.

This section addresses the following three questions: Q1. How important is assortment size as a determinant of store patronage behavior? Q2. Is there a relation between assortment size and the consumer's perceived utility derived from the assortment? Q3. Is there a "range" of assortment sizes which will optimize a consumer's utility?

Regarding Q1, several studies indicate that assortment size does influence retail patronage behavior (ex., Car-dozo 1975; Arnold, Ma and Tigert 1978). Assortment size (together with quality) was found by Claxton and Ritchie (1979) to be by far the single most important factor influencing choice of an outlet for clothing and footwear retailers. They note that providing a wide choice of easily accessible items appeared to be the "fundamental approach to satisfying the needs of (these) consumers." In a review of 26 studies of retail store patronage, Lindquist (1975) found that merchandise selection or assortment were the most frequently mentioned store attributes (mentioned by 42% of the studies). For comparison, merchandise quality and pricing were mentioned in 38%.

Regarding Q2 above, at first glance one might expect that the utility of assortment to the consumer should be a monotonic increasing function; i.e., the more the better. Baumol and Ide (1956) formalized this point of view through their "probability of success" notion: shoppers do not know in advance whether they will find what they want when entering a store; however, they will assume that the greater the number of items carried by the store, the greater their expectation that the shopping trip will be successful. However, recent research has revealed that shoppers often are confused when confronted with too many brands from which to choose (Wall Street Journal, 1982).

These two contrasting effects, the need for wide assortment and the confusion aroused by too much variety, were combined in an effort to model consumer utility from store assortment (Baumol and Ide 1956). In their model the consumer decides which store to patronize by weighing the probability of a successful shopping trip to a store--which is a function of: distance to the store, time, effort, and opportunity costs--against the "difficulty" of shopping in the store itself. "Difficulty is a function of the assortment size and is expressed as the square root of the assortment size (...the more items stocked the further we must walk to get to the spot where some items are kept)". Results from the model show that increasing a given store's assortment will increase consumer utility only up to a point, and then utility will decline; the store becomes difficult to shop mainly because of confusion and fatigue. Thus, the consumer's utility function for assortment has a bell shape.

This notion of a bell-shaped utility curve is also supported by Brown (1978) who found that "The pattern of patronage is approximately bell-shaped over different store size intervals...(it) is certainly not monotonically increasing as expected... 'Average' sized stores received more patronage than either larger or smaller stores."

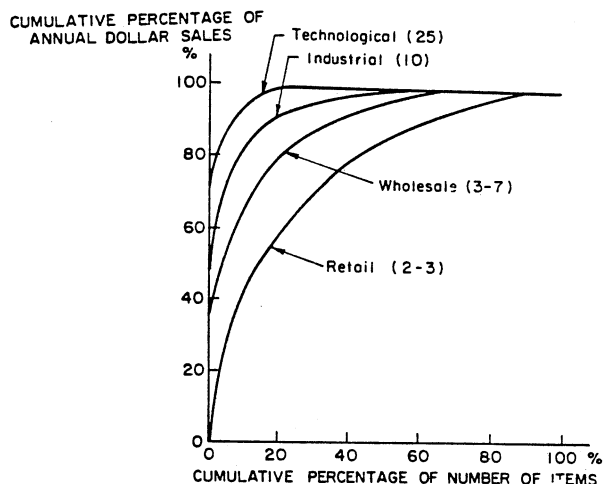
Given that the consumer's utility function for assortment size is apparently adequately modeled by a bell-shaped curve, then the answer to Q3 above regarding the existence of an "optimal range of assortment size" is apparent. That is, consumers should favor assortment sizes which fall within close proximity to the peak of their "individual" assortment utility curves (a situation similar to consumer's OLS, as discussed earlier).

Retailer's Perspective of Assortment

The retailer's assortment strategy is driven by the consumers' "need for variety." In prior sections we have suggested that much of variety seeking is an innate drive and that consumers strive to satisfy it through varied purchase behavior. In this section we investigate the issue of assortment size from the other side of the coin--the retailer's.

Who provides consumers with assortments--manufacturers,

wholesalers, and retailers of course. However, each of these "assortment providers" is likely to experience differing degrees of difficulty regarding their assortment decisions. Figure 1 points out the differences between these three groups in the degree to which total annual sales tend to be concentrated across different product lines. It is clear that sales concentration is higher among manufacturers (both technological and industrial) than among wholesalers and retailers (where sales concentration is the lowest).



Source: Brown, Robert G., Statistical Forecasting for Inventory Control. New York: McGraw-Hill, 1959.

Figure 1. Sales Concentration Across Assortment Providers

Figure 1 implies that retailers must provide a wider assortment than either manufacturers or wholesalers. Thus, the assortment issue is likely to be more important and more problematic to retailers. It is primarily for this reason that we have assumed a retailer's perspective when investigating assortment issues from the provider's standpoint. Although our discussion below generalizes the assortment issue across retailer types, the reader is reminded that various store types can differ in their sales concentration level depending upon the products carried (e.g., hardware vs. clothing).

Assortment decisions, as other managerial decisions, are part of the retailer's strategy which is usually aimed at increasing sales to current and/or new customers. To achieve this objective a retailer must have a comparative advantage over competition. This advantage should be important and visible to shoppers, as well as make the greatest contribution to the retailer's return on investment. The major dimensions on which a "retailer's assortment" might be analyzed appear in disparate form in the marketing literature. Figure 2 represents an attempt to integrate these dimensions into a more cohesive framework together with the factors influencing a retailer's assortment decision making.

The Figure suggests four major dimensions:

1. Completeness of assortment--the number of items and the consumer's perceived diversity and appropriateness of the items carried.
2. Price/quality/value--the perceived level of prices, quality, and the overall value offered in each product class.
3. Fashion level--the perceived level and the appropriateness of the fashion level.
4. Brand emphasis--consumer satisfaction with the extent of private-brand and national-brand representation. (See

Pessemier, 1980 for elaboration).

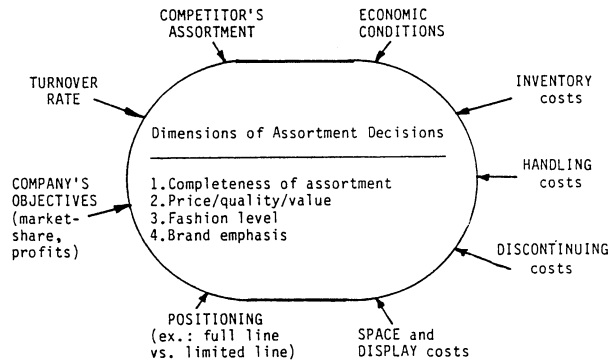


Figure 2. Dimensions of and Factors Influencing Retailer Assortment Decisions

The retailer's assortment marketing strategies may emphasize one or more of the aforementioned dimensions. It should be noted that these dimensions may be "substitutable". For example, one approach to retail strategy may be to concentrate on customers who display high store loyalty but little brand loyalty.

Factors which can influence the retailer's assortment decisions regarding each dimension are shown outside the circle in Figure 2. A key notion suggested by the framework is that there exists a multiplicity of factors which individually or jointly can impact each dimension. Some highly complex interaction patterns of factors x dimensions can serve to increase the difficulty of assortment decisions for the retailer. Although discussion of the individual factors is beyond the scope of this paper, the interested reader can refer to Kotler (1980), Mason and Mayer (1981), Bishop (1978), and Pessemier (1980) for more detail.

Matching Consumer And Retail Assortment Needs

Thus far, we have described the retailer's and consumer's perspectives of the major factors which influence assortment size. Each party is motivated by a different set of goals and constraints. Additionally, prior research supports the notion that both the consumer's and retailer's utility functions for assortment size approximate a bell-shaped curve. The key question to now consider is whether there is an "assortment size" which will simultaneously satisfy both the consumer's and retailer's needs?

Unfortunately, several factors may preclude an easy matching of these two groups' respective assortment needs; major ones include the following:

1. The optimal assortment size may vary across consumers due to heterogeneity in their needs for variety. Building an assortment to optimize some "average" assortment utility function will mean the retailer satisfies only one segment. All other segments whose optimal range lies below or above the "average" will perceive the offered assortment as inadequate.

2. The possible dynamic nature of each consumer's utility function, both within and across product categories. Little research exists regarding how fast or how frequently a person's range of optimal assortment sizes may change. That the range might shift over time suggests a "conditioning hypothesis": consumers can be conditioned by the assortment offered in their environment, and they will adjust their desired level of assortment accordingly. As a case in point, Arnold, Oum and Tigert (1983) found that in the Tampa, Florida area where "supercombo" stores dominate the market on both food and non-food assortments, "...consumers place greater salience on the

'assortment' attribute and less on price in store patronage decisions compared to other areas where super-combos do not exist."

3. The retailer's cost structure (i.e., overhead, required profit objectives, etc.) may necessitate that he carry an assortment which is either larger or smaller than that desired by his primary target market.

An optimal assortment size that will satisfy both consumers' needs and retailers' constraints is not easily attainable for the aforementioned reasons. However, in view of the large potential payoffs to both retailers and consumers from a more optimal matching of their respective needs, we encourage future research on this aspect.

Conclusion

This paper has reviewed the major forms of "varied" consumer behavior (i.e., direct, derived) and indicates that each can require a different type of retail assortment strategy. It also presents a framework delineating the major factors and dimensions which define the arena in which retailers must develop their assortment strategies. Additionally, evidence is presented which indicates that the shape of the utility function for assortment size is bell-shaped for both the consumer and the retailer.

Hopefully this paper will increase our understanding of the dynamic interplay between the numerous forms of a consumer's "varied behavior," (especially variety seeking) and their subsequent implications for the retailer's assortment strategies. Rather than treat each of these activities in isolation as has been done in past research, this paper suggests the need for their integration. Viewing the consumer's need for varied behavior and assortment size decisions as "opposite sides of the same coin" should lead to more effective marketing strategies by increasing our understanding of each area.

Regarding future research, the notion that the consumer's utility function for assortment sizes may be dynamic both within and across product classes, suggests the necessity to investigate the extent to which assortment-related problems and strategies differ across retail store types. The consumer's perspective should be considered by investigating the need for variety in various product classes.

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NEW PERSPECTIVES ON ACCULTURATION: THE RELATIONSHIP OF GENERAL AND
ROLE SPECIFIC ACCULTURATION WITH HISPANICS' CONSUMER ATTITUDES

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Abstract

Two acculturation scales were derived and then compared in terms of their association with Hispanic consumers' attitudes as well as their exposure to and perceptions of Spanish language television commercials. One scale represented a measure of general acculturation while the other was more situation specific. This allowed for a more complete explication of the concept of acculturation and demonstrates the need for more specific consumer oriented acculturation measures.

The rapidly expanding Hispanic population of the United States has spawned new interest and research activity in the area of ethnic marketing, segmentation, and intercultural analysis. Research in this area has begun to delineate differences in Anglo and Hispanic buying behaviors (Wallendorf and Reilly 1983; Deshpande and Hoyer 1982). Additionally, differences in cultural values are beginning to be recognized as important in developing advertising and promotional strategies to the Hispanic market (Helming 1983; O'Guinn and Meyer 1983). These studies have encouraged marketers to view Hispanics (or various Hispanic nationalities) as a distinct subculture. However, whenever immigrants remain in a new country, sooner or later they begin to understand and then adopt at least some of the norms, values and behaviors of the host culture, and some of the initial differences begin to blur. This process is known as acculturation.

The extent to which, and the manner in which this acculturation process is articulated in buyer behavioral terms should be of considerable interest to marketing and advertising researchers in the future, and suggests some very interesting questions. For instance, in the years to come, will Hispanics be considered a distinct subcultural segment of the U.S. market with significantly different consumption patterns and decision processes, or will they be indistinguishable from other consumers of similar socioeconomic levels? Will there be two classes of Hispanics, those who enter the cultural mainstream, and those who do not? As some Hispanics become more acculturated will their buyer behavior differ significantly from those less acculturated? Will more acculturated Hispanics have consumer patterns that are exactly the same as Anglos or will they emerge as a group uniquely and qualitatively different from both Anglos and less acculturated Hispanics? Without some measure of acculturation, empirical investigation of such questions will be near impossible. In order to embark on a program of research to address these questions, an initial step must explicate the concept of acculturation with special attention to its relationship to consumer behavior.

It is not an easy task to determine just how Hispanic, or Americanized an individual or a population is. Self report measures are suspect insofar as the response may depend almost entirely upon who is asking the question, and the context in which it is asked (Allen 1975). Yet, more indirect and unobtrusive measures depend upon several assumptions, and may be plagued with a high risk of misinterpretation. Still, if empirical research in this area is to progress these problems must be confronted. This paper reports on the initial stages of an ongoing effort to empirically determine the underlying dimensions of acculturation and to develop an Hispanic

acculturation scale which can be useful for explaining consumer behavior.

Previous Research

There exists no standardized method by which to define or assign level of acculturation. Many theorists have treated acculturation as the polar opposite of ethnicity. Immigrants have typically been viewed as either ethnically bound or acculturated with nothing in-between. Occasionally, authors have recognized the inadequacy of this viewpoint and have included a third "bicultural" category (Chang 1972). Kim (1979) however, has cogently pointed out the fallacy of these limited perspectives and has instead proposed viewing ethnicity and acculturation as anchor points along a continuum. An individual may then be perceived as being more or less acculturated at any given point in time.

While Kim's perspective is an important improvement over earlier conceptualizations, it too has limitations. Most importantly, it continues to view an individual on a linear continuum and at only one point of acculturation at a given time. We have previously proposed an alternative conceptualization of acculturation utilizing role theory in which individuals may be at different levels of acculturation for the different roles they assume (O'Guinn, Faber and Meyer 1984). Individuals are cast into a variety of different roles in the course of their daily lives. Each role may bring into play a different level of acculturation or ethnicity. For example, an individual may behave in accord with his or her ethnic norms when at home with other family members. For this individual, these ethnic values are what is expected in the parental or child role. However, this same individual may have learned and even adopted the cultural norms and behaviors of the host society in other roles (e.g., work or school). In order to understand this individual's attitudes or behaviors in a given situation, we must recognize the level of acculturation being brought to that situation specific role. This more complex perspective of acculturation is necessary to more accurately understand and predict human behavior.

Just as the conceptualization of acculturation has typically been treated at a simplistic level, so too has its operationalization. Researchers have generally used just a single variable, or occasionally a few variables in a rather arbitrary manner when it comes to classifying someone as either more or less acculturated. These measures have usually stressed demographic variables such as urbanization, age, religious affiliation, language ability or preference, national origin, number of generations in the host country, and education (Murguia 1975; Lennon 1976). Research in this area has been predominately the work of sociologists. Buyer behaviorists have yet to explore the area to any significant degree.

The actual use of formalized acculturation scales has been even more rare. Only a few researchers have tried to determine the component dimensions of acculturation or to combine items presumed to be related to acculturation into a single scale. One recent attempt at scale construction came from Lennon (1976). Building upon the work of Campisi (1948) and Trutzka (1956), Lennon constructed a single index of acculturation based upon sixteen traits and attitudes of Puerto Ricans living in the Chicago area. Each of these items was assigned a weight

by an expert panel of fifty sociologists at Loyola University. Respondents' scores were then weighted and summed to yield a single index. This index was then shown to be related to several attitudinal and structural variables.

In recent years there has been a renewed interest in the use of communication variables in developing acculturation measures. While a recognition of the importance of communication variables dates back to at least the 1930's (Sapir 1931), most research ignored communication variables in favor of demographic characteristics in composing simplistic measures of acculturation. Communication variables should be highly related to acculturation since the process of becoming acculturated is by definition accomplished through communication. Interpersonal communication with members of the host society allows immigrants to experience and learn the behavioral norms of the new culture. Media presentations can also convey the values and norms of the society which created them (Lasswell 1948). Gerson (1966), for example, has shown this to work in regard to learning dating behaviors from television. Thus by using the mass media of the dominant culture, the minority group member can learn culturally appropriate norms and behaviors.

Efforts to relate communication variables to acculturation have been reasonably successful. Kim (1977), for example, found both interpersonal and mass media variables to be related to understanding the difference between ethnic and host society values and norms.

The few studies which have included communication variables along with demographic characteristics in their efforts to build acculturation indices have spurred the belief that acculturation is not a simple, unidimensional construct. Pierce, Clark and Kaufman (1972), using cluster analysis, found two separate dimensions of acculturation. Dunn (1975) factor analyzed a large number of media use variables along with a few demographic characteristics from a Mexican-American sample and uncovered six separate factors involving such dimensions as "traditionalism," radio use and employment. Olmedo and Padilla (1978) developed an acculturation index and validated this index by comparing the scores of Anglos with those of first and third generation Mexican-Americans. A factor analysis of their scale items indicated that there were three orthogonal dimensions: nationality and language use; SES; and attitudes involving the potency ascribed to the terms "father" and "mother."

Most of these past efforts to develop an acculturation index have either included many demographic variables and just one or two communication variables, or they have used many communication items and just a couple of demographic ones. Additionally, they have all proceeded from the assumption that acculturation is a general measure which effects equally all components and roles in a minority group member's life. The current study was an attempt to continue the effort at uncovering the underlying dimension of general acculturation as well as to move beyond this view and determine if role specific acculturation can more accurately explain role specific values and behaviors than a general measure of acculturation.

Method

The data used in this investigation were collected in Chicago, Illinois during the months of October through December, 1983. These data were collected via a mixed method procedure which used both random digit dialing and systematic selection of Spanish surnames from the Chicago telephone directory. Approximately 85% of the 208 Hispanic respondents were selected via the RDD method. This mixed method procedure has been suggested as being a preferred method for the collection of ethnic

survey data (Himmelfarb, et.al. 1983). Data collection was bilingual and conducted by the Survey Research Laboratory of the University of Illinois. Chicago was selected because it has the sixth largest concentration of Hispanics among U.S. cities, and is the most heterogeneous of any major Hispanic ADJ with respect to the composition of the Hispanic population by national origin (Guernica 1982).

This survey was quite extensive and collected information regarding many aspects of buyer behavior, as well as several measures specifically designed to indirectly assess level of acculturation. Among these were demographic measures, such as the national origin of the respondents, the respondents' parents, and their grandparents. These questions were included since the amount of time a family has been in a country is traditionally thought of as being related to acculturation (Olmedo and Padilla 1978).

One's physical and social environment may also be indicative of some sort of ethnic affiliation or empathy. To represent physical environment, the instrument asked respondents to estimate the percentage of Hispanics living in their neighborhood. Social environment was measured by items asking if the respondent belonged to any Hispanic social or business organizations.

The instrument gathered considerable information on communication preferences. While language preference has long been recognized as an important indicator of acculturation level, other communication variables have generally been ignored. This is, of course, due to the fact that so much of the work on assimilation predates the electronic media (especially non-English language programming), and the rise of speciality publications. Currently, however, all major Hispanic ADI's are served by at least one Spanish-language radio station, and usually at least one Spanish-language television station.

Rather than merely asking respondents which language they preferred in general, several additional items were made media and situation dependent. By relating language preference to situations we allowed for the possibility of discovering interesting relationships between situational roles and language preference. It was hoped that this might serve to provide a better understanding of acculturation in its natural context.

Respondents were asked which language they preferred (Spanish, both Spanish and English, English) when at home, when at work, when speaking, when reading, when watching television, listening to the radio, or when reading the newspaper. In the case of mass media sources, a distinction was also made between entertainment and news content. The version (Spanish or English) of the questionnaire the respondent chose was also coded and treated as an additional language preference measure.

All of these measures were considered in attempting to determine the underlying dimensions of acculturation. Two additional communication variables, language preference when shopping and when doing business were also assessed, but were used to form a separate consumer role specific acculturation measure rather than being used with the general acculturation index.

The final set of items included in this study were consumer related measures which were considered to be potentially related to acculturation level. These measures included the use of attitudes towards Spanish language commercials versus English language ones, and product attribute ratings for beer. Beer was chosen as the product of study since Hispanics' brand preferences differ sharply from Anglos (Guernica 1982) and because prior research indicated that different cultural groups each have unique attitudes and behaviors regarding the use of alcoholic beverages (Greely, McCready and Theisen 1980).

Additionally, Wallendorf and Reilly (1983), in a garbology study of ethnic difference, found that Mexican-Americans fall between Anglos and Mexicans in their consumption of beer, indicating a potential effect of acculturation.

Results

The first analytical step in the acculturation scale construction effort was to factor analyze those items thought to be acculturation related. In this step 18 variables were entered into a principal components factor analysis for the purpose of discerning the critical underlying dimensions of acculturation, their relative importance, and the relative importance of the individual measures which comprise those factors. Since the factors were assumed to be correlated, an oblique rotation was employed.

This factor analysis produced three factors with eigenvalues greater than 1.0.

TABLE 1

Factor Pattern Coefficients	Factor Pattern Coefficients		
	factor 1	factor 2	factor 3
national origin of respondent	.980	.177	.052
national origin of father	.809	-.069	.078
national origin of mother	.996	.083	.049
national origin of mothers' father	.521	-.077	-.011
national origin of mothers' mother	.525	-.037	-.032
language of questionnaire	.127	.836	-.040
language preferred for speaking	.105	.846	-.000
language preferred at home	.097	.717	-.022
language preferred for reading	-.046	.799	.042
education	.092	-.203	.624
number of adults in household	.093	.123	.621
age	.057	.172	-.547
EIGENVALUE	5.30	2.84	1.17
PERCENT OF VARIANCE	53.4	28.7	11.8

Together these three factors accounted for 93.9 percent of variance, and clearly represented three very distinct dimensions of acculturation. Only variables with a factor pattern coefficient greater than .5 were selected for further use; all others were discarded. Five variables meeting this test comprised factor 1; four made up factor 2; and factor 3 had three variables. All five measures of factor 1 were measures of national origin. The items loading on factor 2 all represent a general language preference; while the three measures comprising factor 3 were demographic in nature.

The results of the factor analysis were then used to compute three scores, each representing a single factor. Standardized scores were calculated for each of the variables, in order to account for unequal scale sizes. The standardized scores for each variable were then added together to yield a score for each factor.

At this point, the three components were combined. Although various weighting schemes were considered, equal weighting was selected. In the absence of any objective standards, and to be consistent with the developmental nature of this work, a rather simple procedure was felt to be most appropriate. It should also be noted that any variable with a negative factor pattern coefficient was reverse coded prior to actual scale construction. By adding these three scores together the

general acculturation scale was produced.

The consumer acculturation scale was computed by adding the standardized scores of two measures. These two items were the language preferred for shopping and the language preferred in consumer situation specific roles.

The general acculturation scale and the consumer acculturation scale were found to be modestly correlated ($r=.22$, $p<.001$). The two scales were then tested for their association with several important buyer behavioral measures. These were attitudes toward Spanish language television commercials versus English language ones and attitudes toward product attributes of beer.

Pearson correlation coefficients were computed to determine the association between the two scales and the consumer related measures.

TABLE 2

Pearson Correlation Coefficients

	General Scale	Consumer Scale
Beer Brand	-.15	-.25
Package	*	-.25
Type	*	-.27
Taste	-.13	-.22
Price	*	-.16
Prior Experience	*	-.24
Friends' Recommendation	*	-.19
Advertising	*	-.19
Exposure to Spanish language TV ads	-.34	-.28
Spanish language commercials are more honest	*	.17
Spanish language ads are easier to understand	-.22	-.16

*correlation non significant at $p < .05$

In terms of attitudes toward Spanish language television commercials, several interesting correlations were observed. Both scales were negatively correlated with a preference for Spanish language television, and with the belief that they are easier to understand. This, of course, indicates that more acculturated Hispanics do not need to rely as heavily on Spanish language commercials for product related information. Yet, interestingly enough, the correlation between the consumer acculturation scale and the belief that Spanish language commercials are more honest than English language ones is positive ($r=.17$, $p<.05$). This may indicate that as Hispanics become more integrated into the cultural mainstream and have more direct experiences with English language ads they also develop greater skepticism of host language television commercials. This may parallel the developmental trend found among children as they gain greater experience with commercials (Ward, Wackman and Wartella, 1977).

When the beer attribute rankings were considered, the consumer scale fared better than the general acculturation scale. In every instance it produced higher correlations. The general scale finds acculturation related differences in regard to brand and taste. The consumer related acculturation scale, on the other hand, produced significant ($p<.05$) correlations with all eight product attributes.

The results from both acculturation scales indicate that more acculturated Hispanics view these product attributes as less important than do those less acculturated Hispanics. While these results may seem to indicate that less acculturated Hispanics consider more product attributes, it might in reality be indicative of a more

narrow and less flexible choice model. The consumer acculturation scale was correlated most highly with the importance of: type of beer (light versus regular), package (cans versus bottles), brand, prior experience and taste. The importance of type and package may indicate that only a limited number of brands may ever be considered. The importance of prior experience, brand and taste seems to suggest that brand loyalty may be particularly strong among less acculturated Hispanics.

Discussion

The results here assessing the underlying dimensions of general acculturation are highly consistent with the current trends in explicating this concept. They indicate that acculturation is not composed of just a single underlying dimension, but, rather, is comprised of several separate lower-order constructs. This underscores the need for future research to avoid utilizing simplistic, single item measures as surrogates for acculturation. One item alone is incapable of tapping all the complexities of this multidimensional concept.

In our research, we have utilized a large number of variables and a greater balance between communication and demographic items than previous acculturation studies. It is, therefore, particularly encouraging to note the close parallel between the factors emerging here and those found by Olmedo and Padilla. In our study, three factors representing national origin, language/communication and SES demographics were uncovered. In Olmedo and Padilla's data, SES formed one dimension while national origin and language combined to form a second factor. The only different factor they found was composed of the potency ascribed to parents; a concept not investigated in our study. Given the differences in the variables included the measures used and the samples, the great similarity in results is extremely encouraging. The results of both studies also support the current trend of perceiving communication variables as an important foundation of acculturation.

Although the convergence of results from these studies is a positive step, we must be concerned at this point about whether these separate dimensions are truly the main components of the broad concept of acculturation, rather than just the acculturation of one specific ethnic group. Most acculturation research is currently focusing on Hispanics. While we too have focused on Hispanics, this study included all major Hispanic groups rather than looking at just one Hispanic subgroup as previous research has done. Given the differences among Hispanic subgroups, the results of this study may be viewed as an initial indication that these underlying dimensions are consistent across different ethnic experiences. Kim's research with Korean immigrants, in which communication variables were found to be important in assessing acculturation levels, further strengthens the possibility that these results may be generalizable to different ethnic groups. However, future research is needed to test this belief.

Although the results of this study are encouraging for defining the components of general acculturation, they also indicate that this concept may be of only marginal value in explaining consumer behavior. A relatively simplistic index of consumer specific acculturation was more strongly related to the consumer measures than the general acculturation index. The fact that the general measure was more strongly related to watching Spanish TV and thinking Spanish TV commercials are easier to understand indicates that the consumer specific acculturation measure is tapping more than just a difference in language preference or the mode in which people typically gain information. These findings support our theoretical belief that acculturation is role specific and more advanced conceptualizations must take this into account.

On a theoretical level, future efforts need to concentrate on identifying the different roles people play and determining how each of these may call into play different sets of norms for which an individual may be more or less acculturated. Empirical studies need to be conducted to develop a more complete picture of acculturation. The same individuals should be studied in different roles to determine if any pattern of acculturation exists. For example, do some roles lead to faster acculturation than others? If so, are these the roles which are most commonly depicted in the media? Are the acculturation levels for certain roles related to each other? Are there different underlying dimensions of acculturation for different roles? These questions and many others must be resolved to gain true insights into the acculturation process.

In regard to consumer behavior, measures of consumer related acculturation need to be improved. We started here with a simple communication based measure. However, just as general acculturation appears to have several basic components, so too may consumer specific acculturation. A more thorough understanding of consumer specific acculturation may allow us to more effectively target and promote products and services to different segments of ethnic markets in the same way we use demographics and psychographics to segment the general population. With a growing interest among marketers in Hispanic and other ethnic markets, the concept of acculturation can no longer reasonably be ignored.

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DEVELOPING AN INDEX TO MEASURE "HISPANICNESS"

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Abstract

Items for an index to measure the rate of acculturation of Hispanics in the United States ("Hispanicness") are proposed and partially tested. The results tentatively support the index, but more testing is needed. Five specific suggestions for additional research are proposed in the discussion.

Introduction

Interest in studying Hispanic consumers in the continental United States has increased in the 1980s among business and academia as a result of the increasing recognition given to the size and growth of this ethnic population. In 1983, the size of the Hispanic population was estimated at 15.9 million persons and this population grew 61 percent between 1970 and 1980 (Bureau of the Census 1984a, pp. 3, 4). Furthermore, Hispanics' aggregate income after taxes amounted to \$62.5 billion for 1982 (Bureau of the Census 1984b). Thus, the significance of the Hispanic market to consumer marketers is obvious.

Because Hispanics are a subculture living within the context of a broader American culture, they are acculturating to one extent or another. Acculturation is defined in this discussion as the process of learning a culture different from the one in which a person was originally raised (Berelson and Steiner 1967). Similarly, Hispanics are also being assimilated by mainstream American society. Assimilation is defined here as the process of being accepted as genuine member of a new social group (Berelson and Steiner 1967). Therefore, Hispanics in the United States are in a state of cultural flux.

Simple observation of Hispanic consumers would indicate that the rate of acculturation varies from one individual to another. Thus, some members of this ethnic subculture appear to be "more Hispanic" than others. Therefore, the term "Hispanicness" is coined to refer to the rate (or degree) of acculturation of Hispanic consumers living in this country.

Given that culture affects the consumer behavior of individuals (cf. Howard and Sheth 1969, Sturdivant 1973, Wallendorf and Reilly 1983, Henry 1976), and that Hispanic consumers are in a state of cultural flux, an important moderator of Hispanic consumer behavior would be their "Hispanicness". Therefore the purpose of this paper is to develop an index of "Hispanicness" applicable for analyzing Hispanic consumer behavior variations. The effectiveness of this index will then be tested in the context of a comparative study on shopping orientations between Hispanics and White non-Hispanics (Valencia 1982a, 1983).

Previous Research

Despite the apparent importance of an index to measure the rate of acculturation, there are only a few studies that have discussed it in the marketing literature. Hair (1971, 1973a, 1973b, 1975) devised a measure of consumer acculturation for foreign students and later refined it for black consumers. These studies, however, are only tangentially useful to present one, because they deal with consumer acculturation and were developed for other subcultures. Wallendorf and Reilly (1983) and Reilly and Wallendorf (1984) investigated cultural assimilation of Mexican-Americans in the Southwest by comparing their food consumption patterns with those of income matched Anglos living in the same

region and those of Mexicans living in Mexico city, using garbage content analysis. They found that Mexican-American consumption patterns are more of a unique cultural style than a blending of Mexican and Anglo patterns; and that a lag factor exists stemming from the dynamic aspects of culture and the perceptions of the same by the groups. However, the methodology of these two studies did not include the identification of the characteristics of assimilation of the respondents.

The study by Hirschman (1981) on American Jewish ethnicity investigated one important component of acculturation (i.e., self-perceived strength of ethnic identification) and found that the degree of ethnicity among Jews affected certain aspects of their consumer behavior. Hirschman also cogently points out as one of three generalizations about the literature on ethnicity and consumption:

Finally, in many instances subjects have been assigned to the ethnic group of interest or general population category on the basis of researchers' perceptions of their membership in one or the other group. This may, of course, lead to incorrect assignment. Further exacerbating the problem is the fact that subjects are typically not asked the degree of identification they feel with a particular ethnic group. One black consumer may feel an especially strong commitment to black ethnicity, whereas a second may feel much less identification with this group. The degree of identification the individual feels with a given ethnic group may largely determine the level of commitment he/she experiences regarding the norms of the group and, thus, the degree of influence the group has on his/her actions and attitudes. (Hirschman 1981).

Thus one of the items of an acculturation index should be the strength of ethnic self-identification. Hirschman's ethnicity index also included religion, because the correlation between Jewish culture and Jewish religion has been found to be high. With other ethnic groups, however, the congruence between religion and culture may not be as significant (Hirschman 1981). The latter appears to be the case with Hispanic culture. While the majority of Hispanics are baptised Roman Catholic, the strength of their religious beliefs and practices varies. Grebler, et al., (1970) found that a large number of Mexican-American Catholics do not conform to the norms of the Church. Their mass attendance, for example, was substantially below the national average. Therefore, the religious dimension does not seem appropriate for the "Hispanicness" index.

The major indicator of the rate of acculturation among Hispanics appears to be the person's understanding of the English language (Olmedo and Padilla 1978), because it facilitates interaction with the predominantly English dominant culture. In other words, English language ability will accelerate the rate of acculturation.

Another indicator of "Hispanicness" should be the extent of Spanish language maintenance. Hispanics that speak Spanish are more likely to retain and interactively reinforce their culture. Greenberg, et al., (1983), for example, found that predominantly Spanish speakers are more likely to use Spanish language media (i.e., newspapers, other print, television, radio). The key indicator of Spanish language maintenance would be the extent of Spanish language spoken at home. This indicator is preferred over other language-spoken (Spanish vs. English) measures because the extent of English language usage is

more situationally determined (e.g., English generally would be the predominant and necessary language at work).

Since some Hispanics are bilingual (47 percent according to Yankelovich, Skelly & White 1981), another language-related indicator of "Hispanicness" should be their language preference when conversing with someone who could communicate just as well in English or Spanish. This measure is independent of the recipient of the communication and, therefore, a more accurate reflection of language choice.

The length of time the individual has lived in the host American culture, the more likely he/she is to have learned the American way of life. However, this dimension does not take into account the length of enculturation in the original Hispanic culture. The combination of these two criteria into a ratio of length of residence in the U.S. divided by the respondents age would appear to be a stronger indicator of these dimensions than each indicant alone.

Finally, Hispanics married to non-Hispanic Americans are more likely to acculturate and adopt some of the cultural ways of their spouse. Hispanics married to Hispanics, on the other hand, are more likely to reinforce each others "Hispanicness". Therefore, miscegenation should be included as an indicator of "Hispanicness".

Other sociocultural indices (e.g., occupational status, family size, income, education) could have been proposed for the "Hispanicness" index; however, they are more likely to measure assimilation than acculturation as Olmedo (1979) has pointed out.

Methodology

The six "Hispanicness" indicators were measured using the questions and coding scheme presented in the appendix. Reverse scoring was used on English language ability to restore directional consistency of the overall index. Lower scores in the "Hispanicness" index indicate lower acculturation. The index ranges between 6 and 23. Both Hispanics and white non-Hispanics were scored on the index; however, non-Hispanics were reverse scored on the strength of ethnic identification item.

The sample to test the index consisted 564 responses obtained from a mail survey sent to New York, Los Angeles, San Antonio and Miami. These cities were selected because they are representative of the three major Hispanic subgroups in this country and they account for about 42 percent of the U.S. Hispanic population. After excluding responses from other ethnic groups and deleting incomplete questionnaires, 178 Hispanic and 288 White usable responses were analyzed.

Since many Hispanics do not understand the English language or they do not feel comfortable with it, the questionnaire was translated to Spanish. To ensure proper translation of the instrument a systematic procedure was used. First, the questionnaire was translated to Spanish by a trained bilingual expert. Four independent bilingual translators (a Cuban, a Mexican-American, a Puerto Rican and an American fluent in Spanish) then back-translated the Spanish version into English for verification of the conceptual equivalence of the two language forms. Only minor differences were found in the back-translation and these were resolved by modifying the wording. Finally, a committee of bilinguals reviewed the parallel translations to insure idiomatic precision of the final forms. The final instruments were then pretested and found to be acceptable equivalents of each other.

Ethnic identification of the respondents was measured by self-report, rather than ascribed. This approach is recommended by Cohen (1978) and Hirshman (1981) because it represents the internal beliefs of the individual and therefore reflects their cultural reality. Self-report ethnic measures also eliminate the misclassification bias inherent in using the respondent's surname or country of birth approaches (Valencia, 1982b).

Because the focus of this study is on how the Hispanic consumer has become more "American like", acculturation is conceived as a one-way process. Thus, American culture is perceived as static, while Hispanic culture is in a process of change. Naturally, the host American culture is also changing and Hispanic culture affects the host culture over a period of time; but at a given point in time and from the viewpoint of Hispanics, he/she is adjusting to the host culture.

Validation Tests

Validity is concerned with whether an instrument measures what it is suppose to measure (Nunnally 1967). Many tests must be performed before confidence in the instrument develops. At this time, however, only limited insights into the construct validity of the "Hispanicness" index can be reported.

Hair (1971, 1973, 1975) has devised a consumer acculturation test (CAT). This test measures consumer acculturation on several marketing-related dimensions. Attitudes toward types of products (e.g., ready-mix, convenience), multiple brand offerings, packaging, standardization, price bargaining, and promotional techniques are measured with a Likert scale (5 point, Strongly Agree/Strongly Disagree). A subset of 6 selected CAT items were identified in the pretest as a more parsimonious and manageable set out of the 36-item original instrument. A composite consumer acculturation measure was then created by summing the responses to the items and dividing this sum by the number of item responses. Since some respondents occasionally omit some items, this procedure permits maximum data utilization, yet provides a reliable measure ($\alpha = .73$). A positive measure of association between the CAT and the "Hispanicness" measure would support the construct validity of the index. The Pearson product moment correlation between these two measures is $+ 0.166$ ($p < .037$) among Hispanics.

Hispanics born abroad (in a Spanish-speaking country) who immigrated to the U.S. are less likely to be as acculturated as Hispanics born in the United States, because the enculturation process would be stronger in a Hispanic country than in the U.S. Therefore, a significant correlation between the index and country of birth (U.S. vs. Spanish-speaking country) would provide support for the validity of the index. The Spearman correlation coefficient between these two measures is 0.535 ($p < .000$) in the hypothesized direction. Furthermore, if the U.S. lived ratio indicator is not included in the index because it measures, in part, country of birth, the correlation is 0.477 ($p < .001$) in the hypothesized direction.

Differences in consumer behavior between Hispanics and Whites should be moderated by the "Hispanicness" of the respondents. Therefore, monotonic transformations in the group means should be expected going from high "Hispanicness" to low "Hispanicness" to Whites, in either direction. This proposition was tested using results from a study on shopping orientations (Valencia 1982), after dividing Hispanics into two groups according to their index scores. Hispanic scores ranged between 6 and 19. Scores between 6 and 12 were classified as "high Hispanicness" and scores between 13-19 were

classified as "low Hispanicness", which provided about an even split of the Hispanic sample. Twelve shopping orientations were selected for this study, because they had alpha reliability coefficients of 0.6 - 0.9 for both the Spanish and English language responses. Additional cross-cultural reliability and validity checks (e.g., factor analysis, congruency coefficients) provided extra safeguards for the comparability of the data. As can be clearly seen in Table 1, all the differences are monotonic transformations across the three ethnic groups in the hypothesized way. This data also shows that the index, even though crudely used here, can be useful in further identifying differences between Hispanic acculturation groups.

Table 1
Shopping Comparisons Using the "Hispanicness" Index

Shopping Orientation ²	No. of Items	Means ¹			F-test Significance ³
		High Hispanic (n=87)	Low Hispanic (n=91)	Whites (n=295)	
Economic Shopping	4	2.34	2.49	<u>2.71</u>	.001
Personalizing Shopping	4	2.74	3.00	2.81	N.S.
Shopping Interest	6	2.27	2.52	<u>2.79</u>	.000
Impulse Shopping	4	3.14	3.25	3.29	N.S.
Shopping Center Enthusiasm	4	2.62	2.68	<u>2.95</u>	.002
Brand-loyal Shopping	4	2.60	2.62	2.77	N.S.
Shopping Opinion-leader	4	2.72	2.87	2.88	N.S.
Social Shopping	3	2.75	2.90	<u>3.14</u>	.001
Patronage Loyalty	3	3.03	3.12	2.89	.064
Advertised Special Shopper	3	2.52	2.50	2.73	N.S.
Shopping Sex-roles	4	3.05	3.18	<u>3.53</u>	.000
Shopping Self-confidence	3	2.55	2.39	2.39	N.S.

¹ Underlined means are significantly different at .05 level or less using Duncan's Multiple range test.

² The shopping orientations were measured using a 5-point Likert scale (Strongly Agree=1, Strongly Disagree=5)

³ One way ANOVA test significant level of $\leq .10$ reported.

Discussion

The proposed "Hispanicness" index is still in a primitive developmental stage and only through its future use and application will its validity and usefulness be thoroughly explored. The primary purpose of this paper has been the proposal of major indicators of "Hispanicness," rather than an exhaustive discussion of possible indicators of Hispanic ethnicity. Furthermore, the validity tests were convenience test, given the secondary nature of this research to the original purpose of the study.

The three tests of the index presented are not sufficient to establish its appropriateness. A brief discussion of some additional test follows. First, the implicit assumptions of the indicators must be examined. For example, a linear relationship between the indicators and "Hispanicness" has been assumed. However, Weinstock (1964) argues that "there is an initial period of a few months when almost every week counts, but, after that, other factors predominate." Second, the index should be tested against other assumed characteristics of acculturation. For example, ethnic food habits are said to be the most resistant to change and acculturation is indirectly related to the size of ethnic population. Third, the dimensionality and redundancy of the index should be analyzed. The strength of ethnic-identification is an attitudinal dimension, whereas the rest of the items measure behaviors. Fourth, variations across the major subgroups should be examined. For example, Cubans as a group are the most

recent arrivals and, therefore, would be expected to score lower on the index. Fifth, the weights attached to the six indicators have been arbitrarily assigned by the scoring system on the basis of the researcher's subjective judgment of importance. Since the "true" weights of these indicators are "a priori" unknown, more research is needed here.

Appendix

Strength of ethnic identification:

"How strongly do you identify yourself with the ethnic or racial group you mentioned above? (Preceding question was on ethnic self-identification) 1-Very Strongly, 2-Strongly, 3-More or less, 4-Weak, 5-Very Weak."

English language ability:

"As you may know, some people in the U.S. are bilingual. If you speak Spanish, please answer the next three questions. Would you say you speak English: 1-Very well, 2-Well, 3-Not well; little, 4-Not at all."

Spanish language spoken at home:

"Would you say your family speaks Spanish at home: 1-All of the time, 2-Most of the time, 3-Sometimes, 4-Not at all."

Language Preference

"If you had the chance to communicate with someone just as well in English or Spanish, which would you prefer to converse with them? 3-English, 1-Spanish, 2-Either Spanish or English."

Ratio of length of residence in the U.S.:

"How long have you lived in the U.S.? ___ All of your life, # Years" This answer was divided by the respondent's age and weighted by 4.

Miscegenation:

"If married, with which ethnic or racial group does your spouse identify with?"

Coded: (1) Hispanic/Hispanic spouse or Hispanic single
(2) Hispanic/Anglo spouse
(3) Anglo/Hispanic spouse
(4) Anglo/Anglo or Anglo single

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RELATING ETHNIC ATTITUDES AND
CONSUMPTION VALUES IN AN ASIAN CONTEXT¹

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Abstract

Subjects in a Chinese society were divided into high and low orientations toward Chinese values. Subjects' consumption values were studied across products and it was found that the high group relied more on price and quality dimensions while the low group showed preference for image.

Introduction

Consumer researchers are increasingly interested in relationship between ethnicity and consumer behavior. Unfortunately, research thus far has been atheoretical in nature. Most researchers have failed to deal with the topic systematically or in depth. In fact, researchers have been criticized of focusing on a limited number of differences rather than on the many similar characteristics between ethnic groups (Sturdivant, 1981).

Thus far, most studies in the US have focused on the Black and Hispanic populations, and relatively little is known about the other ethnic groups. Studies that are cross-cultural in nature often pre-select the ethnic groups and simply assign subjects into them. The common assumption is that subjects of an ethnic group are alike in cultural values and orientation, and they are different from subjects of another ethnic category. Such an assumption is easily challenged. As pointed out by a well known anthropologist Ralph Linton (1973),

.... it would be impossible to find any element of culture which has been shared by all members of a society ... Culture change and grow, discarding certain elements and acquiring new ones in the course of their history ... (Linton 1973, p. 31)

Such is the case, it is likely that members of an ethnic group would differ on stages of change and transition. It is not uncommon to find people of a same ethnic group to exhibit quite different values, attitudes and beliefs. As a result of cross cultural influences, many ethnic groups are changing their cultural heritage. Hence, it would be valuable for researchers interested in ethnicity to first study the within group differences then the between groups differences.

A fundamental research issue is whether the Hispanic that exhibit more Hispanic traits, or the Chinese that show more chineseness differ in consumption from the ethnic norms. In this study, such an issue will be addressed. Specifically, the objective here is to investigate differences

of members of an ethnic group with different levels of ethnic attitudes. A general research question is whether members of strong ethnic attitudes (in this case Chinese orientation) rely on consumption values that are different from those of lesser ethnic attitudes.

Theoretical Background

Central to any ethnic group is a set of cultural values, attitudes and norms. Culture is social heritage and the distinctive life style of a society. According to Linton (1973), it is "the configuration of learned behavior and results of behavior whose component elements are shared and transmitted by the members of a particular society."

Culture includes both abstract and material elements. Abstract elements include values, norms, attitudes and ideas that are learned, and the material elements include buildings, drawings, products and other artifacts of a society.

Central to our understanding of culture is human values - the underlying drives of behavior. Terpstra (1983) states that "values help determine what we think is right or appropriate, what is important, and what is desirable." Every society has a system of values. It is a set of interrelated ideas and concepts that an individual attaches strong sentiments to. In brief, values are things that are important to people of a society, either in a positive or negative way. It is through these values that people behave and societies function.

Values system of an individual can be viewed as a complex network of beliefs, attitudes and ideas, all of which are centrally linked with a core system. Such values often reflect ethnic affiliation, orientation towards ethnic heritage and other desired traditions of the group. Values that affect a person's behavior in his attainment of society's desirable goals are often central in the system. Those that direct his buying and consumption related activities are usually less important. These latter values are nevertheless part of the larger system, and they do manifest characteristics of the person's core values.

Ethnic Attitudes

In recent years, the phenomenal growth of Asian economies such as Hong Kong, Singapore, Taiwan and Japan has attracted much attention among business scholars. Many have in fact attributed the success to similarity in cultural values and ethnic attitudes of these countries.

In Asia, societies such as Hong Kong, Taiwan, Japan, Singapore and South Korea all have one thing in common. They are influenced to some extent by values and norms of Confucian philosophy. Today, Confucianism still remains a vital part of these Oriental cultures. Confucian influence is strong in peoples' attitude towards ethnicity.

¹We acknowledge the assistance of Miss Jeannie Teoh of the National University of Singapore in computer analysis.

In the teaching of Confucianism, benevolence, propriety, wisdom and obedience are norms of human beings (Nivison and Wright, 1966). The concern of Confucianism is with the correct observance of human relationships within a hierarchical society. According to Confucianists, a proper state of mind and correct conduct are necessary for a proper social order.

The central institution in Confucianism is family. It is the ground for moral training and bridge between individual and society. In the Confucian view, benevolence begin with love for one's family and parents. As expressions of love for parents, children must serve, support and obey them. Confucianism also advocates a double standard for men and women. In the functioning of a household, it is clear that husband's responsibility is outside and that of a wife inside.

In the Oriental society such as a Chinese society, relationships of family members, husband-wife, and relatives etc. still show strong evidence of Confucian influence. More surprisingly, among many, values of men's role in society and women's role at home, beliefs in the rights and wrongs, attitudes toward human behavior in general, are still strongly rooted in the traditional Oriental culture.

Most Asian countries are however no longer strictly "Oriental" anymore. Lately, due to the influence of Western cultures, many are becoming Westernized. For instance, on the streets of Tokyo, or Hong Kong, one readily witnesses the co-existence of East and West.

Singapore Culture

Each of the Oriental societies in Asia is slightly different in its own way. Owing to differences in historical events, and extent of influence of other cultures, each has developed into an unique "branch" of Oriental culture. Since this study focuses on Singapore, this section will discuss the unusual blend of culture and values in Singapore.

Although Singapore is predominantly a Chinese society (75% of its population is Chinese), it is realistically a multi-ethnic society. Moreover, since the country is small, it has a colonial history, and its strategic location in Asia, its people have been influenced by various cultures.

Basically, the city is urban and its people are urban in orientation. In each Singaporean, there probably is a combination of Chinese, Malay, and Indian in ideologies. As Ban (1982) nicely puts it, "A Singaporean is introverted, his dependence is inward -towards family, class and race instead of nation Emotions tend to be internalized rather than expressed outwards." As a result, there is a great need to play the role of ensuring obedience and harmony. It also gives rise to a unique cultural value - intense friendship and trust of a person towards family.

With the British colonial influence still strongly felt in many parts of Singapore and the ease of a small nation to receive external influences, Singaporeans are well accustomed to the process of acculturation (learning other cultures). The end result is a culture that has a strong Oriental focus as well as having traces of Western values.

Singapore is an example of an Asian society in transition to Westernization. Its people can be charac-

terized by different degrees of Westernization. On the one hand, there are those who adhere closely to the traditional values, on the other hand, you find those who show strong Western beliefs and lifestyles. Hence it would be interesting to study people of different ethnic orientations and how they differ on consumption values.

By observation, it is interesting to note that consumers in Singapore can be divided into the more traditionally Chinese shoppers versus those that are more Westernized. It can be proposed that the "more Chinese" consumers are thrifty, quality minded, spend less on conspicuous items and shop more at stores that carry Chinese goods. On the other hand, the "more Westernized" Chinese consumers tend to be sophisticated, brand name conscious and have shopping habits more like their Western counterparts.

Methodology

The research was conducted in Singapore. A questionnaire survey was used and a sample of 132 subjects were studied. In the selection of subjects, households in different parts of Singapore were contacted. Care was taken to include a cross-section of Singapore residents in the sample.

Ethnic Attitudes

An inventory of questions to measure attitudes toward a wide variety of issues and topics was included in the questionnaire. The inventory parallels the AIO inventory; a research measure commonly used in life style research (Wells, 1975). Several questions to measure one's attitudes toward tradition and Confucian norms were included. Some of the issues covered include:

1. Women's place is in the home
2. When making important decisions consideration of family comes first
3. Caring for one's aged parents is duty of everyone
4. I often do the right things so as not to lose face
5. Every family should have a son
6. My relationship with my parents is formalized
7. I feel strongly about returning favors to others
8. I interact closely with relatives
9. Showing affections openly is acceptable (negative)
10. One should not go to extremes in one's behavior

The items were carefully selected to reflect teachings of Confucianism. They were pre-tested with various ethnic groups and panel of experts and showed good validity. They were deliberately made simple for our subjects.

Value Importance in Buying

In marketing, values are characterized by importance of product attributes in buying. It has been documented that consumers derive different values from consuming the same product. Hence, in buying, different attribute importance are usually used. The expectancy-value model as popularized by Rosenberg (1956) has been adopted in this study. Briefly,

product attributes were determined and 7-point scales used to measure importance of attributes.

Products

A total of 12 products were included in the study, they were cars, watches, jeans, toothpaste, fast food, shampoos, department stores, sports shoes, ballpoint pens, beer, color TV, and pocket calculators. Four generalized product attributes were decided and they were used for all products. The attributes were price importance, quality importance, importance of brand image and availability of brand (convenience).

Results

Subjects' ethnic attitudes were collapsed, and the high and low values groups were formed based on the upper and lower thirds of the distribution. Since this research was exploratory in nature and the objective was to focus on the extremes, the smaller sample sizes as a result of using only the extremes appeared reasonable. The sample sizes in the analyses were 47 and 40 for the low and the high groups respectively.

Differences of Value Importance

Value importance of product attributes for the 12 products were used in the multi-variate analysis of variance study (MANOVA). Each analysis included a set of 12 value importance of the same attribute. The purpose was to identify an overall difference for the two groups on price, quality, image and availability across the products.

Of the four attributes, only price importance and image importance exhibit significant overall differences. Hotellings T values from MANOVA for both are statistically significant.

Relationship of Ethnic Attitude And Value Importance

To study relationship of ethnic attitudes with the four value importance of product attributes in each product class, regression analyses were performed. The objective here was to determine which value importance was more salient for each product and whether the two groups differ on saliency.

In the analyses, value importance that accounted for most variation in the ethnic attitude scores was taken as the most salient attribute. As the stepwise regression was used, the first entered variable would be the one. Comparisons for the high and low groups were presented in Table 1.

TABLE 1
Salient Attribute in Buying

Product	Low Group (n = 47)	High Group (n = 40)
Automobiles	Image	Availability
Watches	Availability	Quality
Jeans	Image	Quality
Toothpaste	Price	Price
Fast Food	Quality	Price
Shampoo	Price	Quality
Department Store	Image	Quality
Shoes	Availability	Price
Pens	Availability	Price
Beer	Image	Quality
Color TV	Availability	Price
Calculators	Quality	Availability

Table 1 presents the value importance that has the highest correlation with ethnic attitudes. It can be seen that the low and the high groups differ in attribute saliency for most products. In general, the low group relies more on image importance and importance of brand availability (8 out of 12 product classes), and the high group emphasizes more on price and quality importance (10 out of 12 products).

Demographic Profile

With the high and low groups exhibiting differences on purchase related values, it would be of interest to study their demographic profiles. Demographic variables used were age, sex, education level, education stream (English versus Chinese education), and religion. Chi-square analyses were performed and results reported in Table 2.

TABLE 2
Cross Tabulation of Demographic Variables
and Ethnic Attitudes

AGE	Ethnic Attitude	
	LOW	HIGH
Young	24 (55%)	20 (45%)
Old (34 years and older)	23 (53%)	20 (47%)
χ^2 not significant		
SEX	Ethnic Attitude	
	LOW	HIGH
Male	29 (59%)	20 (41%)
Female	18 (47%)	20 (53%)
χ^2 not significant		
EDUCATION LEVEL	Ethnic Attitude	
	LOW	HIGH
Low	14 (36%)	25 (64%)
High	33 (69%)	15 (31%)
χ^2 significant at $\alpha .005$		
EDUCATION STREAM	Ethnic Attitude	
	LOW	HIGH
English	36 (59%)	25 (41%)
Chinese	11 (42%)	15 (58%)
χ^2 not significant		
RELIGION	Ethnic Attitude	
	LOW	HIGH
Christian	21 (62%)	13 (38%)
Buddhist	6 (32%)	13 (68%)
Others	20 (59%)	14 (41%)
χ^2 significant at $\alpha .05$		

As can be seen, age, sex, and education stream were not significant. The results were however rather interesting. On sex, the low attitude group has more males (59%) than females (47%) and the reverse is true for the high attitude group (47% males versus 53% females). In the case of education stream, the English educated subjects are lower in ethnic attitude (59%) and the Chinese educated has more in the high group (58%).

Education level shows strong difference between the two groups. The higher educated group (those who have completed pre-university and higher) has more subjects with low ethnic attitude (69%), and the

less educated ones tend to show higher attitude (64%). Religion is also a significant factor. Results indicate that Christians and the others group have lower ethnic attitude (62% and 59% respectively in the low group). Buddhists have more in the high attitude group than the low group (68% versus 32%).

Conclusions

Consumers of different ethnic attitude were studied in this research. Of interest here is the traditional attitude of an Oriental society. Differences in ethnic attitude were found to bring about differences in consumption related values.

Relationships of ethnic attitude with importance of product attributes vary for the two groups of subjects. The low group appears to rely more on image and availability in buying. As shown by the demographic results, this group is more educated and more English educated, it is therefore not surprising that they would be more image conscious when buying certain goods. Being more educated, they are likely to be professionals and have better careers. As a result, time would be a major factor to them. Hence, many in the low group rely on importance of availability in buying. The high group shows more reliance on price and quality importance. This group tends to be less educated and more Chinese educated. Their concern in buying still is primarily good quality at the right price.

Differences between consumers of high versus low ethnic attitude in their buying related value system could have strong marketing implications. For segmentation, it is likely that consumers in the Asian cultures can be grouped according to their ethnic orientation. Their differences in buying value importance indicate possibility of marketers working on different product attributes for effective positioning.

When interpreting findings of this study, one must bear in mind the exploratory nature of the work. With the sample size so small, any concluding remarks must be made with extreme caution. The next logical step would be to investigate any differences in actual consumption patterns, within the ethnic group. With the results of this study exhibiting differences in consumption values, one can predict within group differences in buying.

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CULTURAL VALUES AND BEHAVIOR:
CHINESENESS WITHIN GEOGRAPHIC BOUNDARIES

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Abstract

This exploratory study suggests that traits associated with the ethnic identity of one culture may be exhibited by a substantial portion of the population of another culture. The trait of Chineseness was measured in an American sample and it is demonstrated that this trait and certain associated behaviors were exhibited by a significant portion of the sample.

Introduction and Conceptual Background

Is a person Chinese because his or her parents are of Chinese ancestry? Or can a person also be considered to be Chinese because his or her current residence is in China? Alternatively, might we say that a person is Chinese because he or she usually eats Chinese food, speaks a Chinese language, wears Chinese-style clothing made in China, and chooses a marriage partner who is considered to be Chinese? Finally, might we say that a person is Chinese because he or she has a high level of respect for elders, sees the family as being of primary importance, is very concerned that favors be returned, and chooses not to openly show affection?

Clearly each of the above is a component of cultural identity, yet each one alone is an imperfect measure of the abstract concept of Chinese ethnicity. Ethnicity is often operationally indicated by one's genetic background, geographic place of residence, language spoken, behavior patterns, associational involvement, and value patterns.

Sociologists have identified seven components of assimilation into a new culture which are used to determine the extent to which a person has taken on the identity expected in a new culture (Gordon, 1964; Montero, 1981; Schoen and Cohen 1980). These components can also be used to understand the basis of ethnicity and culture in behavior, as each specifies a form of behavior linked to a particular ethnic or cultural identity. Thus, cultural identity derives from: (1) adjustment of behavior patterns such as language, dress, place of residence, and food (also called acculturation); (2) associational involvement in the social structure through occupational groups and primary groups; (3) choice of marriage partner; (4) self-identity based on a particular culture or ethnic group; (5) being accepted (not discriminated against) by others in the culture or ethnic group, and (6) adopting the values and power structures of the culture or ethnic group. Thus each of these is an indication of a component of ethnic or cultural identity. Each can be used to assess the extent to which a person holds a particular ethnic or cultural identity.

However this is quite different from the traditional orientation taken in cross-cultural studies of consumer behavior. In most such studies, cultural or ethnic identity is a nominal, dichotomous trait; that is, one is either black, white, Hispanic, or other; one either is or is not Chinese, is or is not French. Although there have been exceptions (cf. Hirschman, 1981), this measurement approach in consumer behavior has limited

our conceptual understanding of the meaning of ethnicity or cultural identity.

The approach to be taken here is to examine degree of ethnicity as indicated by degree of adherence to values consistent with a particular culture. Thus, typically one's cultural background (as indicated by place of residence or ancestry) is believed to produce certain value orientations which lead the individual to behave in a particular way. That is, here the usual cultural indicators of place of residence and ancestry are ignored. Instead, degree of Chinese ethnicity is determined by degree of adherence to a set of values often believed to be characteristic of Chinese culture.

This approach enables the researcher to identify people with values which are congruent with a particular culture. Then the research can examine differences in behavior which are associated with different cultural values. In so doing one need never assume a particular cultural identity based on geographic location.

This study is one of Chineseness in which respondents geographic place of residence and ancestry are controlled. That is, only individuals who do not live in China and do not consider themselves to be Oriental are included. Thus, this is a study of Chineseness done on a sample of Americans living in the southwestern part of the United States.

Most studies of cross-cultural behavior done in a consumer behavior context have assumed that by taking two samples, one with a particular cultural identity and one without (e.g. a French and an American sample), all differences between the two reflect cultural differences. Yet there is certainly variation within each of the two groups — culture is not a wholly monolithic unifying force for a group of people. In fact, it may well be that some French respondents are more "American" than some of the Americans.

What makes them so? The closest concept appears to be values. That is, it may be that some individuals in a French-based sample hold a set of values often more closely linked with American culture. This may in turn lead them to behave in very "American" ways.

In this research we turn this notion on its head and attempt to locate, in a sample of Americans, those who are particularly "Chinese" in terms of their value orientations. In this sense although they are Americans, they score highly on a value-based measure of Chineseness. Thus we do not equate being Chinese with Chineseness and being American does not preclude Chineseness. Instead the attempt is to isolate the consumption behavior patterns associated with high levels of Chineseness.

The Study

Data for the study were generated through an in-home survey administered by undergraduate students in a consumer behavior course in a southwestern metropolitan city. Teams of students identified respondents from

cells formed by the crosstabulation of family life cycle categories (Well and Grubar 1966; Murphy and Staples 1979) with social class categories (Coleman 1983). For example, one term interviewed respondents who were in the upper middle class and full nest I, while another term interviewed respondents from the lower middle class who were newly married. The resulting sample size for this survey is 355.

Measure of Chineseness

The measure of Chineseness consists of a group of Likert scaled questions intended to measure various aspects of the concept of Chineseness. These items were included because they reflect traditional Chinese value orientations (Hsu, 1948; Kingston, 1976; Levy 1949).

An index to measure Chineseness was created by submitting the Likert scale items to a principal components factor analysis. The analysis results were used to appropriately weight the scale items in an additive index. Thus, rather than constructing a nominal variable indicating whether or not a respondent is Chinese, an interval scale was constructed indicating the extent to which a respondent held values and attitudes characteristic of Chinese culture. The factor loadings are shown in Table 1.

Table 1
Factor Loadings For Chineseness Index

Item	Factor Loading
Family First For Important Decisions	.41
Woman's Place Is In The Home	.05
Caring For Parents Is Duty	.17
Not Losing Face Is Important	.05
Returning Favors Is Important	.13
Every Family Should Have a Son	.03
Formalized Parental Relationships	.01
Frequent And Close Interactions With Relatives	.15
Showing Affection Openly Is Not Acceptable	-.13
Marriage Is a Life-Long Commitment	.15
One Shouldn't Go To Behavioral Extremes	.19
Consider Myself A Traditional Person	.17

The sample was divided into three roughly equal size groups: the two extreme segments indicate a high and a low degree of Chineseness and the middle segment indicates relatively moderate amounts of the concept. Given the American basis for the sample, it was necessary to ensure that this segmentation actually split the sample into groups that exhibited Chineseness and non-Chineseness, instead of three groups that all exhibited some degree of non-Chineseness. Thus, the sample was split based on defined cut-off overall scores. A cut-off score equivalent to a Likert scale response of 2 on each of the seven point scales was necessary in order to be included in the group with some degree of Chineseness; a cut-off score equivalent to a Likert scale response of 5 on each of the seven point scales was necessary to be in the group with some degree of non-Chineseness. This segmentation criteria applied on the factor measure split the sample into three groups of roughly equal size. This is one indication that there was sufficient range in the responses of the Americans sampled to extend from a high degree of Chineseness to a low degree of Chineseness.

A second test of the validity and range of the scale was performed. Five individuals were interviewed who claimed to be of Oriental ethnicity when asked for a self-designated report of ethnic group membership. Of these five, the responses of three led them to be in-

cluded in the third of the sample representing high levels of Chineseness. One was in the middle third, and one was in the non-Chineseness group. These results indicate a directional relation between self-designated Oriental ethnicity and Chineseness as measured by values. However, it is clear that place of residence, self-designated ethnic group membership, and cultural value orientation are separate although related indicators.

Results

The survey contained questions concerning the types and amounts of foods that would be consumed by the respondent during the upcoming Thanksgiving dinner. As this event is a ritual connected with culture, it was believed to be an interesting context for examination. The question comes to mind as to whether a Thanksgiving celebration is different depending on one's level of Chineseness.

Chi-square analysis of food types cross-tabulated with the factor index of Chineseness split into thirds failed to indicate any significant differences between the types of foods eaten and the Chineseness measure. Clearly, within American culture there is some variation in the food consumed at the Thanksgiving dinner, but there is also an overall pattern of ritual devotion to a small set of traditional foods.

It was hypothesized that those cases exhibiting greater levels of Chineseness would be more likely to be involved in ritual celebrations such as Thanksgiving dinner that included members of the extended family (siblings, grandparents, aunts and uncles) in addition to members of the nuclear family (parents and offspring).

Chi-square analysis of these variables cross-tabulated with the factor index of Chineseness split into thirds was somewhat inconclusive. As Table 2 indicates, the group indicating a high degree of Chineseness was more likely to have Thanksgiving dinner with their spouses, children and in-laws than was the group with a low degree of Chineseness. There was no significant difference with regard to friends or parents. The inclusion of in-laws indicates some extension beyond the nuclear family, but the extent of this relationship is not clear.

Table 2
Family Present At Thanksgiving Dinner

Thanksgiving Meal Shared With:		Chineseness		
		High	Medium	Low
Spouse	No	9.2%	12.6%	18.1%
	Yes	24.4	21.8	14.0
		Chi-Square Test: p < .001		
Your Children	No	8.3%	12.3%	17.4%
	Yes	25.1	22.3	14.6
		p < .001		
In-Laws	No	23.4%	26.0%	27.7%
	Yes	10.0	8.6	4.3
		p < .01		
Friends		Not significantly different.		
Parents		Not significantly different.		

However, it is clear that higher levels of Chineseness are also associated with day-to-day inclusion of nuclear family members in meal sharing. As is shown in

Table 3, those with a high level of Chineseness are most likely to begin the dinner meal when all family members are present. Similarly, they are least likely to follow the emerging American pattern of each family member eating separately at the time most convenient for him or her. This behavior pattern appears to be consistent with Chinese value orientation.

Table 3
Daily Meal Patterns

At Dinner Time, Family Members Eat,	Chineseness		
	High	Medium	Low
When Every Member Is Home	23.4%	16.9%	14.8%
When Most Members Are Home	5.0	9.5	5.6
At Different Times	6.2	7.7	10.7
Chi-Square Test: $p < .01$			

Conclusions

This paper suggested that a concept of ethnic identity, in this case Chineseness, is influenced by the culture of the country of origin, but may not clearly distinguish members of that culture from members of other cultures. The empirical results of a preliminary study indicated that a trait such as Chineseness can be exhibited by a substantial portion of the population of another culture. The usual cultural indicators can be replaced or enhanced by a measure of the degree of adherence to a value set that has been identified as being characteristic of a particular culture.

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CONSUMPTION AND STATUS ACROSS CULTURAL BOUNDARIES:
NONREACTIVE EVIDENCE

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Abstract

Social status and income have been recognized as important determinants of consumer behavior in a number of studies of American society. Given the increased emphasis on the rest of the world as a market it would be useful to examine the degree to which relationships between status and consumption found in the United States are replicated elsewhere. This paper uses garbology as a methodological approach to investigating how social strata differ across two cultures, namely the United States and Mexico. Three slices of American society representing low, middle and upper income groups are compared to low, middle and upper income groups in Mexico. The results suggest that, for some products, the same relationship between social status and consumption levels are observed in both cultures. But for others there is a nonsymmetrical relationship. Thus care is needed in interpreting the relationship between status and consumption across cultural boundaries.

Introduction

Social Status and Consumer Behavior

There is a long tradition of using differing levels of social status to describe differences in consumption. Consumer behaviorists practically since the beginning, have used social class as a key explanatory variable (Coleman, 1960, 1983; Foxall, 1975; Hisrich and Peters, 1974; Levy, 1966; Matthews & Slocum, 1969; Myers and Mount, 1973; Myers, Stanton, & Haug, 1971; Schaninger, 1981; Shimp and Yokum, 1981; Slocum & Matthews, 1970).

The major reason social classes have been so useful for scholars, theorists and consumer behaviorists is that they provide insight into lifestyle differences. In a typical analysis, the life style and consumption patterns of occupants of one level of the social hierarchy are compared and contrasted to the life style and consumption patterns of those from other status levels. In much of the literature cited above, a key debate has concerned the relative usefulness of social class and income as the best variable for segmenting markets. Very few clear conclusions have been reached except for the following:

1. Social class works better for some products while income works better for others.
2. To get the most complete understanding its probably worthwhile to consider income and social class simultaneously (c.f. Coleman, 1960; Peters, 1970).

Nevertheless, one dominant theme of the literature in consumer behavior concerns the importance of understanding income and status hierarchies of the American culture as a critical descriptor of individual consumption patterns. The lifestyle, and consumption decisions of individual consumers are strongly influenced by their position in the social hierarchy. As a reflection of this, many products are segmented on economic and prestige dimensions and the marketers of these goods describe their target consumer in terms that prominently highlight their income and social standing.

Social Status in the World Market

Despite the usefulness of social class for understanding the American market the concept has not been as frequently used in studies of international markets. One dimension on which societies differ is culture and key elements of culture are the social and economic status of individuals within society. It is well known that all existing societies have reasonably well defined social hierarchies. Societies may vary in social mobility ranging from open societies in which any individual can move to any levels as a result of his or her own achievements, to more closed societies in which one's status is entirely ascribed at birth. It is also well known that societies differ in the degree of differentiation between the levels of the status hierarchy. Some societies are more egalitarian in the sense that there is less absolute distance between the lower members of that society and the more elite. Other societies have a much more differentiated structure, with the elite being very different from lower levels of the social structure. Thus, marketers interested in understanding any international market should be aware of, and sensitively attuned to, the existence and nature of status hierarchies in the societies where they propose to market. Different status levels may: consume different products, consume different amount of the same products, consume different brands of the same products, consume similar products in different situations, consume different products in similar situations. Further, the relationship can vary from product to product and culture to culture. These consumption differences may occur for several reasons.

Different status levels may have differential access to some products. In the basic functionalist argument (Davis and Moore, 1945) it is suggested that access to limited resources is one mechanism that a society can use to motivate the most able individuals to occupy the most critical positions in the society. By providing superior economic resources for critical positions, society get the best individuals to occupy those positions. To use an automobile example, it obviously takes a certain economic status to be able to afford a Rolls Royce. In communist Russia, party functionaries are able to shop at "hard currency" stores, where they can buy products that are not available to the general populace.

Some products may not be differentially available; but may still be differentially consumed. Typically, these products are used as status markers. Definitionally a status marker is a product where consumption, use or ownership indicates occupancy of a certain position in the social hierarchy. For example, in our society, owning a Rolls Royce gives a different indication about a person's social status than that that would accrue from ownership of a Pinto stationwagon.

To the extent that a multinational marketing firm can standardize marketing strategy, it is necessary that different levels of the status hierarchy in the various societies in which the firm markets responds similarly to the product. It could be useful if we could determine what types of products are consumed differently by different status levels across several variety of cultures and what types of products are not. Restated, to what degree do different cultures exhibit

similar consumption patterns for various types of goods across status levels. Several patterns are possible:

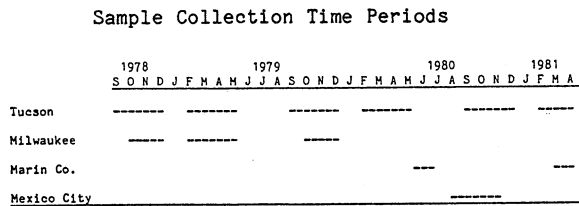
1. For a given product all levels of the status hierarchies in a variety of cultures might consume about the same amount, type and brands.
2. The product may be differentially available or function as a status marker, if this is the case we would expect to observe different levels of consumption across the different levels of the status hierarchy, across cultures.
3. The product may function as a status marker in both cultures but in opposite directions, that is, consumption may be high for high level statuses in one culture and high for lower statuses in another culture.
4. Consumption of the product may be status related in one culture but not in another.

Method

To investigate the cultural divergence across products for two cultures, a garbage analysis was conducted on several samples of refuse data. Garbage has been used in several instances as an indicator of consumption (Cote, Reilly and McCullough, 1984; Reilly, 1984; Reilly and Wallendorf, 1983; Wallendorf and Reilly, 1983). It has several advantages, particularly for cross cultural analysis. Since the subjects are anonymous and are not aware that their garbage is being collected, there are no reactivity problems. Further, since the coding procedures are objective, there is lessened potential for observational bias. Cross cultural garbage is not without its own problems, however. Probably the most serious involves cultural differences in packaging. The majority of discard is packaging materials. To the extent cultures use different packaging, interpretation of garbage becomes problematic.

In the current analysis samples of garbage from two cultures was analyzed. The first sample, representing the Mexican culture, was collected in Mexico City between June and November 1980. The second garbage sample comes from the United States. Garbage was systematically collected from Tucson, Arizona; Milwaukee, Wisconsin; and Marin County, California according to the time scheme described in Figure 1.

FIGURE 1



The Mexico City data set consists of 1,085 household refuse samples. The samples were stratified into 16 neighborhoods selected to represent the wide diversity of housing and income characteristics of Mexico City residents. Mexico City samples were placed into three broad income ranges based on the relationship between the average salary for that particular neighborhood and the minimum Federally established salary. (It should be recognized that the Mexican minimum salary is in no way related to the American minimum wage.) The low income group contains 670 refuse samples and showed a

yearly household income less than four times the minimum salary which would be about \$11,000 American. The middle income refuse (355 samples) came from households with yearly income means between 4 and 11 times the minimum salary, which would be about 11,000-37,000 U.S. dollars. The sixty upper income refuse samples came from households with mean income more than 11 times the minimum salary, that would be over about \$38,000 U.S.

The U. S. samples were stratified into three income groups using 1980 Census data and independent interview survey data from census tracts where refuse was collected. Four hundred and thirty refuse samples fell in the low income group with a mean household income group below \$15,000 a year. The middle income group (373 refuse samples) came from households with mean income between \$16,000 to \$30,000 a year. In the upper income group, entirely from Marin County, had a mean household income above \$32,000 a year. Household sizes differ substantially between the two cultures. Table 1 presents the mean household size for the three income levels in both the Mexican and U.S. samples. In general the Mexican's households were roughly twice as large as comparable U. S. samples.

TABLE 1

Mean Household Sizes and Numbers in Each Cell

	Status Level		
	Low	Middle	Upper
Mexican	5.5 n = 669	5.3 n = 355	4.6 n = 60
USA	2.8 n = 437	7.8 n = 385	2.4 n = 144

The data collection procedures were the same in both cases. Every item found in the refuse discard was coded with a garbage project item code, marked with the number of items of that type, the original net weight in ounces or volume in fluid ounces (grams and milliliters in Mexico), the cost if the item was marked, the amount of waste, the brand and type of the product. All American refuse was then converted to metric units (either grams or milliliters) so that the amounts were comparable across the two samples. The basic dependent variable is the number of grams or milliliters, as the case may be, of packaged input discarded per person, per day. For example, a 12 ounce beer can would have been recorded as 335 milliliters, type: beer, item: Budweiser, even though the can was empty and did not actually contain 12 ounces at the time of discard. This figure would then be weighted by the average number of adults (since beer is consumed by adults) in households from the same region or census tract. Thus the basic comparison between the three income groups across the two cultures is in terms of the evidence of packaged purchases of food in a variety of rather broad categories.

Results

Results of the analyses are presented in Tables 2 and 3. Table 2 describes the mean number of grams or milliliters per person per day of products which exhibited similar monotonic relationships to social status across the two cultures. Included in this are dairy items excluding milk, cheese and ice cream; dark bread; baking additives; spirits; regular soda; beans; regular cereal; and syrup and honey. For each of these products there is a monotonic relationship between the status level of the household and the amount of these products consumed per person, per day. Further, that monotonic relationship is the same in both cultures. For these products it would be reasonably safe to

assume that similar market segments are using the products, at least across these two cultures. A marketer could probably use a similar marketing strategy in both the Mexican and American markets. With the exception of regular (non-dietetic) sodas, which is negatively related to social status, all of the foodstuffs are consumed more heavily, the higher up the social scale one goes; both in the U.S. and Mexico.

TABLE 2

Products showing a similar Monotonic Trend in Both Mexican and American Cultures (Figures are Grams/Person/Day, Standard Deviations in Parentheses).

	Social Status		
	Low	Middle	Upper
Dairy (excluding milk, cheese, and ice cream)			
USA	5.6 (19.7)	10.5 (34.2)	23.9 (41.6)
Mexico	17.6 (101.7)	42.6 (182.7)	48.8 (116.5)
Dark Bread			
USA	11.4 (30.7)	16.8 (38.5)	21.9 (37.5)
Mexico	5.2 (46.5)	29.8 (132.4)	38.1 (146.3)
Baking Additives			
USA	.7 (4.9)	1.1 (6.4)	4.7 (24.4)
Mexico	.2 (4.4)	.7 (8.7)	7.4 (40.7)
Spirits			
USA	10.9 (56.4)	13.4 (71.7)	31.0 (66.3)
Mexico	37.4 (195.1)	82.9 (697.2)	182.8 (529.5)
Regular Soda (milliliters)			
USA	71.0 (122.5)	54.7 (108.9)	35.9 (70.7)
Mexico	714.2 (1831.8)	406.7 (1014.3)	334.6 (702.6)
Beans			
USA	14.2 (35.3)	8.5 (25.0)	3.5 (11.0)
Mexico	13.1 (84.1)	11.4 (47.1)	8.5 (34.6)
Regular Cereal			
USA	9.4 (27.4)	10.0 (25.6)	16.6 (24.7)
Mexico	.8 (6.2)	2.2 (11.8)	2.9 (12.2)
Syrup and Honey			
USA	4.5 (17.4)	7.5 (26.5)	8.6 (20.0)
Mexico	.6 (4.9)	4.4 (30.1)	5.1 (29.0)

Table 3 describes products which are more troublesome to the multinational marketer. For these products the relationship between social status and consumption differed across the two cultures. There are basically two ways that this occurs. The first is when trend are opposite. For these products, we see a positive relationship in one culture and a negative relationship in the other between social status and amount consumed. The second group of products differed across cultures by showing an egalitarian pattern in one culture (usually the U.S.) and a status related pattern in the other.

Canned vegetables, rice, fruit drinks, potatoes and baby products all showed negative relationships with status in the American sample and exhibited positive relationships with status in the Mexican sample. Longitudinal analysis is needed to determine whether these goods are basically following the same trajectory in both cultures, but with a time lag; or whether the two cultures are evolving toward different end points. In either case, a marketer of these products would be well advised to carefully consider using different tactics in the Mexican and American markets.

Cigarettes, baby supplies, chocolate sauce, toilet paper and laundry product also exhibited culturally different associations with status. For these goods, the U.S. consumption levels were relatively flat across the three economic segments studied. In Mexico, as a

contrast, the level of consumption was positively related to the social status of the consumer. Most probably, these are luxury goods to Mexican consumers, where as they are readily affordable at all levels of the American economy. If this is true, as the Mexican economy develops, we might expect to see more egalitarian consumption patterns for these products. Again, a marketer would be well advised to pursue different strategies in the Mexican and American markets.

TABLE 3

Products Which Exhibit Different Relationships with Status in the U.S. and Mexican Samples (Figures are Grams/Person/Day Unless Otherwise Noted. Standard Deviations are in Parentheses).

	Social Status		
	Low	Middle	Upper
Slopes Opposite			
Canned - Vegetables			
USA	32.4 (50.3)	20.4 (40.0)	16.3 (25.7)
Mexico	13.2 (53.9)	42.7 (146.4)	94.7 (227.5)
Rice			
USA	4.5 (21.4)	4.3 (25.6)	3.8 (16.2)
Mexico	32.8 (216.9)	31.4 (163.9)	92.7 (306.9)
Fruit Drink			
USA	21.1 (62.3)	11.6 (44.9)	8.2 (30.9)
Mexico	29.5 (125.1)	50.5 (490.1)	46.9 (190.3)
Potatoes (Peels)			
USA	7.9 (16.0)	2.9 (7.9)	.8 (3.2)
Mexico	14.6 (59.0)	15.9 (56.7)	48.5 (85.3)
Baby Food/Juice			
USA	4.8 (37.3)	2.4 (14.9)	.5 (4.0)
Mexico	1.2 (12.0)	8.7 (48.3)	34.4 (144.6)
Baby Formula			
USA	4.6 (30.1)	1.2 (14.2)	.8 (10.2)
Mexico	2.0 (34.6)	1.2 (21.0)	45.8 (248.2)
USA Flat, Mexican sloped			
Cigarette Packs			
USA	.46 (.72)	.56 (1.0)	.42 (.88)
Mexico	.36 (.87)	.39 (.81)	.83 (1.36)
Baby Supplies			
USA	.19 (.65)	.22 (1.20)	.16 (.74)
Mexico	.33 (1.17)	.65 (2.73)	1.25 (3.50)
Chocolate Sauce			
USA	1.3 (7.0)	1.9 (11.4)	1.4 (6.4)
Mexico	9.9 (63.1)	12.0 (89.0)	15.5 (103.6)
Toilet Paper Rolls			
USA	.26 (.41)	.29 (.42)	.28 (.32)
Mexico	.89 (1.02)	1.31 (1.39)	1.46 (1.09)
Laundry Products			
USA	.17 (.52)	.20 (.38)	.20 (.52)
Mexico	.35 (.69)	.30 (.64)	.52 (.78)

Summary

Of the 98 food categories into which garbage data is coded, data on 19 are presented here. These 19 are different from the remainder in that a reasonably clear monotonic relationship between status and consumption levels was observed in either the Mexican or American culture. This should not be interpreted to mean that remainder were flat across status levels in both cultures. Rather, of the remainder, many showed curvilinear relationships to social status. In many of these cases, the shape of the curve was different across the two cultures; just as with the monotonic relationships.

The overwhelming conclusion of this study is that it is necessary to consider relationships between social status, income and consumption patterns on a culture by culture basis. It is highly likely, were a third

culture to be included, that many of the products which showed similar status patterns in Mexican and American samples would be at variance in the third sample.

However, it may well be that there are types of products which are relatively stable in their cross-cultural distribution across status hierarchies. Study of further data sets would be useful to determine what product characteristics lead to status differentials in consumption.

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AN EXPERIMENTAL TECHNIQUE FOR EXPLORING THE PSYCHOLOGICAL
MECHANISMS OF THE EFFECTS OF PRICE PROMOTIONS¹

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Abstract

While a number of interesting psychological mechanisms of the effects of price promotions have been proposed, investigation of these mechanisms has been held back by the difficulty and expense of doing research in real world situations. This paper describes a flexible and inexpensive laboratory technique which would make practical the experimental study of a wide variety of hypotheses concerning how price promotions act on the decision processes of the consumer.

Introduction

A number of frequently used sales promotions involve giving the consumer a certain amount off the price of a product. The discount may be given by having the item "on sale", through the use of a cents-off coupon, or by returning part of the purchase price through a rebate. There is ample evidence both in the trade press (e.g. Abrams 1980) and the academic literature (e.g. Massy and Frank 1965; Nakanishi 1973; Sunoo and Lin 1978) that price promotions can serve to powerfully stimulate consumer sales, at least in the short run. However, for a manager to be able to make optimum decisions about the timing, frequency, target, form, etc. of price promotions, he or she must have an understanding of just how a price promotion affects the decision processes of the consumer to cause a greater likelihood of purchase.

To some, the psychological mechanism of price-off promotions is obvious: when you reduce a price, consumers become more likely to buy. However, there is evidence that a price promotion can cause far more sales stimulation than a simple reduction in price (McCann 1974; Cotton and Babb 1978). For example, Cotton and Babb used diary panel data to measure the sales effects of a set of price promotions whose average discount was 15%. While the price elasticities for these products (from previous studies) indicated that a 15% price reduction should cause a 3% to 25% sales increase, the price promotions yielded sales increases which were much larger, ranging from 20% to 400%.

It is not at all clear what is it about fashioning a price decrease into the form of a price promotion that gives the decrease added effectiveness. However, there have been a number of interesting suggestions. Kotler (1980) has proposed that sales promotions (1) gain consumer attention, (2) provide an incentive to buy, and (3) include "a distinct invitation to engage in the transaction now." Beem and Shaffer (1980) suggest that promotions may be a more effective way to overcome "customer entropy" than an equivalent decrease in everyday prices. Thaler (1983) suggests that a price promotion may increase the total utility of a purchase by increasing the pleasure associated with the transaction. Gardner and Strang (1984) present the possibility

that a price promotion might evoke in the consumer a "script", or stereotyped sequence of steps, which may often lead to a purchase.

Empirical research on these hypotheses, and the others that could be formulated, would be of both theoretical interest and managerial importance. However, an attempt to begin such research in the real commercial environment would run up against the fact that it would be quite difficult and expensive to find or create appropriate test situations. For example, to rigorously test the role of, say, transaction pleasure in causing price promotion effects, it would be necessary to make a controlled comparison between a price promotion and a simple price decrease. Since a situation where one group of consumers is offered a price promotion while an equivalent group of consumers is offered the same discount in the form of a simple price reduction rarely occurs naturally, considerable effort and expense would be required to create such a situation.

Further, the cost and difficulty of doing real world price promotion research may cause attempts to begin with such research to do so at the expense of the development of theory. For example, since theoretical justification is usually required of an application for research support, the researcher may be led to prematurely spell out a theory, and perhaps come to feel committed to it, just so as to be able to begin to submit the theory to empirical test. Or, a researcher might find him- or herself hanging on to a theory longer than the evidence would warrant simply because of the difficulty involved in trying out some other hypotheses. Or, the researcher, perhaps understandably, may choose research topics based on the relative ease of finding certain real world situations, but thus be led away from the systematic program of research which will be necessary to gain a real understanding of the mechanisms of price promotions.

In short, there is a need for a technique for doing exploratory research on price promotion mechanisms. This technique should be readily available and inexpensive, should make possible the testing of some basic elements of theory under controlled conditions, and should enable the preliminary testing of a wide range of hypothesized mechanisms.

We propose such a technique in this paper. The basis of this technique is the assumption that a price promotion affects the consumer by acting on basic mental processes common to all decisions. Under this assumption, the particular decision used to study price promotion effects should not be of critical importance. As long as there is more than one plausible alternative, and the decision-maker cares about the outcome, then there should be enough of the basic decision processes present to be able to demonstrate and study price promotion effects.

The technique we propose involves having people make decisions in a laboratory situation where the available information and decision alternatives can be easily and inexpensively controlled. However, we felt it would be inadequate to have the people make decisions about a hypothetical situation. When asked what they would do in a situation, people tend to be influenced by their theories of their own behavior, which are often

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incorrect (Nisbett and Wilson 1977), or by their perception of how the researcher would like them to respond (Orne 1962). In order for the decision processes to be sufficiently realistic, the decision-maker must have some personal stake in the outcome of his or her choice.

Our solution to the problem of how to have both the control and convenience of decisions in a laboratory setting but still have the decision-maker care about the outcome, was to embed the decisions in the context of a game. Each player of the game is in competition against one other player for a cash prize. The winner of the game is determined by how each player makes a series of choices concerning prices and brands of items in commonly purchased product categories. The rules of the game are explicit and simple enough that the players can become quickly involved in the game and strive to make the decisions that will maximize their chances of winning the prize. At the same time, the structure of the game makes it easy to take the choices made by a group of players who must use a price promotion to get a certain brand for a low price and compare them with the choices made by another group of players for whom the brand is regularly sold at that low price.

Thus, this game technique is well-suited to the exploratory phase of research on the mechanisms of price promotion effects. It enables a large number of real decisions to be studied conveniently, inexpensively, and with rigorous experimental methods. Under the assumption that price promotions act on basic processes common to all human decisions, this laboratory technique can be used to test a wide range of hypothesized psychological mechanisms of price promotion effects. The tentative theory which would result from these studies could then be applied to real world business situations and be modified appropriately.

The remainder of this paper is a description and discussion of an initial test of this game technique. The test involved constructing a game appropriate for studying cents-off coupons, a form of price promotion which has been rapidly increasing in popularity (Bowman 1980). The goal of the test was to use the game technique to bring the coupon effect (the ability of cents-off coupons to cause a greater short-run sales increase than the equivalent reduction in price) into the laboratory.

The design of the particular implementation of the game technique which we used for this test was guided by our efforts to have the game involve as many plausible mechanisms for the coupon effect as possible. As long as we were reliably able to obtain the coupon effect under laboratory conditions, it would be relatively easy to test each plausible mechanism in later research. In the next section we describe, in detail, the game we constructed, and the subjects who served as players in the first test.

Method

Materials

When two players sat down to play the "supermarket shopping game," they received a box which contained all the materials necessary for play. Inside the box were two envelopes and an amount of loose play money in various denominations of bills and coins. When each player took an envelope, the box containing the loose play money was placed between the two players and became "the cash register." Each of the two envelopes contained the following:

- One price list
- One pack of shopping lists
- \$100 in play money
- Five sheets of coupons
- One questionnaire

The price list showed the names and prices of five alternative brands in each of 12 product categories and served in the game as the "supermarket." The 12 product categories were selected from among consumer packaged goods frequently purchased at supermarkets. The five brands chosen for each category were those national brands that a small survey indicated were given the most shelf space in the local supermarkets. The prices listed were modified only slightly from the actual prices of those products at the time of the survey. The goals of the modifications were to separate brands which had the same price and to insure that the difference between the highest and lowest priced brand in a product category was less than 25 cents. The product categories were listed in alphabetical order, and the five brands within a product category were listed in a random order.

The pack of shopping lists consisted of eight lists stapled together. Each list corresponded to a "weekly shopping trip" and named six product categories in which purchases were to be made on that trip. Thus, over the course of the game, each player had to make 48 brand choices. There was space on each shopping list for the player to write the name of each brand he or she had chosen and the price he or she had paid for the brand. At the bottom of the list was a line under which the players wrote the total cost of the six purchases made during the shopping trip. Each shopping list contained a different set of six product categories with the constraint that over the eight shopping lists, each product category was listed exactly four times and that no product category would occur more than once on one list. The lists were in a different random order in each pack.

Each player's allotment of \$100 in play money was given in the following denominations: two 20's, four 10's, three 5's, three 1's, two 50 cent pieces, and four quarters.

Each of the five sheets of coupons included in each envelope contained four coupons for the same brand. If the sheet were folded in half lengthwise and widthwise and then torn along each of the folds, the four coupons could be separated. Thus, "clipping" the coupons required some effort, but was certainly not difficult.

The questionnaire, which was filled out after the game was over, asked players to estimate how much supermarket shopping they do in an average week, and then asked for some demographic information.

Note that, except for the order of the eight shopping lists in the pack, the contents of the two envelopes in any one game box were identical.

Design

In order to give the processes of choosing a brand in the game some of the complexity of real consumer decisions, both the price aspects and the benefit aspects of the alternative brands were made to be relevant to winning the game. To accomplish this, an objective measure of a benefit aspect of the brands was needed. This was obtained by constructing a form like the price list but with blank spaces instead of prices after each brand name. These forms were given to approximately 120 people, drawn from the same population as that of the players of the game in this test, who were asked to rank each of the five brands in a product category according to its subjective utility, or perceived "quality". These rankings were tabulated to yield the group's perception of the one highest quality brand and the one lowest quality brand in each category.

For the players, the object of the game was to make their 48 brand selections so as to spend the least amount of money. The opponent who spent the least amount of the play money used as currency in the game

won real money: a \$5 cash prize. Thus, the listed brand prices were relevant to brand selection. However, the players also had to consider brand quality since they would receive an additional 25 cents for each highest quality brand they chose, but would have to pay an additional 25 cents for each lowest quality brand they chose (they neither received nor paid any extra amount when they chose one of the three brands in a product category which were neither highest nor lowest quality). The players were told how the brand quality ratings were arrived at, but were not told which were the highest or lowest quality brands. Thus, in the game, as is so often the case in real consumer decisions, price information was concrete and immediately available; but the information on the benefit aspect of the alternatives required some estimation and judgment.

Of course, using this measure of brand benefit involved an element of unrealism. In real decisions, the consumer weighs the price of a brand against his or her own perception of its quality. But in the game, the players had to weigh price against the quality perceptions of other people. There were two reasons why this was not felt to be a serious problem. First, pilot testing indicated that players typically approached the task of judging how a brand had been rated by first determining their own perceptions of the brand and then adjusting for how they felt they may differ from the people around them. Thus, their own perceptions played a major role in their assessment of the perceptions of others. But, second, the use of the game technique rests on the assumption that price promotions act on mental processes common to all human decisions. Under this assumption, the mechanisms of the effects of cents-off coupons should not depend critically on the particular benefit aspect the players considered. The players were making real human decisions in the game since they chose between plausible alternatives and had a stake in the outcome.

The game in this test existed in two versions. Half of a game's players played Version A, while the other half played Version B. The only differences between Versions A and B of a game involved the ten brands that had the potential of being couponed, which will be from here on referred to as the "critical brands". Each of ten product categories contained one critical brand. The coffee and toothpaste categories did not contain a critical brand, but served as "dummy" product categories which were included to prevent the proportion of couponed brands from becoming overly large. The critical brands were chosen so that four were highest quality brands in their product categories, four were lowest quality brands, and two were brands which were neither highest nor lowest quality in their categories.

Each game contained coupon sheets for five brands. Five of the critical brands were couponed in Version A games, and the other five critical brands were couponed in Version B games (see Table 1). The value of the

TABLE 1
The Ten Critical Brands

Couponed In	Product Category	Critical Brand	Coupon Value	Perceived Quality of Brand
Version A	Cookies	Chips Ahoy	\$.20	Medium
	Laundry Detergent	Tide	.12	High
	Maple Syrup	Golden Griddle	.20	Low
	Margarine	Promise	.12	Low
	Tomato Sauce	Ragu Homestyle	.20	High
Version B	Cereal	Post Raisin Bran	.15	High
	Dish Detergent	Dawn	.07	Medium
	Oil	Sunlite	.10	Low
	Tuna Fish	Chicken of the Sea	.10	High
	Yogurt	Sweet 'N Low	.15	Low

coupons for a critical brand was chosen so that, with the use of the coupon, the price for that brand became the lowest in the product category. Within that constraint, an attempt was made to make the game coupons reflect the actual values of manufacturers' coupons in recent years (Bowman 1980).

As can be seen in Table 2, the prices of the critical brands in game Versions A and B were set to allow the comparison of a brand's sales when a cents-off coupon was available with its sales when offered at the equivalent low price. While the players of Version A games needed to redeem coupons to get Chips Ahoy, Tide, Golden Griddle, Promise, and Ragu Homestyle at the lowest prices in their categories, the players of Version B games found those brands listed at that lowest price. And, while the players of Version B games needed their coupons to get Post Raisin Bran, Dawn, Sunlite, Chicken of the Sea, and Sweet 'N Low at the lowest prices in their categories, the players of Version A games found those brands listed at that lowest price. Thus, while each critical brand was always available at its low price, half of the players saw it in its "couponed form" and had to use a coupon to get the low price; the other half saw it in its "control form", where it was listed at the low price.

TABLE 2
List of Alternative Brands and Prices Used in Versions A and B

	Version A Price	Version B Price	Version A Price	Version B Price
<u>Cereal</u>			<u>Margarine</u>	
Special K	1.42	1.42	Parkay	.97
Cheerios	1.39	1.39	Blue Bonnet	.89
Rice Krispies	1.49	1.49	Promise	.98
Post Raisin Bran	1.38	1.53	Mazola	1.03
Life	1.57	1.57	Land O'Lakes	.87
<u>Coffee</u>			<u>Oil</u>	
Folgers	2.44	2.44	Puritan	1.10
Chock Full of Nuts	2.47	2.47	Crisco	1.10
Maxwell House	2.49	2.49	Mazola	1.09
Hills Brothers	2.40	2.40	Wesson	.99
Martinson	2.37	2.37	Sunlite	.97
<u>Cookies</u>			<u>Tomato Sauce</u>	
Chips Ahoy	1.81	1.61	Aunt Millie's	1.68
Mallomars	1.79	1.79	Prego	1.59
Fig Newtons	1.63	1.63	Hunts Prima	
Sunshine Sugar			Salsa	1.69
Wafers	1.65	1.65	Ragu Home-style	1.70
Oreo's	1.69	1.69	Prince	1.52
<u>Dish Detergent</u>			<u>Toothpaste</u>	
Sunlight	1.37	1.37	Ultra Brite	1.87
Ivory	1.23	1.23	Colgate	1.88
Ajax	1.30	1.30	Crest	1.89
Dawn	1.22	1.29	Aim	1.91
Joy	1.39	1.39	Aqua Fresh	1.79
<u>Laundry Detergent</u>			<u>Tuna Fish</u>	
Tide	2.39	2.27	Starkist	.99
Arm and Hammer	2.49	2.49	Chicken of the Sea	.83
All	2.45	2.45	3 Diamond	.89
Bold	2.43	2.43	Geisha	.95
Ajax	2.32	2.32	Bumble Bee	.98
<u>Maple Syrup</u>			<u>Yogurt</u>	
Log Cabin	1.78	1.78	Columbo	.51
Vermont Maid	1.63	1.63	Sweet 'N Low	.53
Aunt Jemima	1.71	1.71	Yoplait	.40
Golden Griddle	1.81	1.61	Dannon	.55
Mrs. Butterworth's	1.77	1.77	Chambourcy	.49

Subjects

A total of 72 Northeastern University students and staff were recruited by advertisement to serve as players in this test of the game technique. The participants received \$3 just for playing. The 36 players who won their games received an additional \$5.

Fifty-eight percent of the players were male, and 87% were between the ages of 18 and 22. Seventy-six percent of the players indicated that they do at least some supermarket shopping each week, and 25% reported that they purchased over \$20 worth of supermarket products in an average week.

Description of Game Play

When a group of players was assembled, they were told that they were about to play a supermarket shopping game (which was part of a consumer behavior experiment) and were instructed to choose an opponent. Half of the pairs of opponents were given a box containing the A Version of the game and the other half were given a box containing the B Version of the game. Each player took one of the two envelopes inside the box. Then the contents of the envelope was inventoried in order to familiarize the players with the game materials and to allow each player to confirm that he or she was starting with the full play money allotment of \$100. At that point, the rules of the game were explained:

"The object of the game is to purchase all of the items on your shopping list and have as much money as possible left over at the end of the game. Whoever (of the two of you) has the most play money left over at the end of the game wins the prize of \$5, real money.

Of course this means you'll want to pay attention to the price of each brand you buy. However, it is also necessary to take quality into account. In this game, the quality of a brand is defined as how 120 people like yourselves rated each brand on a list which did not include the prices. Based on these ratings, there is one brand in each product category which is the highest quality and one brand which is the lowest quality. For each highest quality brand you buy, you will receive 25 cents (which corresponds to the pleasure of using a high quality product). For each lowest quality brand you buy, you will have to pay 25 cents (which corresponds to the problems of using a low quality product). These adjustments will be made after you have completed your shopping trips and they may greatly alter the amount of money you have left over.

Thus, you must take both price and quality into account in each brand choice you make. However, while you know the prices, you'll have to use your intuitions to assess quality.

When the game begins, one of you will be the "shopper" and the other will be the "cashier". The shopper will select a brand of the first product on this week's shopping list and write the brand name and the price paid on the shopping list next to the product name. If the shopper chooses to use a coupon, he or she will subtract the value of the coupon from the listed price to get the price he or she will actually pay, and will write that price on the shopping list. When the shopper has purchased all six products on this week's list, the cashier will add up the amount the shopper has spent (we will loan you a calculator if necessary). The cashier will then collect the money

from the shopper, and will collect any coupons the shopper may have used. The cashier will put the money in the cash register, and make change from the cash register if necessary.

At this point, the roles will reverse, and the former cashier will now have a chance to shop and the former shopper will become the cashier. Continue in this way until both of you have completed all eight shopping lists. Then call one of us over and we will make the adjustments for quality and then give the \$5 prize to the player who has the most money remaining. Remember, both the price and the quality of the brands you choose will affect whether you win or not.

Also, remember that one, but only one of the two of you will win the \$5 prize. Sometimes the results are very close, so it is in your interest to make the best choice you can for every purchase."

It was clear from watching the games being played that most players got caught up in the competition and cared about whether they won or lost. Also, informal post-game questioning failed to indicate any players who had correctly surmised the purpose of the experiment.

Results

While the players were exposed to coupon promotions for only five of the 60 available brands, they showed an average redemption rate of approximately 34%.² This redemption rate is considerably higher than that observed in real world coupon promotions; even in-pack coupons show a redemption rate of only 18.4% ("Coupon Distribution and Redemption Patterns" 1982). However, this high redemption rate does not appear to be due to a large number of players reflexively using coupons and ignoring the other factors in the decision. Seventy-one percent of the players redeemed fewer than half of the coupons available to them, and no player used more than 85% of the available coupons.

To determine if the cents-off coupons in this game were more effective in influencing choice than the equivalent low price, two probabilities were computed for each player. One was the probability of the player choosing one of those five critical brands which he or she saw in their couponed form, and the other was the probability of the player choosing one of those five critical brands which he or she saw in their control form. Since half of the players played Version A of the game and the other half played Version B, each of the ten critical brands appeared in its couponed form as often as it appeared control form. Thus, the mean probability of all 72 players selecting critical brands seen in their couponed form can be compared to the mean probability of the 72 players selecting critical brand seen in their control form.

The results indicated that a critical brand in its control form had a 0.26 probability of being chosen. Since these brands were listed at the lowest price in each category, it is not surprising that their purchase likelihood is above the 0.20 (one in five) which would be expected from chance alone. More interesting, then, is that a critical brand in its couponed form had a 0.45 probability of being chosen. This 0.19 difference between mean purchase probabilities is a measure of the

²It is impossible to report the exact redemption rate in the game because the players occasionally made errors when recording the price they paid for a brand.

coupon effect shown in the game. A matched t-test on the arcsine transformations (Winer, 1971, p. 399) of the pair of the probabilities computed for each of the 72 players indicated that this coupon effect was highly reliable across the subjects who participated in this test ($t_{(71)} = 5.66, p < .001$).

Discussion

The results of this test showed that this particular implementation of the game technique is capable of bringing the coupon effect into the laboratory. However, the usefulness of this game for exploratory research on the mechanisms of the coupon effect can be criticized on at least two grounds.

First, it could be asserted that the artificial game situation, the unrealistic measure of brand benefit used, and the nonrepresentative selection of subjects for the test prevent the results of this laboratory technique from being able to have any relevance to price promotions conducted in the real world. Those who would take this position are questioning our assumption that there exist basic mental processes for decision making which are relatively invariant across people and situations, and that price promotions exert their effects on the consumer by acting on these processes. While we have no proof for our assumption, we believe it should be considered favorably at this early stage of research because it greatly facilitates laboratory study and the development of theory. The true test of this assumption will come as the implications of the theories based on laboratory research are tested in real world situations (see Calder, Phillips, and Tybout 1981; 1983).

Second, it could be argued that, while such a laboratory game could be useful for price promotion research, the behavior shown in the particular game described here is heavily influenced by a variable that never occurs in real world situations. In particular, it is possible that the players may have been more likely to use the coupons in the laboratory game because they felt that it was what the experimenter wanted them to do. While giving the players a stake in the outcome was designed to avoid this artifact, it may not have completely done so since players may have believed that doing what the experimenter wanted them to do would increase their chance of winning the game. To minimize this problem, future version of the supermarket shopping game should have the coupons distributed in a way which makes it less obvious that they are the most important experimental variable. For example, each player could receive the coupons on the pages of a little newspaper which could also carry other price advertising and even articles on the quality aspects of certain products.

With such an improvement, it is easy to imagine how the supermarket shopping game tested here could be used to test a wide variety of possible mechanisms of the coupon effect. For example, a sequence of experiments could be done where aspects of coupons are added one-by-one to the low price control conditions to see which aspects are necessary to make coupons work as well as they do. Other hypotheses could be tested by varying whether or not some coupons are distributed to only certain players and by varying the effort necessary to redeem a coupon.

Thus, the game technique offers a promising approach to research on the psychological mechanisms of price promotions. We agree with Cook (1984) on the need for more consumer research experiments where the rewards in the experiment are linked to the choices the subject makes, and we believe that wider use of such methods could facilitate great advances in our understanding of the mental processes that underlie consumer decisions.

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MODELING THE COUPON REDEMPTION DECISION

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Abstract

This article develops a model of the consumer's decision to redeem a coupon on a purchase occasion. The redemption decision is a function of four types of variables—coupon characteristics, characteristics of the purchase, brand loyalty, and concurrent promotional conditions. The underlying hypothesis is that consumers attempt to balance their desire for economy with the minimization of shopping time and effort. As coupons involve both costs and benefits, they will be used only when the incremental perceived effort to redeem is relatively low and perceived value is relatively high. A simplified version of this model is tested with scanner panel data for two product categories.

Introduction

With the current annual distribution of coupons surpassing 120 billion (U.S. News and World Report 1984), managers recognize the need to understand consumer response to coupons. In the literature, consumer response has been dealt with in a variety of ways: prediction of redemption rates (Reibstein and Traver 1982, Ward and Davis 1978); the effect of couponing on incremental sales (Hee 1981), on purchase acceleration (Neslin, Henderson and Quelch 1984) and on brand switching (Dodson, Tybout and Sternthal 1978); coupon profitability (Neslin and Shoemaker 1983, Klein 1981, Irons, Little and Klein 1983); and the identification of coupon users (Teel, Williams and Bearden 1980). Focusing on the behavioral issues in consumer response, previous work has conceptualized why consumers use coupons (Schindler 1983, Beem and Shaffer 1981) and how coupons achieve results (Ward and Davis 1978a, Raju and Hastak 1979, Rothchild and Gaidis 1981, and Strang and Gardner 1983). In all of this work, there is little indication of how consumers actually integrate coupons into shopping patterns—the process by which the 1400 coupons received annually by each household are converted into 63 redemptions (average redemption rate is 4.5%, Nielsen Clearing House 1982). Such basic data as the "where, when and how" of coupon use in shopping can be key in designing coupon programs that achieve their intended results.

The Coupon Redemption Dilemma

Paradoxically, the last decade has seen two conflicting trends: the rise of convenience orientation, or "time-buying" (Berry 1979), versus an increase in motivation to economize (Progressive Grocer 1983). Interest in economy is seen in self-reported data (Opinion Research 1982), in the spread of coupon usage to a larger percentage of the population (Bowman 1980) and, until recently, in an increase in the average number of coupons redeemed (PMAA 1982). Yet a consumer who uses coupons should incur more total shopping time than one who does not. The major cost elements of coupon usage include the time and effort to clip coupons, to maintain a coupon collection, to use this collection in planning shopping and in in-store decisions, and to wait an additional few moments for check-out. Balancing these costs, coupons offer a price reduction.

To some extent there are separate segments involved in the time-buying and economizing trends. There is a slight tendency for nonworking consumers to become more involved with coupons (Strang 1981) and for

workers to be more concerned with time-buying (Anderson 1972). However, these statistical correlations are very weak; many consumers must be balancing dual interests. Evidence for the wide appeal of coupons is seen in the shopping strategy typologies developed by Gultinan and Monroe (1979) in which 80% of the subjects have positive attitudes toward couponing while differing on shopping interest, degree of pre-planning, interest in store specials, brand loyalty, and other factors.

Some observers of the coupon dilemma conclude that consumers have been entrapped and are trading their labor for negligible benefits—a dead-weight economic loss (Uhl 1982). Yet another interpretation is possible.

A plausible hypothesis is that consumers allocate their resources of time, energy and money (Downs 1961) through following logical strategies in which coupon use is made "convenient"—either through selecting redemption occasions which incur minimal time and energy costs or through selecting redemptions which offer abnormal savings to pay for these costs. Evidence for selectivity is that consumers may specialize in using coupons only in particular product categories (Henderson 1983).

Within a category, consumers may adopt further approaches to maximize coupon savings while minimizing time and effort. In this way, consumers who use coupons may actually spend no additional time shopping than those who do not. In contrast to shopping behavior research which measures total shopping time (for example, Arndt and Gronmo 1977), this research focuses on the coupon redemption occasion as the unit of analysis. The implicit time-money-effort trade-off of such occasions can be examined.

Modeling Coupon Redemption

The literature on coupon redemption has focused on predicting aggregate redemption rates—an important calculation in budgeting and evaluating coupon programs—(Reibstein and Traver 1982, Ward and Davis 1978b). These studies have shown that redemption rates vary by brand, category, media used and other factors. The relevant factors in determining overall redemption rates are shown in Table 1, categorized into four groups: coupon characteristics, brand factors, purchase characteristics, and other promotional activities.

In modeling coupon redemption on a disaggregated basis, both the dependent and independent variables need to be adapted. The dependent variable—coupon redemption—actually includes a three stage decision process—collection, intention, and redemption. In the collection stage the consumer makes the decision to clip an available coupon and to save it for future use. The intention stage takes place before a store visit and involves either the explicit decision to use a particular coupon or the preparatory work (taking the coupon to the store) that will make the later redemption possible. The redemption stage is the submission of the coupon at check out. While the redemption decision is intertwined with brand choice, the two decisions can be modelled separately.

The factors that affect these three stages can be

TABLE 1

Influences on the Coupon Redemption Decision

	Purchase Characteristics	Brand	Other Promotions	Coupon Characteristics
<u>Stages</u>				
Collection		X		X
Intention	X	X	X	X
Redemption	X	X	X	X
<u>From The Literature:</u> (Source: Reibstein and Traver 1980)	Length of Time Since Coupon Drop	Market Share Brand Loyalty* Need For Product Attitude/Usage Growth Trend New/Old Product Class Size Retail Dist.	Advertising* Promotional Support* Competitive Activity*	Method of Distribution Audience Reached (Geographic, Demographic) Size of Drop* Face Value* Discount Design Purchase Requirements General Misredemption Seasonality
<u>Additional Factors:</u>	Elapsed Time Since Last Purchase* Quantity Purchased* Store Used* Day of Week* Type of Shopping Trip Degree of Pre-Planning In-Store Conditions Time Pressures			

*Variables Available to Test

adapted from the aggregate case. Since half of all redeemed coupons are kept at least four weeks (Blair 1982, Nielsen Clearing House 1982), the intention and redemption stages must be strongly related to factors that occur beyond the time of the coupon drop itself. For this reason, Table 1 expands on the influences appropriate for the aggregate case and includes more characteristics of the purchase. These factors are expected to affect coupon redemption in the following ways.

At the collection stage, there are two primary influences: consumers report that face value and brand are important considerations in choosing coupons (Nielsen Clearing House 1977). Consumers should be more inclined to notice coupons for brands which they normally buy and more inclined to decide that such coupons are worth collecting. The characteristics of the coupon itself influence this process. The media used to distribute the coupon will affect the collection decision through spotlighting the coupon. The value offered and the quality of the execution of the coupon make the coupon more or less attractive to collect. Thus, the factors used in the aggregate models are most appropriate at the collection stage as they influence how many coupon collections the new coupon will join. A combination of effort and value effects are evident in these variables. High value coupons clearly offer superior economic incentives. Perceived value may also increase if the coupon is for a preferred brand. Consumers will incur low collection costs if coupons are made generally more available.

At the intention stage consumers will be affected by two additional types of influences—the characteristics of the purchase and the presence of other promotions. If consumers have the time and inclination to plan their shopping they may be more inclined to use coupons. There is some evidence that coupon use and pre-planning (use of a list, reading newspaper ads—*Progressive Grocer* 1975) are interconnected. Under hurried conditions, coupons

will be less likely to be taken to the store. If the consumer has a greater need to purchase in a particular product category—a long time has elapsed since the last purchase was made or a greater than average quantity is needed—then the product category may be more salient. Under this condition, the perceived value of the coupon may rise and redemption intentions may be more likely.

The presence of other types of promotions can also affect this stage as they act to remind the consumer to use the coupon and to offer an even better deal on a particular brand. For example, if a particular brand is featured in retail advertising, the advertising may remind the consumer to use a saved coupon. Alternatively, the consumer may be looking for multiple promotions to get the best overall deal. While it is doubtful if consumers can actually perform the calculations necessary to carry through on such strategies (Capon and Kuhn 1982), the simultaneous promotions may trigger the perception of increased savings. In reminding the consumer to use the coupon, such ads also lower the consumers effort—or thinking costs—by presenting an acceptable and easy choice.

At the redemption stage, the consumer is in the store and makes the final decision to redeem a coupon for a particular brand. All four types of influence are assumed to be operative at this point. A consumer with more time, with greater need for the product, who has recently received or been reminded of a coupon, and who sees that a brand is also being featured should be more likely to redeem than if these conditions are not in effect.

Testing The Model

In this research, a simplified form of this model is tested using only the final stage—redemption—and a limited set of redemption predictors.

Data

Data were available from the SAMI "northeast scanner

TABLE 2

Empirical Test of the Coupon Redemption Decision

panel" and covered consumer purchases from April to October 1981. The scanner market includes 15 stores (3 chains) and tracks panel purchases and coupon redemptions by store. Two product categories were available for analysis: a paper product ("paper") and a coffee product ("coffee"). A total of 2023 panelists made 18294 paper purchases and 1232 panelists made 4579 coffee purchases during this time period. A data base was constructed by merging coupon redemption records with panel purchases and with local newspaper advertising data. Each observation consisted of the record of one purchase occasion—brand choice, coupon redemption, price and promotion data, store and date. All consumers who had no coupon redemptions in the two product categories were discarded, leaving a total of 2739 coffee purchases and 8312 paper purchases made by consumers who were at least casual coupon users. Of these, 1551 paper purchases and 1322 coffee purchases involved a coupon redemption.

Model

As coupon redemption is a binary choice, it is appropriate to model redemption using logistic regression (Fienberg 1979):

$$\log \left(\frac{P_i}{1-P_i} \right) = B_0 + \sum B_i X_i \quad (1)$$

Where:

P_i = probability that a coupon is redeemed on occasion i ($y = 1$)

$1-P_i$ = probability that a coupon is not redeemed on occasion i ($y = 0$)

X_i = attribute of purchase occasion i

The observed dependent variable assumes values of 0—no coupon redeemed—or 1—one or more coupons redeemed on the purchase. Using maximum likelihood estimation, the model finds parameters that yield predicted probabilities of coupon redemption for a particular set of independent variables. The FUNCAT procedure in the SAS statistical package (SAS Institute 1982) was used for estimation. The significance of the overall regression was tested with a chi-square test using the log likelihood ratio. The ability of the model to provide information beyond an equally likely null model was analyzed with U^2 (Hauser 1978). Each coefficient was tested with a t-test and each category analyzed in split-halves to test the reliability of the model.

This model is cross-sectional as all purchases of potential coupon users are analyzed together. Based on the widespread nature of coupon use, the model makes the assumption that coupon redemption is a characteristic of purchase situations rather than solely a characteristic of individual consumers. However, this homogeneity assumption is tested and variations in redemption behavior are analyzed for specific consumer segments. The model also assumes that coupon redemption is a zero-order process. Any time series effects of sequential redemptions by individual consumers are not modelled. Each consumer's history is known to some extent and is used to calculate a brand loyalty variable, the time since last purchase and the average quantity purchased. The model also assumes that coupon distribution has reached the point where coupons are always available to consumers who wish to use them.

Variables	Mechanism			Expected Effect
	Time	Effort	Value	
<hr/>				
Elapsed Time			X	+
Quantity			X	+
Store 1		X	X	+
Store 2		X	X	+
Beginning Week	X			+
End Week	X			+
<hr/>				
<u>Brand</u>				
Brand Loyalty		X	X	+
<hr/>				
<u>Other Promotion</u>				
Manufacturer Ad	X	X		+
Retail Ad		X	X	+
Price Change ^a		X	X	-
Deal Pack		X	X	+
<hr/>				
<u>Coupon Characteristics</u>				
Value			X	+
Share		X		+

^a A negative effect for price change means that when price is decreased, coupon redemption will increase.

Variables

The variables used in the test (Table 2) are defined as follows. Elapsed time measures the time difference in days since the last purchase of the product category, standardized for each consumer. Quantity is the standardized difference from the average purchase quantity. While these variables are used in this analysis as surrogate measures for the perceived value of using coupons in a purchase situation, the data set does not control causality. Quantity, in particular, may be a result of the redemption rather than its cause.

The store of purchase is operationalized by two dummy variables—store 1 and store 2—for two of the three grocery chains in the area. Both of these variables are hypothesized to be positive predictors of redemption. Store 1 uses a warehouse format and store 2 is the leading chain with an active promotional posture. By contrast, the excluded store is smaller and less promotionally active. A consumer selecting the excluded chain may be less concerned with value and less likely to be on a major shopping trip. The time of purchase is operationalized with two dummy variables representing purchases made at the beginning of the week (Mondays and Tuesdays) and end of the week (Saturday). The beginning of the week measure is used to capture the effect of Sunday FSI couponing and best food day advertising (Tuesdays in this market). Consumers should be more inclined to use coupons while

promotional messages are still fresh in their minds and before they incur costs of maintaining a coupon collection. Alternatively, the end of the week variable is used to capture the effect of increased free time.

Brand loyalty is measured by proportion of purchase. There are four measures of promotion in the data base. Manufacturer advertising is a newspaper ad, containing a coupon, which has been placed by the manufacturer. This variable acts as both a distribution device for coupons and as a reminder. Retail ad is a newspaper ad—often featuring a reduced price—which is placed by the store. Both of these variables are coded for the week of purchase. Price change refers to any change in price—either regular shelf price or a promotional reduction—on the purchased brand. The variable deal pack indicates that the brand used some sort of special packaging—cents-off, extra product or a reusable container. There were no deal packs used in the paper category during this time period.

There are two measures of coupon characteristics in these data. Both take account of competitive couponing conditions. Coupon value is the difference between the average coupon redeemed on the brand purchased and the overall average coupon in the product category for the week. The availability of high value coupons in the marketplace should stimulate redemption. Coupon share is a measure of the relative availability of the brand's coupons during the week of purchase. This variable is a surrogate measure of true availability as it is based on redemption rather than distribution share.

Results

The model results for each product category are shown in Tables 3 and 4. The predictors for coupon redemption are very similar in the two categories. In both cases purchase quantity, the store dummies, brand loyalty, manufacturer ad and the coupon characteristics are correlated with redemption. However, there is some instability in the results. Although two-thirds of the coefficients are within one standard error between split-half samples, the effects do not have a uniform significance level between halves. Overall, the model for both product categories is statistically significant in predicting an individual redemption. However, the model for coffee provides only a small (.06) amount of information, measured by U^2 , compared to a null model. The model for paper provides a substantial amount of information (.44).

The results for elapsed time, while statistically insignificant, are reversed in sign. As this test is not a true experiment it is difficult to determine the causal direction in these data. Coupons may stimulate consumers to buy sooner than expected or longer elapsed time may lead consumers to use coupons. The quantity variable may be associated with redemption through purchase requirements.

The store dummy variables validate the hypothesis as purchases that occur in certain stores are more likely to involve coupons. This result needs confirmation, however, as those who redeem coupons more frequently may tend to shop in certain stores. This hypothesis is addressed by the segment analysis. The day of week dummies both have the correct sign but are not significant. Coupon usage appears to be spread evenly throughout the week. Day of the week may not fully capture the nature of the shopping trip and the degree of difficulty involved in redeeming a coupon.

The brand loyalty variable is uniformly significant in these data but has the reverse sign. A brand less

TABLE 3

Model Results by Split Halves - Paper

	Sample 1 ----- N (4151)	Sample 2 ----- (4117)
Constant	-1.717(.153) ^a	-2.039(.163) ^a
<u>Purchase Characteristics</u>		
Elapsed Time	- .058(.049)	- .005(.048)
Quantity	.542(.043) ^a	.538(.042) ^a
Store 1	.556(.156) ^a	.318(.183) ^c
Store 2	.511(.102) ^a	.503(.114) ^a
Beginning Week	.041(.103)	.134(.102)
End Week	.046(.119)	.078(.118)
<u>Brand</u>		
Brand Loyalty	-1.866(.15) ^a	-1.442(.148) ^a
<u>Other Promotion</u>		
Manufacturer Ad	.301(.167) ^c	.038(.165)
Retail Ad	- .124(.232)	.041(.201)
Price Change	- .940(2.951)	-1.786(2.893)
<u>Coupon Characteristics</u>		
Value	1.406(.727) ^c	.989(.711)
Share	4.026(.339) ^a	4.148(.337) ^a
Likelihood Ratio Chi-Square	3198.7 ^a	3274.8 ^a
U^2	.44	.43

Notes

^a $p < .01$, ^b $p < .05$, ^c $p < .10$

Table entries are raw logistic regression coefficients. The standard deviation of the estimated coefficient is in parentheses.

frequently purchased is a good predictor of coupon redemption. This result may be explained by the nature of the dependent variable in this test. Consumers may base their collection and redemption intention decisions on brand preference while supplementing their collections with coupons for less preferred brands. As these brands are primarily purchased for promotional reasons alone, coupons may be used on a higher percentage of these purchases.

Manufacturer ads appear to be a predictor of redemption; at least some consumers redeem quickly following the newspaper appearance of a coupon-containing ad. Retail ad seems to be generally negative, indicating a tendency to redeem coupons on brands that are not also being featured. Coupons may be redeemed when prices are also reduced and, for coffee, when a deal pack is being used, however these effects are not statistically significant.

The coupon characteristic variables are generally as hypothesized: consumers redeem when coupons are

TABLE 4

Model Results by Split Halves - Coffee

N	Sample 1	Sample 2
	(1356)	(1379)
Constant	-.956(.210) ^a	-.717(.201) ^a
<u>Purchase Characteristics</u>		
Elapsed Time	-.048(.053)	.003(.052)
Quantity	.116(.093)	.182(.07) ^a
Store 1	.323(.261)	.817(.272) ^a
Store 2	.872(.129) ^a	.923(.126) ^a
Beginning Week	-.001(.127)	.216(.126) ^c
End Week	.006(.155)	.041(.156)
<u>Brand</u>		
Brand Loyalty	-.574(.184) ^a	-.795(.175) ^a
<u>Other Promotion</u>		
Manufacturer Ad	.427(.22) ^c	.661(.224) ^a
Retail Ad	-.276(.303)	-.229(.298)
Price Change	-.211(.775)	-.715(.726)
Deal Pack	.167(.175)	.089(.194)
<u>Coupon Characteristics</u>		
Value	2.726(1.038) ^a	1.976(1.109) ^c
Share	2.171(.493) ^a	1.543(.483) ^a
Likelihood Ratio Chi-Square	1758.4 ^a	1794.6 ^a
χ^2	.06	.06

TABLE 5

Redemption by Consumer Segment

N	Coupon Usage	
	Heavy	Light
	(1489)	(831)
Constant	-.968(.197) ^a	-1.194(.307) ^a
<u>Purchase Characteristics</u>		
Elapsed Time	-.021(.052)	-.049(.08)
Quantity	.215(.071) ^a	.105(.108)
Store 1	.77(.259) ^a	.381(.399) ^c
Store 2	1.206(.127) ^a	.32(.181)
Beginning Week	.225(.124) ^c	-.096(.192)
End Week	-.007(.152)	.019(.229) ^b
<u>Brand</u>		
Brand Loyalty	-.464(.173) ^a	-.58(.268) ^b
<u>Other Promotion</u>		
Manufacturer Ad	.509(.243) ^b	.744(.335)
Retail Ad	-.531(.271) ^b	-.598(.614)
Price Change	-.301(.698)	1.332(1.349)
Deal Pack	-.329(.225)	-1.797(1.036) ^c
<u>Coupon Characteristics</u>		
Value	2.212(1.015) ^b	1.333(1.549)
Share	2.832(.485) ^a	.748(.745)
Likelihood Ratio Chi-Square	1874.2 ^a	851.6
χ^2	.09	.26

Conclusions

Coupon redemption can be analyzed on the level of the individual purchase and involves a three stage process. This view can be valuable in designing coupon programs which have an impact on collection, intention and redemption through careful selection of distribution media, face values, and use of newspaper advertising or in-store promotion. While the empirical analysis has shown that the redemption stage is correlated with several variables which are under the manager's control, the degree to which redemption occasions are determined by time and effort minimization needs further analysis. This exploratory analysis needs to be extended with additional variables and with breaking the decision down into its three component parts. Future work might also contrast this approach with shopping strategy models derived from alternative views: for example, that consumers integrate coupons indiscriminantly into their shopping patterns to derive satisfaction from being a "smart shopper" (Schindler 1983) or as part of a scripted response (Gardner and Strang 1983).

relatively more available and when they have a higher than average value.

Consumer Segments

The coupon redemption model was run on selected deal proneness segments developed in an earlier part of this research (Henderson 1983). Two segments are shown in Table 5 for coffee: coupon users who redeem on an average of 65% of their coffee purchases and non-responsive consumers who redeem on 6%. As these segments differ on a variety of demographic and purchase characteristics, they may be considered fairly homogenous groups with respect to shopping behavior and coupon usage.

The results show that store of purchase is still a factor in determining redemptions. Interestingly, the light and heavy coupon users also show a different orientation toward coupon value. Heavier coupon users appear to be more selective in redeeming higher value coupons.

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SERVING TWO MASTERS:
PERSPECTIVES ON CONSULTING

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Abstract

After briefly describing the genesis of this session devoted to the pros and cons of consulting, the author suggests that the ACR Executive Committee consider reserving a section in each ACR Proceedings for commentaries, rejoinders, etc. which refer to earlier proceedings.

* * *

Both the concept and title for this session stem from a conversation in the fall of 1983 when I was approached by Morris Holbrook and Beth Hirschman with the request that I put together an ACR symposium to reflect upon the pros and cons of consulting. In expressing their views, both argued that "it is impossible to serve two masters -- basic and applied research" because "being relevant" required sacrificing basic scholarly values. However, since they knew that others, myself included, held differing opinions, they believed that something might be gained from having an expression of views on the matter.

Considering their approach to consulting, academicians can probably be separated into one of three categories. Either they could eschew consulting entirely (the position ostensibly shared by Beth and Morris), they could strive to strike some sort of balance between the two, or they could be seduced into operating primarily or exclusively as consultants. Believing that those in the latter camp would generally not be found at an ACR conference, it seemed appropriate to focus on the contrast between serving one master (where that master is scholarly research) vs. serving two masters (i.e., consulting as something one might do in addition to scholarly research).

Arriving at the current panel of six people -- three representing the one master and three representing the two master contingents -- required that I contact a total of eight other colleagues. Jagdish Sheth and Jerry Wind readily consented to join me in representing the two master side of the ledger. Though both do a considerable amount of consulting, their reputations as scholars are well established and impeccable. One need only examine the Author Indices in most of the popular treatises on the subject of consumer behavior in order to verify their enormous contribution to the field.

Obtaining people to represent the one master (qua no consulting) orientation proved a bit more difficult, as three of the first five people whom I approached declined my invitation to participate. Two (including a former president of ACR) declined because they did more consulting than was generally thought to be the case and they didn't want to have these images disturbed. The

third person, also an ACR president, turned down my invitation because he had an inkling that the session might degenerate into an emotional, finger-pointing affair and he didn't want to be part of that. It is unfortunate that he turned out to be exceedingly prescient in this regard, despite my efforts to the contrary (e.g., witness the following instruction from my March 7, 1984 memo to the participants: "I would hope that [your comments] would be more in the nature of 'Here's why I choose to do what I do' rather than 'What I do is right and what you do is wrong'".

With Jim Bettman and Russ Belk already committed, I decided to invite Morris Holbrook to join the program. After all, not only did he have strong views on the subject, but it was he who got me into the predicament in the first place. The six participants, and the alternating one-master -- two-master sequence in which they were scheduled to speak, were Russ Belk, Jag Sheth, Jim Bettman, Jerry Wind, Morris Holbrook and the present writer.

Though all participants were invited to prepare a paper for publication in the ACR Proceedings, only one (Morris Holbrook) chose to do so. When consenting to put the session together, it had not been my intention to prepare a formal paper. However, several readings of the Holbrook piece dictated a change of mind.

All of which brings me to a parenthetical point which I would like to raise for the ACR Executive Committee's consideration. Time did not permit me to prepare as thorough and polished a "comment" as I would have liked, nor to obtain pre-publication reactions from trusted colleagues. Moreover, I am certain that there are others who have worthwhile comments to make, both on the papers delivered in this session as well as on papers delivered in other sessions at this conference. Yet there is no vehicle by which they can make such comments. This being so, perhaps the ACR Executive Committee ought to give some thought to reserving a certain number of pages in each volume of the proceedings for commentaries and rejoinders on papers which had appeared in the preceding issue (or issues). (This is particularly relevant for non-refereed papers. As things stand now, the authors of these papers can say virtually anything they please, with little or no concern regarding being held accountable for their remarks.) Naturally, procedures would have to be devised to insure that standards were maintained, but surely this could be worked out. At the very least, especially for those who publish unrefereed papers, this would provide added incentive to write responsibly; for those whose work might have been treated unfairly, this would provide an opportunity to restore equity; and for all of us, this would lend a measure of excitement to receiving the annual edition of our proceedings.

WHY BUSINESS IS BAD FOR CONSUMER RESEARCH:
THE THREE BEARS REVISITED

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Abstract

Morry...an old guard...came to us in Junior Kindergarten.... Moe is the class' leading non-conformist.... favorite class is English.... illustrious Ledger Editor who writes unprintable, flaming editorials.... often referred to as Turtle.... is looking east to Harvard (The Arrow, High School Yearbook, Milwaukee Country Day 1961).

"I'm coming at marketing problems from a slightly different direction," says Professor Morris B. Holbrook.... "The consumer is neglected, relative to the manager," says Holbrook. "If you accept the premise that business involves both, and 99.9 percent of the people who are studying business are studying managers, then it follows that the consumer is getting short shrift.".... Holbrook describes his research efforts as "trying to balance the scales a bit" (Dean's Annual Report, Columbia Business School, 1983).

Introduction

When Jagdish Sheth invited Beth Hirschman and me to co-chair this year's ACR Conference, he entreated us to do everything we could to include nonacademic practitioners and to represent their interests in the program. This mission rests, I believe, on the implicit assumption that increased interaction between academic consumer researchers and real-world managers constitutes a good thing and deserves encouragement. We responded by asking Jack Jacoby to chair this session on the interface between industry and academia. Jack has generously invited me to participate, knowing that I feel uncomfortable with the assumption that consumer researchers and practitioners should work more closely together. Indeed, as the abstract indicates, I am willing to play the devil's advocate and to present some highly personal views--not in my official capacity as a conference co-chairperson, but rather as a possibly foolish extremist who believes that business is bad for consumer research.

In saying that "business is bad," I use this phrase in a special sense. Specifically, I do not mean to imply that consumer researchers have suffered any serious decline in career opportunities. On the contrary, anyone visiting recent AMA meetings must have noticed that new PhD's in this area can demand attractive job offers. Meanwhile, anyone already holding a marketing professorship can attract lucrative offers to collaborate with business in various ways.

I reject most such executive-teaching assignments, con-

¹The author gratefully acknowledges the support of the Columbia Business School's Faculty Research Fund. He thanks Eric Greenleaf, Beth Hirschman, Sally Holbrook, and Jack Jacoby for their helpful comments on an earlier draft of this paper. Scattered parts of this paper appeared in some discussant's comments at the American Marketing Association's last Winter Educators' Conference (Holbrook 1984).

sulting opportunities, and other industrial partnerships because I believe that "business is bad" for consumer research in a second sense. Specifically, I believe that business hurts consumer research in roughly the same way that water douses fire or clouds cover the sun or an early frost hurts the citrus crop. To pick a lighter-hearted analogy, I believe that business does to consumer research approximately what the comedian Gallagher's Sledge-O-Matic does to a watermelon. It smashes, crushes, and pulverizes. If you want to sit in the front row at a Gallagher concert, you had better wear a raincoat. If you want to conduct consumer research in a business environment, you had better grow some tough skin.

Some ACR members--both managerial and academic types--may resist the conclusion that business is bad for consumer research. But, if they reject my view, I fear it will be because I have not adequately conveyed the logic on which it rests. This logic involves (1) a particular conception of the proper focus for consumer research, (2) a belief that consumer researchers typically depart from that focus, and (3) a conviction that, for at least three reasons, business interests should bear much of the blame for leading consumer researchers astray. I shall therefore begin by considering "The Proper Focus for Consumer Research," shall next address the question "What is Wrong with Consumer Research?," and shall then turn to three factors implicating the involvement of business, which I shall call "The Three Bears Revisited" because I have previously discussed them in another context (Holbrook 1984).

The Proper Focus for Consumer Research

In my view, consumer research should involve the development and testing of theory intended to explain and predict consumer behavior. Consumer behavior consists largely of consuming activities. Consuming activities entail consumption experiences. Consumption experiences should therefore comprise the primary subject matter addressed by consumer researchers.

I must emphasize that there is nothing radical about this view, except in the sense that a radish is a "radical" vegetable because it has "roots." Similarly, a focus on consumption experiences hearkens back to the roots of consumer research in the work of people like Norris (1941) and Abbott (1955):

Wants should be thought of not as desires for goods--but rather for the events which the possession of them makes possible.... Goods are wanted because they are capable of performing services--favorable events which occur at a point in time (Norris 1941, pp. 136-137).

What people really desire are not products but satisfactory experiences. Experiences are attained through activities. In order that activities may be carried out, physical objects or the services of human beings are usually needed.... People want products because they want the experience-bringing services they hope the products will render (Abbott 1955, p. 40).

This emphasis on consumption experiences has won support from, among others, Boyd and Levy (1963), Woods (1981), Hirschman and Holbrook (1982), Holbrook and Hirschman (1982), Bloch and Bruce (1984), Belk (1984), Bristor

(1984), Granzin (1984), and Firat (1985). It suggests that consumption activities and the experiences resulting therefrom should form the core of the substantive material studied by our discipline. Yet, as most of these same authors point out, consumer researchers have typically focused elsewhere, with a consequent distortion of emphasis.

What Is Wrong with Consumer Research?

As implicitly recognized in Alderson's (1957) distinction between "buying" and "consuming," a gulf exists between phenomena involved in purchasing decisions and those pertaining to consumption experiences. Yet, even while acknowledging the conceptual primacy of the latter, consumer researchers too often put the cart before the horse and preoccupy themselves with the former. Typically, we study brand choice at the expense of product usage (Holbrook and Hirschman 1982); we dwell on buying behavior instead of consuming behavior (Belk 1984); we obsess over choosing and ignore using (Holbrook, Lehmann, and O'Shaughnessy 1983).

This misplacement of emphasis and this distortion of focus have attracted the attention of some distinguished scholars and critics. For example, in his ACR presidential address, Jacoby (1978) lamented that

Most definitions of consumer behavior shackle us by confining attention to purchase.... Consumption must be given greater salience and be more tightly integrated with the existing consumer behavior literature (p. 94).

Similarly, Sheth (1982) enumerates the deficits of consumer research and suggests, among other shortages, that

not all consumers or all consumer behavior phenomena can be fully explained or understood by the decision-making perspective we still need more research and theory about the individual consumer but in the non-decision-making domains of...consumption life styles...and consumption life cycle... and consumer satisfaction (pp. 13-15).

I concur wholeheartedly with Jacoby's and Sheth's conclusions about what is wrong with consumer research. However, these critics raise an embarrassing question that they fail to answer--namely, what causes these problems with consumer research? Why do such problems exist? Why do consumer researchers persist in misdirecting their attention? Why do we wear blinders? Why do we energetically pursue what is less important while stubbornly ignoring what is more important?

I want to suggest that at least three factors help to account for what is wrong with consumer research. Earlier, I referred to some similar considerations as "the Three Bears" (Holbrook 1984). Here, I wish to modify and extend my treatment of the Three Bears and to indicate how, together, these ursine beasts ravage the golden splendor that might otherwise shine forth in the field of consumer research.

The Three Bears Revisited

My new view of the Three Bears links what is wrong with consumer research to three business-related factors: (1) a fundamental misconception of the nature of business; (2) domination of consumer research by the managerial perspective; and (3) the distorting influence of executive teaching, business consulting, industrial partners, and corporate sponsorship. I shall now discuss each of these hairy creatures in more detail.

A Fundamental Misconception of the Nature of Business

As a rough estimate, I would guess that at least 90 % of academics considering themselves consumer researchers come from business schools. This pervasiveness of the business orientation would present no major problem were it not for the tendency of people in business schools to subscribe to a fundamental misconception of the nature of business. In brief, many of us think of the word "business" as synonymous with "management." This view diverges from the truth and introduces a serious bias into our research activities.

As a cornerstone of organizational theory, the systems view suggests that any organization is a dynamic, open network of inter-related parts. From this perspective, a business differs from other types of system by virtue of the fact that businesses always involve inter-relationships between managers and customers. It follows that anyone seeking to understand business had better study the behavior of both managers and customers. Further, it seems reasonable to study the behavior of managers and customers in roughly equal measure.

Yet the curriculum of a typical business school lists courses devoted almost entirely to managerial behavior. In such areas as finance, accounting, business law, organizational behavior, industrial relations, management science, banking, and even corporate strategy, one seldom takes the behavior of customers into account. Even so-called marketing courses in advertising, sales, or product management often reflect a preoccupation with the actions of managers. Only a handful of courses in marketing strategy, market research, or buyer behavior maintain a consistent focus on the customer. Of these, fewer still dwell on consumers as opposed to organizational buyers. Indeed, some marketing professors fail to recognize any important difference between the two.

By focusing most of our attention on managers at the expense of consumers, we in business schools misconstrue the central topic that we purport to study. When we scrutinize the behavior of managers while ignoring consumers, we see only half the picture. As far as developing a well-rounded view of business is concerned, we are licked before we start. We wear a set of blinders that excludes important consumption phenomena from our field of vision.

Domination of Consumer Research By the Managerial Perspective

Second, even when we occasionally dare to venture beyond the restricted horizons imposed by our misconception of business to look directly at consumer behavior, most of our research caters directly to the interests of managers--or, at least, to those of reviewers and journal editors who have adopted the managerial perspective (Cunningham and Enis 1983). This perspective dictates a focus on things that matter to managers--such as purchasing decisions, buying commitments, and brand choices. These phenomena happen in the stores; they affect cash-register activity at the checkout counter; they impact the firm's bottom line. They therefore prove endlessly fascinating to anyone who embraces the managerial perspective. For example, Fennell (1982) distinguishes between a "managerial orientation" and an "inappropriate orientation" (p. 1) and notes that "Marketing management's essential question is: What should we do to ensure that our brand is selected over competition?" (p. 8).

Clearly, those adhering to the managerial viewpoint may react with hostility to someone making the "inappropriate" claim that consumption phenomena deserve study in their own right. I spoke recently to some distinguished colleagues at a major school of business and urged the importance of studying some emotional aspects of the con-

sumption experience. To my naive surprise, these marketing scholars saw no merit in my argument until I reluctantly added the consideration that emotional responses to a product might exert feedback effects on subsequent purchasing behavior. This insistence on the imprimatur of relevance to brand choice reflects the managerial perspective with a vengeance. In directing attention away from consumption phenomena and toward buying behavior, managerialism rejects Sir Edmund Hillary's reason for climbing a mountain ("because it's there") in favor of Willie Sutton's rationale for robbing banks ("because that's where the money is"). This observation reminds us that, whereas the Greek Hermes or Roman Mercury served as the god of commerce, he was also the patron of thieves (Graves 1981).

A vivid illustration of the managerial viewpoint in action occurred in the review process for last year's AMA conference on marketing theory. Granzin (1984) presented a paper dealing with the consumption of food and describing an example based on dinner-preparation activities. I would be hard-pressed to think of any consumer behavior more centrally relevant to the consumption experience in everyday life. Yet one reviewer attacked the paper with the claim that dinner preparation is not of interest to consumer researchers and that Granzin should instead have focused on the shopping trip. I regard this piece of reviewing as an anchor point on the narrowmindedness continuum. It might serve as a touchstone or benchmark against which to compare all other pretenders to the title of leadership in managerial obsession.

I have observed, informally and without empirical verification, that those most ardently espousing the managerial view often show a commensurate fascination with the sport of football. Accordingly, I have devised an analogy that speaks directly to these football fanciers in their own terms. This analogy is designed to reflect the managerial preoccupation with purchase outcomes and brand selections:

The extreme managerial perspective resembles a theory of football that focuses primarily on the kickoff. Such a view would note that we begin with an initial kickoff. Then some things happen on the field that we don't care about very much. Then, if all goes well, we may have another kickoff. Similarly, we might note that the buyer makes a trial purchase. Then some things happen that do not interest us very much. Then, if all goes well, we may observe a repeat purchase.... The view just expressed constitutes a terrible theory of football. It provides an equally poor theory of consumer behavior (Holbrook 1984).

I claim that we shall never understand consumer behavior until we abandon the managerial perspective. The managerial perspective channels our attention toward only those aspects of consumer behavior that affect the firm's market share. Yet most consumption activities matter in their own right and would deserve study even if they exerted no impact at all on business profitability. Think about it. People get up in the morning, start consuming the moment their toes touch the carpet, allocate their time to various consumption activities throughout the day, and continue consuming until they finally drift off to sleep at night, after which they confine their consumption mostly to dreams, pajamas, and bed linens. One reviewer of our "fantasies, feelings, and fun" paper (Holbrook and Hirschman 1982) commented sarcastically that our position implies that sleeping involves the consumption of sheets. The reviewer was correct: that is exactly what we mean to assert. Indeed, as if to reinforce our position, Burlington Mills has recently mounted a promotional campaign featuring the slogan "Never go to bed with a sheet you don't love." Wamsutta has replied with "an ingenious design that adds a dimension of fan-

tasy, wit and whimsy." According to Warner (1983),

Love of linens is a sensory affair, based...on the feel, smell and look of the cloth. There's nothing quite like...the cottony, clean scent of a freshly starched sheet (p. 85).

In short, life consists largely of consumption experiences. Such experiences determine people's happiness, their well-being, their quality of life. They merit investigation even where they are of no particular interest to business managers. By comparison, the managerial perspective is parochial, self-interested, and unimportant in the general scheme of things.

The Distorting Influence of Executive Teaching, Business Consulting, Industrial Partners, and Corporate Sponsorship

Third, business interests sometimes play the role of wolf- or (to preserve my metaphor) bear-in-sheep's-clothing. Here, I refer to cases where managerially oriented activities are touted on the basis of their potential payoff in research opportunities. Variants of this argument assert that one should engage in executive teaching to get tuned-in to key research issues, should do business consulting so as to obtain data that might lead to publishable findings on real-world problems, should seek industrial partners in a joint attack on consumer-related issues, or should solicit corporate sponsorship to help fund worthwhile scholarly activities. Let's look a little more closely at each of these managerial shibboleths.

Executive Teaching and the Spirit of Anti-Intellectualism

I find it difficult to imagine that executive teaching ever serves as a basis for the development of important concepts. Rather, I feel that executives tend to thwart any serious scholarship wherever they encounter it. As if looking for truffles, when they smell any academic essence, they root it out; but--in contrast to the rules for a successful truffle hunt--they often destroy what they find.

Over a half-century ago, Veblen (1918) developed a merciless caricature of the businessperson's inveterate anti-intellectualism:

the businessmen of this country, as a class, are of a notably conservative habit of mind.... the spirit of American business is a spirit of quietism, caution, compromise, collusion, and chicane (pp. 69-70).

The fact that Veblen spoke with a tone lodged somewhere between irony and nastiness does not entirely negate the relevance of his vision. He saw business executives as the bastions of intolerant conformity and self-interested parochialism, in whose cost/benefit analysis of mental exertion, intellectual curiosity loses every time:

Now, in that hard and fast body of aphoristic wisdom that commands the faith of the business community there is comprised the conviction that learning is of no use in business. This conviction is, further, backed up and coloured with the tenet...that what is of no use in business is not worth while (Veblen 1918, p. 73).

Indeed, business executives tend to approach training programs with a resolute bias against scholarship and science. For them, "conceptual" is a pejorative term, "theory" virtually a dirty word:

The technologist and the professional man are, like

other men of affairs, necessarily and habitually impatient of any scientific or scholarly work that does not obviously lend itself to some practical use...and the two unite with the business-man at large in repudiating whatever does not look directly to such a utilitarian outcome (Veblen 1918, p. 30).

Shils (1983) agrees that "the charge that universities are ivory towers has been...made from the...standpoint of the 'practical man,' usually the businessman, who could not see the point of intellectual activities which did not show a profit or which did not contribute directly to industrial and agricultural production" (p. 17). From this perspective, business and scholarly interests, like oil and water, refuse to mix:

the training that comes of experience in business must...be held to unfit men for scholarly and scientific pursuits.... Indeed, within the ordinary range of lawful occupations these two lines of endeavor, and the animus that belongs to each, are as widely out of touch as may be. They are the two extreme terms of the modern cultural scheme (Veblen 1918, pp. 75-76).

From another viewpoint, one might interpret the behavior of executive trainees as support for our concept of hedonic consumption (Hirschman and Holbrook 1982). Like everyone else, executives are consumers. When they come to executive training programs, naturally, they want to have fun. They seek a good time. They crave entertainment. They want enjoyment and pleasure. They therefore adopt an anti-intellectual mood and insist that the atmosphere of a circus prevails.

Recently, a gifted executive teacher told me that his key to success lies in entertainment not intellectual content, jokes not ideas. Needless to say, my own efforts to amuse this audience fall miserably flat. Inevitably, they find me dry and dull. I wear these stigmas with a mixture of chagrin and pride. When the balance shifts too far toward chagrin, I recall my attendance at a national conference sponsored by a large trade association. This group's keynote speaker was one of the main characters from Hee Haw. Most of us would not wish to move too close to that style of lecturing. Indeed, Shils (1983) rejects the Barnum-and-Bailey approach to executive teaching as action unbecoming a university officer:

It is not an obligation of a teacher to please his students; the attempt to please the students often gives rise to supine and degrading flattery without intellectual substance.... it should not be undertaken by university teachers, and their universities should not ask them to do so (pp. 46, 83).

However, I must also acknowledge that my rejection of the circus atmosphere contains some admixture of jealousy and the implicit admission that I lack the skills necessary to mount a convincing three-ring spectacle.

Superimposed on the executive's desire for entertainment value and practical relevance lurks a penchant for seeking action-oriented advice. According to the "Guidelines for Conference Papers" prepared by Jacoby and Olson (1983), one should deliver that advice with no trace of scholarly obfuscation:

Unfortunately, preparing a manuscript in a scholarly manner is often incompatible with the needs of executives and other applications-oriented decision makers. Unless they have reason to believe that a particular paper is directly relevant to their needs and will assist them in achieving higher levels of performance,

most executives will disregard a "scholarly" paper, particularly if it contains unfamiliar jargon or is quantitatively sophisticated (pp. 1-2).

For an even clearer exposition of the same point, consider a recent letter from the Bureau of Business Practice:

The material we are looking for...should be hard-hitting and should land on the bottom line. It should make executives push away from their desks to go get started on an action plan proposed by one of your faculty members.... This material will be read by those on the front lines, in the foxholes--they need ideas that are useable now! (Neal 1984).

It appears from these guidelines that the objectives of appealing to action-oriented executives and the goals of scholarly research might resist reconciliation. Fennell (1982) offers a learned statement of this problem:

The tension that has existed between academics and practitioners in marketing may be a manifestation of an underlying paradigm clash--between the formal and explicit paradigm of experimental method in a laboratory setting in which many marketing academics are trained and marketing's implicit paradigm of action in the real world of human behavior (p. 11).

Fennell's explanation also tests rather low on the Flesch readability scale. A more straightforward presentation of a closely related argument appeared in a recent letter from a top executive in one of the major packaged goods companies:

if the graduates I have seen from virtually all business schools do have a shortcoming, it's their lack of understanding that success in business requires more than thinking.... it requires action.

This letter embraces a contrast between thinking and action, while managing to imply that somehow the latter should exist without the former. Incredibly, this misguided distinction receives support in a contrast drawn by Lindblom and Cohen (1979) between "analytical" and "interactive" problem solving. In a book called Usable Knowledge (which anachronistically features the picture of a slide-rule on its cover), these authors suggest the viability of the latter in some situations:

our interest is in...an alternative to understanding, thought, or analysis.... tossing a coin is...a simple form of action rather than thought. It reaches an outcome. It solves the problem.... And it may do so faster, no more fallibly, and no less efficiently than can an analyzed solution (p. 21).

In lieu of a coin toss, one might consult one's slide-rule--unless, of course, a chicken happens to be handy:

to acknowledge that coin tossing is a method of problem solving is to admit as problem-solving a form of human behavior far removed from ratiocination. If coin tossing can produce an answer to a practical problem, so can reading the entrails of fowls (p. 24).

Best of all, the adoption of such practical solutions saves time and liberates energies that can be devoted to extensive participation in executive-training programs.

Business Consulting and the
Abandonment of Joy

Another way in which business interests may distort consumer research arises from the consulting relationships engaged in by many marketing academicians. I acknowledge that most of us must feed and clothe our families and that consulting may prove expeditious on these grounds. In this spirit, Harvard President Derek Bok (1982) points out that "for the faculty, opportunities to consult more frequently with research-minded companies can supplement salaries that have been declining in real terms for more than a decade" (p. 140). Indeed, most universities freely permit such consulting activities subject to the constraint that they not pose a conflict of interest by diverting too much faculty time--say, more than one day a week (Giamatti 1983; Omenn 1983; Shils 1983). For example, Columbia University's memo on conflicts of interest states in part:

Outside professional interests and employment, whether gainful or not, must not interfere with teaching, scholarly research, and other duties.... Any outside interests or employment, including outside consulting work, undertaken by an officer of instruction during the academic year should be limited to no more than an average commitment of one day a week.... The officer of instruction should not...accept any outside positions that tend to create conflict of interest with the officer's University position (Goodell 1968, p. 33).

(Notice that if teaching takes two days a week and other administrative duties one day a week, then consultants who followed such guidelines would be spending at least half of their available research energies on outside consulting work.)

It is quite another thing to argue, as some propose, that consulting work provides an optimum context in which to conduct consumer research. In my view, most aspects of the consulting climate differ from the kind of atmosphere needed to foster good research on consumer behavior. These differences include divergences in temporal perspective (short-run vs. long-run focus), objective function (sales or profits vs. knowledge payoffs), length of commitment (shifting as the business changes or executives switch jobs vs. seeking closure in order to publish-or-perish), interpersonal relations (aware of status differences vs. egalitarian), and concern for openness (maintaining secrecy vs. seeking a public forum).

Many such differences are encompassed by Hyde's (1983) distinction between work (which involves measurable inputs of time or energy, is paid, and is determined from outside) and labor (which unfolds at its own pace, may be unpaid, and is guided from within). Hyde (1983) draws heavily on Hagstrom's (1965) analysis of scientific research as a form of gift giving wherein the scientist contributes new knowledge in return for scholarly recognition (though this implicit exchange never becomes explicit). In this view, the scientist's research is a gift, not a commodity to be sold for money. Moreover, one may expect an inverse relationship between the prestige accorded to scientific gift giving and the financial remuneration attached to money grubbing:

scientists who treat ideas as gifts thereby enjoy higher repute in the community, they are more apt to be engaged in theoretical ("pure," "basic") research, and they are less well remunerated. Those who hire out to proprietary concerns are more anonymous and less a part of the community, they tend to be working in applied science, and they are better paid (Hyde 1983, p. 81).

Thus, "manuscripts for which the scientific authors do receive financial payments such as textbooks and popularizations, are, if not despised, certainly held in much lower esteem than articles containing original research results" (Hagstrom 1965, p. 13).

From this perspective, consulting betrays the spirit of consumer research by converting a potential scientific gift into a marketable commodity. In short, knowledge becomes property. As marketing managers are fond of intoning, the findings of consultants become proprietary:

The basic difference between universities and industries (is)...the academic imperative to seek knowledge objectively and to share it openly and freely; and the industrial imperative to garner a profit, which frequently creates the incentive to treat knowledge as private property (Giamatti 1983, p. 5).

This proprietary status of consulting constantly tempts executives to enshroud such information beneath a veil of secrecy. However, virtually everyone agrees that "secrecy conflicts...with the norms of free communication in science" (Hagstrom 1965, p. 88):

The obligation to knowledge is met through investigation and "open" publication; secrecy is alien to the obligation of university teachers.... The general obligation is to undertake research which is publishable.... The open publication of the results of research is not only an obligation on university teachers, it is also a right which university teachers are entitled to expect from their colleagues.... If all of the results of the scientist's research emerging from the particular project are to be kept secret, then he should not seek to do that kind of research in his capacity as a member of a university (Shils 1983, pp. 43, 60-61).

We have all collected our favorite horror stories about academic researchers precluded from publishing potentially important findings because of their proprietary nature. Nevertheless, this issue may distract us from more important problems involved in consulting relationships. The issue of secrecy assumes implicitly that consumer research is useful to managers and, therefore, that questions arise about whether to keep it secret lest competitors benefit from knowledge of important findings. Thus, Shils (1983) links "the requirement of secrecy... contrary to the tradition of science and scholarship" with "the capacity of university teachers to do research of practical value" (pp. 78-79). I believe, however, that consumer research should be as useless to managers as possible: it should be intrinsically rather than extrinsically motivated. We should pursue consumer research for its own sake, not because of some managerial function that it performs. It follows that, if our research offers intrinsic value, no one should object to our publishing it because it should serve no particular managerial purpose. Barriers to publication for proprietary reasons should therefore be worn as a badge of failure. Hassles over secrecy signal the presence of utilitarian as opposed to scientific or scholarly value in a piece of consumer research. Hence, we should not be fighting for the right to publish research that has practical value to competitors. Rather, we should be fighting for the freedom to conduct research that has no practical use to any marketing manager.

Clearly, I refer here to the well-worn distinction between basic and applied research, between pure and practical knowledge, between enlightenment and engineering, or between science and technology. For example, in distinguishing science from technology, Polanyi (1958) describes "a gap...between two kinds of knowledge...one derived from an acknowledged purpose, the other unrelated

to any such purpose" (p. 175). Pursuing this contrast, Veblen (1918) might almost have been describing the difference between consulting and consumer research when he wrote (in praise of "idle curiosity"):

The one is motivated wholly by considerations of material expediency and the range of its interest and efforts is strictly limited by consideration of the useful effect to which the proficiency that it gives is to be turned; the other knows nothing of expediency, and is influenced by no consideration of utility or disutility, in its appreciation of the knowledge to be sought. The animus of the one is wholly wisdom; of the other, idle curiosity (p. 27).

One hastens to add that the distinction between basic and applied research falls along a continuum that admits differences in degree:

There is a large gray area in between "pure" science at one end, and a highly targeted applied research at the other.... These gray areas are usually battlegrounds for academic scientists and scientists from industry or government, with the latter tending to assign greater weight to utility (Brooks 1978, p. 182).

Holton (1978) characterizes this debate as "knowledge for its own sake versus social usefulness" (p. 232).

To probe the proper place of consulting in the life of an academic, it helps to review the development of the American university. As portrayed by Bok (1982), this institution has emerged from a combination of three intellectual streams--the British emphasis on the moral preparation of gentlemen, the German research-orientation, and the Yankee ideal of usefulness and pragmatism. Kerr (1982) traces the tension between the British, German, and Yankee traditions back to the ancient Greek contrasts among Plato's Academy ("devoted to truth largely for its own sake"), the Pythagoreans ("concerned, among other things, with mathematics and astronomy"), and the Sophists (who "taught rhetoric and other useful skills"). The humanists, scientists, and professionals originally found their homes in diverse institutions such as the Ivy League schools, Johns Hopkins, and the land-grant colleges like Penn State. More recently, however, schools have followed the leads of Cornell and the University of Chicago by combining "liberal gentlemanly education," "science and scholarship as ends in themselves," and "professional and technical research and services" on the same campus (Ben-David 1972, p. 47):

Undergraduate life seeks to follow the British...and an historical line that goes back to Plato; the humanists often find their sympathies here. Graduate life and research follow the Germans...and an historical line that goes back to Pythagoras; the scientists lend their support to all this. The "lesser" professions (lesser than law and medicine) and the service activities follow the American pattern...and an historical line that goes back to the Sophists (Kerr 1982, p. 18).

Within this institutional framework, therefore, the tension between pure and applied consumer research reflects a broader contrast between the German ideal of science and scholarship and the American thrust toward utility and practicality:

In one view,...inquiry should be allowed to push against any of the frontiers of knowledge, and not merely along that border where material benefits were promised. Fundamentally, this was

the graduate school's conception of research.... In the other schools and departments, research was often geared to external and ulterior purposes.... The departments of commerce...tended to perfect the skills required by the industrial and business community. In this second view, research was a public service that originated in a client's need and ended in a client's satisfaction (Metzger 1955, pp. 107-108).

No one should presume to prescribe a set of values for another. However, I subscribe strongly to the German/Pythagorean/scholarly ideal of Wissenschaft (Kerr 1982, p. 4):

The very notion of Wissenschaft...signified a dedicated, sanctified pursuit. It signified... the goal of self-fulfillment...not the study of things for their immediate utilities, but the morally imperative study of things for themselves and for their ultimate meanings (Metzger 1955, p. 99).

This tradition prizes knowledge for its intrinsic rather than its extrinsic value. It seeks science and scholarship for their own sakes rather than because of some ulterior purpose that they serve or some function that they perform. It sees knowledge not as a means but as its own self-justifying end:

Knowledge is capable of being its own end. Such is the constitution of the human mind, that any kind of knowledge, if it really be such, is its own reward (Cardinal Newman, quoted by Kerr 1982, pp. 2-3).

The university is knowledge oriented: knowledge for its own sake is not only an accepted result--it is a desired result (Low 1983, p. 69).

The discovery and transmission of truth is the distinctive task of the academic profession.... That truth has a value in itself, apart from any use to which it is put, is a postulate of the activities of the university (Shils 1983, p. 3).

With characteristic wit, Veblen (1918) took this ideal, in which he passionately believed, and transformed its expression into language rich with such ironic terms as "esoteric knowledge," "idle curiosity," and "irresponsible science and scholarship"--all of which he intended as desiderata to be pursued and protected:

In any civilization there will be found something in the way of esoteric knowledge.... the knowledge in question is rated as an article of great intrinsic value.... the adepts who are occupied with this esoteric knowledge (are) the scientists and scholars on whom its keeping devolves.... esoteric knowledge...is activated by an idle curiosity, a disinterested proclivity to gain a knowledge of things.... This esoteric knowledge of matter-of-fact has come to be accepted as something worth while in its own right, a self-legitimizing end of endeavor in itself...beyond the serviceability of any knowledge so gained.... the university is after all a seat of learning, devoted to the cult of the idle curiosity,--otherwise called the scientific spirit.... Within the university precincts any aim or interest other than those of irresponsible science and scholarship...are to be rated as interlopers (pp. 1-3, 8-11, 176, 32).

Because of its intrinsically motivated nature, the pursuit of science and scholarship for their own sakes entails a

type of value shared with playful activities of all kinds: "Research is in many ways a kind of game, a puzzle-solving operation in which the solution of the puzzle is its own reward" (Hagstrom 1965, p. 16). Thus, Polanyi (1958) sees mathematics as a form of play in which "the imaginative acts by which mathematics creates the object of its own discourse are...the continued invention of a game in the very course of playing the game" (p. 186). Similar analogies between science and play have also suggested a close link between science and artistic creativity, as in Bronowski's (1965) insistence that "there is a likeness between the creative acts of the mind in art and in science" (p. 7):

In science and in the arts the sense of freedom which the creative man feels in his work derives from what I have earlier called the poetic element in it: the uninhibited activity of exploring the medium for its own sake, and discovering as if in play what can be done with it. The word play is in place here, for...in this sense of free discovery, pure science is (like art) a form of play (p. 76).

Max Weber (1919) believed passionately in this connection between the intrinsically motivated natures of science and art; he spoke of scientific activity in such terms as "the inward calling for science," "this strange intoxication," "this passion," "enthusiasm," "inspiration," "frenzy," and "passionate devotion" (pp. 134-136). Similarly, Metzger (1955) links "the passion for truth" with "an idea of personal fulfillment" (p. 92), while Broad and Wade (1982) aver that "most researchers believe passionately in their work" and that "without such an emotional commitment, it would be hard to sustain the effort" (p. 216). Polanyi (1958) attributes this energizing element to the role of joyous discovery in the development of science:

The affirmation of a great scientific theory is in part an expression of delight.... This is the kind of feeling described...as "Intellectual Passions"... the intellectual passions by which science appreciates its own beauty...the overwhelming elation felt by scientists at the moment of discovery (pp. 133-134).

This theme of the intrinsically motivated, playful, autotelic aspects of scientific activity arises again and again in the commentaries of scholars from all branches of science brought together to honor the centennial of Einstein's birth in a volume called The Joys of Research (Shropshire 1981). An emphasis on joyfulness, scientific beauty, and self-motivating curiosity recurs throughout, but reaches perhaps its most deeply-felt expression in Rosalyn Yalow's (1981) evocation of the psychic distance between her humble upbringing and the lofty peak of her research activities in biophysics:

It's been a long way for a girl born of immigrant parents, who aspired for her to be an elementary school teacher.... my father graduated from eighth grade.... my mother...graduated from sixth grade.... They knew their children would go through college, but they didn't know what physics was.... I'm a scientist because even at this stage I love investigation. Even after the Nobel Prize, the biggest thrill is to go to my laboratory and hope that that day I will know something nobody ever knew before. There are very few days when it happens, but the dream is still there. That's what it means to be an investigator (p. 115).

Could anyone be so callous and calculating as to abjure this dream of joyous fulfillment and to argue instead for the comparative merits of applied research aimed at pragmatic applications? Of course someone could, and many such someones may be found wearing the hats of business executives and managerial practitioners. Collectively, they criticize pure research for its lack of relevance to real-world problems. Here, they echo a critique or superstition that, too often,

basic scientific research has been conducted as an end in itself, with the result that the practical aspects that could be of great benefit to the public have been obscured or lost (Hutt 1978, p. 160).

Some academic legitimization for this viewpoint appears in the aforementioned book entitled Usable Knowledge by Lindblom and Cohen (1979):

In some preliminary studies, we have interrogated willing social scientists on their rationales for project choice. The justification of their projects appeals not to developed knowledge of how and when social science is or is not useful, but simply to judgments about the "importance" of the problem to be studied.... judgment about the importance of a problem is a naive and wholly indefensible guide to research priorities (pp. 87-88).

This challenge to enlightenment reflects the Yankee tradition of vocational education evinced by Benjamin Franklin when he tried to dedicate the University of Pennsylvania to "a more useful culture of young minds" (quoted by Kerr 1982, p. 12):

The contemporary idea of directed, "mission-oriented," or applied research arose at the American universities by the end of the last century.... Work was initiated...because there was...an actual or potential demand for services in some vaguely and unscientifically defined field of interest (such as... business management) (Ben-David 1972, pp. 101-102).

The Yankee spirit survives in the arguments of those favoring the escalation of marketing consultancy in consumer research. The elevation of practical relevance above knowledge for its own sake constitutes the apotheosis of Yankee knowhow. It embodies the spirit of Benjamin Franklin whose devotion to useful results prompted him to stand outside in a thunderstorm, flying a kite and waiting to get hit by lightning. Yankee practitioners are the lightning rods of scientific endeavor. Certainly, they have every right to do their work in peace, but they should avoid imposing their pragmatic standards on others. Go, Yankees, go and fly your kites as you see fit, but do not apply your unremitting standard of utility to other consumer researchers whose kites have different colors and different reasons for flying.

In challenging the Yankees, I echo what Bok (1982) calls the "exaggerated" (p. 74) and "shrill" (p. 75) claims of the "traditionalists":

Traditionalists...charge that many professors spend too much of their time consulting with corporations or advising government officials on specific policy issues.... Solving practical problems may have immediate importance, but the search for basic knowledge and understanding serves an even greater purpose.... If we allow the

pursuit of knowledge and understanding to slacken in our universities, the damage will be irreparable, for such intellectual pursuits cannot be carried on effectively in any other setting (pp. 68-69).

Though Bok (1982) himself disavows this conclusion, many of the scholars already mentioned support the traditionalist perspective. For example, Yale president A. Bartlett Giamatti (1983) asserts that "the constant challenge for the university is to know in clear and principled terms how to cherish learning, and its pursuit" (p. 9). For Hagstrom (1965), this means that "persons should be excited by discoveries, intensely interested in the detailed working of nature, and committed to the elaboration of theories that are of no use whatever in daily life" (p. 9). Hence, Shils (1983) rules out usefulness as a proper academic incentive and argues that "the primary task of the academic profession is the acquisition and transmission of knowledge, not its application" (p. 9). Accordingly, he regards consulting activities askance and does not smile on the advocates thereof:

The prospective "users" of knowledge...have... begun to demand something more immediately practical.... They began to invite academics to do research designed for immediate practical use, alongside or instead of concentrating on the advancement of fundamental knowledge.... It is not that all these services are...despicable.... Many of these services are valuable to society.... Nevertheless, they extend the nonintellectual preoccupations of the university and they are distractions from its central responsibilities for teaching and discovery (pp. 18-20).

Giamatti concludes that "when a professor decides to take substantial...managerial responsibility for the success of a company, he likely would best serve the university by relinquishing tenure and assuming adjunct status"(quoted by Chemical and Engineering News 1983, p. 32).

My story on the relative merits of consulting in consumer research is nearly complete but requires, as its capstone, one more look at the acerbic writings of Veblen. Veblen (1918) reaches a conclusion quite close to that just stated by Shils:

A university is an endowed institution of culture.... This work has no business value, in so far as it is work properly included among the duties of academic men. Indeed, it is a fairly safe test; work that has a commercial value does not belong in the university (p. 151).

This conclusion, so widely shared by others, appears in safe, orderly prose that might have been written by any competent scholar. However, just in case we didn't get the point, Veblen (1918) adds a more colorful expression of the same thought:

Intimate association with..."utilitarians" unavoidably has its corrupting effect on the scientists and scholars, and induces in them also something of the same bias toward "practical" results in their work.... The university of medieval and early modern times, that is to say the barbarian university, was necessarily given over to the pragmatic, utilitarian disciplines, since that is the nature of barbarism.... The barbarian culture is pragmatic, utilitarian, worldly wise, and its learning par-

takes of the same complexion. The barbarian, late or early, is typically an unmitigated pragmatist; that is the spiritual trait that most profoundly marks him off from the savage on the one hand and from the civilized man on the other hand (pp. 31-34).

Industrial Partners and the Forfeit of Academic Freedom

Hofstadter (1955) and Metzger (1955) have chronicled the often painful and arduous development of academic freedom in the American university. Hofstadter (1955) traces the concept of academic freedom to its historical roots:

The modern idea of academic freedom has been developed by men who have absorbed analogous ideas from the larger life of society. From modern science they have taken the notion of a continuing search for new truths, fostered by freedom of inquiry.... From commerce they have taken the concept of a free competition among ideas.... From the politics of the liberal state they have taken the ideas of free speech.... From religious liberalism... have come the ideas of toleration and religious liberty (p. 61).

Again, we encounter a 19th Century German concept--namely, the dual ideals of Lernfreiheit (freedom of learning) and Lehrfreiheit (freedom of teaching and inquiry). The latter found expression in 1915 in the American Association of University Professors' call for "complete and unlimited freedom to pursue inquiry and publish its results," on the grounds that "freedom is the breath in the nostrils of all scientific activity" (Metzger 1955, p. 134). In 1940, the AAUP and the Association of American Colleges adopted a joint statement proclaiming that "freedom in research is fundamental to the advancement of truth" so that "the teacher is entitled to full freedom in research and in the publication of the results" (Metzger 1955, pp. 213-214).

But the proclamation of free inquiry does not necessarily guarantee its attainment. Free inquiry exists where the course of scholarly or scientific endeavor reflects impulses arising from within the university as opposed to forces from outside. This contrast between internal and external pressures raises a perennial question for the determination of research priorities:

The problem is frequently formulated in terms of the relative roles of internal and external criteria in setting research priorities.... emphasis on internal criteria, on truth rather than utility... implies an implicit priority for the "best science" regardless of considerations of social benefits or consequences. It must be recognized that any other scale of judgment implies a conscious decision to support less good science at the expense of better science for reasons lying outside science (Brooks 1978, pp. 178, 181).

The balance in this trade-off between internal and external criteria bears directly on the extent of free inquiry practiced in any given situation. As several contributors to a recent volume edited by Holton and Morison (1978) make clear, certain limits to free inquiry must be set where externalities threaten the welfare of uninformed subjects, innocent bystanders, or the general society. One must regulate research on nuclear reactors, for example, if it threatens to blow up a major city. Everyone agrees on the necessity for such restraints in cases that bear directly on the public safety, but many would resist the bid for external control claimed by Thomas Kiley (1983) of Genetech as the

industrial partner's birthright:

Make no mistake about it: for-profit corporations are, by definition, not in business to give away money. Where they provide money for research, they invariably do so in order to gain competitive advantage (p. 63).

Such claims signal the inevitability that "as the ties between universities and industries grow increasingly closer, a balance must be struck between the intellectual independence of the scientist and the university and the industrial desire for commercial opportunity" (Gore 1983, p. 125). Nelkin (1978) argues convincingly that, faced with such tradeoffs between internal and external priorities, the ideal of free inquiry must be jealously guarded by the continual efforts of scientists and scholars to oppose external pressures in a process of continued negotiations. Such negotiations pit academics against agents of external control. The external agent's role is to insist. The scientist's role is to resist. Any scientist who capitulates prematurely is a poor negotiator and a disappointment to those who study the sociology of science. Researchers who advocate compromise cease to play their roles as scientists.

Few scholars fail to play their role by reacting with horror to any threat to free inquiry posed by external control. Ugly images of Galileo, Alexander Winchell, Edward Ross, and other victims of persecution flit before the mind's eye as one ponders the intolerability of unnecessary restrictions placed on the search for truth (Hofstadter 1955; Metzger 1955). Most regard free inquiry as a precondition to the advancement of knowledge:

In the long run,...the scientific enterprise depends on the freedom of scientists to select the problems on which they will work.... non-conformity with the norm of independence means deviation from the goals of science (Hagstrom 1965, pp. 109-110).

In science, there is no substitute for independence.... Dissent is the native activity of the scientist.... Dissent is not itself an end; it...is the mark of freedom.... No one can be a scientist, even in private, if he does not have independence of observation and of thought (Bronowski 1965, pp. 61-62).

University presidents stand united in their determination "to protect and to foster an environment conducive to free inquiry, the advancement of knowledge, and the free exchange of ideas" (Giamatti of Yale 1983, p. 4) in which "the choice of the research or projects to be undertaken must reside in the university and its faculty" and "there must be absolute freedom to accept and to reject the work that is to be done" (Low of RPI 1983, p. 75);

The...critical element is an environment of freedom in which professors can do their work without constraints or external direction.... Even less desirable than centralized direction is the imposition of restraints on the kinds of ideas and hypotheses that scholars can publicly entertain (Bok of Harvard 1982, pp. 19-20).

Against this background of insistence on free inquiry, recent developments on campuses all across the country have focused the attention of university administrations on issues concerning the relationship between industry and academia in joint ventures and cooperative research

(Chemical and Engineering News, 1982a). As federal sources of funding have dried up, industry sources have played a larger role than heretofore--particularly in areas of innovative technology such as genetic engineering and computer sciences. This growing linkage of academia to industrial partners has raised some hotly debated questions:

The question is whether academia can sell its scientific knowledge, lease its faculty, and serve as a novel type of public utility to commerce without sacrificing the academic ideal of free inquiry and the scientific ethic of open transfer of knowledge (Chemical and Engineering News 1983, p. 32).

Some critics contend that because it is aimed at producing business profit, business-funded research threatens the freedom of university scientists to pursue knowledge for its own sake (Carey 1982, p. 33).

We have heard concerns expressed about the pervasive influence of commercialization on the choice of scientific questions by faculty--on their selection of research ideas, if marketability and the quest for financial rewards drive their decisions (Wynngaarden 1983, p. 129).

Again, the university presidents have marched forth to shoulder and stir up the debate on industrial-academic partnerships and technology transfer. For example, the Pajaro Dunes conference attended by the presidents of Harvard, Stanford, MIT, Cal Tech, and the University of California (Rosenzweig 1983) pondered the ties between business and academia and concluded that

attractive as these relationships are, they present a host of problems. The most important of these...is the potential distortion such relationships may cause to academic objectives (Chemical and Engineering News 1982b, p. 4).

Moreover, university presidents have spoken independently but univocally on the potentially devastating consequences of any interference with the free inquiry on which science rests (Hackney 1983; Low 1983):

the faculties of every distinguished research university...are concerned that programs to exploit technological development will confuse the university's central commitment to the pursuit of knowledge and learning by introducing into the very heart of the academic enterprise a new and powerful motive--the search for commercial utility and financial gain.... the prospect of reaping financial rewards may subtly influence professors in choosing which problems to investigate.... few people would welcome a situation in which academic scientists did not simply consider which potential problems for research were most intellectually challenging and important but were influenced by powerful extraneous factors, such as the prospect of large financial rewards (Bok 1982, pp. 142, 149).

Thus, university spokesmen acknowledge the fear that "as the university moves closer to a partnership with industry,...the university inevitably relinquishes some of its unique capabilities for unrestricted exploratory research and freedom of action" (Fusfeld 1983, p. 18) so that "the corporation's profit motive will skew the university's research away from the pursuit of basic science and perhaps even 'truth'" (Wendt 1983, p. xvi). Simply put, "universities fear that, since little money comes without strings attached, firms may apply undue pressure on the research enterprise" (Hackney 1983,

p. xiii). In the old aphorism, he that pays the piper calls the tune. This truism is captured humorously in a limerick quoted by Kerr (1982):

There was a young lady from Kent
Who said that she knew what it meant
When men took her to dine,
Gave her cocktails and wine;
She knew what it meant--but she went.

Predictably, Veblen (1918) heaps his scorn on the process whereby business interests interfere with free inquiry. He begins by proclaiming the necessity of free inquiry as a basis for the growth of knowledge:

the spirit of disinterested inquiry must have free play...without afterthought as to the practical or utilitarian consequences which this free inquiry may conceivably have.... Nothing is felt to be so irremediably vicious in academic policy as a coercive bias...in so far as it touches that quest of knowledge that constitutes the main interest of the university.... A free hand is the first and abiding requisite of scholarly and scientific work (pp. 39, 87).

Even Veblen cannot find words adequate to express the dismay with which he regards the displacement of scholarly and scientific objectives by subservience to business interests:

If...business principles were quite free to work out their logical consequences, untroubled by any disturbing factors of an unbusinesslike nature, the outcome should be to put the pursuit of knowledge definitely in abeyance within the university, and to substitute for that objective something for which the language hitherto lacks a designation (pp. 170-171).

Corporate Sponsorship and the Business-School Blindspot

I trust I have said enough about industrial partners and their potential threat to free inquiry to indicate that this theme pervades the consciousness of university administrators and educational philosophers at the present time. What amazes me is the relative lack of interest in such issues expressed by the faculties and staffs in our schools of business. One rarely hears about a business-school administration that is concerned because its faculty does too much consulting, too much work on industry grants, or too much corporation-sponsored research. It never seems to occur to anyone in a business school that there might be anything wrong with these lucrative activities or that, just as in other parts of the university, the possible bias due to corporate sponsorship might affect work conducted in the business school so as to divert scholarship and science from the pursuit of knowledge through free inquiry.

Might such a distortion of academic objectives beset consumer research conducted by business professors? I cannot definitively resolve the question of whether there is anything wrong with the corporate sponsorship of consumer research, but I must assert that we should at least be concerned about this issue. We should at least pause to ask ourselves if whatever constitutes integrity in consumer research is threatened by asking industry to pay for it. We should at least wonder whether intellectual freedom is in part compromised by letting practitioners exert partial control over our directions for inquiry. We should at least reflect on whether the scope of our research might be unnecessarily restricted by confining our attention to problems that happen to interest marketing managers.

As previously noted, other disciplines have shown intense sensitivity to analogous issues. Suddenly, they have found out what it's like to let industry get in there and mess with your research--and they don't like it. As soon as business intrudes into science, one hears complaints from scientists about loss of academic freedom and interference with scholarly integrity. Yet, in my experience, one seldom hears such complaints voiced in the context of business schools or among consumer researchers. Apparently, we are like fish in water. We have so long

been submerged under the influence of business sponsorship that we don't even notice it any more. We have grown so accustomed to its effects that they have disappeared for us.

In my view, this is the most insidious aspect of the manner in which business interests may distort consumer research, precisely because no one seems to notice it. In particular, I fear that a corporate sponsor's apparent hands-off posture may lull the consumer researcher into a false sense of academic freedom in which distorting influences of utility and practicality may still intrude. As Hofstadter (1955) points out, the undetected interference with free inquiry is the most threatening of all: "there is no condition more dangerous to a community than subjective freedom...without objective freedom" (p. 259).

If other disciplines worry about the intrusion of business into their research, why don't we? Some might reply that, since business schools (unlike other disciplines) study business, it is acceptable for their research directions to be guided by business interests. But this argument implies that researchers should be dominated by the things they study. I find this logic unpersuasive. A nuclear physicist studies fission and fusion, but we don't conclude from this that he should be blown to smithereens by a bomb. An ichthyologist studies fish, but we don't find it acceptable for her to be swallowed by a whale. Why, then, should we who teach in business schools cheerfully agree to submerge ourselves in business interests to the point where we lose our own identities and disappear?

Some might argue that there is nothing wrong with being reasonably flexible and bending our research interests a little to suit the needs of business. But, very quickly, "bent" becomes "biased," "biased" becomes "distorted," and "distorted" becomes "warped." I learned in grade school that the separation of powers--between church and state; among executive, legislative, and judicial branches; between family and school--is a fundamental tenet of the pluralistic democratic system. To want anything less seems downright anti-American and may help account for the scorn in which business schools are often held by other branches of the university. They sense, perhaps unfairly, that we have sold out. But what are we doing to insure that their assessment is inaccurate?

Usually, we swim in the tide of corporate sponsorship without really noticing the ebb and flow of the invisible currents that steer us. But occasionally, like seaweed, some otherwise unseen pressure floats to the surface where we can catch it and examine it under close scrutiny. For example, I recall a meeting in which the representative of a manufacturer of business equipment discussed lending personal computers to my school in return for certain "deliverables" consisting of marketable software. I recall a session with members of a giant food conglomerate in which sponsorship of consumer research that cut across product lines received the cold shoulder because it extended beyond the bounds of any one division's accountability. I recall the words of the director of a major nonprofit research-funding institute, who informed me that the institute's corporate donors want "marketing-relevant" research and that work on such aspects of consumer behavior as

consumption-related social welfare would not interest them.

I acknowledge that the attempts of those in business to steer academic research on consumer behavior are usually subtle, well-intentioned, and friendly. Often, however, their overtly reasonable tone only renders them more restrictive to free inquiry. For example, suppose that a policy committee has been charged with developing proposals for research on consumer durables to be funded by a set of generous sponsoring corporations. Further suppose that, as a basis for encouraging research ideas, one committee member (who works for a major retailing chain) has suggested the following definition of "consumer durables":

An infrequently purchased product (or major component of a product) which is not changed in size, shape or content by normal use and requires an outside or self-contained source of power in order to function.

This definition contains some logical flaws and inconsistencies. First, some durables may be frequently purchased (e.g., books or records), while some non-durables may be bought infrequently (e.g., caviar and snails). Second, durables may change their size or shape during consumption (e.g., houseplants, mobile sculptures, or model airplanes). Third, some durables fail to require an external source of power (e.g., furniture or works of art). The most serious problem with the proposed definition, however, is that it stems from a perspective that implicitly guides research toward issues of particular concern to the spokesman (e.g., appliance retailing). The definition therefore reflects private values and attempts to steer science toward company-oriented ends.

Some might argue that, because it neglects the grim realities of funding in academic institutions, my position is impractical. To these critics, I reply: Hallelujah. I certainly hope that I am being impractical, nonutilitarian, noninstrumental. If I were not impractical, how could I insist on the merits of intrinsically motivated inquiry? How could I suggest that consumer research should be a playful, autotelic, ludic, creative activity?

But if this logic is applied to consumer research and managers are precluded from setting or influencing research priorities, won't they complain? Of course they will. That is their function, a function that they have been entrusted with carrying out faithfully. Meanwhile, consumer researchers should perform the function of opposing such forces tooth and nail. Indeed, this dialogue gives the sociologists of science something to write about. They, too, need to earn a living. It is our duty to oblige.

In short, it is our scientific and scholarly duty as consumer researchers to react to any attempt by marketing practitioners or other business executives to set our research priorities with the same vehemence that characterizes the stance of Nobel Prize-winner James Watson, clearly a very smart man. In responding to those wishing to regulate his research, Watson told opponents that they were "kooks, . . . and incompetents" (Nelkin 1978, p. 204). We need only search for a more diplomatic way to say the same thing.

Denouement

I do not expect that everyone will agree with all the things I have said about the Three Bears. I have called them narrow-minded and anti-intellectual. I have argued that they constrict the scope of consumer research by imposing a focus on purchasing decisions at the expense

of consumption experiences. I have charged that they misconstrue the nature of business, dominate our research by their managerial perspective, and distort our scholarly efforts through their influence via executive teaching, business consulting, industrial partners, and corporate sponsorship.

By now, the reader will have noticed that consumer research corresponds to Goldilocks in the story of the Three Bears. Unfortunately, my version of the story lacks the happy ending that you may recall from the fairy tale you heard as a child. When the bears returned to the cottage from their day in the woods, they found Goldilocks peacefully asleep, consuming some sheets. They immediately did what any self-respecting bears would do. They killed her on the spot.

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THE VICES AND VIRTUES OF CONSULTING:
RESPONDING TO A FAIRY TALE

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Abstract

In this paper, the session Chair comments upon Holbrook's (1985a) anti-consulting arguments -- the only paper submitted for publication in the session entitled "Serving Two Masters: Perspectives on Consulting" -- and briefly presents some pro-consulting considerations.

"There's no use trying,' Alice says. 'One can't believe impossible things.' But the Queen replies, 'I daresay you haven't had much practice.... Why sometimes I've believed as many as six impossible things before breakfast.'" Lewis Carroll.

"All animals are created equal, but some animals are created more equal than others." George Orwell.

Introduction

It had been my intent, as both the session chair and a participant, to speak last, to comment briefly on my colleagues' comments, present some of my own views on the vices and virtues of consulting, and then open the session up for discussion among the panelists and between them and the floor. It had definitely not been my intent to spend time preparing a paper. However, after reading and re-reading the original and highly inflammatory version of Morris' paper (Holbrook 1985a), it was clear to me that it warranted, indeed demanded, some formal response, lest some non-academicians, coming across the piece, assumed that it reflected the views of all academicians or all ACR members, or that some young scholar, seeing it unopposed, was led to believe that it represented the dominant or only legitimate view. In this author's opinion, the original versions of Holbrook 1985a and b were reprehensible.

Provoked in this manner, I replied in kind, anticipating that it would stimulate some kind of official reaction. The resultant pre-conference controversy -- which eventually involved a number of others, including a delegation of two past ACR Presidents charged by the ACR Executive Committee to approach both authors with a plea to modify their papers -- led to considerably revised versions of Holbrook (1985a and 1985b), especially in terms of tone. As a direct consequence, the present commentary was also considerably revised. (One of those who read an earlier version of this paper said it has been "eviscerated," since it is now less than half its original length and all the "juicier" remarks have been expunged.)

Having noted all this, let me now address the arguments Morris marshals against consulting. In doing so, it is important for the reader to note that, while I am an active consultant, I believe that I can lay claim to being just as much a basic researcher and contributor to the understanding of consumer behavior as can Morris. Accordingly my remarks should not be construed as being made by someone from and "representing the industry perspective;" rather, they should be taken as coming from a basic researcher whose views happen to differ from Morris'.

The Vices of Consulting:
The World According to M.B.H. Garp

At the outset, let me note that it was often difficult to determine the group to whom Morris' remarks were directed. This was primarily due to two factors. First, by taking on applied research and business as a whole rather than confining his remarks to academicians

who do/do not consult, Morris went considerably beyond the written guidelines which had been provided to all session participants. Second, in both Holbrook 1985a and 1985b, Morris fails to differentiate between researchers whose principal place of employment is industry and those whose principal place of employment is academia but who happen to also do research for industry. Further, absolutely no distinction is made among academic researchers who consider themselves to be applied researchers (and who publish in journals such as the Journal of Applied Psychology, the Journal of Applied Behavioral Science, the Journal of Applied Social Psychology) -- some of whom do and some of whom do not consult -- and academicians who consider themselves basic researchers (and who publish in "basic" journals), but who also do either applied and/or basic research outside of academia. These distinctions are far from trivial. For example, are Morris' comments meant to apply equally and in all instances to the applied researcher in industry, to the applied researcher in academia who does no consulting, and to the basic researcher in academia who, while consulting, does basic research for industry which he may also publish?

Notwithstanding these problems, as best I can determine, Morris appears to levy at least eight arguments against consulting. (Note that some of these arguments were, in this writer's opinion, more clearly and forcefully articulated in the earlier versions of Holbrook, 1985a and 1985b. Having been given these revised papers less than 24 hours before the revised version of this paper had to be handed in, there was precious little time for this author to modify this section so that it reflected every subtle change in nuance in the papers to which it was addressed.) Let us examine Morris' arguments to see if they are warranted.

1. Scholars who do basic research should evince no concern with relevance. This point surfaces time and again throughout the manuscript but perhaps reaches its highest pitch in the following passage:

I believe ... that consumer research should be as useless to managers as possible We should not be fighting for the right to publish research that has practical value to competitors. Rather, we should be fighting for the freedom to conduct research that has no practical use to any manager (italics in original).

I find this reasoning flawed in several essential respects.

One reason for rejecting the argument against relevance stems from the generally held view that the most fundamental function of science is to assist us in achieving understanding of real world phenomena. Most authorities would hold that science cannot be applied to the examination of phenomena which have no real world correspondence. Other systems of thought (e.g., religion or philosophy) may be applied to address these other mysteries, but not science. Science has a decidedly real-world orientation and to arbitrarily try to divorce it from the real world is folly. Indeed, the principal criterion for evaluating theory is not elegance, nor parsimony, but utility, i.e., does it work and, if so, how widely? Utility and relevance are at the core of science.

A related consideration derives from Goedel's theorem which holds that no system of thought can verify itself; one must step outside that system for a point of

reference and for validation. This may be likened to conceptual triangulation. One implication is that we must go beyond basic science in order to verify that the findings derived from basic science have broader validity. As we have noted elsewhere, social scientists operating exclusively in the confines of basic research laboratories have sometimes "discovered" and devoted considerable amounts of time to studying phenomena which later turn out to be nothing more than artifact (cf. discussion of the risky shift phenomenon in Jacoby, 1975).

To buttress his point, Morris later cites the following from Shils: "the primary task of the academic profession is the acquisition and transmission of knowledge, not its application" (1983, p. 9). While I am inclined to agree with this assessment, I would nonetheless argue that knowledge (qua understanding) is incomplete (or, at the very least, unverified) until there has been successful application. Science, as a system for achieving understanding, needs applied research if for no other reason than to confirm the validity and generalizability of its basic research. This is not to say that each and every scientist needs to do applied as well as basic research, only that, across the aggregate, there needs to be an acceptance of and appreciation for the integral role played by applied research in the overall scheme of things.

Stated somewhat differently, if, as Holbrook (1984a) argues, "consumer research should involve ... the testing of theory ... to predict and explain consumer behavior," then where should this testing take place? I submit that if our objective is to understand real-world consumer behavior, then a good portion of this testing needs to take place in the context of the real world. Physical scientists are rarely fully satisfied by wind-tunnel tests. Behavioral scientists, without the luxury of wind tunnels and the like, have even less reason to be smugly content with ivory tower tests.

Yet another counterargument to Holbrook's anti-relevance theme is based on an appeal for social responsibility over social irresponsibility. Morris writes as if the issue was one of usage vs. non-usage of basic research findings. This is naive. Be assured that if basic research has any conceivable utility, others will eventually learn of this and make an effort to apply what has been found. The real question is thus not usage vs. non-usage, but whether you, as the originating scientist, will have any influence over said usage. Personally, I would rather seek to exert some influence. Indeed, I believe that that is the lesson to be learned from Hiroshima and Nagasaki, namely, if we create, we have an obligation to be concerned with the manner in which our creations are employed.

Let me also point out that the argument against application is actually inconsistent with Morris' own call, made early in his paper, for consumer researchers to pay greater attention to the needs of consumers. Should we reject applied research, even when it has the potential to enhance the consumer's well-being, happiness, and quality of life?

Finally, let me point out that Morris doesn't have to fight for the freedom to conduct and publish research which has no practical value. All of us, including Morris, already have that freedom. Note, however, that if one chooses to do work that has no relevance, one cannot later complain too loudly if one's work is not taken seriously -- even by other scholars.

2. All consulting has an anti-consumer (or at least a pro-business) orientation. This argument is tied up with the assumption that Morris often appears to make to the effect that managers (qua applied researchers) necessarily work against the best interests of

consumers. This view is reflected at many points in his paper, particularly in the introductory passages. Consider the following: "Life consists largely of consumption experiences [which] ... determine people's happiness, their well-being, their quality of life. By comparison, the managerial perspective is parochial, self-interested and unimportant in the general realm of things." (N.B. Morris holds that this quotation is taken out of context and misrepresents his views. Especially when considered in the context of the comments made in his earlier paper, I disagree.)

I don't think it either fair or accurate to imply that managers and applied researchers are not at all concerned with developing products to enhance people's happiness, well-being and quality of life. (Indeed, satisfying people's needs for happiness, well-being, etc. is generally the quickest road to managerial success.) Perhaps some managers believe and act as Morris implies. But to make such a sweeping assertion regarding all managers completely disregards the fact that not only is it an integral part of their job (especially for those who've heard of "The Marketing Concept"), but they, too, are people who are seeking and entitled to happiness, well-being, etc. -- and to the presumption of noble motives (including compassion, empathy, and a desire to assist their fellow human beings) until one can document the contrary.

In point of fact, much of the consulting done for business is actually conducted on behalf of the consumer's best interests rather than in opposition to those interests. The vast majority of my own consulting has been of this nature.¹ As a case in point, some of my work has involved assisting manufacturers in developing labeling and packaging that is more readily understood by consumers. In other instances I've participated in studies aimed at improving product safety. Does this sound like anti-consumer activities?

Moreover, not all consulting is done for business. As a number of ACR members have demonstrated, one can also consult for government agencies, generally for the benefit of consumers. In my own case, this has included doing applied research for the Federal Trade Commission on how best to communicate life insurance cost disclosure information to consumers so that they can make better purchase decisions. It has also included working for the Food and Drug Administration (see below), the U.S. Senate, and the Department of Justice.

For those instances when "managers" and "public policy makers" do behave as nefariously as Morris suggests, note that ample opportunities exist to work against business and/or against the government but on behalf of the consumer. As examples, I was involved as a consultant on behalf of the class action suit brought against General Motors Corporation for placing Chevrolet engines in Oldsmobiles. And in a paper published in an earlier ACR Proceedings (Jacoby 1981), I detailed how I served as a consultant working against the U.S. Department of Agriculture when, either in complete ignorance of or disregard for consumer research on what consumers attend to and comprehend from package labels, they were about to implement labeling regulations for unprocessed meats that could have easily led to botulism poisoning and death for countless numbers of consumers. Finally and as is discussed below, there are also numerous opportunities to consult for non-profit organizations.

The important point to note here is that the contention or implication that all consulting is done for business, like the assertion that all consulting is anti-consumer, is completely untenable. There are numerous opportunities to consult, a great number of which cannot, by any stretch of the imagination, be construed as being anti-consumer.

3. Basic researchers are mistaken to believe that consulting activities will pay off in research opportunities. Morris considers this a "managerial shibboleth" but I believe that there is an overwhelming amount of evidence to refute Morris' assertion. My own consulting experiences have, in one way or another, extended both my thinking and research -- including that which I would label basic research. This happens in a number of ways.

First, at some point in time after the project has been completed and provided to the client, it is quite common for consultants to be able to publish research of basic scholarly merit. As but one example, the monograph by Jacoby & Chestnut (1978) was initially prepared as a proprietary report for the Procter & Gamble Co., which subsequently gave its permission for it to be released. As another example, consider the approach to defining and measuring misleading advertising which this author developed while working as a consultant for the Food and Drug Administration (cf. Jacoby & Small, 1975). This latter example is interesting in that it illustrates there may sometimes be spillover benefits, inasmuch as this work then exerted impact on the thinking and research of other scholars.

Second, there are occasions when one might obtain a consulting contract with the explicit a priori understanding that one will be permitted to publish the findings regardless of how they turn out. A case in point is the work on the miscomprehension of televised communications which was sponsored by the American Association of Advertising Agencies (Jacoby & Hoyer 1982). This work has also led to additional scholarly research, including Schmittlein & Morrison (1983).

Third, although the work one does as a consultant may not be publishable in scholarly journals, the insights derived from this work may stimulate scholarly research once one is back in academia. As one example, the Jacoby, Nelson & Hoyer (1982) piece on corrective advertising (and the follow-up piece by Jacoby, Nelson, Hoyer & Gueutal 1983) -- which demonstrated that scholarly thinking and research on the subject of corrective advertising needed to go beyond considering the impact of such communications on attitudes and beliefs to exploring whether they were even being correctly comprehended in the first place -- all came out of this author's experiences as an expert witness in the Federal Trade Commission's hearings on Bristol-Myers' advertising.

A fourth way in which consulting can be used is by piggybacking a basic research study onto an applied project. Such is what occurred with the first information overload study reported in the consumer literature (cf. Jacoby, Speller & Kohn 1974) -- where the overload research was conducted using subjects who had just participated in a large scale applied investigation that had been conducted, under a consulting contract, for a major manufacturer.

I, and I am certain many others as well, could go on at length to document the point that consulting irrefutably can and often does assist scholars in expanding their intellectual horizons and conducting research of publishable and scholarly merit.

It only remains to be mentioned that teaching benefits also can accrue to consulting. At the Ph.D. level there is a direct benefit since, as noted in Jacoby (1974), I often invite graduate students to participate (as paid junior colleagues) on consulting projects. I think that all these students, including those who continue to contribute to the "basic" literature (e.g., Jerry Olson, George Szybillo, Bob Chestnut, Wayne Hoyer, etc.) will provide ample testimony as to the benefit of such

training. Further, those classroom sessions in which I am able to introduce material from my actual consulting experiences often turn out to be the ones which are the most interesting and educationally worthwhile for the students, both graduate and undergraduate alike. Providing such concrete examples often enables students to more fully understand or appreciate the conceptual point being made.

After mentioning this last point to J. Paul Peter, a valued colleague, he opined that one could probably be just as effective if one read the descriptions appearing in the popular press (e.g., the Wall Street Journal; Fortune; etc.) and related these to the class. Not so. So many things, from subtle nuances to major happenings, are either never reported in the press (e.g., the rationale for wording a particular questionnaire item one way rather than another -- or even the item itself) or are reported in a manner that doesn't quite capture what you, as someone who was there and actually experienced the events as they happened, can relate.

4. Only basic research is capable of evoking the experience of joy, creativity, inspiration, passionate devotion, etc. in the researcher. Nonsense! While some might disagree, I consider myself to be principally a basic researcher who, on occasion, will do applied research and also consult. Doing both kinds of research gives me a basis for saying that I derive just as much joy, experience just as much creativity, am often equally inspired, etc. doing applied research as when I do basic research. (Perhaps it's a matter of mind set. If you embark on something with the attitude that it cannot be joyous, exciting, creative, etc., then you are destined to experience a self-fulfilling prophecy.) On the other hand, I do know many basic researchers who admit to finding little or no joy in their work. Perhaps that is what prompts some researchers to move into administrative positions.

5. Basic research is always intrinsically motivated while applied research is entirely extrinsically motivated. What poppycock! A great number of academicians conduct and publish basic research primarily because it will lead to tenure, promotion, and/or better raises and not because they are intrinsically motivated in what they are doing. By the same token, can one honestly believe that someone like Shockley, working at Bell Labs to develop the transistor, does research without any degree of intrinsic motivation (or without experiencing any creative challenges or joy along the way)? The fact is that applied research is not as devoid of intrinsic motivation, joy, etc. as Morris would have us believe. Indeed, I suspect that the proportion of "joyous creatives" to "drones" is virtually the same in both the basic and applied camps.

6. The pressures and incentives of applied research are such that consultants are often prompted to act with a lack of intellectual integrity. In a passage no longer present in Holbrook (1985b), Morris went so far as to contend that to consult meant to act without intellectual integrity. While he may no longer say or believe this, it is clear that there are ACR members who apparently do subscribe to this proposition. Accordingly, it warrants comment.

The argument that consultants act with less intellectual integrity is patently absurd. At least three points should be made in reply.

First, those who consult always have the option of turning down any given project. That's one of the freedoms that comes from being an academician and represents one safeguard. When deciding whether to take on a project, I generally ask myself three questions. The very first is: Is the task consonant with my own

personal beliefs? (If the answer is "yes," my second and third questions are: Can I make a genuine contribution? Do I have the time?) A "no" response to any one of these questions means that the opportunity will be rejected. To place some numbers on this, I generally turn down approximately four out of every five consulting opportunities that come my way. And when I do consult, I maintain the same standards of intellectual integrity that I employ in my scholarly research and feel that I (and every other consultant who behaves as I do) would be unjustly and falsely accused by anyone who said otherwise. Indeed, in an invited paper (still available) on the Roles, Values and Training of a consultant which I presented at the American Psychological Association's 1974 convention, one of the very first guidelines which I articulated was for the consultant "To act with integrity in all instances."

Second, it is ostrich-like not to recognize that academicians, even some of those with the grandest of reputations as basic scholars, can and do sometimes act without integrity, both intellectual and otherwise. Documentable instances exist where ACR members held in the highest of esteem have misrepresented and even plagiarized the work of others. So much for the purported higher level of intellectual integrity displayed by academicians. Again, in my opinion, integrity (in regard to research and other matters) is probably no better nor worse in the applied camp than in the basic camp. Those who claim otherwise would do well to first examine their own behavior.

Third, consider the larger question: How is it that Morris can purport to eschew consulting, yet at the same time contend that he has intimate knowledge of what it is that consultants do? At least with respect to integrity, I can think of two possible explanations. Either (1) Morris is simply parroting back the stereotypical party line, having done no consulting himself, or (2) he has done some consulting and has personally experienced attempts to modify his intellectual integrity. In the event of the latter, either (2a) he succumbed -- in which case he was weak and now regrets his behavior -- or (2b) he didn't succumb -- in which case he was strong and can feel good about himself. Regardless, in either case 2a or 2b, he has to know that it is the individual consultant who has the choice. To then suggest that we cannot and will not resist these pressures implies a low opinion of us all.

7. Applied researchers, being governed by "parochial self-interest," are "narrow-minded and anti-intellectual." Throughout his paper, Morris does his best to paint a picture of businessmen and, by direct implication, the applied researcher and the consultant, as being governed by narrow-minded, parochial, anti-intellectual self-interest. Even if this is accurate as a description of some businessmen some of the time, logically, this doesn't make it true of the scholar-consultants who work with businessmen.

True, there are many applied researchers who do not recognize the value of -- indeed, the necessity of -- theory and who treat anything smacking of theory as being trivial and irrelevant. But does this justify an equally closed-minded approach on the part of the basic researcher? Can one who professes to be an open-minded scientist truly believe that there is only one "proper role" for consumer research? As Hoffer (1951) pointed out, intolerance may thrive on both sides of an issue and it is just as revolting on the left as on the right. The attitude that there is only one true way, that some other perspective is completely evil and something against which we must mount a holy crusade, is anathema to the scientific spirit. Both science and religion are essentially and necessarily predicated on beliefs and assumptions. However, unlike religion, in

science the truth of one's beliefs is only tentative, subject to disconfirmation as we acquire new knowledge or as factors change. Science is therefore open-minded to its core. To argue that there is only one proper role for consumer researchers, only one immutable truth, strikes at the very foundation of science itself. This argument also suggests that to rely so heavily on the writings of a distant era (Veblen 1918) without recognizing and accommodating for the fundamental changes that have taken place since then, is to be anti-scientific. Perhaps the experience of Hiroshima and Nagasaki would have encouraged Veblen to change his views regarding the wisdom of having scientists become socially involved. More significant shifts in perspective have been known to happen to equally illustrious others.

As to self-interest, it seems to me that the basic researcher (especially as Morris makes the case) is the one who most accurately deserves to be charged with operating in a self-interested manner. While the businessman must be concerned with relevance, his boss, stockholders, government, etc., it is the basic researcher who is free to study only that which interests him, when it interests him, how it interests him, etc. And while that is as it should be, it seems rather silly when a basic researcher claims that others work for their own self-interest while he does not.

8. Consulting is nothing more than "money grubbing" and a "sell out" to external interests. Morris apparently subscribes to the views of those whom he chooses to cite when he says "consulting betrays the spirit of consumer research by converting a potentially scientific gift into a marketable commodity." These views reflect ignorance of the fact that a fair amount of consulting is done gratis, either for the sheer joy or challenge involved, or to learn from the experience, or because, perhaps due to a sense of social responsibility, one wishes to provide a gift. In my own case, this has taken the form of serving as a consultant -- on a "no fee" basis -- for the State of Indiana Arts Commission and the Lafayette (Indiana) Symphony Orchestra. In the former instance, the project consisted of devoting four months to devising a questionnaire that was then sent out to the thousands of qualifying organizations in the State. The responses to this instrument were then used in determining the annual allocations of State and National Endowment for the Arts funds to these organizations. (N.B. This form then became the model after which the forms used by several other states were patterned.) In the second instance, the research designed and supervised by this author led directly to a threefold increase in both donations to the Symphony Orchestra and attendance at its programs. It is clearly erroneous to assume that all consulting is necessarily done for pecuniary, "money grubbing" purposes. It can indeed be a gift. Which leads to a question. Given his interest in culture and the arts, would Morris decline opportunities to consult for the Met, Lincoln Center, Carnegie Hall, etc.?

I suppose that there are other vices associated with consulting that are described in Morris' paper. But, either because the sheer volume of quotations and other verbiage makes it difficult to see them clearly, or because Morris generally fails to differentiate between consulting and applied research, or because reading Morris' paper evokes in me a strong emotional reaction, they remain undetected. Perhaps Morris did note that time and one's energies are finite so that, by expending these resources on consulting, one has less of them to devote to basic research. If Morris did say this then I must confess to agreeing with him. There are tradeoffs, some of which are of considerable consequence. Indeed, I can give ample personal testimony to how, because of time pressures and other commitments, some of what I consider to be my most meaningful basic contributions

have yet to be placed into final form and submitted for publication. As but one example, two of the last four ACR "best paper" awards were given for research projects which essentially (and unknowingly) duplicated research I had done at least five years earlier -- but for which I never seemed to have enough time to prepare for publication. And though I view this as a substantial "cost," consulting is not without compensating "benefits." Let me now briefly discuss these as I see them.

The Virtues of Consulting:
The World According to J.J. Garp

Actually, there are neither vices nor virtues attached to consulting -- at least not in any value-laden or moralistic sense. There are only advantages and disadvantages, costs and benefits. What are some of the benefits that I see? Perhaps not surprisingly, many of these are mirror-images of the vices that Morris identifies. Without elaboration, I see the benefits accruing to consulting as including:

1. An opportunity to be exposed to different ideas and approaches which frequently serve as a basis for me to expand my own intellectual horizons;
2. An opportunity to assess whether my abstract basic thinking holds in the broader context of the real world (a point of view argued at greater length in Jacoby 1975, see p. 981);
3. An enhanced opportunity to do research -- either on that project or as a result of it -- which will contribute to our understanding of consumer behavior;
4. An opportunity to enhance my ability to disseminate knowledge when in the classroom (by being better able to attract and retain student attention and by facilitating comprehension by virtue of having an "alive" concrete example);
5. An opportunity to confront challenge and exercise creativity in the application and development of research concepts and skills;
6. An opportunity to exercise social responsibility. As pointed out elsewhere (Jacoby 1975, p. 984), if the more competent people in the field do not become involved in applying their concepts and methods, they can be assured that others (some of whom may be less talented) will. This could mean that decisions, particularly those made by government and industry, that affect us all will be predicated on the basis of less competent research and data because these were all that were available. By not entering the arena at least some of the time, basic researchers abdicate an important responsibility and leave a void for others to apply (or misapply) basic concepts and procedures. This should not be interpreted as arguing for each and every basic researcher to become involved in consulting! Rather, it is simply to say that at least some of our more qualified basic researchers need to become involved, at least some of the time, and those others who are not so inclined need to recognize the function that they serve;
7. An opportunity to experience genuine joy and excitement;
8. An opportunity to supplement my salary. Perhaps poverty is a prerequisite for good art; but nowhere is it established that it is a prerequisite for good science.

While it may seem a bit odd that I see value in many of the same things Morris considers to be vices, it shouldn't be. It's all relative and a matter of how one is inclined to view and interpret the world. What is

applied and what is basic research is, at least to some extent, in the eye of the beholder so that what is one person's basic research may just be another's applied research. In a most revealing passage (contained in an early version of the paper that Morris sent to me but which has been omitted from the final version) Morris writes:

I shall never forget the hurt I felt when my own dissertation (which I regarded as ... pure research) was summarily dismissed by a psychologist on my committee as of no interest to him because it was only an applied study.

I have chosen to cite this sentence here because it illustrates perhaps the most fundamental point of all. Just because this misguided psychologist labeled Morris' research as being applied didn't necessarily make it such. Who was this psychologist anyway to imply that Morris' work was trivial and irrelevant? Wasn't he simply being "parochial" and operating according to a "narrow-minded" perspective? By logical extension, if Morris believes that that committee member was wrong, isn't it possible that Morris is himself also wrong in his assessment of the research being done by others?²

On Lessons to be Derived from
Lewis Carroll and George Orwell

Near the outset, Morris writes: "Some ACR members ... may resist the conclusion that business is bad for consumer research. But if they reject my view, I fear it will be because I have not adequately conveyed the logic on which it rests." This writer believes that many will reject Morris' position because it is the logic that is flawed, not its conveyance. Let us consider a few elements of this logic.³

He continues: "This logic involves a particular conception of the proper focus for consumer research" (italics added). In a later section which describes "the proper place of consulting in the life of an academic," apparently not recognizing the inconsistency, Morris writes: "No one should presume to prescribe a set of values for another." The argument for a "proper focus" of consumer research is also logically inconsistent when, further on in his paper, Morris cites the American Association of University Professors' call for "complete and unlimited freedom to pursue inquiry and publish its results. Such freedom is the breath in the nostrils of all scientific inquiry." Who, then, is Morris to arbitrarily propose what is "proper" focus and subject matter for study?

Anyway, just what is it that is presumed to be "proper?" According to Morris, consumer research should focus on consumer behavior which "consists largely of consuming activities.... Consumption experience should therefore comprise the primary subject matter addressed by consumer researchers." True, in the broadest sense, we are consuming something (even if only time and space) every instant of our waking and sleeping lives. But, often, what we do before or after we consume something either takes much more time or would seem to be more important than the actual consumption experience itself.

As but one trite example, consider the person on a diet who agonizes a full hour over whether to eat a candy bar, yet spends only two minutes on this consumption activity once succumbing to these urges. More to the point, and recognizing that the term "important" is essentially a value-laden term, regardless of how much time is actually spent consuming a health and safety related activity, it could be argued that the amount of time that goes into deciding whether to even engage in this activity, or in deciding on just which of several options (e.g., brands) one should purchase, or in reading and comprehending the health and safety usage

instructions prior to purchase, are all more important (in terms of consuming wisely) than is the actual consumption itself. Indeed, as has been pointed out elsewhere (Jacoby, Berning & Dietvorst 1977), there are even instances where decisions on whether, how, where, etc. to dispose of something after it has been consumed either take much more time or are more important than the actual consumption itself (e.g., consider disposing of an aerosol container by placing it into a fire).

To therefore argue that the consumption experience should represent the principal focus of consumer research is, in my opinion, untenable. Not only is it constrictive, implying that all of us should focus on studying the same thing, but it rejects the generally accepted notion that one of the strengths of the scientific approach resides in the diversity of inquiry.

Morris next goes on to tell us what he thinks is "wrong with consumer research." Perhaps unknowingly, he employs a tactic which is displayed at many points throughout the paper, namely, making erroneous assumptions and assertions about what others believe and say. He writes: "... even while recognizing the conceptual primacy of the former [i.e., consuming], consumer researchers ... preoccupy themselves with the latter [i.e. buying]." For the record, as a consumer researcher, I recognize no such primacy nor, I believe, do many others.

I find a need to say "for the record," because Morris then uses quotations from Sheth (1982) and Jacoby (1978) in a manner which suggests that we concur with his appraisal. Neither Sheth's observations nor mine (to the effect that "Most definitions of consumer behavior shackle us.... Consumption must be given greater salience...") would support the assertion, or even the implication, that we believe consumption is necessarily more important than acquisition/buying. Yet, by virtue of the context in which they appear and the manner in which they are used, this is precisely the implication that Morris seems to be fostering when writing.

I concur wholeheartedly with Jacoby's and Sheth's conclusions about what is wrong with consumer research. However, these critics ... fail to answer ... what causes these problems... Why do consumer researchers persist in misdirecting their attention? ... Why do we energetically pursue what is less important while stubbornly ignoring what is more important?

Parenthetically, it needs to be noted that what is important to one person (at one point in time and from one particular perspective) is not necessarily important for another person (at another point in time or from another perspective). Accordingly, it is possible to interpret the above passage as presuming "to prescribe a set of values for another" -- an approach which, as already noted, Morris ostensibly rejects.

The next section, entitled "A Fundamental Misconception of the Nature of Business," evidences some fundamental misconceptions of its own. Consider: "I would guess that at least 90 percent of those academics considering themselves consumer researchers come from business schools." Poor guess. Where does this leave the home economist, the psychologist, the nutritionist, the many biomedical researchers, etc., etc.? It may be that 90 percent of ACR members come from business schools, but it would be unwise to assume that ACR faithfully represented all types of consumer researchers. Thus, telling an audience consisting primarily of marketing professors that they are wrong to study consumer behavior from a marketing perspective does not seem to make much sense. Rather, arguing that ACR ought to work hard at enticing researchers from other disciplines into our fold -- especially people whose orientation is on

the consumption experience -- does seem to make sense (and is something ACR has been trying to do ever since its inception).

In the next sentence, Morris refers to "the tendency of people in business schools to subscribe to a fundamental misconception [namely, they] ... think of the word 'business' as synonymous with 'management'." Again, asserting that something is so doesn't make it so. I don't believe that I confuse the two terms, nor do I know many colleagues who do. Does the reader? (N.B. While business schools sometimes use the word "management" instead of "business" in their title, note the following. First, this does not mean that the people who work at these institutions necessarily confuse the meanings of these words. Second, in some instances, the purpose is simply to avoid administrative and funding problems. As one example, the State of Indiana has a policy of avoiding duplication in the programs offered by its publicly funded institutions of higher learning. That is why one major institution, Indiana University, has a School of Business, while the other publicly funded major institution, Purdue University, has a School of Management.)

Morris contends "that anyone seeking to understand business had better study the behavior of both managers and customers ... in roughly equal measure." Would this mean that Morris should spend an equal amount of his time studying the behavior of managers? Even if one buys the proposition that no other parties warrant being included in this equation (e.g., government), why need this be "in equal measure?" After all, aren't there more consumers than managers? Or perhaps it's the other way around, since each manager can affect more individual consumers than can these individual consumers affect managers? Or perhaps it's just plain a ridiculous assertion, since we should let each of us study what it is that we want to study -- a position Morris himself staunchly advocates, at least when applied to his own interests.

At one point, Morris states that "those adhering to the managerial viewpoint may react with hostility to someone making the ... claim that consumption phenomena deserve study in their own right." I think Morris is wrong on this point; I believe a large number of managers and applied researchers would recognize the value of such research and would welcome it. I have no hard evidence -- but, then, neither does Morris.

Morris' football analogy proves illuminating, if only because we can infer from it that, even if he were a football fan, he wouldn't root for the (Chicago) Bears.

"I claim that we shall never understand consumer behavior until we abandon the managerial perspective." This presumes that we all adhere to the managerial perspective; I don't believe that we all do. I know I don't and I chafe when anyone, without any real knowledge as to what it is I do do and don't do, places me into this pigeon-hole simply because it suits their preconceived notions. Anyway, why do we have to abandon the managerial perspective? Why not simply supplement it with what Morris believes is necessary? Science thrives on and advances from having a diversity of perspectives, not from being dogmatic and monolithic in approach.

Morris writes: "I find it difficult to imagine that executive teaching ever serves as a basis for the development of important concepts" (italics added). The all-inclusive closed-mindedness of this statement reflects an attitude basically incompatible with the creative scientist's philosophical openness to all potential channels of information. And even if Morris refuses to accept such input himself, it is sad that he cannot accept this possibility for others. This closed-

mindfulness is then coupled with a description of businessmen which I find patently indefensible. Just where is the evidence to support claims such as: "In [the businessman's] cost/benefit analysis of mental exertion, intellectual curiosity loses every time." I thought we were long past the point where outmoded and unverified stereotypes would be passed off as dogmatic truths.

Morris makes a point of arguing that, for business executives, "conceptual is a pejorative term, theory virtually a dirty word." Even if one accepted this as true (and I don't), does this then entitle academicians to consider "applied research" and "consulting" as pejorative terms and dirty words? I suspect not.

In another sweeping generalization, Morris writes:

Like everyone else, executives are consumers. When they come to executive training programs ... They seek a good time. They crave entertainment. They want enjoyment and pleasure. They therefore adopt an anti-intellectual mood and insist that the atmosphere of a circus prevail. (*Italics added.*)

Note that this statement (even in its cleaned-up version) not only presents a derisive view of managers, but indicates an extremely low regard for consumers as well. Moreover, beyond his own impressions and anecdotal accounts, just where are the data upon which one can predicate such a sweeping and far-reaching assertion? Again, saying something is so doesn't make it so. Because my experiences have been of the opposite kind -- the managers to whom I've lectured generally seemed to be more attentive and ask more penetrating questions than did many of the undergraduate and graduate students whom I've taught -- would this justify my making a sweeping all-inclusive generalization in the opposite direction? Clearly, it would not.

Since the lion's share of points made in the earlier version of this paper have either been deleted or eviscerated, let me conclude as follows. Morris' original papers gave me great cause for alarm and concern. It scares me when I hear intelligent people claim that there is only one "proper" way to achieve anything, especially understanding. History has taught us that it is but a short step from embracing "the" proper way to advocating the subjugation of all other ways.

It scares me when I hear intelligent people issue blanket condemnations of entire categories of people. It is not that no kernel of truth may be found in what Morris has written. Yes, some businessmen, applied researchers and consultants are likely all Morris claims them to be, namely, narrow-minded, anti-intellectual individuals acting without integrity or concern for their fellow man, etc. However, a sense of fair play would compell Morris to note that not all businessmen, applied researchers and consultants are of this ilk. Moreover a sense of honesty should compell Morris to admit that it would not be difficult to find instances where basic research scholars evidence precisely the same characteristics which he attributes to applied researchers and consultants. Absent any such admissions, Morris' arguments may be termed (in the language of the FTC) "deceptive via omission" and (in the language of the FDA) "false, lacking in fair balance, and misleading." To issue wholesale indictments of all businessmen, applied researchers and consultants for the actions of some of them is inequitable, morally indefensible and reprehensible -- and my conscience tells me I would be remiss if I did not acknowledge it as such.

Morris lauds "complete and unlimited freedom to pursue inquiry and publish its results." Yet, while he

believes in this freedom for himself and his perspectives, his papers made it clear that he didn't believe this freedom extended to other perspectives. According to Morris, there is only one proper role for consumer research -- and that is as Morris defines it.

Morris writes of trouble with a capital T and he writes as if he has found truth with a capital T. He apparently fails to recognize what is perhaps the only fundamental truth in all of science, namely, that there is no absolute and immutable truth. Truth is tentative and depends upon one's perspective. The very same phenomenon may admit to multiple truths. A single blade of grass may be both green and living. Is either truth necessarily any better than the other? Doesn't it all depend upon how the truth is to be used? At least from a philosophy of science perspective, there is no truth until one is arbitrarily defined. And if it can be arbitrarily defined in one way by one person or group of individuals, then it can be defined in another by other groups or individuals. And who is to say which is right? Of necessity, the issue reduces to one of identifying, and generating acceptance of, a criterion -- out of the many that can usually be applied.

In my opinion, Morris' paper violates the fundamental spirit and precepts upon which the Association for Consumer Research was founded. As a founding member, I can tell you that it was our intent to build a home where people from different disciplines, from academe and industry, and from both the basic and applied sectors could come, talk and reason together. It was to be a forum evidencing receptivity to all forms of consumer research. It was not meant to be the exclusive province of any one discipline nor of any one research orientation -- and this writer, for one, hopes it never becomes such.⁴

Footnotes

1. I trust that the reader will recognize that the heavy reliance on my own personal consulting experiences stems from the fact that much consulting is generally not openly discussed nor published; further, even in those instances where the contents are published, it is not always clear that consulting was involved. Hence, personal experience is often all one has to go on.
2. Actually, I empathize with Morris; psychologists can be mean-spirited critters. I know; not only is my birthright from that tribe, but I spent thirteen years of my academic life in a Department of Psychology. Imagine the position in the pecking order accorded to consumer psychologists. To simplify considerably, consumer psychologists are, by definition (but don't ask whose, because no one can tell you) "applied" researchers. Somewhat more pure and "basic" are social psychologists, who are in turn viewed as being "nearly applied" by most other psychologists -- and so it goes right on down the line. Imagine, also, what many of them thought of consulting (beyond being a bit jealous). It was amoral, clearly some variant of the world's oldest profession -- sort of like the "lady from Kent" limerick which Morris cites. More than that, it was downright evil and only engaged in by people who were somewhere to the right of Attila the Hun. Yet these sentiments are mild in comparison to several of the passages that appeared in Morris' original paper.
3. This section is considerably abbreviated; at most, 20% remains of what appeared in the original. While this author still subscribes strongly to what he wrote there, in light of the many changes in

words and tone accomplished in the Holbrook pieces, he has no other choice. To say these things now would leave him appearing quite foolish, railing, as it were, against apparently non-existent positions. Indeed, his hurried assessment is that very few of the major points he made earlier still remain. Perhaps more could have been salvaged. However, given that he had less than 24 hours to accomplish his revision, what remains will necessarily have to suffice.

4. The author would also like to thank those who commented on the earlier version of this paper, namely, Punam Anand, Henry Assael, David Brinberg, Beth Hirschman, Morris Holbrook and Michael Solomon.

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A MULTITRAIT-MULTIMETHOD ANALYSIS OF THE VALIDITY
OF COGNITIVE RESPONSE ASSESSMENT PROCEDURES

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Abstract

Cognitive response research is currently enjoying its "hey-day," in product life-cycle terms. The present paper reports the results of two conceptually similar studies which addressed the validity of the independent judges method and the subject self-rating method for assessing cognitive responses. Overall, both methods were found to be valid. However, it was also found that percentage score measures, relative to gross and net frequency measures, led to less discriminant validity.

Introduction

Gauging the quantity and quality of cognitive response output has become a useful and celebrated method of monitoring cognitive processing both in social psychology and consumer behavior research (Kassarjian 1982; Petty, Ostrom, & Brock 1981; Wright 1980). Moreover, interest in cognitive response assessment has transcended academic curiosity and has become a successfully applied tool in industry ("Ford has a Better Idea...", 1981). The purpose of the present paper is not to review the cognitive response literature, for excellent comprehensive reviews of the cognitive response research can already be found in social psychology (Petty, Ostrom, & Brock 1981) and in consumer behavior (Wright 1980). Rather, the present paper represents a formal examination of the construct validity of two frequently-used methods of cognitive response assessment--the independent judges method and the self-rating method. In so doing, the present paper extends Swasy's (1980) research on the construct validity of common cognitive response indices.

Methods of Cognitive Response
Assessment: Judges vs. Self

With the independent judges method, the ratings of the cognitive responses are typically done by several outside "judges" or raters. An advantage of the independent judges method is that the judges can often be efficiently and effectively trained on a given task. With the self-rating method the respondents rate their own cognitive responses. The usual purpose of both the independent judges method and the self-rating method is to determine the evaluative direction (pro vs. con vs. neutral) and/or intensity of each cognitive response recorded by the respondent. (For a fine review of other variations in cognitive response measurement techniques see Cacioppo, Harkins, & Petty 1981; Cacioppo & Petty 1981; and, Miller & Baron 1973).

Neither method appears to be significantly more popular in usage than the other. For example, an

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inexhaustive list of those studies which used the independent judges method includes Belch (1981, 1982), Belch and Belch (1984), Brock (1967), Cacioppo (1979), Cacioppo & Petty (1979a, 1980), Chaiken (1980), Chaiken and Eagly (1976), Cook (1969), Eagly (1974), Eagly and Warren (1976), Edell and Mitchell (1978), Edell and Staelin (1983), Fitzpatrick & Eagly (1981), Harkins and Petty (1981b), Heesacker and Petty (1983), Insko, Turnbull, and Yandell (1974), Keating and Brock (1974), Kelman (1953), Lammers (1982, 1983), Lammers and Becker (1975), Lammers, Seymour, and Wilkinson-Lammers (1981), Marks and Olson (1981), McCullough and Ostrom (1974), Olson, Toy, and Dover (1978, 1982), Osterhouse and Brock (1970), Percy and Lautman (1981), Petty (1977), Petty and Cacioppo (1981), Petty, Cacioppo, and Heesacker (1981), Petty, Cacioppo, and Schumann (1983), Petty, Wells, and Brock (1976), Roberts and Maccoby (1973), Romer (1979a), Shavitt and Brock (1984), Smith and Hunt (1978), Swasy (1980), Toy (1982), Wilson and Muderrisogulu (1980), Wright (1973, 1974, 1975), Wright and Rip (1980, 1981). Examples of cognitive response research which used the self-rating method include Cacioppo and Petty (1979b), Cacioppo, Petty, and Quintanar (1982), Calder, Insko, and Yandell (1974), Carment and Foster (1969), Cialdini, Levy, Herman, Kozlowski, and Petty (1976), Greenwald (1968), Harkins and Petty (1981a), Harmon and Coney (1982), Insko, Lind, and LaTour (1976), Lammers (1979), Lammers, Leibowitz, Seymour, and Hennessy (1983), Love and Greenwald (1978), Madden and Debevec (1983), Petty and Cacioppo (1979a, 1979b), Romer (1979a, 1979b), Shavitt and Brock (1984), Sternthal, Dholakia, and Leavitt (1978).

Despite the rather obvious popularity of the two methods, little attention has been directed at formally assessing the convergent and discriminant validities of the two methods. On the other hand, the issue of validity has not been entirely ignored. At least one cognitive response study (Petty, Wells, & Brock 1976) did use both methods and found that significant convergent validity existed between the two. It is intriguing to discover that the Petty, Wells, and Brock (1976) study is often cited as the sole empirical justification for using either method. However, this is a heavy burden to place on a single study, for there are sound, theoretical reasons for hypothesizing the existence of significant discrepancies between the ratings of outside judges and from the subjects themselves (Wright 1980). Perhaps the forerunner among the alternative theories is attribution theory, which thrives on actor-observer (subject-judge) differences in explanations of behavior (Harvey, Ickes, & Kidd 1976; Herzberger & Clore 1979; Mizerski, Golden, & Kernan 1979). In a number of situations, observers are more likely than actors to view actors' behavior as being internally caused. Conversely, actors are more often likely than observers to view their own behavior as being more influenced by external factors. This pervasive tendency for observers to "overestimate the importance of personal or dispositional factors relative to environmental influences" (Ross 1977, p. 184) is called the fundamental attribution error (Jones 1979).

In the present context, the fundamental attribution error hypothesis suggests that independent judges

(observers) are likely to emphasize internal causes, e.g., internalized beliefs and affects, for the cognitive responses expressed by others. In so doing, the judges are likely to rate the cognitive responses in a more polarized fashion than the subjects themselves. That is, the independent judges may have a tendency to overestimate the negative and positive tones of cognitive responses. This could result in more cognitive responses being rated as pro- or counterarguments than as neutral or irrelevant, relative to the ratings assigned by the subjects themselves. The potential for conflicting data from the two methods calls for an examination of their convergent, discriminant, and criterion-related validities. The present paper reports the results of two conceptually similar studies which examined these validities using Campbell & Fiske's (1959) multitrait-multimethod paradigm.

Cognitive Response Indices

A second purpose of the present paper was to determine the extent to which differences between the independent judges method and the self-rating method are accentuated or attenuated by the use of different cognitive response indices in the operationalism of cognitive response categories (Swasy 1980). In particular, the present studies examined three commonly used indices--the total number (gross frequency) of pro-, counter-, and neutral arguments emitted by the respondents; the net number (net frequency) of pro-, counter-, and neutral arguments emitted; and, the percentage of pro-, counter-, and neutral argumentation. The specific procedures used to compute these indices are described more fully by Swasy (1980) and in the method section of this paper.

Swasy (1980) noted that the meaningfulness of these and many other cognitive response indices has not been well developed. In a convincing empirical demonstration, he found that frequency indices ("weighted frequency counts" and "frequency counts") contained significant method variance, especially for counterargumentation and source derogation. On the other hand, little method variance was found with the relative proportion indicator for the three cognitive response constructs he examined (support arguments, counterarguments, and source derogation). Swasy (1980) concluded that the three cognitive response indices were valid but varied in their convergent and discriminant validities.

The present studies attempted to corroborate and extend Swasy's (1980) conclusions by examining three cognitive response indices (total, net, and percentage scores) of three cognitive response constructs (pro-, counter-, and neutral argumentation). Two of the three indices and two of the constructs are similar to the ones examined by Swasy (1980). Unlike the present studies, however, Swasy (1980) did not include an examination of the convergent and discriminant validities of the independent judges and the self-rating methods.

Method

Procedure

Study 1: "Forced Busing." Fifty-two business school students (22 females and 30 males, M_d age = 23) enrolled in evening classes volunteered to participate in a study on "attitudes and current issues." The participants, who were run in groups of 10 to 20, were led to believe that they would be exposed to a videocassette tape of a recently delivered speech advocating forced busing. The topic was currently under heavy debate and was largely unpopular in the area in which most of the subjects resided. A VCR

unit and monitor were in the room in full view to enhance the credibility of the cover story.

The research participants were then told by a male experimenter that it would be helpful if they would first complete a three-part questionnaire before watching the tape. In the first part of the questionnaire, the participants were given two minutes to list any thoughts and ideas they had about the issue of busing. This thought-listing procedure was adapted from that of previous cognitive response research (e.g., Petty, Wells, & Brock 1976). In the second part of the questionnaire, the participants were asked to rate on 71-point graphic rating scales how favorable they were towards busing. Then, to obtain the self-rating method of cognitive response assessment, the third part of the questionnaire instructed the participants to go back over the thoughts they had previously listed and to rate each thought on a 71-point graphic rating scale according to how unfavorable/favorable it was towards busing.

Upon completion of the third and final part of the questionnaire, the participants were fully debriefed. None expressed suspicion or anger about the cover story and most seemed to be genuinely interested in the outcome of the study.

Finally, to obtain the independent judges method of cognitive response assessment, two undergraduates (one female and one male) who were not involved as participants later rated each thought on the same 71-point scales used by the participants. The mean rating assigned to each thought by the two raters constituted the independent judges score. Each rater had been given a brief 5-minute practice run just prior to the actual rating task. Both were blind with respect to the design, hypotheses, and purpose of the study. Both raters worked independently of one another and, in fact, neither rater knew of the other's existence.

Study 2: "Tuition Fee Increase." Study 2 was conceptually similar to Study 1. In Study 2, however, 49 volunteers from upper level business school classes were first led to believe that they would have to write an essay on the tuition fee increases being proposed for their campus. The subjects then completed the three-part questionnaire measuring their cognitive responses and attitudes toward a tuition fee increase on their campus. (Arbitrarily, seven-point bipolar scales were used instead of the 71-point unipolar scales used in Study 1.) Instead of only two independent judges, Study 2 used 25 independent judges drawn from the same population as the subjects. As in Study 1, these 25 judges rated the thoughts without consulting one another.

Cognitive Response Traits

Three types of cognitive responses were treated as traits in the multitrait-multimethod examination: counterargumentation (the generation of cognitive responses unfavorable to the advocated position), proargumentation (the generation of cognitive responses favorable to the advocated position), and neutral-irrelevant argumentation (the generation of cognitive responses neutral or irrelevant to the advocated position). Operationally, those thoughts which were assigned a rating scale value that fell in lower half of the rating scale (in Study 1, those scores in the 0 to 34 range; in Study 2, from -3 to -1) were classified as counterarguments, those which fell in the upper half of the rating scale (in Study 1, 36 to 70; in Study 2, +1 to +3) were classified as proarguments, and those which received a mid-scale rating (in Study 1, mid-scale = 35; in Study

Table 1

Criterion-Related Validity:
Correlations with Attitude Scores

Cognitive Response Trait	Dependent Measure Subset	Busing		Tuition	
		SR	IJ	SR	IJ
Counterargumentation					
	Total Counter	-46	-42	-35	-29
	Net Counter	-64	-63	-47	-37
	% Counter	-67	-65	-48	-33
Proargumentation					
	Total Pro	69	63	45	38
	Net Pro	64	58	44	40
	% Pro	69	62	50	36
Neutral Argumentation					
	Total Neut	16	24	-01	-07
	Net Neut	01	05	-12	-18
	% Neut	05	27	-03	-11

Note. Decimal points omitted. Busing = Attitude toward busing in Los Angeles (Study 1), $N = 52$ (all correlations $> .23$ are significant at $p < .05$). Tuition = Attitude toward raising tuition fees (Study 2), $N = 49$ (all correlations $> .28$ are significant at $p < .05$). SR = Self-Rating Method of scoring cognitive responses. IJ = Independent Judges Method of scoring cognitive responses.

2, mid-scale = 0) were classified as neutral arguments. Neutral-irrelevant arguments were included in the present studies for completeness and because neutral arguments may prove to play an important role in low involvement information processing.

Dependent Measures of the Cognitive Response "Traits"

Total, net, and percentage scores for each type of argumentation were computed for each subject. All three of these scoring procedures are commonplace in the cognitive response literature, but they do not always yield similar results (e.g., Lammers 1979).

Total argumentation scores (gross frequency). Three total argumentation scores were computed for each subject: total counterargumentation (the total number of thoughts classified as counterarguments), total proargumentation (the total number of thoughts classified as proarguments), and total neutral argumentation (the total number of thoughts classified as being neutral).

Net argumentation scores (net frequency). Each subject also received three net argumentation scores: net counterargumentation (the total counterargumentation score minus the total pro- and neutral argumentation scores), net proargumentation (the total proargumentation score minus the total counter- and neutral argumentation scores), and net neutral argumentation (the total neutral argumentation score minus the total pro- and counterargumentation scores). Each of these net argumentation scores represents a linear combination of thoughts yielding a composite, directional cognitive response activity index (Edell & Mitchell 1978; Wright 1973).

Argumentation percentage scores. Finally, the following three argumentation percentage scores were computed for each participant: counterargumentation percentage (the percentage of all thoughts classified as counterarguments), proargumentation percentage (the percentage of all thoughts classified as proarguments), and neutral argumentation percentage (the percentage of all thoughts classified as neutral).

Results

Criterion-Related Validity

Criterion-related validity would be demonstrated by showing that counterargumentation was negatively related to attitudes toward the advocated topic, that proargumentation was positively related to attitudes toward the topic, and that neutral argumentation was unrelated to attitudes toward the topic. The relevant correlations between cognitive response scores and attitudes for both Study 1 and Study 2 are presented in Table 1. Both the self-rating method and the independent judges method produced the necessary pattern of relationships between cognitive responses and attitudes.

Convergent Validity

Convergent validity refers to the extent to which different methods agree on their assessment of the same trait. In this study, convergent validity refers to the extent to which the self-rating and independent judges methods agree on the measurement of counter-, pro-, and neutral argumentation.

Monotrait-heteromethod coefficient. From a multitrait-multimethod approach, convergent validity is demonstrated by the monotrait-heteromethod correlations being significantly different from zero

and sufficiently large to encourage further examination. In the multitrait (pro- v. counter- v. neutral argumentation) -multimethod (self-rating v. independent judges) matrix presented in Tables 2 and 3 it can be seen that the convergent validity coefficients (the italicized correlations) were significantly different from zero for total pro-, counter-, and neutral argumentation (.81, .87, and .24, respectively, in Study 1; .71, .60, and .54 in Study 2), for net pro-, counter-, and neutral argumentation (.84, .86, .75 in Study 1; .58, .55, .69 in Study 2), and for pro- and counterargumentation percentage scores (.84 and .85 in Study 1; .48 and .55 in Study 2). Unimpressive convergent validity coefficients of .18 (Study 1) and .26 (Study 2) were found for neutral argumentation percentage scores.

Monotrait-heteromethod means. Convergent validity can also be expressed by showing that the mean cognitive response scores obtained by one method are not significantly different from the mean scores derived from another method. The results of the correlated t-tests on the cognitive response scores are shown in Table 4. In Study 1, the pattern of the means indicates high convergence validity, though it is noteworthy that the outside judges ($M = 3.23$) classified more of the thoughts as being counterarguments than did the subjects themselves ($M = 2.96$, $p < .05$). In Study 2, however, the independent judges, relative to the subjects themselves, were more likely to classify the thoughts as proarguments and less likely to classify them as neutral arguments.

Discriminant Validity

Discriminant validity refers to the degree to which a trait can be differentiated from other traits. In the multitrait-multimethod approach, three criteria can provide evidence for discriminant validity (Campbell & Fiske 1959; Hubert & Baker 1979; Lawler 1967). First, a trait should correlate more highly with itself over two methods than with another trait using the same two methods. This involves computing the proportion of

Table 2

Study 1: Multitrait-Multimethod Matrix

Method	Subset	Trait	TP1	TC1	TN1	NP1	NC1	NN1	PP1	PC1	PN1	TP2	TC2	TN2	NP2	NC2	NN2	PP2	PC2
Self-Rating																			
		Total Proarg (TP1)																	
		Total Counterarg (TC1)	<u>-45</u>																
		Total Neutral Arg (TN1)	16	<u>-24</u>															
		Net Proarg (NP1)	79	-89	09														
		Net Counterarg (NC1)	-78	90	-37	<u>-96</u>													
		Net Neutral Arg (NN1)	-23	-74	36	35	<u>-43</u>												
		% Proarg (PP1)	84	-65	04	87	-82	07											
		% Conarg (PC1)	-82	70	-35	-84	88	-20	<u>-94</u>										
		% Neutral Arg (PN1)	05	-23	96	03	-31	42	-02	<u>-31</u>									
Independent Judges																			
		Total Proarg (TP2)	<u>81</u>	<u>-34</u>	<u>28</u>	<u>60</u>	<u>-64</u>	<u>-18</u>	<u>66</u>	<u>-69</u>	<u>-18</u>								
		Total Conarg (TC2)	-36	<u>87</u>	<u>-20</u>	<u>-76</u>	<u>77</u>	<u>-67</u>	<u>-59</u>	<u>63</u>	<u>-19</u>	<u>-34</u>							
		Total Neutral Arg (TN2)	-22	<u>-03</u>	<u>-24</u>	<u>09</u>	<u>-15</u>	<u>-07</u>	<u>13</u>	<u>-18</u>	<u>16</u>	16	<u>-11</u>						
		Net Proarg (NP2)	64	-80	25	84	-85	41	74	-77	20	72	-88	01					
		Net Counterarg (NC2)	-67	77	-31	-83	86	-37	-75	79	-24	-73	87	-29	-96				
		Net Neutral Arg (NN2)	-14	-63	06	36	-36	75	17	-19	10	-30	-78	20	39	-43			
		% Proarg (PP2)	67	-55	21	69	-70	13	84	-85	16	80	-62	09	84	-83	09		
		% Conarg (PC2)	-69	54	-25	-68	71	-11	-83	85	-19	-80	62	-30	-81	86	-14	-98	
		% Neutral Arg (PN2)	25	-08	26	14	-21	-04	16	-21	18	19	-15	99	05	-34	22	11	-32

Note. N=52. Decimal points omitted. Validity diagonals (monotrait-heteromethod correlations) are italicized (underlined). Heterotrait-heteromethod triangles are enclosed by broken lines, heterotrait-monomethod triangles are enclosed by solid lines. Correlations > .23 are significant at p < .05.

Table 3

Study 2: Multitrait-Multimethod Matrix

Method	Subset	Trait	TP1	TC1	TN1	NP1	NC1	NN1	PP1	PC1	PN1	TP2	TC2	TN2	NP2	NC2	NN2	PP2	PC2
Self-Rating																			
		Total Proarg (TP1)																	
		Total Counterarg (TC1)	<u>-38</u>																
		Total Neutral Arg (TN1)	-25	<u>-05</u>															
		Net Proarg (NP1)	86	-71	-45														
		Net Counterarg (NC1)	-75	81	-22	<u>-77</u>													
		Net Neutral Arg (NN1)	-62	-38	65	-39	<u>-05</u>												
		% Proarg (PP1)	88	-64	-30	93	-80	-38											
		% Conarg (PC1)	-66	81	-22	-72	94	-11	<u>-81</u>										
		% Neutral Arg (PN1)	-35	-26	84	-35	-22	80	-32	<u>-31</u>									
Independent Judges																			
		Total Proarg (TP2)	<u>71</u>	<u>-11</u>	<u>03</u>	<u>46</u>	<u>-52</u>	<u>-45</u>	<u>48</u>	<u>-42</u>	<u>-10</u>								
		Total Conarg (TC2)	-23	<u>60</u>	<u>-12</u>	<u>-48</u>	<u>43</u>	<u>-16</u>	<u>-36</u>	<u>41</u>	<u>-08</u>	<u>-51</u>							
		Total Neutral Arg (TN2)	04	<u>25</u>	<u>54</u>	<u>-28</u>	<u>-09</u>	<u>04</u>	<u>-10</u>	<u>-07</u>	<u>26</u>	21	<u>11</u>						
		Net Proarg (NP2)	56	-43	-14	58	-54	-20	50	-46	-07	85	-86	-10					
		Net Counterarg (NC2)	-56	34	-05	-48	55	19	-46	48	-02	-90	80	-24	-94				
		Net Neutral Arg (NN2)	-57	-37	02	-15	15	69	23	06	28	-58	-35	-04	-17	18			
		% Proarg (PP2)	45	-47	-06	51	-52	-06	48	-53	08	73	-84	-10	91	-86	-06		
		% Conarg (PC2)	-46	43	-06	-46	55	05	-47	55	-14	-77	82	-13	-88	90	04	-97	
		% Neutral Arg (PN2)	04	16	49	-21	-12	07	-07	-10	26	14	08	95	-12	-20	05	-13	-11

Note. N=49. Decimal points omitted. Validity diagonals (monotrait-heteromethod correlations) are italicized (underlined). Heterotrait-heteromethod triangles are enclosed by broken lines, heterotrait-monomethod triangles are enclosed by solid lines. Correlations > .28 are significant at p < .05.

Table 4
Means of Cognitive Responses
by Method of Assessment

Cognitive Response Trait	Dependent Measure Subset	Self-Rating		Judges		
		Mean	s	Mean	s	t
Study 1: Attitude toward Busing						
Counterargumentation						
Total Counter		2.96	1.68	3.23	1.62	2.30*
Net Counter		1.94	2.58	2.13	2.31	1.08
% Counter		73.89	32.05	74.46	28.82	0.24
Proargumentation						
Total Pro		0.90	1.19	1.02	1.09	1.18
Net Pro		2.17	2.40	2.29	2.21	0.63
% Pro		23.30	30.50	24.18	27.46	0.37
Neutral Argumentation						
Total Neut		0.12	0.38	0.08	0.33	0.63
Net Neut		-3.75	1.66	-4.17	1.65	2.63*
% Neut		2.81	10.54	1.36	6.24	0.93
Study 2: Attitude toward Tuition Increase						
Counterargumentation						
Total Counter		2.06	1.52	1.92	1.47	0.75
Net Counter		-0.45	2.79	-0.71	2.86	0.70
% Counter		46.25	31.70	43.29	25.50	0.73
Proargumentation						
Total Pro		1.92	1.78	2.47	1.73	2.88*
Net Pro		-0.73	3.05	0.39	2.79	2.94*
% Pro		40.00	31.90	54.31	28.60	3.24*
Neutral Argumentation						
Total Neut		0.59	0.99	0.16	0.47	3.56*
Net Neut		-3.39	2.34	-4.22	1.52	3.45*
% Neut		13.74	19.80	2.40	6.80	4.13*

Note. A total of 255 and 224 thoughts were listed in Studies 1 and 2, respectively. t = correlated t-test value of self-rating means vs. independent judges mean. $df = 51$ (Study 1) and 48 (Study 2). * $p < .05$, two-tailed.

times that the montrait-heteromethod coefficients are larger than the corresponding heterotrait-heteromethod coefficients (Ostrom 1969). For total argumentation scores that proportion was .92 (Study 1) and 1.00 (Study 2); for net argumentation scores that proportion was .92 (Study 1) and .83 (Study 2); and, for argumentation percentage scores that proportion was .67 (Study 1) and .67 (Study 2).

Secondly, a variable should correlate higher with an independent effort to measure the same trait than with measures designed to get at different traits which happen to employ the same method. This involves computing the proportion of times that a trait's value in its validity diagonal is greater than its values in the heterotrait-monomethod triangles. For total argumentation scores, that proportion was found to be .92 (Study 1) and 1.00 (Study 2); for net argumentation scores, the proportion was .67 (Study 1) and .67 (Study 2); and, for argumentation percentage scores, the proportion was .50 (Study 1) and .50 (Study 2).

A third way to assess discriminant validity is to show the same pattern of trait relationships in all of the heterotrait triangles (all triangles enclosed by either broken or solid lines). Such patterns were evidenced in the present studies. The correlations between proarguments and counterarguments were usually

the largest correlations (in 12 of the 12 heterotrait triangles in Study 1 and in 10 of the 12 triangles in Study 2), and they were always negative. Interestingly, in Study 1 proargument measures were usually unrelated to the neutral argument measures (unrelated in 7 of 12 comparisons) but when related, were typically positively related. In Study 2, proargument measures were again usually unrelated to the neutral argument measures (unrelated in 10 of the 12 comparisons), but when related, were negatively related. As for the relationship between counterarguments and neutral arguments, Study 1 showed that for 6 of the 12 comparisons the relationship was not significant, and for the other 6 comparisons, the relationship was significantly negative. In Study 2, the only one significant correlation was found in the heterotrait triangles between counterarguments and neutral arguments, and it was a negative one. In sum, however, proarguments and counterarguments were not strongly related to the neutral argument measures.

Discussion

The present two studies attempted to formally assess the validity of commonly used methods of cognitive response assessment. The similar pattern of results from these two studies showed that the self-rating method and the independent judges method generally produced acceptable levels of criterion-related validity, convergent validity, and discriminant validity. There were, however, some low points in the validity checks. For instance, the convergent validity coefficients for neutral argumentation, net neutral argumentation notwithstanding, were low. Perhaps this was artificially due to the low number of thoughts classified as neutral, or perhaps it was due to a genuine disagreement between actors and observers on what is or is not a neutral thought.

Since pro- and counterarguments represent opposite ends of an evaluative continuum, it would be expected that the discriminant validity would be high--and it was. However, discriminant validity was lowered by the use of percentage scores. This suggests that cognitive response studies may find total argument scores (gross frequency) to be more sensitive to treatment effects than percentage scores. If, however, the strength of a type of cognitive response relative to other types is of prime interest in a particular study, then the present results suggest a net argumentation scoring method may be a reasonably sound choice over a percentage scoring method.

Overall, it can be concluded that the widespread use of both methods of cognitive response assessment has probably not produced a breach of validity. Thus, more mundane concerns such as research cost and time can be allowed to more freely enter the research strategy with somewhat assuaged guilt feelings on the part of the researcher.

Finally, it is important to realize that a number of questions concerning the validity of cognitive response assessment were not addressed by the present studies. The most troublesome one concerns the validity of the thought-listing procedure itself, for if this procedure lacks construct validity, the specific concerns of the present study are irrelevant. On the other hand, it appears that recent social-psychological research (Cacioppo 1979, 1982; Cacioppo & Petty 1979b) has momentarily silenced questions concerning the validity of the thought-listing procedure itself.

The complete reference list of the approximately 100 cognitive response articles cited in this paper are available from the author.

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METHODOLOGICAL ISSUES IN SIMULATED SHOPPING EXPERIMENTS

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Abstract

A laboratory experiment is conducted to test for effects of procedural variations in simulated shopping experiments. It is found that different procedures affect a number of measures related to the validity of laboratory experimentation. Most importantly, market share can vary by 20% depending on whether money is physically handed to the subject before shopping. Methods of adjusting the procedures are discussed to improve the accuracy of simulated shopping in both theoretical and applied studies.

Introduction

The use of simulated shopping experiments in marketing is widespread. In such an experiment, shoppers are recruited to a laboratory, where they are asked to buy a brand from a replica of a supermarket shelf. It is used in both academic research (Zeithaml, 1982) and applications (Silk and Urban, 1978; McNiven, 1979). Its usefulness stems from the efficiencies in cost, time, and secrecy of the laboratory approach over a full test market. Experimentation also provides the well documented advantages of greater internal validity and minimization of extraneous variables.

Recently, Calder and others (Calder et al., 1981) have argued about differences in the importance and assessment of external validity in theoretical versus applied research. However, in both types of research it is important that the procedures used be reliable and reflective of the situations under study. This is most true for applied studies where methods must correspond to "real life" in order to yield findings which are directly generalizable to the situation of interest.

The need for correspondence in theoretical research rests more strongly upon the construct validity of the measures used in that the measures must correspond to the theoretical variables of interest. However, to achieve this correspondence requires procedures which control for extraneous influences that may interact with the variables of interest as they occur naturally. Lack of such control allows for experimental effects due to factors other than those intended. For example, a framing effect caused by a particular procedure which does not occur naturally may cause an apparent relationship between two variables which is not present outside of that specialized setting.

In summary, both theoretical and applied studies rely upon realistic procedures. In addition, comparison of results across studies relies upon the use of similar (standard) procedures, which are clearly lacking in much marketing research. The present paper compares different procedures used in simulated shopping experiments to assess both whether they materially affect the results of the research, and, if so, which procedures should be used by researchers. Three measures are collected to test the procedures: 1) actual purchase behavior in the simulated market, 2) how well that behavior agrees with another predictor of market share (measuring concurrent validity), and 3) how realistic the shopping experience was perceived by the shoppers (called perceived realism hereafter).

Research Questions

In this experiment two procedures will be manipulated to see whether they impact one or more of the three

measures. The first procedure either (1) gives actual cash to the consumer before purchase, or (2) gives only change from the purchase afterward. This is called the "cash in hand/promised change" condition. While most studies do not report which of these procedures is used there are reasons to suspect that they will yield different results. Intuition suggests that actual cash in hand may be perceived as more valuable than a mere promise of change. Certainly the money is more salient. Such a perceptual difference is supported under specific framing conditions by prospect theory (Tversky and Kahneman, 1981) which suggest that subjects actually given cash may perceive their purchases as costing money (losses) whereas those merely receiving change after being told to pretend they have money may perceive the change as receiving money (gains). This leads to the first three hypotheses: HYPOTHESIS 1: Subjects receiving cash will buy less expensive goods because of the relative importance and salience of the cash in hand versus merely promised change. HYPOTHESIS 2: Purchases of subjects receiving cash will have greater concurrent validity because actually having cash more closely resembles a realistic situation. HYPOTHESIS 3: Receiving money and purchasing a good will be perceived as more realistic by subjects than a gain of change after pretending to have money.

The second variable that will be manipulated is the number of products shopped for in the experiment. For this variable the following hypotheses are derived: HYPOTHESIS 4: Selecting a variety of goods is perceived as more realistic than selecting just one good since most shopping trips involve multiple choices. HYPOTHESIS 5: This realism will lead to greater concurrent validity for purchases in the multiple choice situation.

This final hypothesis can be derived from two sources. First, the work of Wright and Kriewall (1980) which suggests that putting a subject in a realistic frame of mind improves predictions. It is suggested that use of multiple products will help induce this frame on subjects. Second, the multiple product condition should force some of the cognitive strain and time tradeoffs involved in most real shopping situations.

Method

Sample

The subjects were 76 members of the marketing department subject pool at a large western university. The pool is composed of undergraduate students enrolled in the introductory course in marketing. Over 85 percent of students in the course participated in the experiment.

Procedure

The experiment used a two by two between-subjects factorial design. The factors manipulated were giving or not giving cash and the number of products to shop for (either one or five as discussed above). The 76 subjects were randomly assigned to one of four experimental conditions, giving a total of 19 subjects per cell.

The subjects were run in 5 groups of approximately equal size on two consecutive weekday evenings. Each group was first administered a questionnaire. This included demographic and usage information. It also contained a 4x4 factorial scale to determine

preferences for potato chips. Potato chips were used as the test product based on a pre-test questionnaire which identified it as a product which was frequently purchased by students, one for which brand loyalty was not exceptionally high (to allow for experimental effects on choice), and was immediately usable (which maximized the relevance of the shopping decision). Preferences were rated for four prices (32, 37, 43, and 51 cents) and four products (Lays, Laura Scudgers, Granny Goose Natural, and Granny Goose Hawaiian). These preferences were used as a measure of concurrent validity for the choice situation. Actual shopping histories were not used as a concurrent validity measure because potato chips are usually limited to the one brand carried by a store. Thus, choice in the real world is too confounded by distribution. Full factorial scales for two other products (soap and tomato juice) were included to mask interest in potato chips.

The second room was similar to the first except that five product categories were displayed. As in the one product room, each brand had two packages displayed and prices marked in front on index cards. Potato chips were arranged in the same order (and with the same prices) as the one product condition and were closest to where the subjects entered the room to minimize order effects.

The other four products were: soap (3 brands); candy (5 brands); tomato juice (4 brands); and chewing gum (4 brands). All of these products were chosen through a pre-test which showed them to be items often purchased by students. These items (like potato chips) also could be immediately used and so maximized relevance of the decision to the subject.

As the experimenter walked with each subject to the simulated shopping rooms, s/he gave them instructions on the choice situation. Each subject was told that s/he had one dollar to spend and that s/he must purchase one (and only one) product from each category (or just potato chips in the one product situation). Each was also told that s/he would then buy the products(s) with the dollar and receive the change in cash. Each subject was asked to take his/her time and select whichever brand(s) s/he wanted at the prices marked. To keep the cost of goods as constant as possible across the situations, the subjects in the five product condition were told that they would randomly receive two of the five products chosen. They would then buy these two products and receive the appropriate change.

The money factor was manipulated by either actually giving the subject a dollar bill during these directions or saying, "Pretend that you have one dollar to spend." Each experimenter either gave or didn't give a dollar to every other subject taken through the choice situation. It was stressed to all subjects that they would get to keep the product(s) chosen as well as the change from the dollar.

After these instructions were given, the subject entered the simulated shopping room and made his/her choice(s). The experimenter timed the choices and marked them down unobtrusively after they were all made. The experimenter then collected the dollar from the subjects who received it and returned change and the brand(s) chosen. Subjects in the five product condition first were awarded by lottery the two product classes they would receive.

Subjects were then required to fill out a post-choice questionnaire. This included questions ranking the realism of the shopping situation and its similarity to a real shopping trip on a six-point scale. A final

question asked whether subjects had chosen a particular product just to "try out a new brand." After completing the questionnaire, subjects were asked to leave by a route not passing the room where the other subjects were waiting to minimize the chance of intermingling.

Results

The results of the experiment fall into three categories: product choice, concurrent validity, and perceived realism. A two-way ANOVA procedure was used to analyze the data for each of these measures. The results vary across measures. Therefore, they will be discussed separately.

Results for the product choice measure are given in Table 1. As depicted in the table, there is a strong tendency for subjects in the cash in hand condition to choose lower priced products (Lays and Laura Scudder's) and for those in the promised change condition (told to pretend they had money) to choose the higher priced products (Natural and Hawaiian). In fact, in the cash in hand condition 43% chose Lays and 24% Hawaiian (the lowest and highest priced brands) while in the promised change condition 16% chose Lays and 46% Hawaiian. An analysis using price of purchase as the dependent variable gives a result significant at the .05 level ($p = .040$, $F = 4.32$). No relationship between product choice and the number of products is evident ($p = .569$).

TABLE 1

Mean Price of Brand Chosen (c)

		Cash in Hand	Promised Change	
	1	38.7	42.9	40.8
Number of Products	5	39.0	45.6	42.3
Average		38.8 ^a	44.2 ^a	

^aMain effect significant at $p < .05$

Table 2 gives average concurrent validity for each condition. The averages represent the mean agreement of choice between the highest choice based on the full factorial scale in the pre-choice questionnaire and actual choice in the experiment. (A one means actual choice was the first choice in the questionnaire, etc.). It is readily apparent that concurrent validity was much better for subjects in the cash in hand condition across number of products (mean convergence of 1.87 versus 2.61). This result is significant at the .01 level ($F = 7.35$). In fact, the promised change condition was slightly worse than chance (2.61 versus 2.50).

The 5 product condition also appears slightly better than the 1 product condition (mean convergence of 2.07 versus 2.38) although this result is not significant ($p = .275$, $F = 1.21$).

The results for perceived realism (realism and similarity) are given in Table 3. The numbers are the mean ratings on the six-point scales in the post-choice questionnaire. For example, the 3.72 in the upper left-hand quadrant means that the mean response to the question of similarity of the experiment to an actual shopping situation was 3.72 on a scale from one to six (where one is very very similar and six is not at all similar) for the cash in hand/1 Product condition.

TABLE 2

Mean Concurrence between Questionnaire
and Actual Choice

		Cash in Hand	Promised Change	Marginal Means
Number of Products	1	1.94	2.81	2.38
	5	1.78	2.37	2.07
		1.87 ^a	2.61 ^a	

^aMain effect significant at $p < .10$

The results indicate that the five product condition was perceived as more realistic (3.19 versus 3.67) and similar (3.10 versus 3.72) than the one product condition. For both realism and similarity the results are significant at the .10 level ($p = .061$, $F = 3.64$ and $p = .085$, $F = 3.07$ respectively). It is clear from Table 3 that there is no such relationship for giving versus not giving money (3.47 versus 3.42 and 3.44 versus 3.42 respectively for realism and similarity), contrary to findings for the first two measures.

TABLE 3

Perceived Realism of Shopping

		Cash in Hand	Promised Change	Marginal Means
Number of Products	1	Real: 3.72	3.61	3.67 ^a
		Similar: 3.72	3.72	3.72 ^a
5		Real: 3.19	3.20	3.19 ^a
		Similar: 3.13	3.07	3.10 ^a
Marginal		Real: 3.47	3.42	
Mean:		Similar: 3.44	3.42	

^aMain effect significant at $p < .10$

Discussion

The results show that the procedures used in simulated shopping have a significant effect on each of the three measures used. For product choice, giving actual money led to a large shift in market share (about 20%) toward choosing the lower priced brand (consistent with Hypothesis 1). For concurrent validity, market share for the cash in hand condition is predicted better (consistent with Hypothesis 2), while there is little evidence to indicate that five products yield more accurate predictions than one product (Hypothesis 5). In perceived realism likewise, five products was rated more realistic than one product (Hypothesis 4). However, giving or not giving money didn't make a difference (contrary to Hypothesis 3). Thus, the most obvious and pertinent result of this research is the finding that different procedures in simulated shopping experiments can affect all three measures of validity.

The results indicate specific recommendations for future research using laboratory experiment methods. Since almost, if not all, experiments are concerned with the validity of choices, it is important that researchers begin to give subjects actual cash before shopping is started. It is interesting to note that

Sawyer et al. (1979) suggested that giving subjects the opportunity to receive change is an important boundary variable. Our research goes further to suggest that subjects need to receive the original cash as well as the change. This modification would not only, as this research suggests, increase the validity of experiments at no extra cost, but also provide for greater standardization of procedures across experiments.

Another potential implication is that a variety of product choices and decisions should be used in experiments testing grocery products, even when only one product is being examined. Previous research has been limited to shopping for one product (Silk and Urban, 1978), probably due to the extra cost of giving consumers several products. However, the lottery method used here allows shopping for five products while costing the same as shopping for two.

It is interesting to note that the giving of money had a large effect on the behavioral variables (choice and concurrent validity) and a much smaller effect on perceived realism. There were no differences in perceived realism between giving cash and only promising change, yet there were significant differences in choice of different priced brands. This pattern is also seen in Tversky and Kahneman's work, where it is not intuitively obvious that these effects will occur, yet they demonstrate consistently large effects on choice from seemingly minor changes in instruction. On the other hand, the other method investigated, shopping for 1 or 5 products, was perceived to make a difference in realism, yet the actual behavior change was insignificant.

The limitations of this work are several. First, the subjects were a convenience sample, and may not be representative of other types of consumers. Nevertheless, this paper demonstrated at least that predicted market shares do depend on procedures for some subjects. Also, an analysis of covariance showed no difference in results due to sex or age which encourages generalization on these variables (although the relatively homogeneous student population used restricts this conclusion). Second, the dependent variable measuring validity might have been improved. A better measure would have been to validate the predicted market share against actual test market results after a real price change. This exploratory study did not have the resources to operate a full test market, but it did demonstrate that procedures do affect laboratory predictions and perceived realism. And, third, other dependent measures could have been added. Most importantly, future research should analyze the framing and boundary effects of shopping experiments to better test the applicability of hypotheses based on prospect theory. Additional measures may include brand attitudes after the simulated shopping. Since these attitudes are often used to adjust the simulated shopping results in applied studies (Silk and Urban, 1978) we would hope to find a smaller effect of procedure on attitudes.

Other useful procedures which could be investigated in simulated shopping are (1) forced choice versus free choice (if some subjects refuse to buy any other brands merely because they already have a supply of it at home, we might improve the efficiency of the estimate by forcing them to buy a brand); (2) the study of products in several price ranges (large cost may give higher subject involvement for example); (3) alternative methods of displaying the products (for instance, the usual table set-up versus Zeithaml's more elaborate use of a mock shopping aisle); and (4) use of mandatory tradeoffs, when to purchase an expensive brand of one product the subject must purchase a less expensive brand of another.

In conclusion, this paper presents an argument and evidence for investigating different procedures in simulated shopping experiments. It does not suggest that these experiments are right for all research questions (see Sawyer et al., 1979, and Calder et al., 1983, for a discussion of this and other external validity questions) but does show that the conditions under which such experiments are conducted will often significantly affect the validity of the outcome. We hope that future research will lead to more definitive proposals for standardizing laboratory research in marketing and improving predictiveness of simulated shopping.

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ESTIMATING INTERACTIONS IN CONJOINT ANALYTIC
TASKS: THE USE OF SEQUENTIAL DESIGNS

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Abstract

This paper shows how sequential designs, tailored to the responses of each subject, may be used to estimate interactions in data collected using conjoint-analytic methods. A simulation study to compare the proposed procedure versus existing methods for estimating interactions is also suggested.

Introduction

Consumers' utility measurement for multiattribute alternatives has received a lot of attention in the marketing literature. In recent years the use of conjoint measurement as the research tool has been very popular (Green and Srinivasan 1978, Cattin and Wittink 1980). As has been pointed out by Green and Devita (1975), most applications of the technique have "emphasized noninteractive models of either an additive or multiplicative nature". This disproportionate emphasis probably stems from two main causes:

- i) The number of judgements that would be required from a subject goes up very rapidly if we try to estimate the two-factor or higher order interactions. If the number of levels for each of the factors, or the number of factors themselves is even moderately large, the task can become very burdensome for the respondent. Main effects plans alleviate this problem.
- ii) Main effects alone, very often, do seem to explain a large part of the total variance. Thus it is argued that the additional explanation is not enough justification for a bigger task.

Previous Methods of Estimating Interactions

While the above arguments are often valid, situations do occur (Green and Devita 1974) when an interaction model of utility is more appropriate. Based on a simulation study, Carmone and Green (1979) report significant improvements in the prediction of first choices if two factor interactions are estimated. The use of interactive models is especially appropriate when the purpose of the researcher is not merely to predict choice at an aggregate level but also to explain the structure of the choice model. Researchers utilizing the functional measurement approach (Anderson 1970) have repeatedly emphasized the benefits to be gained from the estimation and interpretation of at least some of the interactions. In marketing, the approach was introduced by Bettman, Capon and Lutz (1975). More recently, in a study examining preferences for apartments, Curry, Levin and Gray (1977) report the existence of significant non-crossover interactions. Similar results are reported by Tantiwong (1982) in a study of food store preferences among the elderly consumers.

The most important difference between functional measurement and conjoint measurement lies in the scale quality of the dependent variable. Whereas conjoint measurement uses ranking data, functional measurement calls for ratings data. A result of this difference is that conjoint measurement uses non-metric analysis techniques such as MONANOVA to decompose the judgements whereas functional measurement typically employs the metric ANOVA procedures. However, the latter difference is becoming less important in light of the virtual equivalence of results reported from the use of metric or non-metric techniques (Jain et. al., 1979; Currim, 1980).

The problem facing the researcher then, is that, on the one hand, the estimation of interactive utility models could provide meaningful insights into consumers' choice model. On the other hand, the relatively large data requirements that would be needed to estimate individual interactive utilities would be prohibitive. As has been noted earlier, the choice has often been resolved in favor of staying with main effects models requiring less data. Notable exceptions, however, exist.

Green and Devita (1974) use a complementarity model of consumer utility to estimate main effects and selected two-factor interactions using a combination of MONANOVA and MDPREF. However, the model is not necessarily usable for the usual applications of conjoint measurement since it decomposes the starting attributes (e.g., entree and dessert) into more primitive characteristics (e.g., calorificity and serving temperature). In most typical applications, the researcher begins with the most basic descriptors (e.g. miles per gallon, or price etc.) and thus cannot gain the extra degrees of freedom needed to estimate this model.

Another approach suggested by Green and Devita (1975) involved a combination of orthogonal arrays and two-at-a-time tables. The orthogonal arrays are used to estimate the main effects and the trade-off tables to uncover possible two-way interactions. As the authors themselves note, if the number of factors to be studied is substantial (8 to 12), the number of two-way tables required can make the task very tedious. Other shortcomings of the approach are also noted by the authors (the inappropriateness of significance tests for interactions, the judgemental decomposition of interactions using MDPREF, and context effects of using 2 way tables). More recently, Green, Goldberg and Montemayor (1981) have proposed the hybrid utility estimation model. In this approach, self-explicated weights are combined with profile ratings (as in functional measurement) to estimate main effects at the individual level and two-way interactions at the segment level. A similar procedure has been used by Tantiwong (1982).

The shortcoming of this approach is in the use of purely additive data to cluster respondents. If in fact there are significant interactions, we would like to be able to use that information in forming the clusters. In addition, no information on interactions is gained at the individual level. Thus, it would seem helpful to have a procedure that allows us to estimate, idiosyncratically, the most important interactions for each individual without burdening the respondent with profiles that would be helpful only in estimating other potentially less significant interactions, or only to help reduce the error variance for already estimated effects. The sequential fractional factorial does this. The availability of micro-computers and their rapidly increasing role in data collection make such an approach feasible. The basic concept required is that of estimability of parametric functions and its relation to sequential fractional factorials. In the rest of this paper we shall:

- i) define estimability and how the concept can be used to selectively estimate interactions;
- ii) give two examples, using some popularly employed plans, of how to use the technique; and
- iii) propose a Monte-Carlo simulation to allow us to compare the proposed approach with those reviewed earlier in this section.

Estimability

The use of orthogonal arrays and other reduced plans has become very popular among consumer researchers employing conjoint-like procedures since Green (1974) introduced them to the marketing literature. In particular, the main effects plans provided by Addelman (1962) have been quite popular (Malhotra 1982; Krishnamurthy, 1981). The economy achieved, in terms of number of judgements required by a respondent, is gained at the expense of the number of effects that may be estimated. Typically, the higher order interactions are confounded among themselves or, in some cases with the main effects. Though such plans have found common use, very little attention has been paid to identifying the confounding patterns. For example, in several of Addelman's plans, second order interactions are confounded with main effects. Thus, a large main effect could be the result of a significant two-factor interaction, and yet be interpreted as an additive main effect.

There is, therefore, a need to deduce precisely the estimable functions in a given design. A parametric function ($c\beta$) is estimable if and only if there exists a linear combination of the observations αy such that $\alpha y = c\beta$. Here y is the vector of observations, and $c\beta$ is the contrast of constants being investigated. Scheffe (1959) has proved the theorem that a parametric function $c\beta$ is estimable if and only if there exists a vector α such that $c' = \alpha X$, (i.e., c is in the row space of X , where X is the design matrix). An immediate consequence of this is that the maximum number of functions that may be estimated is equal to the dimension of the design matrix.

Thus, if the rank of the design matrix is equal to the number of parameters of interest, each one of them is estimable. This can be seen from the

definition of estimability by noting that the least squares estimate $c\hat{\beta} = c(X'X)^{-1}X'y$ is a linear function of y with expected values $c\hat{\beta}$.) This is the case when we have a complete factorial design.

When a rank of the design matrix is less than the number of parameters of interest (number of columns of X), some, but not all, parametric functions are estimable. Consider the design matrix shown below:

$$X = \begin{matrix} & b_0 & b_1 & b_2 \\ \begin{matrix} 1 \\ 1 \\ 1 \\ 1 \\ 1 \end{matrix} & \begin{matrix} -1 \\ -1 \\ -1 \\ 1 \\ 1 \end{matrix} & \begin{matrix} 1 \\ 1 \\ 1 \\ 1 \\ 1 \end{matrix} \end{matrix}$$

According to Scheffe's theorem, a parametric function cb is estimable if and only if c is a linear combination of the row space of X . It can clearly be seen that b_0 and b_2 are completely confounded. Thus, the estimable functions are $b_0 + b_2$ and b_1 . (b_0 is aliased with b_2).

Suppose we have already made the runs given above and have had a chance to analyze the data. Now, suppose it turns out that $b_0 + b_2$ is significant. We would then like to de-alias b_0 from b_2 . A possible solution would be to add at least one run where b_0 and b_2 have opposite signs. Thus, $-1 \ 1 \ 1$ could be one such run. Now, the rank of the matrix is equal to the number of parameters of interest (3); therefore, they are all estimable. On the other hand, if $b_0 + b_2$ were not significant, we need not have made the additional run.

What we have just described are the rudiments of planning and conducting sequential fractional factorial designs. The important steps in the process are:

- i) Determine which functions are estimable in the smaller model (e.g. the main effects only model).
- ii) Run an experiment based on this smaller design.
- iii) Analyze the results to see if there is any need to make some additional runs (e.g. if we need to de-alias a main effect from some two-factor interactions).
- iv) Reanalyze the data, after incorporating the new data.

In some cases (e.g., the example given above or, fractions of $2n$ plans), it is relatively easy to uncover the confounding pattern (Green, Carroll and Carmone 1978). However, for the more saturated designs (e.g., Plackett and Burman 1946, or the more commonly used Addelman 1962 Basic Plans), the confounding patterns are more involved, and the researcher needs to pay greater attention to them. In such cases, a simple way to determine which functions are estimable has been suggested by Box and Wilson (1951).

Suppose a consumer's utility could be represented exactly (up to experimental / measurement error) by a model involving L constants (the main-effects, 2-factor interactions, 3-factor interactions,

etc.). However, the researcher wishes to assume a simpler model involving only $M < L$ (e.g., main effects only) constants. He then asks the respondent to judge $N > M$ profiles. Then we have.

$$\eta = X_1 \beta_1 \text{ (researcher's assumption)}$$

$$\eta = X_1 \beta_1 + X_2 \beta_2 \text{ (true model)}$$

where β_1 is the set of parameters of interest and X_1 the corresponding design matrix
 β_2 is the set of parameters deemed insignificant
 X_2 the design matrix corresponding to these parameters
 $\eta = E(y)$

The least squares estimates $\beta_1 = (X_1'X_1)^{-1}X_1'y$ will in general be biased, since

$$E(\beta_1) = (X_1'X_1)^{-1}X_1'\eta$$

$$= (X_1'X_1)^{-1}X_1'X_1\beta + (X_1'X_1)^{-1}X_1'X_2\beta_2$$

$$= \beta_1 + (X_1'X_1)^{-1}X_1'X_2\beta_2$$

Thus, $(X_1'X_1)^{-1}X_1'X_2$ is the alias matrix of interest. We illustrate the procedure with the help of the following examples:

Example 1: We first consider the use of this approach with Addelman's Basic Plan 2 for a $3^1 \times 2^4$ experiment in 8 runs.

Under the usual side conditions, the three level factor A will be represented by the 2 columns. Each two-level factor is represented by a single column.

$$b' = \mu \quad A_1 \quad A_2 \quad B \quad C \quad D \quad E$$

$$X_1 = \begin{matrix} 1 & -1 & 1 & -1 & -1 & -1 & -1 \\ 1 & -1 & 1 & 1 & 1 & 1 & 1 \\ 1 & 0 & -1 & -1 & -1 & 1 & 1 \\ 1 & 0 & -1 & 1 & 1 & -1 & -1 \\ 1 & 1 & 1 & -1 & 1 & -1 & 1 \\ 1 & 1 & 1 & 1 & -1 & 1 & -1 \\ 1 & 0 & -1 & -1 & 1 & 1 & -1 \\ 1 & 0 & -1 & 1 & -1 & -1 & 1 \end{matrix}$$

The matrix of 2 factor interactions X_2 can be written by multiplying, element by element, each pair of columns above.

then, $(X_1'X_1)^{-1}X_1'X_2$ can easily be computed to give the following results:

$$E(A_1) = A_1 - BC - DE - BE - CD$$

$$E(A_2) = A_2 + BD + CE$$

$$E(B) = B - A_1C - A_1E + A_2D$$

$$E(C) = C - A_1B - A_1D + A_2E$$

$$E(D) = D + A_2B - A_1C - A_1E$$

$$E(E) = E - A_1B - A_1D + A_2C$$

Suppose A and B are the only significant effects. Then, we might be interested in determining whether the reported effect of B is due to A's interaction with C, D or E or a main effect. So we need some run where we would have $B + A_1C + A_1E - A_2D$.

(Added to $B - A_1C - A_1E + A_2D$, this would give us

B unconfounded). One run that could give us the desired result would be

A hi B hi C hi D lo E hi
 Another is
 A lo B hi C lo D hi E lo

This would give us the following additional rows in the design matrix.

$$\begin{matrix} A_1 & A_2 & B & C & D & E & A_1C & A_1E & A_2D \\ 1 & 1 & 1 & 1 & -1 & 1 & 1 & 1 & -1 \\ -1 & -1 & -1 & -1 & 1 & -1 & 1 & 1 & -1 \end{matrix}$$

Possibly both these runs could be included and an estimate of B made. If B is significant we would have some more faith in the additive model. On the other hand, if B is not significant then the interactions between A and C and A and E are of importance. If desired, one or two additional runs could be used to resolve which of these two is significant.

ii) Next we consider a 2^{7-4} Resolution III design (main effects are confounded with second order interactions). The alias pattern for this design is given by:

$$\begin{aligned} A &= A + BD + CE + FG & B &= B + AD + CF + EG \\ C &= C + AE + BF + DG & D &= D + AB + EF + CG \\ E &= E + AC + DF + BG & F &= F + BC + DE + AG \\ G &= G + CD + BE + AF \end{aligned}$$

Suppose the main effect of D was the largest one. We might, then, wish to de-alias all the 2 factor interactions involving D to determine if some significant interactions exist. Using the same sort of reasoning as in the above example, we add runs which, when combined with the previous sets of runs, will give us unconfounded estimates of D. A simple way to do this would be to repeat the fraction with the levels of D switched. The alias pattern then for the 16 runs combined would be:

$$\begin{aligned} A &= A + CE + FG & B &= B + CF + EG & BD &= BD & CD &= CD \\ C &= C + AE + BF & D &= D & DE &= DE & DF &= DF \\ E &= E + AC + BG & F &= F + BC + AG & DG &= DG & AB &= AB + EF + CG \end{aligned}$$

On the other hand, if no single main effect seems to dominate, a second fraction could be run with signs switched in all the columns. This will give the main effects clear of 2-factor interactions.

Thus, based on the results, we can choose to investigate the most promising aspect of the choice structure further.

Implementation

In the previous section, we have shown how sequential use of fractional factorial designs can be employed to estimate some of the interactions at the individual level. Addelman (1969) has provided a whole series of sequences which can be used with various $2n$ plans. If this procedure is combined with the blocking technique, suggested by Green, Goldberg and Montemayor (1981), and implemented in Tantiwong (1982), we should be able to make much more accurate assessments of choice structures. In addition to

the information regarding the additive effects that we usually have, we would also have some information about the most important interactions at the individual level. This information could be used to develop better clusters. Having developed the clusters we could then estimate all the interactions of interest at the cluster level. In this section, we briefly describe how the plan might be implemented.

The availability of microcomputers as a data collection instrument is an important development. It is in effect, possible to tailor the conjoint task to best elicit data from respondents. Most microcomputers have fairly efficient regression programs available. Since we are asking for ratings data, at the end of the first set of profiles, a regression could be run and the beta weights examined. Branching routines needed to clean up the effects (based on this information) interactions could be pre-programmed. Thus, from the point of view of the respondent, there will be no real difference between the first set of profiles and the additional runs.

The branching rules to be used could be based on strictly statistical criteria such as "If the effect is significant at the .1 level, get judgements to de-alias the 2-factor interactions." Alternatively, a judgemental statement such as "Ask for additional judgements only if the effect is 4 times as large as the next biggest effect," could be used. The branching rules could be made more or less conservative based upon the researcher's objectives. Finally, an absolute stopping rule could be included which set a maximum limit for the number of profiles to be judged by any one respondent.

Empirical tests of the usefulness of these procedures is needed. In the next section, we propose a Monte Carlo simulation to test the proposed approach versus the three approaches reviewed earlier.

A Proposed Monte Carlo Study

We would like to test how well the procedures outlined above can uncover the important interactions and to compare the results with those from the use of the three models discussed in the review section (complementarity, utility interaction, and the hybrid model). In addition, to make the comparison more complete, we would like to test the simpler additive model and the more complex complete model. Though it would be extremely desirable to collect data from respondents regarding their choices for multiattribute alternatives, a Monte Carlo study is suggested at this stage. The greater control afforded is desirable. Simulation studies have been found to be useful in similar contexts in the past (Carmone and Green 1979).

Independent Variables

To get a reasonable range of situations that such estimation procedures might actually be employed in we suggest the following independent variables for the simulation:

Choice Structure: Preferences for the hypothetical respondents will be simulated using the five utility generating models listed below.

- i) A main effects only model
- ii) A main effects model with noncrossover interactions
- iii) A limited main effects model with noncrossover interactions
- iv) A main effects model with crossover interactions
- v) A limited main effects model with crossover interactions

There are the first five models listed in Carmone and Green (1979). Their sixth model is not appropriate to our task.

Based on the above generating models, we shall simulate 5 samples of 180 respondents each. After having estimated the parameters using each of the models, we shall randomly select various proportions from these samples. The purpose of the latter step is to test the quality and nature of the clusters that would be formed if the parameters estimated were to be used as the clustering variables.

Error Distribution: We shall use two forms of error distribution. The sequential approach suggested here should be favored by normally distributed error since the tests of significance are based on this assumption. However, very often the data does not conform to the normality assumption. So, we shall generate the data using normally distributed and uniformly distributed error.

Error Variance: Here, once again, following Carmone and Green (1979) we shall use three levels of error variance to simulate the measurement error usually encountered when collecting such data from respondents. The three levels are:

i) Zero-level error: no error is added to the individual observations

ii) Medium-level error: while the mean of the error will be zero, the standard deviation will be such that the coefficient of variation (standard deviation of error term divided by the average response over the full design) is equal to 5%.

iii) High level error: the mean is again zero, but the coefficient of variation is 10%.

Factors and Levels: The utility generating models will use the following two factorial structures as the basis for simulating the choices of the respondents:

- i) a $3^1 \times 2^4$ design.
- ii) a 2^8 design.

The Dependent Measures

For each sample, and combination of samples, parameters will be estimated using the following models: .

- i) a main effects only model. This is the simplest model that could be used;
- ii) a complete model. This is the most complex model that could be used;
- iii) the interactive utility model;
- iv) the complementarity model;
- v) the hybrid utility model; and
- vi) the sequential approach suggested in this paper.

The criteria by which we shall judge the performance of each of these models are:

- i) correlation between actual rating and predicted rating of holdouts.
- ii) prediction of first choice from among the holdouts.
- iii) number of judgments required from the subjects.
- iv) the quality of the cluster analysis solution based on the derived parameters.

Summary

In this paper we have noted the usefulness and importance of studying the possibility of there being meaningful interactions in data collected using conjoint-analytic methods. The concept of estimability is explained and examples of how it might usefully be employed are given. The notion of sequential designs, tailored to the responses of each subject was then introduced. Such designs were not feasible in marketing contexts in the past because it was not possible to observe some of the responses given by a respondent before deciding which question to ask next. So, the researcher was forced to adopt an all or nothing approach. Now, with the availability and increasing using of microcomputers in the data collection phase, this approach has become feasible. If the results from the simulation study suggested are encouraging, then field tests of the methodology should be conducted.

The programming effort for the simulation study is currently under way. The best results will probably be realized if the method is incorporated at the individual level in the hybrid utility model. This will give us information about the most important interactions at the individual level and other interactions at the segment level.

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IT'S ALL IN HOW YOU SLICE IT -- CHARACTERIZATIONS OF OUTCOME DISTRIBUTIONS
IN MODELS OF PERCEIVED RISK: A REVIEW AND A PROPOSED MODEL¹

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Abstract

Perceived outcome distributions have been sliced up in many different ways in an effort to extract information that is relevant to perceived risk. Some models of perceived risk have characterized perceived outcome distributions by their inherent uncertainty, by variance-related measures, and/or by measures of central tendency. Others have utilized threshold values and have then characterized the resultant subportions of the distributions by their relative probabilities or by related semivariance measures. This paper will examine the advantages and disadvantages of each of these approaches and will propose a model which seems to incorporate the strengths of each.

Introduction

No brand is perfectly consistent in its performance. This inconsistency leads to a consumer's associating each brand with a range of possible performance levels rather than with just one level. Consumers anticipate that some performance levels are more likely than others. In fact, consumers are able to assign (subjective) probabilities to the various performance levels which they consider to be possible (Woodruff 1972). Collectively, the performance levels and associated subjective probabilities (i.e., expected frequencies) which a consumer associates with a brand comprise a perceived outcome distribution for that brand. Perceived outcome distributions may be conceptualized across different dimensions of consequences (e.g., financial, performance, psychological, physical, etc. (Peter and Tarpey 1975)) and for schemata representing different levels of abstraction (e.g., attribute level, brand level, product class level (Vann 1984)). Outcome distributions have been characterized in many different ways to incorporate information regarding their shape and/or location into models of perceived risk. Some of the characterizations only yield information regarding the location (valuation aspect), some only consider the shape (frequentistic aspect), and some incorporate information regarding both the shape and location of the outcome distribution.

The risk associated with an outcome distribution has been variously characterized as related to the distribution's uncertainty, variance, standard deviation, semistandard deviation, some measure of central tendency, probability, and semivariance. In addition, some approaches (i.e., threshold models) use a target outcome value(s) to assess the risk inherent in an outcome distribution. The purpose of this paper is to review and conceptually examine the many ways in which outcome distributions have been characterized to reflect their shape and/or location and how this information has been incorporated into models of perceived risk. Finally, a model of perceived risk will be presented which captures more distributional information than earlier models while avoiding their conceptual inconsistencies.

The general criteria which will be applied to the various approaches have been garnered from various sources. First, perceived risk should increase with increasing perceived likelihood and extremity of bad outcomes associated with an alternative (Bauer 1960, Fishburn 1984). Second, perceived risk should decrease with increasing perceived likelihood and extremity of good outcomes asso-

ciated with an alternative (Fishburn 1982). Third, models of perceived risk should capture the situational and individual nature of risk by providing for differing minimum acceptable performance thresholds (Sarel 1982a). Finally, models of perceived risk should provide for individual differences in risk-seeking/risk-avoidance tendencies (Pras and Summers 1978).

Uncertainty as an Aspect of
Perceived Outcome Distributions

If a consumer perceives an outcome distribution associated with an alternative which has more than one possible value, then that consumer will be uncertain regarding the outcome level which s/he should expect on the next occasion. Uncertainty has long been considered to be an essential element of perceived risk, and has often been used synonymously with risk (e.g., Arrow 1951, p. 405; Taylor 1974; Humphreys and Kenderdine 1979; see Fishburn (1984) for a dissenting view). Within the marketing/consumer behavior tradition, the call to action for research on perceived risk by Bauer (1960) as well as the collected works of his contemporaries at Harvard (Cox 1967a) stressed the link of uncertainty with perceived risk: ". . . risks -- that is a combination of uncertainty plus seriousness of outcome involved. . ." (Bauer 1960, p. 391); "In short, risk is a function of two elements, uncertainty and consequences" (Cox 1967b, p. 6).

What, exactly, is uncertainty? Researchers and others have used many different terms in an effort to express what is meant by (the inverse of) uncertainty: "confidence" (Bauer 1960; Brody and Cunningham 1968; Barach 1968, 1969; Wyer 1974; Bennett and Harrell 1975; Kahneman and Tversky 1982); "reliability" (Bauer 1960); "dependability" (Deering and Jacoby (1972)); "trust" (Kaul 1981). Kaul's explanation of trustworthiness seems to capture what many consumers probably mean when they discuss situations which are low in perceived risk:

Personally, the American institution I trust the most is McDonald's hamburgers. Not that I like them, particularly -- I think they taste like cardboard with everything on it -- but when you buy a McDonald's you know exactly what you're getting. And it doesn't matter whether you get it in Des Moines, Toledo or New York, it is the same hamburger. That's trustworthiness (Kaul 1981). That's also low uncertainty. But, when discussing consumer uncertainty, it is important to consider about what the consumer is uncertain.

Sources of Uncertainty

Uncertainty may have different sources. It may arise from the consumer's lack of knowledge regarding the relevant outcome distribution(s) (i.e., internal uncertainty), or from the stochastic nature of the system(s) generating the outcome distribution(s) (i.e., external uncertainty) (Kahneman and Tversky 1982).

Consumers may experience uncertainty regarding the predictive ability (Cox 1967c) or the relative importance (Pras and Summers 1978) of a brand's attributes. Uncertainty may also arise from the consumer's perceived own inability to accurately judge outcome levels that s/he has experienced (Barach 1968, 1969; Copley and Callow 1971; Deering and Jacoby 1972; and Bennett and Harrell 1975). In delineating his "sorting rule," Cox hypothesized that a cue's "confidence value, . . . a measure of how confident they [consumers] were of categorizing a cue

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as being, say, 'good' or 'bad'" would determine whether they would use that cue to infer the quality of a product "... regardless of its predictive value" (1967c, p. 624). Even if consumers think that they can accurately predict and evaluate outcomes, another source of uncertainty is the potential disparity between the anticipated and the actual experience of the outcomes (Kahneman and Tversky 1984). Not only do preferences change over time, but the situation within which a product will be experienced may be different than anticipated. As March (1978) puts it: "Rational choice involves two kinds of guesses: guesses about future consequences of current actions and guesses about future preferences for those consequences" (p. 589, emphasis added).

If the consumer has not experienced a brand directly and must rely on others for information regarding that brand's outcome distribution, then s/he may experience some uncertainty regarding the others' "... perceived similarity in standards (tastes) ... particular expertise (perceived ability to judge) with respect to that particular product category ... as well as the number and quality of the performance/occasions which they must have experienced. ..." (Vann 1984).

Cox also identified other loci for uncertainty -- those associated with the consumer's buying goals "... [with] their nature, acceptance levels, and importance ..." (1967b, pp. 6-7).

However, as the focus of this paper is on outcome distributions, the type of uncertainty which is most relevant here is external uncertainty -- that concerned with the stochastic nature of the system(s) generating the salient outcome distribution(s). The problem, however is how to model this uncertainty.

Characterizing the Uncertainty Associated with Outcome Distributions

Probability as a measure of uncertainty. "Uncertainty can be described as the probability that a given event will occur" (Cunningham 1965, p. 232). "The uncertainty dimension is analogous to Fishbein's likelihood of association component and measures a consumer's subjective probability that the purchase may result in undesirable consequences" (Zikmund and Scott 1973, p. 407).

Presumably as the probability of a negative outcome increases, uncertainty and perceived risk should do likewise. But, whatever the relationship between the probability of a negative outcome and perceived risk may be, probability is clearly not a measure of uncertainty. For a given perceived outcome distribution, uncertainty would be maximum when all of the possible outcome levels were equiprobable, not when the probability of one unique range or level was maximum (Wyer 1974). If probability were a measure of uncertainty, then consumers should be maximally uncertain when they perceived that a given event should occur with a probability of 1 (i.e., when they are maximally certain) (Cooley 1979, Peter and Ryan 1976).

Variance as a measure of uncertainty. The variance of a perceived outcome distribution has also been proposed as a measure of the distribution's associated uncertainty (e.g., "... uncertainty (called perceived risk) ... which is a function of the shape of the probability distribution and which may include a consideration of one or more of the following descriptive measures: variance, skewness, and kurtosis" (Humphreys and Kenderdine 1979, p. 285; see also Bettman 1973, p. 185). While variance may be related to perceived risk, it is not equivalent to uncertainty -- at least not according to information theory. Wyer (1974) has ably demonstrated the difference between variance and an information theory depiction of uncertainty (p. 30). Under information theory, uncertainty increases as the number of outcome levels with associated non-zero probabilities increases -- as does

the variance. However, variance calculations include information regarding the distance of each possible outcome level from the mean of the distribution. Increasing the distance of an outcome level from the mean increases the variance, but has no effect on information-theory based estimates of uncertainty.

An information-theory measure of uncertainty. Wyer (1974) presents an information-theory based index of the uncertainty associated with a distribution:

If the probability that an object is a member of each of N categories is known, the uncertainty of its category membership is given by the equation $U_o = - \sum P_i \log_2 P_i$ where P_i is the probability that the object belongs to the i th category. According to this equation, uncertainty should be minimum if $P_i = 1$ when $i=k$ and $P_i = 0$ when $i \neq k$... It should be maximum when the probability of belonging to each of the N categories is the same ($=1/N$) (pp. 29-30). This formulation is essentially the same as that used by Herniter (1973) as a measure of entropy.

While it is unclear how this measure of uncertainty is related to perceived risk, there is some evidence that it is related to perceived uncertainty (Driscoll and Corpolongo 1980, Wyer 1973).

Characterizing a Perceived Outcome Distribution by Its Variance or Standard Deviation

Just because the variance of a distribution is not the equivalent of uncertainty does not mean that it is unrelated to perceptions of risk ascribed to an outcome distribution. In fact, the variance of outcome distributions has long been used to model the risk inherent in choice alternatives:

The various approaches to the study of risk share three basic assumptions. 1. Risk is regarded as a property of options, (e.g., gambles, courses of action) that affects choices among them. 2. Options can be meaningfully ordered with respect to their riskiness. 3. The risk of an option is related in some way to the dispersion, or the variance, of its outcomes (Pollatsek and Tversky 1970, p. 541).

Several consumer researchers have proposed that the variance of a perceived outcome distribution is an appropriate measure of the distribution's shape to incorporate into risk models (e.g., Bettman 1973, Humphreys and Kenderdine 1979). Since the variance is a measure of the average squared deviation from the mean of a distribution, models of risk which depict the risk associated with an alternative as being positively related to the variance will predict increases in perceived risk with increases in the dispersion of the possible outcome levels about the mean of the distribution.

Bettman (1974) used the standard deviation of the distribution of belief strengths for brand-outcome associations across brands to characterize the associated risk. This measure was used as one element in a threshold model for the degree of conviction that a product "attribute" would be satisfactory. (While he used the term, attribute, it is clear that he utilized outcomes in the development of this model: the whiteness, cavity prevention, economy, breath freshness, and taste associated with brands of toothpaste.) Since specific levels of outcomes were not utilized in the model (or the questions), it is likely that level of outcome and likelihood of outcome could have been confounded in the subjects' responses. For example, a mid-scale response could indicate the respondent thought that the particular toothpaste had a moderate likelihood of whitening teeth or that the toothpaste would lead to moderately white teeth (See Ahtola 1975).

While the variance and standard deviation reflect the dispersion of an outcome distribution, they are indepen-

dent of its location. Models of risk based on the variance or standard deviation of outcome distributions would predict the same perceived risk for any two alternatives which had perceived outcome distributions with the same variance/standard deviation even if one had a very high mean and the other had a very low mean. Variance-based models are also insensitive to the skewness of outcome distributions. (This point will be further discussed later in the paper.)

Measures of Central Tendency as Characterizations of Perceived Outcome Distributions

Measures of central tendency were used to characterize outcome distributions in some of the earliest models of risk. Their use was based on two assumptions: "... that people choose the 'best' alternative, a concept used to justify the search for some rational measure of best, and ... the principle of mathematical expectation, as the measure of best" (Payne 1973, p. 442). These models incorporated an expectancy term and a value term, and varied by whether either or both of the terms were subjectively determined (Pruitt 1962, Payne 1973, Sarel 1982b). Structurally, the Ahtola vector model (1975) fits this conceptualization as a model of decision making under risk. However, this model was developed to portray the effect of differing levels of attributes rather than of outcomes on the assessment of the "best" alternative.

Measures of central tendency clearly reflect the location of an outcome distribution. However, unlike the variance or standard deviation, they are unaffected by the dispersion of the distribution. Thus, two alternatives with perceived outcome distributions which had the same value on the appropriate (to the particular theory) measure of central tendency would be presumed to be equal in perceived risk even if they varied widely in their dispersion.

Using the Mean and the Semistandard Deviation to Characterize Perceived Outcome Distributions

As operationalized by Pras and Summers (1978) the semistandard deviation of an outcome distribution is equal to the square root of the average squared deviations of possible outcome levels from the mean of the distribution for only half of the distribution (either above or below the mean) (p. 431, footnote). They incorporated the upward semistandard deviation into their model for risk takers and the downward semistandard deviation for risk avoiders. Their rationale was that: "Risk avoiders should be more sensitive to the downside portion of the distribution and risk takers more sensitive to the upper side" (p. 430). Their model has the following form:

$$P_{ij} = \mu_{ij} + r_{ik} \sigma_{sij}$$
 Where: P_{ij} = the risk-adjusted index for attribute i and brand j , μ_{ij} = the mean of the distribution for brand j on attribute i , r_{ik} = the consumer's tolerance for risk for attribute i with respect to the range of possible rating (k), and σ_{sij} = the semistandard deviation of the distribution (attribute i for brand j) with respect to the mean (p. 431). [Even though their model is characterized as an attribute model, their "attribute" list includes some outcomes.]

While risk is presumed to increase with increases in either the negative or the positive semistandard deviation, it is assumed to affect evaluation positively for risk seekers and negatively for risk avoiders since r_{ik} is positive for risk seekers and negative for risk avoiders.

Since this model utilizes either the upper or the downward semistandard deviation, but not both, it assumes that risk takers and risk avoiders will employ decision strategies that consider only one end of a distribution rather than trading-off the possibility of negative outcomes against the possibility of positive outcomes (Vann

1984). In addition, since the semistandard deviation ignores half of the distribution, it is insensitive to the skewness of the distribution. The half of the distribution which is not represented in the model could be the mirror image of that which is represented or it could be very different. Furthermore, as with the mean and variance models (to be discussed in the next section) while the use of the mean anchors the distribution to the scale, the model does not explicitly consider any minimum performance thresholds which the consumer may hold. For example, the entire upper portion of an outcome distribution (which is represented by the upper semistandard deviation) may be below a consumer's minimum acceptable performance threshold.

Using the Mean and the Variance to Characterize Perceived Outcome Distributions

Pollatsek and Tversky (1970) proposed a theory of risk which incorporated both the variance and the mean of the outcome distribution:

$$R(A) = \theta V(A) - (1-\theta)E(A)$$
 ... Thus, in a regular risk system, the risk ordering is generated by a linear combination of expectation and variance. Put differently, the risk of any option can be readily computed, once a single parameter, θ , is determined. Furthermore, θ is attainable from a single judgement of risk-equality between two distinct distributions, and its value determines the relative contribution of the expectation and the variance to the riskiness of an option (p. 547).

Meyer (1981) proposed an attribute-level model of perceived risk which utilizes information regarding both the mean and the dispersion of a brand on each attribute. However, his model differs in several ways from that suggested by Pollatsek and Tversky. First, it includes the addition of a third term in which the measure of dispersion is multiplied by the mean (and by a scaling constant). Second, the measure of dispersion which Myer uses is not the variance (squared deviations from the mean are summed, but not averaged). Finally, the "mean" and the "dispersion" measures used in the model are composites in which the expectations for the brand and the expectations for the product class are weighted depending on the consumer's familiarity with the particular brand's performance (uncertainty). If the consumer is totally ignorant regarding the performance history of the particular brand, then the measures of "mean" and "dispersion" used in the model take on the perceived values for the product class (i.e., default values (Crocker 1984)). Again, as with the Ahtola vector model, attributes are not outcomes -- but both models could be adapted to an outcome-oriented approach.

Models of perceived risk which include information regarding a measure of central tendency and the dispersion of an outcome distribution eliminate some of the major shortcomings of the separate, variance-only or central-tendency-only models. There are at least two remaining shortcomings. First, as with the Pras and Summers model, while a measure of central tendency anchors the distribution to a location on the scale, it does not directly reflect minimum-performance thresholds which consumers may hold. The second remaining shortcoming is that the variance is insensitive to the skewness of an outcome distribution (as is the semistandard deviation). For example, if two highly skewed distributions were mirror images of each other (same mean and variance, but one positively skewed and the other negatively skewed), then variance-only or variance-and-central-tendency models would predict that both distributions would elicit the same level of perceived risk.

Characterizing Outcome Distributions with Threshold Models

Threshold models of perceived risk reflect the location

of a perceived outcome distribution relative to either an explicit or an implicit performance threshold level that is relevant to the consumer. The model may consider the portion of the distribution below the threshold or above it. In addition, more than one threshold may be posited. Threshold models characterize the relevant portions of outcome distributions by using probabilities or a semi-variance approach.

Single Threshold Models Utilizing Probabilities

Explicit thresholds. The original explicit-threshold model in the marketing/consumer behavior tradition was that proposed by Cunningham (1965). "Briefly, the operational definition of uncertainty . . . was intended to measure the respondent's certainty that an untried brand . . . would work as well as her present brand" (p. 232, emphasis added). While uncertainty is not probability, the curious response categories which he used (i.e., frequency of uncertainty) appear to reflect the proportion of the product class outcome distribution which the consumer perceives to lie above the performance level of the "present brand": "Would you say that you are: Very certain, usually certain, sometimes certain, or almost never certain that a brand of headache remedy (floor wax, dry spaghetti) you haven't tried will work as well as your present brands?" (p. 232, footnote). (The greater the number of brands which the consumer perceives to perform as well as the present brand, the more "frequently" s/he should be certain that an unknown brand would work as well as the present brand.) This measure was then multiplied by the response to the following question: "Compared to other products would you say that there is: a great deal of danger, some danger, not much danger, or no danger, in trying a brand of headache remedy (floor wax, dry spaghetti), you have never used before?" (p. 233, footnote).

It seems that to answer the second question, the consumer would have to consider the frequentistic information requested by the first question. In effect, the danger question, itself, may be a surrogate measure of risk. This probably accounts for the fact that "there is some evidence to suggest that the consequences component may be weighted more heavily than is the certainty component" (Cunningham 1967, p. 86). (Bettman, using a modified Cunningham scale, was later to report: ". . . we may conclude that uncertainty and danger are definitely not independent for this study" (1972, p. 401).) Nevertheless, Cunningham contended that "some combination of these two questions should represent perceived risk" (1967, p. 84).

Cunningham's work has had a tremendous impact on research in the area of perceived risk. The Cunningham frequency-of-certainty/danger format was used intact or in modified form by other researchers (intact: Arndt 1967; modified: Bettman 1972; Hisrich, Dornoff, and Kernan 1972; Hoover, Green, and Saegert 1978). Others claimed that their approaches were based on the Cunningham approach, but it is either unclear what uncertainty response categories they used (e.g., Gronhaug 1972), or they used a straight uncertainty scale (e.g., Deering and Jacoby 1972), or a straight certainty scale (e.g., Schiffman 1972, Dash, Schiffman and Berenson 1976).

Straight uncertainty/certainty scales are conceptually very different from the scale used by Cunningham. If the consumer were "almost never certain" (the opposite of "very certain" on Cunningham's scale) that an untried brand would perform as well as the present brand, then there should be a high level of certainty as to whether any untried brand will perform as well as the present brand -- it almost certainly won't!

Bettman (1975) experimentally compared the Cunningham format to another explicit-threshold, probability model which he had developed in Bettman (1973). Bettman's

characterization was ". . . the percentage of brands falling above an acceptable level of quality for a consumer. . ." (1975, p. 381).

Implicit thresholds. For some threshold probability models a threshold value is not specified, but is rather implied by the questions asked of consumers. There are many examples of such models in the the marketing/consumer behavior literature: ". . . probability that the purchase will fail . . ." Roselius (1971, p. 56); ". . . subjective probability that the purchase may result in undesirable consequences" (Zikmund and Scott 1973, p. 407); "I think that it is . . . [seven-point improbable/probable scale]. . . that the purchase of (brand) would lead to a performance loss for me because it would run extremely poorly" (Peter and Tarpey 1975, p. 35, see also Peter and Ryan 1976); "How likely is it that this product is of poor quality?" (Vincent and Zikmund 1975, p. 1975).

A Double-Threshold Model Utilizing Probabilities

Sarel (1982a) proposed a double-threshold model which he experimentally tested against a central-tendency model and a mean-variance model. His double-threshold model divided the perceived outcome distribution into three segments: unacceptable, neutral, and outstanding (p. 6). While the thresholds which were utilized in his study were derived to maximize the degree of fit between predicted and observed evaluations, subjects could be asked to specify their thresholds (p. 13).

Sarel's model has the following form: $PT = V(U)P(U) + V(O)P(O)$, where U represents the unacceptable region of the distribution, O represents the outstanding region, V(U) and V(O) represent the values associated with the unacceptable and outstanding regions, and P(U) and P(O) represent the probabilities associated with the unacceptable and outstanding regions of the outcome distribution (p. 8)

All of the threshold models which utilize probabilities to characterize the region(s) beyond the relevant threshold share a common shortcoming. They fail to represent the dispersion of the distribution beyond the threshold(s). They would make the same predictions regarding perceived risk regardless of whether the possible outcome values beyond the threshold(s) were closely bunched near the threshold(s) or if they were widely dispersed beyond the threshold(s). Threshold models which utilize the semivariance overcome this shortcoming.

Threshold Models Which Utilize the Semivariance

The negative semivariance is a measure of dispersion which represents the average squared deviation from some threshold value for possible outcomes below the threshold. While the negative semivariance has been proposed as a measure of perceived risk in the finance literature (e.g., Markowitz 1959), the author is unaware of any applications in the marketing/consumer behavior tradition. The obvious counterpart to the negative semivariance is the positive semivariance. The author has seen no proposals for incorporating the positive semivariance into models of perceived risk.

Threshold risk models which utilize the negative semivariance incorporate more information regarding the outcome distribution than do probability threshold models in that they are sensitive to the dispersion of possible outcome values below the threshold. If two alternatives both generate perceived outcome distributions which have the same proportion of their respective distributions below the threshold, but one has more extreme possible values below the threshold, probability threshold models would predict that both would elicit the same level of perceived risk, while a negative semivariance model would predict that the one with the more extreme values below

the threshold would have the higher associated perceived risk.

A Proposal for a Threshold Model Incorporating Both the Negative and the Positive Semivariations

A logical extension of the negative semivariance model, which would also incorporate the ability of Sarel's dual threshold (probability) model (1982a) to capture the influence of both the positive and the negative ends of outcome distributions, is a model utilizing both the negative and the positive semivariance. The negative and the positive semivariance could be calculated relative to the same threshold or to two thresholds as were used in the Sarel model.

Such a model would appear to overcome all of the shortcomings of the other approaches to partitioning outcome distributions in modeling perceived risk. It would be anchored to the scale in a manner which explicitly considers minimum acceptable performance thresholds. It would reflect the dispersion of the outcome distribution, both at the positive and the negative ends. It would thereby be sensitive to both variability and to skewness. It would provide for trade-off decision strategies on the part of consumers, in which they could simultaneously consider both possible negative consequences and possible positive consequences (which could represent potential opportunity losses) associated with an alternative. In addition, the negative and the positive semivariations could be weighted in a fashion which reflects the risk-seeking versus the risk-avoiding preferences of the consumer.

The model could take the following form: $Risk(A) = w_1(Neg. Semivar(A)) - w_2(Pos. Semivar(A))$ where w_1 and w_2 are weights which reflect the risk avoidance and risk seeking preferences respectively. This model would predict that perceived risk would increase with increasing negative semivariance and with decreasing positive semivariance. Consumers who are risk averse would be expected to emphasize the negative semivariance and to deemphasize the positive semivariance. Risk seekers would be expected to do the opposite.

Summary and Conclusion

Various ways of partitioning perceived outcome distributions to model the perceived risk inherent in them have been examined. The strengths and weaknesses of each approach have been discussed. It is unclear exactly how to characterize the uncertainty inherent in a distribution. However, if an information-theory approach is used, then the extent of the distribution's dispersion is not fully represented. If a distribution is characterized by its variance or standard deviation, then its dispersion is represented, but skewness and location are not. If a measure of central tendency is used to characterize the risk inherent in a distribution, the location is represented, but all information regarding shape is not. Characterizations which utilize both the mean and the variance capture both location and dispersion information, but fail to represent skewness or minimum acceptable performance levels. Characterizations employing the semistandard deviation fail to represent half of the distribution. Probability threshold models anchor the distribution relative to minimum acceptable performance levels but fail to fully reflect the dispersion of the distribution. Negative semivariance models incorporate a consumer's minimum performance threshold and reflect the dispersion of the distribution below that threshold, but fail to reflect the shape of the distribution above the threshold. A model was proposed which appears to have the strengths of the other characterizations while avoiding the weaknesses. This model utilizes both the negative and the positive semivariations in a way which also reflects the consumer's risk-seeking/risk-avoiding tendencies.

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A CONCEPTUALIZATION OF THE HOUSEHOLD/TECHNOLOGY INTERACTION

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Abstract

The traditional approach of viewing household/technology relationship is limited to the nature of adoption of technologies. We believe that in order to develop a meaningful analysis of this relationship one must go beyond mere adoption and examine the entire process consisting of not only adoption but the patterns of use as well as the impact of technology on household dynamics. In this paper, we attempt to conceptualize this issue by proposing a model of household technology structure. Embedded in this structure are the household social space. The paper examines the links between the three components as a means to understanding the household/technology relationship.

There has been an increasing interest in recent years among consumer researchers in household behavior and consumption (Etgar, 1978; Firat and Dholakia, 1982; Roberts and Wortzel, forthcoming). A particular aspect of the household consumption which is the main focus of this paper is the use of technology in the household. A major rationale for studying the household-technology relationship has been clearly stated by Nicosia (1983): "Technology is usually associated with production processes and various social science disciplines have researched the effects of technology in work activities.... The effects of technology in consumption activities have been largely ignored or taken for granted.... By focusing on the family as the institutional setting for a great deal of consumer behavior, we should gain a better understanding of the interdependencies between technology and consumers...."

A surge of interest in technology and households has been triggered by a multiplicity of factors. The entry of married women into the labor force has created the possibility that households might be acquiring a greater number of time saving devices. (Strober and Weingberg, 1977, 1980; Reilly, 1982). Some time-budget research has also been reported in Europe and in the U.S. looking at related issues (Szalai, 1972; Michelson, 1980). The emergence of modern information technology such as videotex and home computers has aroused much popular interest (Time, 1983) as well as scientific interest (Moschis et al., 1983; Venkatesh and Vitalari, 1983).

This paper is based on three premises. First, in understanding the household-technology relationship, the conventional approach has been to look exclusively at the household and not the technology itself. A balanced approach would require that we not only examine the nature of the household but also the characteristics of household technologies.

Second, we have pursued a line of thinking in our paper which attempts to distinguish between the three processes: adoption, use, and impact of technology in the context of a micro-social system which is called the household. While adoption is an important component of the technology/consumer interface, it provides but an incomplete picture of the totality of the interface itself, only because it is limited to the initial stages of consumer contact with the technology. It is this concern

that the entire process merits examination.

Third, we posit that households have internal ecologies and value systems which come into play in adopting new technologies. Although a balancing of exogenous (i.e., external to the household) and endogenous (i.e., internal) forces is not unique to the household, the particular manner in which it is accomplished differentiates households from other social institutions.

In the next section we discuss some issues from current literature. This will be followed by a presentation of a model of the household technological structure and a development of the relevant ideas.

Households and Technology: A Synthesis of Traditional Concerns

In the past 50 years, households have adopted several technologies. Some obvious examples are household appliances such as washers, dryers, and refrigerators; entertainment oriented products such as television and stereo; transportation and communication devices such as automobiles and telephones. These technologies have had a variety of impacts on the household. Some of the technologies have replaced manual labor, some of them have significantly reduced it, and a few others have transformed totally the character of the household.

In reviewing the relevant interdisciplinary literature on household technologies we find three interrelated themes: the relationship between household technology and (a) time savings, (b) women's employment, and (c) sex-linked division of labor.

The first and major theme relates to the potential that some household technologies represent in saving time in the performance of housework. Morgan et al. (1966) found families with more automatic home appliances estimating more hours of housework than those with fewer appliances. Robinson et al. (1972) and Vanek (1978) also reported results partially confirming this result. Obviously there are some explanations for such counter intuitive findings. Walker (1969) has suggested that over the years the product of housework has attained a better quality (e.g., cleaner clothes, clean house, kitchen, etc.) and to a large extent this has been made possible by newer technologies. Additionally, there seems to be a trade-off of more repetitive and routine housework to a more managerial type of activity. Thus there seems to be a shift in internal allocation of the housewife's time.

The other theme that runs through some of the studies has to do with the relationship between modern household equipment and women's employment. Strober and Weinberg (1980), contending that employed wives utilize different methods to reduce time pressures, tested the hypothesis that they own more durable goods than non-employed wives. It was, however, found that the wife's employment was not significant either in the purchase decision or in the amount of expenditures on durables. The study was replicated by Nichols and Fox (1983) whose findings confirmed Strober and Weinberg's study.

A third theme relating technology to household appears in the literature on sex-linked division of labor and women's employment. Consumer researchers have been discussing the division of labor and women's employment. Consumer researchers have been discussing the division of labor at home in terms of husband and wife participation in various household activities (Davis and Rigaux 1974; Davis 1976; Ferber and Lee 1974; Spiro 1983; Wortzel 1980). The general thrust of the argument presented by most authors is that the changing roles of husband and wife have resulted in some task-oriented shifts. In this discussion there is little mention as to what role technology has played in permitting or inhibiting joint activities. Some social scientists have argued that modern household technology plays a significant part consistent with the maintenance of sex-linked roles in families, at the same time making it possible for women to work outside the home (Thrall, 1982; Vanek, 1978). Zimmerman and Horwitz (1983) have echoed a similar thought in connection with the emerging information technology and its impact on the household. "What will women be doing inside the 'high tech house'? They will be shopping and checking out their groceries, paying bills and maintaining bank accounts, keeping household records and inventories, storing utility meter readings, handling correspondence, booking travel tickets...."

To summarize, the traditional concerns of household technology have paid more attention to the concept of time management and savings and the impact on women's roles in the household. We believe that while the link between household technology and time management is critical, there are other factors that need scrutiny because they determine to a significant extent the adoption, use, and impact of technology. First, there are household technologies which are not task oriented and where time dimension may not be as critical. Second, modern households are forced to be more self-reliant and live in a more atomistic environment than households of earlier times. This means that the internal structure of the household needs to be examined carefully. Third, the mere ownership of household appliances, which has been the research focus of some of the consumer researchers, adds very little to the understanding of household/technology relationship. The factor that needs to be measured is the extent of use and the reasons for such use.

We first begin by formulating a model of household technological structure and follow it up with a discussion of the components of the model.

A Model of Household Technological Structure

In Figure 1, we present a model of household technological structure. The structure is represented by three conceptually distinct spaces which may be called, (a) the household social space, (b) the household activity space, and (c) the household technology space.

The first component of the model is the household social space. The social space gives rise to social interactions within the household and leads to specific household activities. Since our discussion in the earlier section has captured some of the main issues underlying the social space, we will not touch upon them more fully in this paper.

The second component, the household activity space, consists of various activities performed in a household. In different households different priorities exist for performing these activities and much of it is determined by the first component of the model, the household social space.

The third component, the household technology space, is made up of the process domain (consisting of technology

adoption, the use patterns, and its impact), and domain of dimensionality. The interaction of these two domains is the primary rationale for this paper.

A feature of the model that is of concern in this paper is the relationship between household technology space and activity space. As we demonstrate in the next section, several household activities depend upon the availability of relevant or appropriate technologies. Another feature of the model is the link between the social space and the activity space. Although not discussed in this paper, this is an important link and should be included in a more comprehensive treatment of the topic.

What is the significance of the model presented in Figure 1?

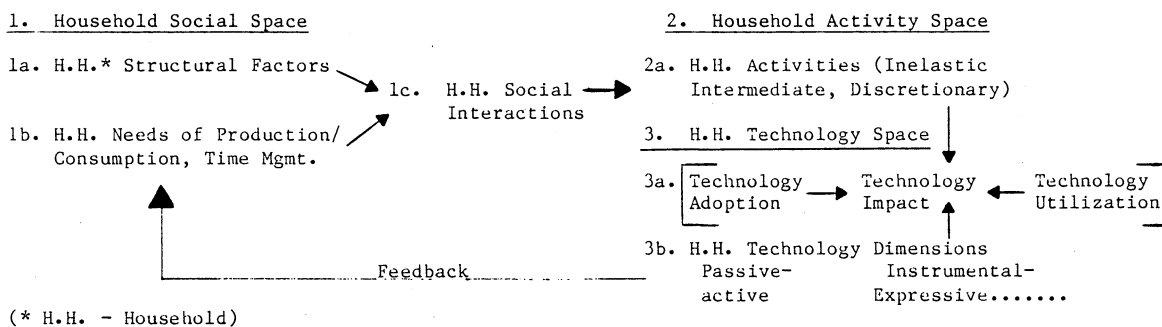
The technological structure of the household is complex. It determines (a) the household commitment and expenditure of time, energy, and resources to meet its production and consumption needs, (b) the operation of the system of its activities, and (c) the patterns of household interactions relative to its production and consumption goals. The model is also based on the recognition that household decisions to adopt technologies and develop appropriate usage patterns are influenced by the need to save time, to manage efficient operations, and to render the household as self-reliant as possible. Given that most households, at least in the contemporary western world, are endowed with modern household gadgetry, what differentiates the households from each other is the character of their technological structure of which the acquisition or possession of technologies is but one small component. As an illustration, it seems obvious that as households go through different life cycle patterns, different technologies come into play. Young, single people buy more entertainment oriented technologies; parents with children have a greater need for washing machines, large refrigerators; and so on. But such explanations touch only a small part of the household technology picture. They say very little about why different households with similar characteristics have different consumption patterns and different consumption patterns and different use configurations of technology. Unless one takes a total view of technology in the household and examines how it is embedded in the social context of the household, the analysis will remain less than adequate.

Households as Activity Systems

A useful conceptualization of a household is that it is a place where some activity or other goes on continuously when members of the household are present. Different technologies permit the performance of these activities at different levels of efficiency and with different results. Until recently households were viewed as consumption systems. A more recent approach to the study of households has been to regard them as both consumption and production systems (Becker, 1976). The role of household technology as a facilitator of the production and consumption processes is intuitively obvious. It is directly tied to the various activities that are part of production and consumption within the household. An example of an activity which is part of the production process is meal preparation and a related consumption activity is eating. Most household technologies may be viewed as contributing to the production process in the household. There are also technologies which are directly used in consumption activities such as listening to radio or watching television, etc.

Although households were already equipped with most of the modern gadgetry by the mid-fifties or early sixties, the advent of recent information technologies have opened up new patterns of production and consumption.

FIGURE 1. A MODEL OF HOUSEHOLD TECHNOLOGICAL STRUCTURE.



In order to capture the overwhelming presence of technology in the household we have constructed a large sample of activities performed in a normal household in a developed society and the corresponding profile of technologies associated with activities (Table 1). Following Hendrix et al. (1979), we have identified three types of household activities: Inelastic (IE), Intermediate (IM), and Discretionary (D).

A close examination of Table 1 shows two important results. First, most households are technologically very dependent. That is, the incidence of household technologies is reasonably high in the average household. Second, most household technologies are geared toward the production process rather than the consumption process. The implications of these two findings are several.

The first concern is, other things being equal, how difficult it is to introduce new technologies into households especially when the existing level of technological incidence is rather high. If we were to imagine a household with a finite technological space, each time a technology is added the space continues to fill up. The closer the space is to saturation, the more difficult it is to add technologies. Under what conditions is it then possible to introduce new technologies? We hypothesize that either the technologies should have considerable differential advantage or the households have to undergo structural shifts to permit introduction of new technologies. But the situation is not so simple. For example, although not intuitively obvious, one can further state that the level of incidence of a household technology does not indicate a corresponding level of use. Consequently, new technologies are easier to introduce if the level of use is high. Households which are active in the use of technologies are the ones likely to be receptive to new technologies.

A final implication is that technologies which are more oriented toward production process in the household are more readily adopted and used than technologies which are consumption oriented. The reasoning behind this is that production technologies can directly contribute to performance efficiencies such as task reduction, time savings, reduction in manual effort, etc. Second, more activities in the household are production oriented than consumption oriented. Production is also a more elaborate process than consumption. Also, philosophically, there seems to be a quality of virtue associated with production; production somehow represents value added while consumption detracts from it. It is easily forgotten, however, that in a household the production and consumption go hand in hand.

Not all the activities shown in Table 1 are performed in every household. The adoption and use of technologies in the household is a function of the characteristics (and needs) of the household and the nature of the

technology itself. Traditionally, consumer researchers have focused on the adoption processes to the exclusion of use processes. The limitation of adoption models is that they are single even decision models and say very little about the pattern of interaction between households and technology. In order to understand this interaction we propose to examine first the nature of the technology itself and follow it up with an analysis of the household as a social system with its unique characteristics.

The Dimensions of Household Technologies

In this section, we discuss the dimensions of household technologies. Such an analysis will provide us with a better understanding of the role technologies play in the modern household. It will also reveal to us the potential that the technologies represent in altering household dynamics. For our discussion we consider five dimensions: (a) Instrumental vs. Expressive; (b) Task Oriented vs. Pleasure Oriented; (c) Passive vs. Active; (d) Unifunctional vs. Multifunctional; and (e) Low Social Impact vs. High Social Impact.

(a) Instrumental-Expressive:

The instrumental-expressive dimension is an adaptation from Parsons' classification of pattern variables (Parsons, 1951). The instrumental role of technology regards it as a tool which meets some specific functional goals of the household. In order that a given technology may be utilized successfully to realize instrumental goals, one can posit that the user has the knowledge of how the technology can be utilized, has the ability to cope with the technological demands and actually uses it to meet very specific functional needs. Some examples of instrumental goals are: need achievement, task performance, cost savings, and efficient use of time. For example, the telephone permits people to conduct business and establish instantaneous contact with others at great distances. Also it allows two-way communication and speeds up transactions. Such examples can be provided for other products as well. The instrumental dimension of computers would refer to their application in a variety of uses such as management of home activities, word processing, family education, and maintaining various financial records that serve economic functions.

The expressive side of technology refers to the possibilities that technology creates in communicating emotions and affections and expressing family related values through opinions and/or behavior. People engage in games and entertainment as a means of conveying their feelings toward others. Such activities have a high personal and psychological meaning in the context of the household.

A hypothesis relevant to the expressive-instrumental dimension is that households consider both expressive and instrumental needs in the adoption and use of technologies. However, the balance between the needs varies with each situation. Typically, technologies which are rich in their ability to satisfy both expressive and instrumental needs are likely to be more important in a household.

Table 1. A Sample of Household Activities and The Use of Technologies¹

	ACTIVITY	TYPE ²	TECHNOLOGY USED	INCIDENCE OF TECHNOLOGY ³
<u>Household Chores</u>	Cleaning	IM	Vacuum Cleaner	H
	Laundry	IM	Washer, Dryer	H,H
<u>Food Management</u>	Food Preparation	IE	Electric Stove, Coffee Machine, Food Processor	MH,M,M
	Food Preservation /Storage	IE	Refrigerator	H
	Food Disposal	IE	Garage Disposal, Trash Compactor	M,M
<u>Home Management</u>	Tax Records	D	Calculator, Computer	M,VL
	Financial Records	D	Calculator, Computer	M,VL
<u>Child Care</u>	Playing w/Children	IM	Electronic Games	LM
<u>Leisure Position</u>	Outdoor Recreation	D	Automobile	H
	Home Entertainment	D	Radio, Stereo, TV, VCR	H,H,H
<u>Socializing</u>	Visit Friends	D	Automobile	H
	Communication	D	Telephone	H
<u>Leisure Outside Home</u>	Movies, Theater, Sports Events	D	Automobile	H
<u>Job Related</u>	Travel	IE	Automobile	H
	Work at Home	D	Computers, Typewriter	L
<u>Vacationing</u>	Travel	D	Automobile	H

(¹For a fuller version of the Table write to the author)

(²IE - Inelastic, IM - Intermediate, D - Discretionary)

(³H - High, M - Medium, L - Low)

(b) Task Oriented-Pleasure Oriented:

Technologies can be characterized as task oriented or pleasure oriented. Generally speaking, task oriented technologies are not pleasurable. The lack of pleasure is derived from the nature of the task involved in using the technology.

Although there is a relationship between task-pleasure dimension and passive-active dimension, they are not the same. Specifically, task oriented technologies involve a series of manipulative steps and possibly repetitious operations. For example, Fried and Molnar (1975) have identified three different variables that describe the task dimension: (a) serial characteristic variable, (b) operations-output relations variable, and (c) output form variable. The first variable states that sequential behavior pattern is measured on a temporal scale (i.e., turning the light switch versus wall papering). The second variable measures the degree to which operations that produce outputs are characterized by their separation. The last variable refers to the degree to which the operations are subject to routinization. Thus the task oriented nature of technology refers to the specific acts the user has to perform before the technology can be put to intended use. The task orientation of the technology is also determined by the underlying motivation for the technology. For example, most household chores are task oriented. Cooking, washing, cleaning are obligatory activities and the technologies that enable these activities to be performed (e.g., microwave oven, washing machine, vacuum cleaner) may be termed task oriented because of the nature of the work. Another example of task oriented technology is the typewriter which involves physical work at a constant rate. Technologies can also be task oriented because of the boredom factor involved.

(c) Passive-Active:

Technologies can be classified as passive or active from

the user point of view. In general, passive technologies require less human manipulation and less physical or intellectual effort on the part of the user as compared to active technologies. For example, a vacuum cleaner needs human involvement from start to finish but the clothes washer does not. While human intervention is one component of passive/active dimension the other component relates to the effort required to operate a particular technology. Most household technologies require minimal intellectual effort because their principal function is to routinize tasks. On the other hand they may require different degrees of physical effort from low to high.

The determining characteristic of passive technologies is the ability of the user to be able to be a recipient of the output of the technology without having to actually manipulate its production. Another characteristic of the passive technology is the possibility for the user to be engaged in other activities while still controlling the technological activity.

An example of passive technology is television. The effort required by the user to engage in television viewing is rather minimal. While the television is still on, there is very little that the viewer needs to do except sit back and watch it. The automobile, on the other hand, is an example of active technology. While the automobile is in motion, the driver is fully occupied with its performance and is continuously busy manipulating the various functions. Many other technologies in the household occupy a position somewhere between the two.

The consumer acceptance of a particular technology is not solely determined by the passive or active nature of the technology. There are other dimensions of the technology which need to be considered. However, one can make a statement that other things remaining equal, the consumer would prefer a passive technology. Or more specifically, given two versions of the same technology, it is safe to say that the individual would prefer the passive to the active version.

(d) Unifunctional-Multifunctional:

Technologies can also be classified as unifunctional or multifunctional based on whether they are designed to perform a single function or many different functions. A function refers to the designated purpose of the product and its functional meaning usually determines the major task implied by the purpose and the product label usually encompasses its meaning. Some products connote a cluster of meanings we have a single meaning represented by the product, then we call the product unifunctional; otherwise it is multifunctional.

For example, most home appliances are unifunctional (e.g., dishwasher, vacuum cleaner, clothes dryer, etc.). Automobiles can be called multifunctional because of the implied cluster of meanings. Although automobiles are vehicles used for transportation (i.e., single function), they can be used for work or for vacationing or for shopping. These different activities are not only perceptually unrelated but are contextually different. Therefore, automobiles can be called multifunctional. Televisions can also be considered multifunctional because of the versatility of the programming such as entertainment, news, education, culture, etc. Home computers are clearly multifunctional. There are several clearly identifiable distinct applications of computers (business applications, home management, education, etc.) which make it appropriate to classify them as multifunctional.

Multifunctional technologies increase the complexity of task management for the household. They require greater manipulative abilities and lead to a higher degree of

technological dependence. For example, when an automobile breaks down, there is a greater crisis in the household than when a toaster breaks down. At the same time, multifunctional technologies lead to a greater source of satisfaction because of the number of tasks they can perform.

(e) Social Impact:

Some technologies have had greater social impact than others. Social impact refers to the manner in which existing modes of life are altered. The greater the impact, the greater the change. All technologies create an impact of some sort. For example, the television technology has had an impact on the media habits of the public, their attitudes and behavior toward entertainment and the interaction between family members. Home appliances appear to have had a lesser impact whereas the automobile had a major impact. We talk about the automobile culture as if a whole range of values and life style patterns have developed around the automobile. The degree of social impact caused by a technology is an indication of the deep-rooted nature of the technology. New technologies may try to create new life patterns, change old life patterns or preserve the existing life patterns. To the extent that they attempt to change old life patterns, they meet with great resistance.

We have shown the nature of the social impact of different technologies in Table 2. Clearly, the technologies that have had the greatest impact in the twentieth century are the automobile, telephone and television.

A Multidimensional Profile of Household Technologies

As demonstrated in the earlier section, the household technologies can be embedded in a multidimensional space. In Table 3 we have tentatively proposed a profile of a number of household technologies along different dimensions discussed earlier. We believe such a presentation is useful in positioning technologies in a common multidimensional space. In order to make comparisons manageable we have used a single category "home appliances" for washer, dryer, dishwasher, refrigerator, etc., because all of these products seem to be located rather identically along different dimensions. Table 3 allows us to evaluate virtually a variety of technologies according to some implicit patterns and position them along some dimensions which allow comparisons regardless of the specific nature of the technology.

Table 2 Direct and Derived Effects of A Sample of Technologies

Technology	Direct Effects	Derived Effects	Social Change (High Impact)
Automobile	Quicker, convenient mode of transportation	Suburban living Community of strangers, Weakening of kinship ties	Freedom from family bonds, Divorce, Separation of families
TV	Opportunities for home entertainment	Changing family interactions, Changing media habits	Educational impact, Children's socialization
Household Appliances	Reduced time for household chores	Release time from household chores, more time for leisure	Leisure oriented society

Also, we are able to evaluate technologies not only in terms of their adoption potential but in terms of their actual use. The concept of evaluating technologies or products on different attributes is not new. Fundamental to most consumer research is the notion that consumers make product adoption decisions based on product attributes. Thus an automobile is purchased using some standard criteria such as miles per gallon, seating capacity, styling etc., but such attributes are unique

to a single product, automobiles. But when we begin to compare household technologies, such product specific attributes do not make much sense. We, therefore, have to abstract the attributes of technologies to the structural level of activities which are embedded in the totality of the household system.

Some attempts have been made in the past to classify household durables into aggregate categories. Economists have traditionally discussed household durables in terms of necessities and luxuries (Houthakker 1960). "Necessities are defined as those goods which are bought in the same quantities regardless of changes in prices or incomes" (Douglas and Isherwood 1979). The distinction is somewhat artificial and technical and perhaps a little too simplistic. For example, a luxury today can easily become a necessity tomorrow. Similarly, a luxury for some may be a necessity for others. Also, what is adopted as a luxury may turn out to be a necessity after continued use while at the same time a necessity might become a luxury in some special cases.

We are more in agreement with the distinction proposed by Hendrix (1984) between "time buying" and "time saving" technologies. A limitation of this classification for our purpose, however, is that such a measure is limited to technologies where time management is critical. This is not true of all the household technologies.

Conclusions

Household technology has become both a cultural convenience and a natural necessity and has been institutionalized into a life of its own. Markets and services have developed around household technologies and as we from technology as a machine to service to information on to a way of life, we see a new age of complexity emerging.

Despite the compelling presence of technology in the household, the general view of household/technology relationship is rather fragmented because the treatment of the household as a social organization is still pre-industrial and the household is still regarded as secondary to the external institutional arrangements which are, for the most part, products of the industrial age.

This paper, hopefully, has made a start in the right direction to understand the household/technology relationship.

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Table 3. A Multi-dimensional Profile of Selected Household Technologies

INSTRUMENTAL/EXPRESSIVE	AUTOMOBILE	TELEVISION	STEREO EQUIPMENT	CAMERA	TELEPHONE	HOUSEHOLD APPLIANCES	TYPE-WRITER	HOME COMPUTER
Mostly Instrumental						X	X	X
Mostly Expressive		X	X	X				
Both Instrumental/Expressive	X				X			
TASK - PLEASURE								
Mostly Task						X	X	X
Mostly Pleasure		X	X	X	X			
Both Task/Pleasure	X							
PASSIVE - ACTIVE								
Mostly Active	X						X	X
Mostly Passive		X	X					
Medium				X	X	X		
UNI-FUNCTIONAL - MULTI-FUNCTIONAL								
Unifunctional			X	X		X	X	
Low Multifunctional	X	X			X			
High Multifunctional								X
SOCIAL IMPACT								
High Impact	X	X			X			X
Medium Impact								
Low Impact			X	X		X	X	
HOUSEHOLD LINK TO EXTERNAL ENVIRONMENT								
High	X	X			X			X
Low			X	X		X	X	

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THE ROLE OF VOLUNTARISM IN PROVIDING COLLECTIVE GOODS FOR HOUSEHOLD PRODUCTION

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Abstract

Collective goods and services provided by voluntary organizations are often used in household production activities. While there are many reasons for volunteering, there is evidence that provision of collective goods is a strong incentive. This study tested the effect of household socioeconomic status, number of children in the household and perceived community need on the number of hours volunteered to collective organizations. Based on a sample ($n = 326$) from a Midwestern metropolitan area, SES and perceived community need were found to be related to voluntarism while number of children was not.

Background

Becker's (1965) household production model, refined by others, suggests that households produce as well as consume. The household obtains goods and services and combines them with time to produce "commodities" which provide utility. The goods and services needed for household production are acquired through market purchase, other household production activities, public goods provided by government or collective goods obtained through voluntary organizations (Becker 1965). The latter is the focus of this paper. The voluntary organization combines labor and capital services (donations), which it acquires free or below market rate, to produce a good or service. The good or service is generally characteristic of a public or collective good. Such goods are usually provided by government or collective organizations and are peculiar in that, if one person consumes the good, it cannot be withheld from others, even though they might be "free-riding" (not contributing to its production).

The economic value of voluntary activity in the U.S. is well-documented. According to Kotler (1982, p. 413), between 50 and 70 million Americans annually serve as volunteers for some 40,000 nonprofit organizations. The value of this volunteer time was estimated at \$65 billion in 1982 (Volunteer 1984). The importance of voluntarism and the widespread use of collective goods in household production point to a need to study the variables which affect voluntary activity.

Collective Good Consumption as a Motivation for Volunteering

In the Judeo-Christian tradition, voluntarism is equated with "good works," whose only reward is intrinsic to the altruistic act itself (Gidron 1976). However, the literature clearly recognizes that volunteers are motivated by a variety of reasons, both altruistic and self-serving (Henderson 1981; Jenner 1981; Paulhus, Shaffer and Downing 1977). The motivation underlying voluntarism appears to vary with the type of organization (Jenner 1981), by the demographic characteristics of the volunteer (Wiehe and Isenhour 1977) and by length of volunteer tenure. Wiehe and Isenhour (1977) proposed and empirically substantiated four categories of reasons for volunteering: altruistic (to help others or promote a selfless cause); social pressure (to respond to peer pressure, a sense of social duty, or a need to reciprocate); personal (to enjoy social contact, recognition, fun, escape, achievement) and economic (to provide

collective goods needed by the family unit or to provide experience which builds human capital).

There is theoretical and empirical evidence which indicates that volunteers are often motivated by the need for a particular collective good. Mueller (1975) cited collective good consumption as one of several forms of "payment" volunteers receive. Schram and Dunsing (1981) discuss the return/cost relationship in volunteer work which implies provision of a collective good. In studies of volunteer participation across a variety of service organizations, one of the most frequently mentioned reasons for volunteering is having a child in the program (ACTION 1975). Studies of blood donorship show that ensuring future supply for family members is a salient motivation (Osborne and Bradley 1975). Other examples of such collective goods used in household production might include church or charity work to maintain community life quality or child care or service cooperatives.

In his book *The Logic of Collective Action*, Olson (1973) maintains that participation in collective organizations is counter to the interests of their individual members, and that individuals will not rationally join together to pursue a common interest. In large groups, all receive the collective good, yet no single member's efforts affect production. If an individual member chooses to free-ride, no one else is significantly affected; so there is no incentive to contribute. To gain cooperation, members must be coerced or must receive "selective incentives," (services or intangibles separate from the collective good which are withheld from those who do not contribute). In smaller groups where individual members get a larger fraction of the total good, an individual could shoulder the entire cost of providing the good, so long as it is less than the benefit enjoyed.

Predictors of Voluntarism for Collective Organizations

The household level of analysis is utilized in this study. The dependent variables are the presence and extent of household voluntarism to organizations providing collective goods. Socioeconomic status and need for the collective good are hypothesized to be positively related to household voluntarism.

Socioeconomic Status

The documented direct relationship between individual volunteer activity and socioeconomic status (ACTION 1975; Tomeh 1973; 1981) supports the notion of voluntarism as a collective activity. However, more recent interdisciplinary work indicates no significant relationship (Mueller 1975; Schram and Dunsing 1981). The economic literature demonstrates that income is positively related to philanthropic activity in general (Becker 1974; Reece 1979). Intuitively, it would appear that one's own level of consumption would take precedence over the consumption level of others, and higher income levels would encourage tax deductible activities such as charitable giving or volunteering. Mueller (1975) hypothesized that volunteers have a relatively high income because commodities which demand volunteer input are income elastic. Also, research on female voluntarism indicates that a wife's

volunteer work may offer a tax break over market work if she is considered the marginal worker and that it may offer more prestige (a selective incentive) than market work commensurate with her ability (Schram and Dunsing 1981). Socioeconomic status (SES) will be operationalized as an index, combining household income, occupation(s) and education(s) of head(s) of household.

Need for the Collective Good

Household need for a collective good would be a relevant variable in smaller organizations, which often furnish collective good inputs to household production. Collective action theory (Olson 1973) suggests that a stronger group member in a small collective organization might pay a larger share of the cost of the good, depending on the size of the group and the benefits to be gained. The number of children in the household might serve as an indicator of need for certain collective goods (e.g. soccer teams or Girl Scouts) on the individual household level (Mueller 1975; Schram and Dunsing 1981). Moreover, the presence of children may further encourage household members to volunteer for collective organizations which are not specifically child-oriented but which improve life quality in general (e.g. hospitals, civic organizations).

Community need might also predict propensity to volunteer, since high need would suggest greater demand for voluntary services to maintain quality of life, a collective good. Literature on voluntarism indirectly supports this notion, since residence in smaller cities and towns, where fewer market and public goods are available to fulfill household needs, is positively related to voluntarism in collective organizations (Mueller 1975). Schram and Dunsing (1981) also found length of residence in the community and present home to be directly related to volunteer activity. Long-term residents may perceive themselves as having a greater stake in community life quality and may consequently be more willing to participate actively in collective groups.

The economic literature on philanthropy in general provides more indirect evidence that community need might stimulate more voluntary activity. According to Reece (1978; p. 142), "Philanthropic behavior...has been rationalized in the economic literature by the hypothesis that individuals' preferences are defined over levels of consumption of unrelated persons as well as levels of their own consumption." The "utility interdependence hypothesis" (Becker 1974) suggests that "the individual's optimal level of contribution varies directly with his income and inversely with the price of contributions and the level of consumption of others in the absence of contributions" (Reece, p. 142).

Support for the utility interdependence hypothesis has been mixed. Schwartz (1970) operationalized the level of consumption of others as per capita non-donor income, and found it to be negatively related to charitable donations. Hochman and Rodgers (1973) found dispersion of income within the metropolitan area to be positively related to charitable giving, as hypothesized. Reece (1979) used an estimate of lower quintile income and public assistance payments for the SMSA to represent level of consumption by others. While these variables were negatively related to charitable donations, directionally supporting the hypothesis, the relationship was not significant.

Translated to the special case of voluntarism, this would suggest that amount of voluntary activity would be directly related to community need. Need might be defined as actual need as in the economic literature, or as perceived need. The latter is used here, since

estimation of the actual need of the various communities within the single metro area is difficult to assess, and since perceived need seems more likely to influence behavior on an individual household level.

Hypotheses

Based on the literature summarized above, the following hypotheses were tested:

- H₁: The presence or extent of household voluntary activity in organizations providing collective goods is directly related to socioeconomic status.
- H₂: The presence or extent of household voluntary activity in organizations providing collective goods is directly related to individual household need for the good.
- H₃: The presence or extent of household voluntary activity in organizations providing collective goods is directly related to perceived community need in general.

Methodology

Over 1100 phone numbers from the Cincinnati metropolitan area were randomly sampled from phonebook listings. Some 326 respondents (29%) agreed to participate in the phone survey. Non-respondents did not differ from respondents in terms of gender or location. Compared to Cincinnati population demographics, the sample was more heavily female and white and was skewed slightly older. A sample description is shown in Exhibit 1. Subjects were asked to provide information on the types of organizations for which they volunteered, the types of duties performed and the average number of hours per month they worked. This information was used to operationalize the dependent variables for all three hypotheses: whether or not the household members

EXHIBIT 1

Demographic Description of Sample

Age of Respondents			Sex of Respondents		
	Freq.	%		Freq.	%
18-30	81	25%	Male	82	25%
31-44	86	26%	Female	244	75%
45-60	87	27%		326	100%
61+	72	22%			
	326	100%			

Race of Respondents		
	Freq.	%
White	294	90%
Black	27	8%
Oriental	3	1%
Other	2	1%
	326	100%

HH Educational Attainment
(Respondents and Spouses combined)

	Freq.	%
Attended High School	59	11%
Graduated from High School	201	35%
Attended College	99	18%
Graduated from College	129	23%
Post-graduate work	74	13%
	562	100%

HH Occupational Status
(Respondents and Spouses combined)

	Freq.	%
Professional, technical	117	21%
Managers, officials, proprietors	94	17%
Clerical, craftsmen, foremen	85	16%
Skilled laborers, service workers	75	14%
Unskilled laborers	176	32%
	547	100%

volunteered for collective organizations (presence of voluntary activity) and the average number of hours per month the household members volunteered for collective organizations (extent of voluntary activity). Both presence and extent of voluntary activity are used, following Schram and Dunsing (1981). For all three hypotheses, discriminant analysis was used to test the impact of the variables on the presence of voluntarism and regression analysis was used to test their effect on extent of voluntarism. A summary of respondents' volunteer activities is shown in Exhibit 2.

To test the first hypothesis, a socioeconomic status index was calculated for each responding household. Total household income, average educational attainment level of the two household heads and average occupational status level of the two household heads were operationalized categorically on a 1 to 5 scale and were weighted equally to calculate the index. Where income information was not provided (in 17% of cases), only the other two indicators were used. The procedure for calculating SES follows that used by the U.S. Bureau of Census (1963). A summary of this index is found in Exhibit 3. For the second hypothesis, the independent variable was number of children in the household. This ranged from 0 to 6, with the median at 1. To test the third hypothesis, perceived community need was

operationalized using two statements to which respondents indicated amount of agreement on a ten-point scale (10 = strongly agree):

My community needs more volunteers than other communities do.

If more people volunteered, my community would be a better place to live.

The response on the two items for each respondent would be directly related to voluntary activity to support the third hypothesis.

EXHIBIT 2

Voluntary Organizations and Frequencies

Type of Voluntary Organization	% Mentions
Cultural	1%
Civic	7
Professional	2
Church or church-affiliated	34
Hospital, clinic, hospice	6
Public or private school	8
Children's athletic	4
Children's service	4
Blood donation	1
Combined charities	1
Health-related charities	19
Cause and special interest charities	8
Senior citizens	4
Volunteer fire department	1
	100%

EXHIBIT 3

Socioeconomic Status of Sample

Frequencies of SES Scores

Score	Freq.	%	Mean = 2.68
1-1.99	50	16%	
2-2.99	111	37%	
3-3.99	91	30%	
4-4.99	49	16%	
5	2	1%	
	303	100%	

Correlation Matrix of SES Index and Its Components*

	SES	HH Inc.	HH Ed.	HH Occ.
SES	1.000	.706	.878	.836
HH Income		1.000	.490	.337
HH Educational Status			1.000	.612
HH Occupational Status				1.000

*All correlations were significant at $p < .001$.

Results

EXHIBIT 5

The results of the regression and discriminant analyses used to test all three hypotheses are shown in Exhibits 4 and 5. In the regression equation, the first and third hypotheses were only marginally supported while the second was not. Socioeconomic status was directly related ($p = .08$) to number of hours volunteered per month by household, as was one of the perceived need statements, "My community needs more volunteers than other communities do" ($p = .08$). The other two variables in the equation, number of children in the household and perceived need measured by the statement "If more people volunteered, my community would be a better place to live," were not significantly related to hours volunteered.

The discriminant analysis grouped respondents as either volunteers (.5 or more hours volunteered per month by household members) or nonvolunteers (no time volunteered). The predictor variables which best classified respondents were household socioeconomic status and the perceived need item "If more people volunteered ...". The number of children and the other perceived need item were less useful. Some 63% of the cases were correctly classified, based on the discriminant function.

Conclusions

The results indicated that socioeconomic status and perceived need were directly related to number of hours volunteered by household, although the relationships were only marginally significant. The SES relationship generally supports the literature, since the three components used to calculate the index in this study (household income, educational attainment and occupational status) have each been found to be directly related to volunteering (Tomeh 1973; 1981). However, this study contributes further to the literature on

EXHIBIT 4

Results of Regression Analysis*

Predictor	Beta	Signif. of Beta
Perceived need item "If more people volunteered..."	-.020	NS
Number of children in household	.012	NS
SES of household	.104	.08
Perceived need item "My community needs..."	.107	.08

*Independent variable was total hours per month volunteered by household members to collective organizations. Adjusted R^2 for the regression was .01.

Results of Discriminant Analysis*

Predictor	Standardized Canonical Discriminant Function Coefficient
Perceived need item "If more people volunteered..."	.688
SES of household	.663
Number of children in household	.288
Perceived need item "My community needs..."	-.174

*Wilks' Lambda was .8985, significant at $p = .001$.

Classification results

Group	# Cases	Predicted Membership	
		Yes	No
Volunteers	176	116 (66%)	60 (34%)
Nonvolunteers	124	52 (42%)	72 (58%)

63% of cases were correctly classified.

voluntarism since it uses a composite index rather than the disaggregated income, education or occupation data used in other studies and since it focuses on the household rather than individual level of analysis, which would seem more appropriate in the case of provision of collective goods.

The second significant finding, that perceived community need is related to voluntarism, supports in part the utility interdependence hypothesis (Becker 1974): that, the lower the consumption of others in the community, the greater the amount of voluntarism. Empirical evidence in the economic literature has been based solely on actual community need (generally operationalized in terms of income levels). Consequently the findings in this study suggest that more investigation into volunteers', or more generally, philanthropists' perceptions of community need might be warranted.

Hypothesis two was not supported, as no significant relationship emerged between number of children in the household and voluntary activity. This conflicts with the findings of recent studies (Mueller 1975; Schram and Dunsing 1981). However, reanalysis of the data in this research indicated a significant relationship when voluntary activity was defined as hours per month volunteered to child-oriented organizations only (church, school, children's athletic or children's service organizations).

The results of this study do not support some of the tenets of collective action theory (Olson 1973), in that voluntarism is considerably higher among these respondents (59%) than among the U.S. population in general (30%). This result may be peculiar to the Cincinnati sample, or it may also be due to social acceptability bias. Following collective action theory, it might also be explained by the fact that the majority of organizations under study were small, face-to-face groups, which can more readily

utilize social rewards and sanctions to coerce participation.

Two weaknesses in the study should be mentioned. First, the use of a composite SES index has been criticized by a number of researchers, as summarized by Schiffman and Kanuk (1978). Second, a better perceived community need measure is needed. Two Likert scale items were utilized in this study and considered separately rather than aggregated. The fact that one item was significant in the regression analysis and the other item was more useful to classification in the discriminant analysis raises some reliability questions. Moreover, correlation between the two items was significant but low (.22), suggesting that a stronger scale might be developed.

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HOUSEHOLD PRODUCTION APPROACH TO CONSUMER SHOPPING TIME BEHAVIOR

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Abstract

This paper represents an attempt to construct a unified model of shopping behavior by drawing on the households production approach. A formal treatment is presented that takes into account the explicit relationships between consumers' temporal and monetary resources, stage in the family life cycle, their subjective shopping preferences, and shopping behavior. Emerged propositions make the study of time use for shopping increasingly amenable.

Introduction

Time is rapidly assuming a central place in consumer analysis (e.g., Feldman & Hornik, 1981, Jacoby et al., 1976). This development reflects, among other things, the increasing awareness that many consumption activities require the use of scarce resources such as energy, information, money, space, and time. Shopping is one consumer activity which requires expenditures of most of these scarce resources. Of the various resources involved in shopping, time has been researched the least, although in most writings one would find the arguments that a shopping activity is a time-consuming activity (Berry, 1979; Granbois, 1977).

Shopping, traditionally the domain of women, is being assumed to a varying degree by males in a growing number of households. American households spend, on the average, about five hours a week for shopping in about three shopping trips. Sixty-three point four percent of this shopping time is spent by the wife alone, 27% by the husband and wife, and 9.5% by the husband alone (Hendrix, 1978). It has been shown that consumers life cycle explain variations in the time spent on shopping activities (Rich & Jain, 1968). Also, that consumers are likely to spend more time for shopping activities if they place a high value on the benefits to be gained from such an activity relative to the benefits expected for other (nonshopping) activities (Bucklin, 1966).

The intent of this note is to outline a theoretical scheme and formalize the structure in which decisions to allocate time for shopping activities can be understood.

Theoretical Framework

The theoretical based of this paper draws on a modified economic production function model (Etgar, 1978; Gronau, 1977); on the life cycle concept in consumer time behavior (e.g., Landon & Locander, 1978); and the subjective preference propositions in time use studies (e.g., Hornik, 1982). To this end, a formal treatment of dynamic shopping model will be advanced that takes into account the explicit relationships between consumers' resources and their subjective preferences. Such a theoretical structure would seem to bring time use squarely into the spotlight as a determinant of shopping behavior.

The Household Production Function

The household production approach in consumer theory emphasizes the fact that market goods and services are not themselves carrying utility but are rather inputs in a process that generates commodities (or characteristics) which, in turn, yield utility. A second feature is that market goods and services are not the only inputs in this process, the other input being the consumer's time. According to this economic approach (Becker, 1965) the

consumer maximizes utility subject to the time and budget constraints where utility is a function of commodities, which are produced using market goods and time.

This approach was extended to explain consumer behavior in diverse situations such as church attendance (Azzi & Ehrenberg, 1975), demand for health (Grossman, 1972), education (Michael, 1973), and transportation (Gronau, 1970). Such a framework can be used also for considering how consumers may determine their shopping activities.

According to the economic approach consumers will assign values both to the benefits of shopping and the cost of time, effort, and money involved. The extent of the shopping activity (frequency and duration) is thus determined by the marginal rate; shopping continues until the value of an additional unit of shopping is equalled by its cost. Individual differences occur because consumers differ in their value of time, which is thought to be subjectively valued according to the opportunity cost rule--the greater the number of activities competing for a unit of time, the greater its value. Time is further valued by its relationship with income, to the extent that time and money can be thought of as, at least partly, substitutable resources. For this reason the value of time becomes greater as one's income increases and the value of the next (marginal) dollar decreases.

Models of household production also recognize that the value of time changes for a household at various stages of its life cycle, and these changes include substitution toward relatively cheaper input factors of production. When income, and consequently the value of time, is relatively high, the individual works more, has less free time for shopping, and generally behaves in ways which conserve time and use money relatively intensively.

The Household Life Cycle

In their study of time as a measure of household productivity, Walker & Woods (1976) noted that household production changes over time within a given family. "The family is not a static entity but goes through stages of growth and contraction, with each stage requiring a different 'mix', quantitatively and qualitatively, of goods and services to meet the needs of family members" (p. 8). Therefore, by knowing the life cycle stage of the household, it would be possible to predict how much time would have to be spent to produce the goods and services a family needs to function as a unit (Ferber & Biranbaum, 1977).

Family life cycle (FLC) appears to have much potential for explaining time behavior because it is both multidimensional and dynamic (Landon & Locander, 1978). Its multidimensional nature is attributed to the fact that FLC is a composite of several important demographic variables. FLC is dynamic because it accounts for the changing family needs and structure over time. Arndt & Gronmo (1977) in their treatment of time in shopping behavior explicitly recognize the importance of FLC as a determinant of time devoted to shopping activities. In addition, they speculate that shopping may satisfy various consumers' subjective needs such as diversion, self-gratification, and social interaction.

Subjective Preference

Time in the household production function literature is

only important as a scarce input which must be allocated among alternative activities. The tangible outputs of these activities comprise the arguments of the household utility function (Gronau, 1977). Therefore, the pattern of time allocation for consumers influences shopping activities only through the production and consumption of commodities, not through derived gratifications from shopping activities themselves. Robinson (1977), using a measure of satisfaction derived from activities said (p. 191): "We suspect that even daily routine evolved from a process in which individuals selectively find those activities that are psychologically rewarding and arrange their lives in such a way that participation in these activities can be scheduled more frequently."

Shopping trips may involve gratifications that are beyond the primary functions of search and exchange. Some motives for shopping include diversion and recreation, self-gratification and reward, learning about new trends, physical activity or exercise, and sensory stimulation, as well as the satisfaction of performing an activity seen as an integral part of one's role (Granbois, 1977). Social motives involve social experience such as, encounters with friends and watching other people, communication with others having a similar interest, peer-group attraction (such as teenagers find in record stores), the opportunity to command attention and respect by being "waited on", and the pleasure derived from bargaining (Tauber, 1972). An implied proposition here is that shopping activities may well be perceived and valued differently by different consumers depending on their subjective preferences and whether the activity is felt to be one of only immediate gratifications, or rather one of "investment" in some long-term socio-psychological fulfillments. Moreover, different shopping activities have different functions and characteristics and therefore, might correspond to different temporal behavior.

The Basic Model

The proposed model rests on the theory of choice under uncertainty. A central proposition in the theory is that if, in a given period, two activities are mutually exclusive, one will choose between them by comparing their expected utilities. This proposition suggests that consumers spend shopping time as if they were to maximize their expected utilities subject to environmental constraints and personal limited resources. It is further assumed that consumer confronted with choice situations behave as if they sort out and arrange their preferences, which, in turn, direct their choices. Thus, this assumes a quasi-concave utility function:

$$U_1 = U(Z_1, Z_2, \dots, Z_t, \dots, Z_n, e) \quad [1]$$

Where Z_t represents peoples consumption in period t , and e the expected value of a shopping activity. It is assumed that the individual consumer knows his/her current and future market wages, which are taken as pre-determined in the model. Consumption in period t is expressed by the production function which transforms the consumer's purchases of a composite market good x and the time allocation h to consumption into units of the final consumption commodity (Z). The function is assumed to be the same in each period and to be continuously differentiable and concave:

$$Z_t = Z(x_t, h_t) \text{ for all } t \quad [2]$$

Expected benefit of shopping activities are assumed to be continuous differentiable, concave function of the time spent in shopping (h'):

$$e = e(h'_1, h'_2, \dots, h'_n) \quad [3]$$

Let p stand for the price of the market good in any period of time, w for the wage rate in period t , i for

a constant market rate of interest, v for other (non labor) sources of income in each period, and l for hours of work in t . Assuming that the consumer intends to leave no estate, his lifetime discounted income constraint is given by:

$$\sum_{t=1}^n [px_t / (1+i)^{t-1}] = \sum_{t=1}^n [(v+w_t l_t) / (1+i)^{t-1}] \quad [4]$$

If T is the stock of time available per period, the consumer's time constraints is given by:

$$T = h_t + h'_t + l_t \quad [5]$$

where $h_t, h'_t, l_t \geq 0$ for all t .

The preceding comprise a well-defined maximization problem. The production function can now be substituted into the utility function [1] to yield a composite function, and the time constraint can be solved for l_t and substituted into [4] to yield a "full-wealth" constraint. Taken together the functions allow the use of the Lagrangian function for the problem:

$$L_1 = U[Z(x_1, h_1), Z(x_2, h_2), \dots, Z(x_n, h_n), e(h'_1, \dots, h'_n)] + \lambda \left\{ \sum_{t=1}^n [px_t / (1+i)^{t-1}] - \sum_{t=1}^n [(v+w_t l_t) / (1+i)^{t-1}] \right\} \quad [6]$$

substituting the time constraints results in

$$L_1 = U[Z(x_1, h_1), \dots, Z(x_n, h_n), e(h'_1, \dots, h'_n)] + \lambda \left\{ \sum_{t=1}^n [px_t / (1+i)^{t-1}] - \sum_{t=1}^n [(v+w_t (T-h_t-h'_t)) / (1+i)^{t-1}] \right\} \quad [7]$$

The first order condition require that at the optimum

$$\frac{\partial e}{\partial h'_t} = W_t \text{ for all } t \quad [8]$$

If it is assumed that the consumer faces constant wage rates over lifetime, the first-order conditions require that at the optimum:

$$\frac{(\partial e / \partial h'_t)}{(\partial e / \partial h'_{t-1})} = (1+i)^{-1} \text{ for all } t \quad [9]$$

Life Cycle

The condition above requires that consumers reallocate their time toward shopping activities with advancing age. If, for a consumer, the marginal product of an additional unit of time for shopping is the same in period $t-1$ and t , when he/she devote the same amount of time to shopping activities during the two period, then equation [9] implies that the number of time units per period allocated to shopping increases with age.

Empirical studies report a distinctive curve of shopping associated with FLC (Rich & Jain, 1968). In the early family years (newly married), shopping time is generally low, rising during middle years (full nest), and declining later FLC (empty nest). The explanation has been that in early FLC consumers are unsettled, mobile, no children, etc. Advanced age, on the other hand, brings fatigue and social withdrawal that lower the rate of shopping activities. More shopping time comes with extended residence, home ownership, children in school, etc. (granbois, 1977).

The discussion so far is based on the assumption that

one's wage rates are constant over lifetime. However, if for two adjacent time periods a consumer's wage rate varies, equation [9] becomes:

$$\frac{(\partial e / \partial h_t^*)}{(\partial e / \partial h_{t-1}^*)} = (w_t / w_{t-1}) (1+i)^{-1} \quad [10]$$

Thus, all other things equal, the more rapid the rate the rate of wage increase, the slower the rate at which units of time allocated to shopping activities will increase with age. In other words, when consumers' marginal costs of investing in shopping activities rise less rapidly with age, they will allocate more time to shopping.

The effect of a change in nonlabor income on shopping can also be calculated under the conditions of optimality; an increase in nonlabor income leads to an increase in the time allocated to shopping, that is $\partial h^* / \partial v > 0$.

The Gratification Effect

While the preceding analysis has been simplified by ignoring subjective consumer preferences among shopping activities and gratification derived from such action, the following utility function takes these into consideration expressed by:

$$U_2 = U_2 (Z_1, s_1, \dots, Z_n, s_n, e) \quad [11]$$

Where s_t is the subjective consumption value of shopping activities in period t . The function is assumed to be continuous concave, and to represent the consumer's time allocation to shopping during the period:

$$s_t = s_t (h_1^*, h_2^*, h_n^*) \text{ for all } t. \quad [12]$$

By way of substitution we obtain:

$$L_2 = U_2 [Z(x_1, h_1^*), s_1(h_1^*, \dots, h_n^*), \dots, Z(x_n, h_n^*), s_n(h_1^*, \dots, h_n^*)] + \lambda \left\{ \sum_{t=1}^n [px_t / (1+i)^{t-1}] - \sum_{t=1}^n [v + w_t (T-1 - h_t) / (1+i)^{t-1}] \right\} \quad [13]$$

Clearly, the previous implications concerning the impact of wage rate and nonlabor income on shipping time remains unchanged. However, the implication of equation [10] with respect to intertemporal allocation of time to shopping is given by:

$$\frac{[(\partial U / \partial s_t) (\partial s_t / \partial h_t^*) + (\partial U / \partial e) (e / h_t^*)]}{[(U / s_{t-1}) (s_{t-1} / h_{t-1}) + (U / e) (e / h_t^*)]} = [(w_t / w_{t-1}) (1+i)^{-1}] \text{ for all } t. \quad [14]$$

That is, even if a consumer faces a constant wage rate during the two periods, there may no longer be any reason for proposing that shopping time should increase with FLC because of the subjective elements in the activities. However, if the expected value of the activity is significantly more important than immediate satisfaction, the previous implications would hold. Formally this requires $\partial U / \partial e$ to be substantially larger than $\partial U / \partial s$ for all t . Thus, factors which increase the current gratifications that consumers derive from a shopping activity would lead to an increase in the time allocated to shopping.

This paper presented a formal model of consumers use of time for shopping. Drawing primarily on the production function approach, the paper treats the cost of time as the costs of market goods in a model of choice. By viewing time as a resource, an intertemporal utility maximization model was developed which includes propositions concerning the optimal allocation of time and the shape of shopping activities throughout the FLC. Whereas some of the model's implications are congruent with the more recent empirical evidence (e.g., Arndt & Gronmo, 1977), others call for a more critical examination of short-term changes in time spent for shopping. Thus, one of the model's implications is that, all other things equal, the more rapid the rate of wage increase, the slower the rate to which time allocated to shopping activities will increase with age. Even if the consumer faces a constant wage rate during two or more periods of time there is no compelling reason to suggest that shopping time should increase with FLC because of possible variations in immediate gratifications derive from the activity. This suggests that wage-earning profiles rather than cross-sectional comparisons of income might be better predictors of the amount of shopping time. In fact, the model predicts that consumers facing an upward-sloping age-earning profile will decrease the time intensity of their shopping activities over the course of their life cycle. This could be achieved, partly, by reallocating their time toward less time-intensive forms of shopping. In other words, consumers may substitute more time intensive shopping activities for less time intensive ones. They may, overtime, adopt a whole new set of shopping behavior as shopping technology enables them to derive the same basic set of shopping benefits with less time and more money. For example, to replace conventional food stores with in-home shopping (Cunningham & Cunningham, 1973), use convenience store (e.g., 7-eleven), patronize less crowded stores (Berry, 1979), switch to catalog and/or mail order shopping, or even use personal "errand" services ranging from shopping for parties to picking up consumers' dry cleaning.

Conclusions

The model presented here was intended to serve two functions. First, to highlight some of the temporal dimensions in shopping activities. Second, to serve as a catalyst for future research in related subjects.

Additional insight is necessary in order to determine the generalizability of the model to different shopping situations. As noted earlier, some shopping activities provide basically immediate benefits in the form of search and exchange. Others contain more enduring socio-psychological gratifications. For example, shopping for soft goods such as clothing and yard products seem to be relatively more involved and provide some of the mentioned socio-psychological elements. On the other hand, food shopping offers less psychological gratifications but a means of acquiring needed economic resources and therefore requires more frequent but shorter shopping trips. Also, to gain insight into the "window shopping" phenomenon where time spent, at least partially, is to search for market information.

More ambitious endeavors, such as the estimation of the household production function and the value of different shopping activities might be advanced. Given the right data, it is hoped that this model will facilitate their realization.

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INFORMAL RETAILING: AN ANALYSIS OF PRODUCTS,
ATTITUDES, AND EXPECTATIONS

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Abstract

This research was designed to examine consumer involvement with flea markets, an informal retailing institution, which are considered to be part of the underground economy. The paper reports the results of over 600 interviews with shoppers at 15 flea markets. The authors concluded that "heavy" shoppers at flea markets considered the flea market to be an enjoyable place to shop, offering a wide assortment of goods; while "light" shoppers had both product and ethical reservations about flea markets.

Introduction

Over the past several years economists have explored the phenomenon of the underground economy from a variety of perspectives. Although there seems to be almost as many definitions of the underground economy as there are researchers, there appears to be some agreement that the underground economy is that part of a nation's Gross National Product which should have been measured but is unmeasured, untaxed, or both. For example, do-it-yourself projects constitute economic activity but should not be measured for GNP, and are therefore not part of the underground economy. While tip recipients may underreport their income for federal income tax purposes, the Bureau of Economic Analysis uses a ratio of reported tips to actual tips to estimate tip income for the National Income and Products Accounts (Pearl and McCrohan 1983). Therefore it is measured but untaxed and part of the underground economy. Off-the-books earnings of a self-employed house painter should be part of GNP but would be difficult to measure and even more difficult to tax and would be part of the underground economy.

Most of the estimates used to measure this underground activity have of necessity been indirect. That is to say, they have used other measures as the basis for their underground economy measure. Those that have been direct have been concerned with dollar measurement or share of production rather than consumer behavior. This paper extends these measures to the consumer level. Whereas the research which is discussed in the next section established that an underground economy of some magnitude existed, this paper explores one small market segment in some depth. The following sections of the paper discuss some of the major studies conducted on the underground economy, the limited research that deals with informal retailing, the present study, and finally presents some conclusions from the preceding analysis.

Estimation Methods

The most widely used classification scheme for differentiating between the various estimates of the underground economy is to identify them as either direct or indirect measures. Direct measures are based on contract with, or observation of, individuals involved in underground economic activity, while indirect measures use some other indicator to point to this underground activity (Carson 1984).

Direct

The direct approach attempts to measure underground economic activity by piecing together the components of this economy. Studies using this method are in affect microeconomic in nature as opposed to the indirect approach which has a more macroeconomic orientation. Perhaps the most comprehensive of these is the Internal Revenue Services' research on income tax compliance (IRS 1983). This report measures the unreported legal sector income of income tax filers, non-filers, and illegal sector income from narcotics, illegal gambling and prostitution. They estimate that this unreported income totaled some \$284 billion in 1981. Simon and Witte (1982) used a similar approach and estimated that \$100-\$177 billion evaded income taxes in 1974. Skolka (1983) studied the extent of moonlighting and do-it-yourself activities in two areas of Austria and concluded that a significant share of construction cost, 30 to 40 percent, was earned, or saved, by these two groups of workers.

Indirect

In an excellent recent article Frey and Pommerehne (1980) classify the indirect measures into four categories. The first uses the difference between national account estimates of national income and expenditures against income estimates from tax returns. After adjustments for coverage any "unexplained difference" could represent the underground economy. Park (1979) estimated this difference to be \$82 billion for the United States in 1977.

Tax auditing techniques can also provide insight into the underground economy. Although the Internal Revenue Service does not favor the term underground economy they estimate that unreported legal source income was some \$250 billion in 1981 (IRS 1983).

Traces of underground activity in the labor market have been used by O'Niell (1983) to estimate an underground economy of \$154-349 billion for 1981. Finally, the monetary approach has been used by Gutman (1977) and Feige (1979) to derive underground economy estimates of \$176 billion and \$330 billion, respectively for 1976.

These very different analytical methods provide some indication of the magnitude and complexity of the underground economy.

Market Specific Research

While the concept of an "underground economy" has received a fair amount of attention at the macro economic level there is a dearth of research on its market specific impact. Greenberg, Sherman, Topol, and Cooperman (1980) studied the extent of street vending in New York City. They estimated aggregate sales of such vendors to be \$113 million in 1979. Mooney (1981) noted that large retailers are effected by the "underground economy" because there appears to be more business available than prior relationships based on reported income would indicate. This can result in incorrect sales projects and less than optimal site selection. Dolde (1981) also noted that the existence

of an "underground economy" increased the difficulty inherent in estimating market potential for appliances. Neither Mooney nor Dolde presented any estimates of the magnitude of the underground sector affecting their firm's operations.

Smith (1982) estimated the amount of informal supplier (entrepreneurs in the underground economy) receipts by measuring the value of household purchases from such vendors. His research identified fifteen broad classes of goods and services purchased by consumers from informal suppliers. These ranged from \$12.2 billion in home repair and additions, through \$1.7 billion for goods purchased, to \$3.3 billion for informally supplied catering services.

The Flea Market

This current research explores the flea market sector of the informal supplier market. Flea markets are a fascinating retailing institution that at first appear to be definitely out of sync with the twentieth century. In an era of the universal product code, stringent consumer protection regulations, shopping malls that resemble Hyatt Hotels, and telemarketing it is of more than academic interest to explore the motives of these consumers. One would expect flea markets in feudal Europe or parts of the present day middle east, not in major metropolitan areas of the United States. Nationally the amounts spent in flea markets are far from trivial, totaling some \$1.7 billion in 1981 (Smith 1982).

Even before the underground economy became a topic of practical, political, and economic interest, flea markets had attracted some attention in the social science literature. Pyle (1971) studied the persistence of farmer's markets as an alternative distribution system for agricultural products. The continued strength of this institution was explained by its social value, ability to serve the needs of both producers and consumers, and its economic advantages. The study concluded with the observation that flea markets offered a similar set of benefits to participants. Maisel (1974) also noted that the flea market was as much a place to socialize as it was a place to facilitate the informal exchange of goods.

Bellenger and Korgaonkar (1980) compared recreational shoppers (those consumers who enjoy shopping and consider it a leisure activity) with economic shoppers (those who are basically neutral to or dislike shopping and view it from a strictly time or money-saving perspective). Although they did not examine them in a flea-market context, their results indicate that recreational shoppers exhibit different preferences and are an especially profitable consumer segment.

Trinka (1980) investigated the price awareness of buyers at flea markets. He found comparatively low price awareness on the part of consumers and suggested that the chaotic nature of flea market transactions may cause this. Razzouk and Gourley (1982) found that most flea market shoppers had previously purchased products at the same flea market. They also found very little dissatisfaction with the products purchased. Consumer motives for shopping at flea markets were found to involve the search for bargains, the fun of being around people and just browsing, and the assortment of merchandise available.

The preceding review of the limited research dealing with flea markets indicated that consumers view shopping at flea markets to provide economic (lower prices), shopping (assortment of goods and proven satisfaction), and social (the bargaining process or the enjoyment of other shoppers company) benefits.

Data Gathering

Data for this research were drawn from a survey of flea market customers who were interviewed on a random basis by interviewers at 15 major flea markets located in suburban communities adjacent to a large Northeastern city. Within the context of the present research, a flea market was defined as organized market where vendors bring a wide variety of goods to sell. A total of 681 questionnaires were distributed during April, 1983. Of this number eleven respondents did not make even a single purchase. These respondents were eliminated, leaving a total effective sample of 670.

Questionnaire and Measurement Variables

The questionnaire used to generate the data for this research consisted of four major sections that relate flea market shopping behavior to household expenditure levels at flea markets.

Household Expenditure Levels. The first section asked questions about the type and amount of purchases made at flea markets during the past year. Questions about method of payment were also included. In this section subjects were asked to indicate whether or not they had purchased any of the following products at a flea market: appliances, antiques, housewares (e.g., china, glassware, and silverware), furniture or rugs, lawn mowers or maintenance tools, and small appliances. They were also given an opportunity to add other purchases.

Shopping Behavior. The second section of this questionnaire dealt with shopping behavior of respondents. Particular emphasis was placed on questions dealing with economic motives such as selecting the cheapest brand, selecting the brand on sale, or choosing a nationally advertised brand. Other questions dealt with any increase or decrease over the preceding years expenditures at flea markets; and, finally, returning to the same vendors before checking any new ones.

Positive and Negative Disposition Attitudes. The third section of the questionnaire probed both positive and negative aspects of shopper attitudes about flea markets. Fourteen questions were asked to explore the advantages and disadvantages of flea market shopping. If respondents indicated that they would shop "more" or "less" at a flea market in the future, additional questions were asked concerning their agreement or disagreement with a number of statements about flea markets in general.

Hypotheses

Several hypotheses were generated from the literature on flea markets and from the consumer behavior literature in general. In order to compare the relationship between expenditure levels at flea markets, and shopping behavior, attitudes towards flea markets and expectations, the following hypotheses were developed:

H₁: Risk reducing flea market shopping behavior would be positively related to expenditures at flea markets.

It is suggested that flea market shoppers would buy nationally advertised brands or the brands on sale, but not the cheapest brand. They would also return to vendors they had previously dealt with. This shopping behavior may reduce the risk shoppers may feel at flea markets.

H₂: Favorable (negative) attitudes towards flea markets would be associated with higher (lower) expenditures at flea markets.

Those shoppers who have favorable attitudes towards flea markets, such as those who perceive friendlier service, or pleasurable experience shopping for bargains, will tend to spend more at flea markets. Those shoppers with more unfavorable attitudes towards flea markets, such as those who perceive poor quality, or the possibility of stolen merchandise, will tend to spend less at flea markets.

H3: Expectations concerning additional future shopping at flea markets would be positively related to present expenditures at flea markets.

Shoppers who are currently "heavy" buyers at flea markets will plan to purchase more at the flea markets next year, while those who are currently "light" buyers at flea markets will anticipate spending less or the same in the future.

H4: Flea market shopping expenditure levels would be positively related to shopping with friends.

Those buyers who shopped with friends would tend to spend more, possibly because of the "social" aspect of shopping than those who shopped alone.

Results

Respondents reported that jewelry, toys, and clothing were the product categories most frequently purchased. As Table 1 indicates, approximately 93 percent of the respondents had purchased jewelry, toys or clothing at a flea market during the preceding year. Small appliances and china or kitchenware were purchased by approximately 20 percent of the respondents. Other product categories worth noting are: cosmetics (3 percent), pictures and postcards (2 percent), and linens (1 percent).

TABLE 1
Total Expenditures by Category

Variable	Mean (\$)	# of Respondents	Total (\$)
Appliances or antiques	90,448	116	10,492
China or kitchenware	57,342	117	6,709
Furniture or rugs	92,493	73	6,752
Jewels, toys, clothes	165,879	585	97,039
Lawn mowers or tools	62,241	58	3,610
Small appliances	40,488	123	4,980
Other things	52.5	279	14,667
<u>Specific other category</u>			
Accessories	3,941	307	1,210
Books and Maps	0,503	310	156
Household Items	4,477	302	1,352
Cosmetics & Toilet	6,875	297	2,042
Pet Supplies	0,845	310	262
Food & Candy	8,090	300	2,427
Misc.	2,479	305	756
Car Products	0,274	310	85
Sports Equipment	0,648	310	201
Records Tapes Video	4,223	309	1,305
Linens	1,534	307	471
Pictures & Posters	1,495	309	462
Stationery	0,408	309	126
Plants & Flowers	1,683	309	520
Total flea market exp.	235	670	15,705

NOTE: 92.8% of households had purchased jewelry, toys, or clothing in the preceding year, 20.3% had purchased small appliances, 18.9% had purchased china or kitchenware, 18.6% appliances or antiques, 11.3% had purchased furniture or rugs, 9.5% had purchased lawnmowers or tools, and 45.5% had purchased a variety of other products.

It is possible that logistical considerations, rather than consumer preference, dictate this product assortment. Specifically, interviewers noted the apparent vendor preference for small easily transported high turnover items. While not concerned with turnover consumers do appear to have a preference for small easily carried items. An overwhelming majority (91 percent) of the respondents reported that they always paid for their purchases with cash. This may be related to a desire on the part of the vendor to avoid paying the various taxes due, or it may be due to the size of the average purchase, or a desire to avoid bad debts.

The results of this study are summarized in Table 2.

TABLE 2
Chi-Square Analysis of Variables Cross-Tabulated with Flea Market Expenditure Levels^a

Variables	χ^2 Value	Degrees of Freedom	Level of Significance
<u>Shopping Behavior</u>			
Selection of a nationally advertised brand*		Not significant	-
Buying the brand on sale if there is one*		Not significant	-
Shop with a friend*		Not significant	-
Avoidance of the cheapest brand*	9.7	4	.0456
Returning to the same vendor previously bought from before checking a new vendor**	17.2	4	.0018
Spent more at flea markets this year than preceeding year**	29.0	4	.0001
<u>Favorable Attitudes^b</u>			
Products sold at low prices		Not significant	-
There is a good selection	6.8	2	.0339
Products are of good quality		Not significant	-
There is no waiting for delivery		Not significant	-
There is friendlier service	16.5	2	.0003
There are no taxes to be paid		Not significant	-
It's fun shopping for bargains	20.8	2	.0001
<u>Unfavorable Attitudes^c</u>			
Products cost more than they are worth		Not significant	-
There is a poor selection		Not significant	-
Products are of poor quality	10.0	2	.0067
There are no guarantees	7.9	2	.0196
There are no returns allowed	12.3	2	.0021
The products may be stolen	18.8	2	.0001
The vendor may not pay required taxes	14.6	2	.0007
<u>Expectations</u>			
Expect to buy more or less in next year**	30.8	4	.0001

^a The expenditure levels were: \$2-\$65, \$66-\$197, and \$198+

* Based on a three point scale: never or rarely, sometimes, most or always

** Based on a three point scale: less, same, none.

b/c Based on a dichotomy: agree and disagree.

*** Based on a dichotomy: agree and disagree.

Shopping Behavior

The hypothesized links between expenditure levels and shopping behavior and attitudes are presented. The results were mixed, with certain items significantly related to higher or lower expenditure levels.

In testing hypothesis 1 -- that risk reducing flea market shopping behavior would be positively related to expenditures at flea markets -- the results were mixed. Neither the selection of the nationally advertised brand nor buying the brand on sale are significantly related to expenditure levels. However, a significant relationship is found between higher expenditures and the buyers who return to vendors where they had previously shopped. Avoidance of the cheapest brand was significant. This lack of a significant relationship with popular brands was not expected in that it was hypothesized that the "risky" nature of flea market transactions would result in consumers using indicators such as brands to minimize the risk.

Favorable Attitudes

Hypothesis 2 was supported in that there was a link between several favorable attributes of flea markets and higher expenditures. The results strongly indicate a positive relationship between those who agreed that there were several advantages to shopping at flea markets and current expenditure levels. Those spending more thought it was fun to shop for bargains, that there was friendlier service, and they were pleased with the selection of products offered. Although it was not significant at the .05 level there was a positive relationship between expenditures and the perception of flea markets as places that offered low prices.

Unfavorable Attitudes

Also supporting hypothesis 2, the results reveal that those respondents who viewed several factors as being disadvantages of flea markets spent less money shopping at flea markets. Disadvantages such as poor quality, lack of guarantees, and the lack of return privileges were all negatively associated with expenditure levels. Concern that the products may have been stolen or that the vendor may not be paying required taxes were two other attributes that were negatively associated with expenditure levels. However, concerns over product selection or cost were not associated with expenditure levels.

Expectations

Supporting hypothesis 3 that expectations concerning additional future shopping at flea markets would be positively related to present expenditure levels, the findings indicate that those who expected to purchase more goods at flea markets in the upcoming year had significantly higher current year expenditures. Respondents were also asked if they intended to purchase more, the same, or less at flea markets in the upcoming year. Most (44 percent) expected to purchase more while only 11 percent expected to purchase less.

Shopping with Friends

The finding did not support hypothesis 4 that those buyers who shop with friends will purchase more at flea markets than those shopping alone. Therefore, although certain favorable aspects of flea market shopping are linked to higher expenditures, such as "it's fun to shop for bargains," the size of the shopping group, when comparing one, or two or more shopping, did not influence shopping expenditures. The notion that some level of risk of purchase decisions at flea markets would be reduced by shopping with two or more people was not supported.

Conclusions and Implications

This study is considered exploratory in light of the few attempts to study this retailing phenomenon. Therefore it has several limitations in terms of generalizability to a larger population. The possibly overwhelming cost and methodological difficulties that would be encountered in an attempt to generate a random sample of flea market customers dictated the use of intercept interviews at major flea markets within the sampling area. Smith (1982) had estimated that less than 20 percent of U.S. households purchased products at flea markets. Therefore, estimates of regional or national expenditures are not possible. The interviewing environment itself appeared to be more amenable to generating attitudinal and behavioral information concerning attitudes towards flea markets rather than a precise estimate of expenditures.

With these caveats in mind the following conclusions and implications can be drawn from the results.

These results suggest that the perceptions that consumers have about flea markets are associated with their patronage behavior. Those that agreed with statements reflecting more positive attitudes towards flea markets, such as "there is a good selection of products" tended to spend more money. However, results were mixed, since several other items such as "products sold at low prices" were not found to be significant. The desire to explore some of the attributes associated with retail patronage sheds light on those factors consumers consider important. Thus, respondents with positive predispositions view flea markets as places with friendlier, more personal service; where they can have fun shopping for bargains. These traits suggest that "heavy" flea market shoppers are likely to be recreational shoppers. As Bellenger and Korgaonkar (1980) indicate, recreational shoppers enjoy shopping as leisure-time activity, and are a profitable consumer segment. Thus, the results indicate that flea market vendors may find it profitable to actively pursue this shopper and seek ways to satisfy their needs.

Among those shoppers who held negative attitudes towards flea markets concerns were voiced with both product related and ethical issues. However, these consumers did not express a concern over prices but rather quality, selection, guarantees, and return privileges. This apparent lack of concern with price is consistent with Trinkus (1980), who had found a low level of price awareness among flea market shoppers. It is possible that vendors will begin to react to some of these non-price issues and the flea market may evolve into a more "formal" retailing institution.

"Light" shoppers at flea markets expressed reservations with the source of the products (were they stolen goods), as well as the possibility that the vendor was avoiding paying the required taxes. These may be valid concerns and could be used as a theme for jurisdictions attempting to demarket consumer use of flea markets.

These concerns also suggest a need for additional more theoretical research investigating the possible influence of the level of perceived risk on patronage behavior at flea markets. Prior research including Hirsch, Dornoff and Kernan, 1972; Cox, 1967; Korgaonkar, 1982, expanded the relationships between level of risk and various patronage aspects. Purchasing at a flea market can be perceived as involving more risk and less guarantees. These perceptions might be inhibitions for shopping at flea markets, despite the lower prices.

The results of the present research also suggest that future growth in flea market shoppers is more likely to come from additional purchasing from established

customers. The customers who spend more "heavily" at flea markets now, also are those who plan to spend more next year.

In support of other studies on the underground economy which have identified the existence and growth of this form of informal retailing, the present study also found a vibrant market place and suggests growth. In our sample, an average household spent approximately \$240 at flea markets during the preceding year. Households which spent the most also expected to increase their expenditures at flea markets. Certainly the present and future receipts of vendors will be difficult to tax because of the overwhelming use of cash in the transactions. It is also interesting to note that although concerns over stolen goods and vendor tax avoidance resulted in some consumers purchasing less at flea markets, it did not stop them from shopping at the flea market or making purchases while there.

The preceding discussion suggests the need for further research on the flea market and its impact on other forms of retailing. For example, the present study has concentrated on consumer attitudes towards flea markets as they relate to household consumption levels. Future studies may explore the organization of the flea markets, the vendors, and the public policy tradeoffs of an institution that is uniquely organized to allow for the avoidance of administrative and legal business obligations but can also provide subsidized entry into the formal economy. The subsidy in this situation being the ability to avoid some operating costs and tax payments.

It would also be advisable that future research investigate the behavioral and socioeconomic characteristics of the flea market shopper. It is possible that formal retailers could modify some of their present merchandising practices to appeal to this group.

Still further, an interesting avenue for future research would be to compare the buying decision process of flea market consumers with those who do not patronage flea markets. This investigation could have applications for both flea market vendors and other types of retailers in planning future retail strategies.

Finally, further research is needed in such areas as the "image" of flea markets, issues related to patronage effects of various merchandise and service shortages, and the relationship between changes in perception of flea market attributes and possible changes in customer patronage behavior.

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FINAL FOOD CONSUMPTION LEVEL BASED ON EXPENDITURE AND HOUSEHOLD PRODUCTION

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Abstract

This article gives a description of the volume of expenditure on food and appliances and of household production relating to food and meal preparation in different households. It summarizes money and labour inputs into one unit and examines how this total figure, the final food consumption level, differs in various types of households. For this purpose available Dutch money budget and time budget survey data from 1980 have been analysed via cross-section.

Introduction

In order to provide for their needs of food consumers spend a certain amount of money (on food and appliances) and perform a certain amount of household production (shopping, food and meal preparation). There are not many consumers in industrialized countries who can indulge themselves in always eating out and there is no opportunity for all to grow one's own food. In a Dutch household on the average 21% of all expenditure and 35% of the total household production is spent on food consumption. In The Netherlands circa 2.5 million unpaid labour years are spent by all households on household production relating to food consumption. At an estimate the share of this unpaid labour input varies from 26% to 33% of the Gross National Product and from 29% to 40% of the National Income (calculated from figures as described by Bruyn-Hundt, 1983).

Mostly the food consumption level is measured by the expenditure on eating and drinking, overlooking the foods and meals prepared by the households themselves. The aim of this article is to indicate the differences in the food consumption level between different types of households, including consumption of self produced goods and services. This level will be referred to as "final food consumption level", and is defined as the sum of money and labour inputs.

"Money input" refers to the summarized expenditure on food and appliances. "Food" includes all products and services relating to eating and drinking at home and out of the house. "Appliances" include purchasing costs of crockery, cutlery, tableware, kitchen utensils, small and major household equipment used in meal preparation.

"Labour input" refers to the volume of unpaid household production relating to meal preparation, expressed in number of hours, or in guilders by means of multiplication by a price or wage component. "Meal preparation" includes all activities relating to food shopping (including food fetching from snackbar, Chinese take-out, transport and waiting, putting purchases away) and preparation of meals (sandwiches/hot meals, baking, including laying and cleaning the table, washing up).

In this article the following two questions will be examined:

1. what is the volume of expenditure and household production spent on food consumption in different types of households?
2. what is the distribution of the final food consumption level between different types of households?

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Background information

Expenditures on food and appliances

The Dutch situation cannot, of course, be directly compared with that in other countries; in particular where possibilities of eating-out and growing one's own food are concerned, differences in expenditure will exist. However, results from Dutch budget surveys (f.e. Smits 1982) about the influence of the size and life cycle of the household agree with what has been described elsewhere (f.e. U.S. Department of Labour 1983 and Uusitalo 1979).

From budget surveys the following is known about the expenditure on food and appliances:

- the total expenditure on food increases with the size, the life cycle and the income of the household;
- the share of food in the total expenditure pattern is smaller with higher income;
- with larger households, the expenditure on food per person is smaller (independent of income level);
- one-person households consume a relatively large amount of food out of the house (in the Netherlands, below the age of 65 more than a quarter of their total expenditure on food);
- households without children devote a somewhat lower share of expenditure to the sum of food and appliances than households with children;
- summarized expenditures on food and appliances vary with the life cycle of households; older households spend relatively more per person than younger households (except 65+ households);
- summarized expenditures on food and appliances per person are slightly lower in households with a low income than in households with a high income;
- the expenditure on appliances increases with the size of the household and the level of income (in Dutch households its share forms about 4% of the total expenditure on food i.e. as far as purchasing costs are concerned; fuel and depreciation costs are excluded).

Household production relating to meal preparation

A method frequently used to measure the volume of household production is the time budget survey. As in all survey methods this also has some serious limitations inherent in the commonly used techniques for collection of time use data (see Ås 1982; Walker 1980, p. 127-129; Aldershoff et al. 1983, p. 5).

On the basis of results from time budget surveys the following conclusions can be drawn on the labour input in household meal preparation (Walker & Woods 1976, p. 69-75; Sääntti et al. 1982; Aldershoff et al. 1983, p. 18, 61):

- the total time spent increases with the size and the life cycle of the household;
- with larger households, the time spent per person is smaller (independent of income level);
- lower income groups spend a little more time than higher income groups (regardless of household type);
- household production of meals varies with the life cycle of the household; older households spend relatively more working hours than younger households;
- the number of working hours per person in households with a low income is slightly higher than in households with a high income;

higher income groups have in general more household equipment at their disposal (regardless of household type); appliances can result in higher time productivity, leading to an increased output, which does not necessarily result in net time saving (Gershuny, 1982) (except for the dishwasher).

Measurement of final food consumption level

Economic evaluation of household production

In order to bring the money and labour inputs under one denominator, both quantities must be expressed in the same unit. Since expenditure is expressed in money and the labour input mostly in time, the core of the problem is to find a suitable price or wage component to express both inputs either in money or in time. There is no ready-made solution to the choice of a particular price or wage component. This is inherent in the nature of the problem. After all, if household production were to be performed for payment (thus took place via direct market transactions), then it would not be what it is today, the structure of households would be different and so would the economic and social balance (Chadeau & Fouquet, 1981: 43). The unpaid labour input in the household (expressed in the number of working hours) can be assigned an imputed value via two different approaches:

1. As a "forgone wage" or "opportunity cost of time" for the members of a household; that is to say, what income would they have been able to earn on the paid labour market instead of performing the household production themselves? Thus this refers to an estimated net income exclusive of tax and social charges.
2. As a "forgone expense" or "saved expense" for the members of a household; that is to say, what costs has one saved by performing the unpaid household production oneself instead of buying market services or instead of letting someone else do it for payment?

Thus this refers to estimated gross expenditure or gross wages inclusive of social charge and holiday allowance.

For both approaches numerous monetary measures are conceivable and are also used in research, each with certain advantages and disadvantages. (It does not come within the scope of this article to go into this in depth; see further Goldschmidt-Clermont 1982, p. 13-18).

None of the methods emerges as the best evaluation method.

After a methodological review of about 75 publications Goldschmidt-Clermont (1982) concludes that output based evaluations of household production are not numerous. Most studies evaluate the input, whereby they make use of a monetary measure. (For future research, the value added approach is considered as a promising alternative, see Goldschmidt-Clermont 1983 and Chadeau 1984).

A few examples of calculating the money value of unpaid household meal output are known.

In these studies the imputed value of meal preparation was calculated by multiplying the total number of meals prepared and eaten at home by:

- an average weighted price of meals in restaurants or snacks in cafés in France (Chadeau & Fouquet 1981, p. 47-49; Chadeau 1984, p. 5-6).
- labour cost prices of meals served by the State Catering Centre in Finland (Suviranta & Mynttinen 1981, p. 23-24);
- average expenditure of the household concerned for meals if purchased away from home in the USA (Volker & Bivens 1983).

In the French as well as the American study the added value of meal preparation was then calculated by subtracting from this output the costs of gas, electricity and depreciation of household equipment used in the preparation of meals. In the Finnish project the added value of home baking and preserving has also been calculated, consisting of the difference between the consumer price of bought products and the costs of corresponding homemade products, including price of raw materials, energy and packaging (Säntti & Vesikkala 1983, p. 137-138).

Aggregation of money and labour inputs

As far as is known there are only a few studies, in which the financial resources and household production (in general, not separately for meal preparation) have been aggregated at the micro-level and brought under one denominator.

The view of Sirageldin (1969) is that a good measure of the welfare level of a household should account for differences in household structure as well as for the cost of time devoted to productive (paid and unpaid) activities. He therefore defines welfare as a product of "full income" (per equivalent adult unit) and leisure time available (as a ratio of non-sleeping time). "Full income" is defined as the sum of disposable income and total non-market output. The imputed value of non-market output is estimated by means of the opportunity costs of time as well as market prices.

Kendé (1978, p. 225) aims to produce a measure for the "total real consumption", which is the "total of socially valued resources available to a consumption unit during a certain period". With the aid of hourly wages of substitute household or market workers he calculates the value of the time spent on household production. He then examines the share of this unpaid household production in the total real consumption, which consists of the aggregation of value of: the dwelling, consumer durables, public services used, purchase of non-durables and services and imputed value of household production. In order to be used as an indicator for the level of living, the total real consumption must be divided by the total number of working hours (paid and unpaid). This new measure thus gives a higher degree of welfare to the household which acquires the same volume of goods and services with less working hours.

Finally, an estimation has been made of the consumption level in an average household including the volume of self-produced goods and services (Aldershoff et al. 1983, p. 16-17). In order to determine a minimal value of household production, the time input is multiplied by the net minimum wage (exclusive of children's allowance) for an adult married employee in industry. This value, aggregated with the average expenditure on food and drink, home and garden, clothing, health, insurances and transport, gives a broad indication of the consumption level.

Final food consumption level

The ratio of money to labour input for food consumption is not necessarily a fixed one, on the one hand on account of the possibility of partial substitution of money and labour, and on the other hand because there are various interrelations (f.e. between income level, time available and acquisition of goods and services).

A low income can result both from a low hourly wage (in the case of full employment) or from unemployment or disability (no time spent on paid work). The volume of household production in its turn is also connected with the available time per household (i.e. time not tied to paid employment). The higher the income the more possibilities there are for households to acquire goods and services which can replace or back up their own labour input (for instance, convenience food, restaurant, household equipment). These goods and services can in themselves however call for or invite a certain labour input (for example, cleaning of appliances, more complicated and more extensive cooking activities with certain equipment).

Method

Data

Up to now no research has been carried out in The Netherlands, in which both the expenditure and the time spent by a household have been measured simultaneously. In 1980 there was, however, a national budget survey and also a national time budget survey (separate random samples).

The time budget survey data cover a survey period of one week in October 1980; circa 3000 respondents of 12 years and over recorded daily in a diary what they did with their time per quarter of an hour (Aldershoff et al. 1983, p. 11-14).

In the budget survey circa 3000 households kept account in a notebook of all their expenditure during one month in 1980, and of less frequent expenditure and consumer durables during the whole year (CBS 1983).

Analysis

From relevant literature (see above), it was concluded that households should be differentiated according to composition (size, life cycle) and income level.

In the analysis the budget and time budget data for groups of households are made comparable on these characteristics (sort of group distribution matching, see Black & Champion 1976, p. 96-100).

On account of differences in the questions and coding it was unfortunately impossible to classify the households in a comparable manner by education, occupation, number of income earners, or urbanisation.

Average time spent on meal preparation as well as paid work per type of household by all members aged 12 and over has been estimated by means of the time spending of individuals (Aldershoff et al. 1983, p. 13).

Economic evaluation method

As mentioned earlier, there is no one monetary evaluation method of household production which can irrefutably be called the best. It needs no explaining however, that different methods lead to different results. To illustrate this, the final food consumption level, i.e. the summarized money and labour inputs, of an average household has been calculated by means of four methods, using two for the earlier described "forgone wage" respectively "forgone expense" approach.

It seemed obvious in choosing a price or wage component to follow the calculations recently made by Bruyn-Hundt (1983) of the monetary value of household production in The Netherlands at the macro-level.

The following market wages were used (all for the year 1983):

- forgone wage approach:
 - I net statutory minimum wage } for a married adult
 - II net average earned hourly wage } employee in industry (without children's allowance)
- forgone expense approach:
 - III gross wage of a home help } inclusive employer's
 - IV gross wage of a cook } social security contributions and holiday allowance.

III concerns the wage of a professional home help employed in a home help service, who is expected to be able to stand in independently for the housekeeper. IV relates to market wages for a cook working independently, in the middle of regarding scale of wages.

The money value of the labour input naturally varies with the use of the different evaluation methods. The consequences for the final food consumption level and for the relative share of the money respectively labour input herein, are shown in table 1.

In the remainder of this article method III i.e. the gross hourly wage of home help, will be used. Where the unpaid meal preparation is concerned, the forgone expense approach is more realistic than the forgone wage approach, since the time spent on the required labour input is both fragmented and tied to certain periods of time. Paid work on the labour market cannot be considered as a very realistic alternative for this unpaid work input.

Limitations

The data and analysis described here imply the following limitations:

- Quantification of the final food consumption level based on money and labour inputs gives no information on the quality of the output, nor on the evaluation by the household of its attained consumption level.

TABLE 1
FINAL FOOD CONSUMPTION LEVEL PER YEAR IN AN AVERAGE HOUSEHOLD, ACCORDING TO DIFFERENT ECONOMIC EVALUATION METHODS*

	Forgone wage		Forgone expense	
	I	II	III	IV
Money input (7.181 guilders)	45%	39%	33%	28%
Labour input (1.045 hours)	55%	61%	67%	72%
Final food consumption level	f 16.095 (100%)	f 18.206 (100%)	f 21.508 (100%)	f 25.594 (100%)
Ratio of labour to money input	1,2	1,5	2,0	2,6

Source: SWOKA Research Report no. 21.

- * I - net minimum wage (f 8.53 p/h)
- II - net mean wage (f 10.55 p/h)
- III - gross wage of home help (f 13.71 p/h)
- IV - gross wage of cook (f 17.62 p/h)

- The figures presented hereafter all refer to averages. Thus account must be taken of dispersion in the guilders and hours reflected.
- Budget data and time budget data are in itself of a descriptive nature. They reflect how much money or time is spent in a particular period, without clarifying the reasons or considerations.
- No attention is paid to the input of foodstuffs (i.e. ingredients, type of food and meals, use of semi-prepared foods etc.).

Results

Table 2 shows the volume of the separate money and labour inputs in different types of households, which information has been used to determine the final food consumption level. Apart from that, the data in tabel 2 correspond with the earlier described patterns of expenditure on food and appliances resp. household production relating to meal preparation.

Table 3 shows to what extent the addition of the labour input for food consumption alters the differences between households based on the picture of their expenditure inequality. It appears that the expenditure inequality between households with children (varying by number of children and age of the eldest child) does not essentially alter, nor does the difference between one- and two-person households. Within the group of one- respectively two-person households the addition of the labour input appears to increase the expenditure inequality. Thus by neglecting the consumption of goods and services produced by the households themselves misleading or even wrong conclusions about differences in the (final) food consumption levels between households might be drawn. In short, the concept of final food consumption level appears to be a useful one. This is true throughout the life cycle of households. This corresponds to the results of Bivens & Volker (1983). Reasons behind different final food consumption levels are unknown from these data. Possible reasons might be due to differences between households in buying foodstuffs, that need home production added (Uusitalo 1979, p. 81-83).

TABLE 2
MONEY AND LABOUR INPUT FOR FOOD CONSUMPTION,
NET INCOME AND PAID WORK ON LABOUR MARKET,
PER YEAR, BY TYPE OF HOUSEHOLD

	Money input (in guilders)	Net income (in guilders)	(Number of households)	Labour input (in hours)	Paid work on labour market (in hours)	(Number of households)	Number of persons in the household
	(a)	(a)	(a)	(b)	(b)	(b)	(c)
Man or woman living alone:	f 3.683	f 20.456	(400)	562 hrs	533 hrs	(202)	1.0
· < 35 years	3.607	18.900	(113)	300	1.051	(67)	1.0
· 35 - < 65 years	4.096	23.500	(136)	634	514	(68)	1.0
· ≥ 65 years	3.367	18.900	(151)	768	34	(67)	1.0
Man and woman without children:	6.563	34.500	(761)	1.057	1.478	(603)	2.0
· man < 65 years, woman < 45 years	6.828	38.500	(353)	851	2.827	(264)	2.0
· man < 65 years, woman ≥ 45 years	6.909	33.200	(187)	1.219	835	(199)	2.0
· man ≥ 65 years	6.053	30.900	(221)	1.274	82	(140)	2.0
Man or woman with child(ren):	6.575	31.000	(106)	1.252	974	(129)	2.7
Man and woman with child(ren): (man < 65 years) with:	9.098	42.100	(1512)	1.207	2.482	(1689)	4.1
· 1 child	7.917	38.200	(411)	1.085	2.342	(435)	3.0
· 2 children	8.767	40.300	(723)	1.180	2.352	(859)	4.0
· ≥ 3 children	10.938	48.900	(378)	1.424	2.870	(395)	5.4
with eldest child:							
· < 6 years	7.492	34.900	(405)	974	2.074	(354)	3.5
· 6 - 11 years	8.464	39.800	(410)	1.057	2.213	(433)	4.1
· 12 - 17 years	9.359	41.900	(378)	1.308	2.222	(478)	4.3
· ≥ 18 years	11.361	52.500	(319)	1.558	3.379	(424)	4.3
Average household	f 7.181	f 35.000	(2859)	1.045 hrs	1.781 hrs	(d)	2.8

Source: SWOKA Research Report no. 21

- (a) from CBS - Money Budget Survey 1980
(b) from SWOKA - Time Budget Survey 1980
(c) weighted with both samples
(d) weighted with the total Dutch population of households

TABLE 3
INDICES OF FINAL FOOD CONSUMPTION LEVEL, AND OF
SEPARATE MONEY AND LABOUR INPUTS, PER YEAR,
BY TYPE OF HOUSEHOLD

	Money input	Labour input	Final food consumption level
Man or woman living alone:	51	54	53
· < 35 years	50	29	36
· 35 - < 65 years	57	61	59
· ≥ 65 years	47	73	65
Man and woman without child(ren):	91	101	98
· man < 65 years, woman < 45 years	95	81	86
· man < 65 years, woman ≥ 45 years	96	117	110
· man ≥ 65 years	84	122	109
Man or woman with child(ren):	92	120	110
Man and woman with child(ren): (man < 65 years) with:	127	116	119
· 1 child	110	104	106
· 2 children	122	113	116
· ≥ 3 children	152	136	142
with eldest child:			
· < 6 years	104	93	97
· 6 - 11 years	118	101	107
· 12 - 17 years	130	125	127
· ≥ 18 years	158	149	152
Average household	100 (= 7.181 guilders)	100 (= 1.045 hours)	100 (= 21.508 guilders)

Source: SWOKA Research Report no. 21

In tabel 4 the final food consumption level is given per household as well as per person.

It appears that the final food consumption level per household is higher:

- for larger household size;
- (in households with children) the older the eldest child is;
- for people living alone aged 35 and over compared with younger singles;
- for couples without children where the wife is 45 or over compared with younger couples.

It is also shown from table 4 that the final food consumption level per person is higher:

- for smaller households;
- in older households with children (see above), with the exception of two-parent families with children under 5.

Table 4 presents in the third column the ratio of labour to money input in attaining the final food consumption level. As shown in table 1, the precise ratio greatly depends on the evaluation method used. Since a realistic forgone market wage cannot/may not be lower than the net minimum wage, this market wage has been used to impute a value of the labour input in order to calculate the ratio labour/money input. In short, this figure reflects a minimal ratio, and indicates the way in which households attain their consumption level.

In all types of households the labour input is higher than the money input, except the younger singles. The final food consumption level of older households without children (especially the 65⁺) is also proportionally effected by a higher labour input than younger households (see Bivens & Volker 1983). This might be due to generation differences in attitudes towards household

TABLE 4
FINAL FOOD CONSUMPTION LEVEL, PER YEAR,
BY TYPE OF HOUSEHOLD, 1980

	Final food consumption level (in guilders)		Ratio of labour to money input	Total workload (in hours)	Ratio of household production in meal-preparation to total workload
	per household (a)	per person (a)	(b)	(c)	
Man or woman living alone:	f 11.470	f 11.470	1,3	1.101 hrs	0,5
. < 35 years	7.720	7.720	0,7	1.351	0,2
. 35 - < 65 years	12.788	12.788	1,3	1.148	0,6
. ≥ 65 years	13.896	13.896	1,9	802	1,0
Man and woman without child(ren):	21.054	10.527	1,4	2.535	0,4
. man < 65 years, woman < 45 years	18.495	9.247	1,1	3.678	0,2
. man < 65 years, woman ≥ 45 years	23.621	11.810	1,5	2.054	0,6
. man ≥ 65 years	23.520	11.760	1,8	1.356	0,9
Man or woman with child(ren):	23.740	8.792	1,6	2.226	0,6
Man and woman with child(ren): (man < 65 years) with:	25.646	6.255	1,2	3.689	0,3
. 1 child	22.792	7.597	1,2	3.427	0,3
. 2 children	24.945	6.236	1,1	3.532	0,3
. ≥ 3 children	30.461	5.641	1,1	4.294	0,3
with eldest child:					
. < 6 years	20.846	5.956	1,1	3.048	0,3
. 6 - 11 years	22.955	5.598	1,1	3.270	0,2
. 12 - 17 years	27.292	6.347	1,2	3.530	0,2
. ≥ 18 years	32.721	7.609	1,2	4.937	0,2
Average household	f 21.508	f 7.681	1,2	2.813 hrs	0,4

(a) based on gross hourly wage of home help

(b) based on net hourly minimum wage of a married employee in industry

(c) total of time spent to household production in meal preparation and paid work on the labour market (including travel to and from work).

work, and/or differences in time spent on paid work on the labour market (see hereafter). In two-parent families, money and labour are spent in a rather constant ratio since separately these inputs show the same pattern (see table 2)

The fourth column in table 4 contains the total workload of the household consisting of the paid working hours, which are performed by all household members of 12 and over together per year, added up with the unpaid working hours needed for meal preparation.

The fifth column in table 4 shows the ratio of the labour input in meal preparation to the paid work input on the labour market. The 65⁺-ers perform, as is to be expected, no, or scarcely any paid work (retired people did this earlier in their life and are receiving payment afterwards).

What are the conclusions to be drawn from table 4?

1. A more or less the same final food consumption level can be reached in very different ways.
A final food consumption level of about f 23,000 - 24,000.-- per year occurs, for example: with older couples without children, one-parent families, two-parent families with one child, and two-parent families where the eldest child is between 6 and 11 years old. However, the total workload in these households differs greatly, both as regards volume and share of labour input for meal preparation. There are also great differences in the labour/money input ratio between these households.
2. As has been mentioned, in two-parent families the final food consumption level increases both with the number of children and also the age of the eldest child; the total workload shows the same pattern. In the total workload the share of unpaid labour in meal preparation remains fairly constant; in other words, there is presumably little difference between

different types of two-parent families as regards their final food consumption level.

3. Of the households without children the younger households have a relatively low final food consumption level, a relatively high total workload (consisting mainly (80%) of paid work on the labour market) and relatively more money is spent on food and appliances.
4. Taking into account the size of the household two-parent families have relatively a slightly lower final food consumption level than the one- and two-person households, except in case of older children.

Final remarks

The final food consumption level has been indicated by means of the summarized money and labour inputs, using data from two separate samples. A survey in which both expenditure as well as time use is measured in one and the same household will probably be impracticable because of very high financial costs. It would therefore be desirable to pay attention to household production in a budget survey and to the pattern of expenditure in a time budget survey. It is also recommended that this type of data should be comparable with surveys, in which the inputs and outputs of food in the household are measured in the physical sense.

One should keep in mind that on the one hand the choice of a particular price or wage component for imputing a value for household production is determinant in the results, on the other there is no one best evaluation method available. However, in order to impute a value to the unpaid labour input for food consumption, the forgone expense approach seems more suitable than the forgone wage approach. In the case of labour input in meal preparation, which is so fragmented and at the

same time bound to certain periods of time, there cannot actually be any weighing against the performance of paid work on the labour market.

The input based approach of the final food consumption level in this article needs further refinements. A combined measure must be developed in which both expenditure, household production as well as other inputs such as fuel, number and type of durable goods and foodstuffs are incorporated.

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SCALING OF CROSS-NATIONAL SURVEY DATA

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Abstract

As the significance of international marketing grows and data becomes available, marketers and consumer researchers increasingly will deal with cross-national analyses. Much of the data will be in the nature of subjective social indicators which are reported in aggregated form. This paper illustrates a model based approach for analyzing data of this type. The approach is illustrated using "happiness" evaluations of married, never married, and divorced respondents in five prominent members of the European Economic Community.

1. Introduction

Kotler notes two changes in the social context of marketing that result in information needs that are quite different from the past:

The first trend is the shift from local to national and international marketing. The concept of the national and international firm means that company decision makers must make their key decisions on the basis of secondhand information, since they are far removed from the scene where their products are sold. The second is the transition from buyer needs to buyer wants. As the society becomes more affluent, its members' survival needs are increasingly satisfied. Buying becomes a highly expressive personal act, and sellers must depend on systematic research to understand the overt and latent wants of buyers. (Marketing Management: Analysis, Planning, and Control, 5th ed., p. 602.. emphasis added)

There are four consequences of the above trends that are particularly relevant to this research:

1. Information will be collected from different countries and cultures. In many cases, the language of the respondents will differ from market to market.
2. The information will increasingly relate to "subjective" variables: attitudes, satisfaction, social norms, and the like.
3. Information pertinent to the above issues is not likely to be generated internally to the firm. On the contrary, information increasingly will be sample data taken from secondary sources (e.g., Anderson and Engleden, 1977) or generated by a primary research project (e.g., Douglas, 1976).
4. The information will be reported and analyzed in aggregate form, especially in the case of subscription and government sources.

The importance of aggregate analysis has recently been stressed by Epstein (1980), who echoes Katona's (1978) call for a macropsychology using aggregation over subjects, stimuli, occasions, and measures. Katona has illustrated the power of aggregation in bringing into focus the relationship between attitude, as measured by the well-known Index of Consumer Sentiment, and behavior in the form of discretionary consumption.

The objective of this paper is to illustrate how cross-national responses to a prototypical subjective attribute ("happiness") may be analyzed using a model-based scaling procedure developed and refined by Bechtel (1981), Bechtel and Wiley (1983) and Wiley and Bechtel (1983). A response model related to the Rasch model of latent trait theory (Rasch, 1966) is posited. The model is closely related to Andrich's (1978) reformulation of the Rasch model for attitude rating data. The approach differs from the Andrich formulation in that successive-internal scaling theory (Guilford, 1958) is used.

It is possible in general applications using this approach to simultaneously scale stimuli, subpopulations, and category boundaries on several attribute continua tapped by a questionnaire. Examples of continua that may be analyzed include: purchasing intentions; preferences; satisfaction with and importance of stimuli attributes; or social norms, satisfaction with one's personal situation; and happiness. In this present paper, the analysis of a single subjective response item is illustrated. The item concerns individual's overall happiness with "the way things are these days." Respondents are stratified by marital status and data from five prominent, linguistically distinct members of the European Economic Community are used: France, United Kingdom, West Germany, Netherlands, and Denmark.

2. Cross National Analysis of Marital Status and Happiness

Table 1 presents endorsement proportions for "happiness" and number of respondents in each of the five countries. It is evident that the Danes (Den.) and the Dutch (Neth.) make greater use of the "very happy" category than do the French, British (U.K.) and West Germans (W.G.): while the latter three countries make greater use of the middle category than do the British and French. The unweighted average percents over marital status in the respective countries are W.G. (67.3%), Neth. (61.3%), Den. (56.3%), France (52.3%), and U.K. (50.7%).

TABLE 1
HAPPINESS BY MARITAL STATUS IN FIVE EUROPEAN COUNTRIES

	(1)	(2)	(3)			Total
			Very Happy	Happy	Not Too Happy	
FRANCE (1)	Married (1)	18	59	25	102	
	Never (2)	17	51	32	100	
	Widow (3)	11	47	42	70	
U.K. (2)	Married (1)	23	50	27	100	
	Never (2)	13	56	26	95	
	Widow (3)	20	47	33	100	
W.G. (3)	Married (1)	15	64	17	96	
	Never (2)	10	63	27	90	
	Widow (3)	5	50	45	60	
NETH. (4)	Married (1)	35	55	7	97	
	Never (2)	23	68	9	100	
	Widow (3)	10	61	29	96	
DEN. (5)	Married (1)	45	52	3	100	
	Never (2)	37	52	11	100	
	Widow (3)	21	65	14	100	

Happiness was measured by the question: "Taking all things together, how would you say things are these days -- would you say you are very happy, pretty happy, or not too happy?" Data taken from Veenvoort (1983, p. 57).

Note: The "living as married" and the divorced/separated categories of Veenvoort were dropped because they contained few respondents.

The data are drawn from Veenhoven (1983) who emphasizes the impact of marital status on well-being (or lack of it). The linkage is fairly consistent across industrialized nations:

at the bottom the divorced, then the widowed, next, at a distance, the never married, and the married at the top (Veenhoven, 1983, p. 50).

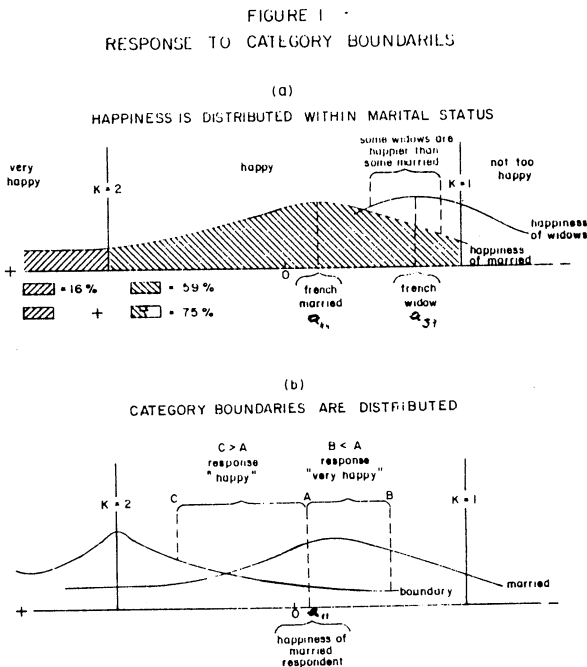
Veenhoven's interpretation is based on an analysis in which the data are grouped into discrete response categories. In many instances a traditional analysis of this type of data will leave the resulting proportions in the form of unwieldy sets of percentages. At the other extreme, investigators may assign successive integers (e.g., 1,2,3,4,5) to ordered response categories and assume an interval level of measurement. In a sense this amounts to measurement by fiat.

The present paper avoids the two traditional approaches by adopting a stochastic response model appropriate for proportions generated by ordered, survey rating scales. A principle advantage of this model based approach is that the measurement procedure, being theory based, is vulnerable to goodness-of-fit tests. One may have more confidence in the validity of market measures stemming from a successfully tested model.

The reanalysis of the data presented in the present paper supports the "happiness" order suggested by Veenhoven. A key feature of the reanalysis, however, is that differences between languages in the response formats are modeled and a formulation is provided for parsing the responses of possible linguistic influences.

2.1 Response Format Theory

Figure 1 shows how the response format may be conceptualized as successive, ordered intervals on a latent "happiness" continuum. The first panel contrasts a hypothetical distribution of married individuals with a corresponding distribution for widowed individuals. This distribution for marrieds is centered toward the happy end of the continuum, at α_{11} , while the distribution for widowed individuals is centered at the "unhappy" end of the latent continuum, at α_{31} . However, some widowed individuals are happier than some married individuals.



Following successive interval scaling theory, the three categories on the happiness continuum are defined by two, ordered category boundaries. Panel (b) of Figure 1 indicates that the respondents may differ in the intensity they assign to boundary values and, hence, the boundary values may themselves be distributed in the subpopulations. Married individuals whose happiness is at A on the latent continuum will respond "very happy" if they place the boundary at B since the level of happiness exceeds the intensity of the boundary in this case. They will respond "happy" if they replace the boundary at C, since the intensity of the boundary dominates their level of happiness.

2.2 The Response Model

Accumulating to the right, the probability of responding "above" a threshold on the latent continuum may be written as:

$$\pi_{ijk} = \frac{\exp(\lambda_{ijk})}{1 + \exp(\lambda_{ijk})}$$

which may be inverted as

$$\lambda_{ijk} = \ln(\pi_{ijk}/(1-\pi_{ijk})) \quad (1)$$

The latter function is called the logit of π_{ijk} (the "true" probability of an "above k" response) and represents the logarithm (to the base e) of the "true" odds of an "above k" to a "below k" response. This logistic response model also appears in Rasch latent trait theory although the subscripting and interpretation of the parameters in the formulation below differs from that of the Rasch model (Rasch, 1966a and b). (In actual practice, of course, π_{ijk} is estimated by P_{ijk} , the observed sample proportion responding "above k" and estimation is based on the corresponding observed logit l_{ijk} .)

In order to highlight the similarity with the Rasch model, λ_{ijk} , the "true" logit, may be decomposed as:

$$\lambda_{ijk} = \alpha_{ij} - \tau_{k(j)} \quad (2)$$

where

α_{ij} = a fixed (population) value of marital status i in country j (analogous to ability of the individual in the Rasch model),

$\tau_{k(j)}$ = a fixed (subpopulation) value of boundary k in marital status i (analogous to the difficulty of the item in the Rasch model).

Then

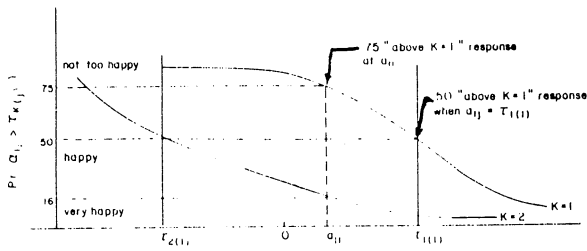
$$\pi_{ijk} = \frac{\exp\{\alpha_{ij} - \tau_{k(j)}\}}{1 + \exp\{\alpha_{ij} - \tau_{k(j)}\}} \quad (3)$$

The implication of Equation 3 is that as α_{ij} moves from "below" (less than) $\tau_{k(j)}$ to "above" (more than) $\tau_{k(j)}$ agreement probability increases and disagreement decreases.

Figure 2 shows the monotonic relationship between the probability of an above boundary k response, π_{ijk} , and happiness. The two characteristic curves are each logistic functions that capture the hypothesized monotonic increase of π_{ijk} as α_{ij} moves from right to left for fixed $\tau_{k(j)}$. When $\alpha_{ij} = \tau_{k(j)}$ then $\pi_{ijk} = .50$. A fixed α_{ij} , such as α_{11} in Figure 2, divides the unit probability

ity ordinate into three proportions, namely the respective probabilities of a "very happy," "happy," and "not too happy" responses.

FIGURE 2
CHARACTERISTIC RESPONSE CURVES FOR BOUNDARIES



Model (3) may be further simplified by hypothesizing that the α_{ij} may be linearly decomposed into separate marital status and country components as

$$\lambda_{ijk} = \beta_i - (\tau_{k(j)} + \delta_j) \quad (4)$$

where β_i is the effect of status i , regardless of country, and δ_j is the effect of country (or language), regardless of marital status. Both boundary values $\tau_{k(j)}$ and δ_j are specific to country.

The position of the country specific parameter δ_j is subject to at least three sets of influence

First, there may be differences in the 'objective' conditions. Not all domains lend themselves to being judged by anything resembling common objective standards, but areas such as housing, education, income, and medical care are probably easier to agree upon than overall 'subjective' measures as life satisfaction and happiness. Second, even if the objective conditions were identical, it is entirely possible that [different cultures] might not perceive them in exactly the same way. Cultural expectations differ and in turn affect perceptions. Third, given identical perceptions about the various areas of life satisfaction, there may be culturally influenced biases in how particular individuals reveal or report their feelings (Oosteroot, et. al., 1982, 134-135).

Equation (4) is structured to emphasize the latter interpretation of the country specific parameter δ_j , i.e., as a country specific shift of the country specific boundary values. That is, one interpretation of the greater endorsement of happier categories by the Dutch vis-a-vis the French is that the boundaries of the response format are taken to be further to the right by the Dutch than by the French. Note that the relative width of the middle category is greater for the Dutch reflecting the greater use of the middle category in Holland. Reason for such a shift and differential width of middle categories across nations might be attributable to language differences or to generalized, country specific predispositions to respond favorably or unfavorably.

2.3 Distribution assumptions at micro level.

It is evident from Figure 1 that there are two latent random variables controlling the response to a format, i.e.,

$$a_{ij} = \beta_i - \delta_j + \epsilon_{ij} \quad (5a)$$

$$t_{k(j)} = \tau_{k(j)} + \xi_j \quad (5b)$$

In (5a) the β_i and δ_j are population constants of (4), while ϵ_{ij} and ξ_j and hence a_{ij} and $t_{k(j)}$ are randomly distributed over individuals.

If it is assumed that in the population of individuals the two random variates ϵ_{ij} and ξ_{jk} (corresponding to the density distributions of figure 1) are independently identically distributed (i.i.d.) with the double exponential distribution density function, then by a proof due to Maddala (1983, pp. 59-61), the population probability that an individual of marital status i from country j will respond above k is given by

$$P_r(a_{ij} > t_{k(j)}) = [1 + \exp\{-a_{ij} - t_{k(j)}\}]^{-1} \quad (6)$$

The observed log odds or logit of (4) λ_{ijk} is given by

$$\lambda_{ijk} = b_i - (t_{k(j)} + d_j) + \eta_{ijk} \quad (7)$$

which corresponds to the (4) with b_i , d_j , and $t_{k(j)}$ estimating β_i , δ_j and $\tau_{k(j)}$ respectively. The residual term η_{ijk} contains the pooled (ij), (ik), and (ijk) interaction.

3. Results

Table 2 presents the parameter estimates for Equation (7). Estimates for a formulation corresponding the "Rasch-like" Equation (2) also are provided as a basis of comparison. The OLS estimators and their sum-of-squares are presented in the Appendix.

TABLE 2
PARAMETER ESTIMATES UNDER (EQ. 2) AND (EQ. 7)

COUNTRY (i)	Eq(2) ESTIMATES $\tau_{k(j)}$			Eq(7) ESTIMATES		
	(1)	(2)	(3)	d_j	b_i	$t_{k(j)}$
FRANCE (1)	-1.29	-1.42	-1.33	.500	1.25	-1.25 ^a
U.K. (2)	-1.11	-1.10	-1.12	.153	1.10	-1.10
W.G. (3)	-1.14	-1.47	-1.39	.623	1.67	-1.67
NETH. (4)	1.05	.55	-.65	-.344	1.62	-1.62
DEN. (5)	1.63	.78	-.25	-.915	1.57	-1.57
Eq(2) Estimates b_i	.34	.97	-.59			

Note: The predicted logits and proportions, using Eq(2) parameters, are calculated as follows for French marrieds. The predicted logit for an "above k=2" response is $-1.41 + .44(-1.25 + .50)$. The corresponding predicted proportion is $.21 = \exp\{-1.31\} / (1 + \exp\{-1.31\})$. The observed value is .16 (Table 1). The predicted logit for an above "k=1" response is $1.19 + .44(-1.25 + .50)$. The corresponding predicted proportion is $.26 = \exp\{1.19\} / (1 + \exp\{1.19\})$ with an observed value of .25 (Table 1).

^aThe boundaries are estimated under the side conditions $t_{2(j)} + t_{1(j)} = 0$ for all j .

The greater width of the middle category in West Germany, Netherlands, and Denmark vis-a-vis France and the United Kingdom reflect the greater utilization of the middle category in the former countries. The country specific parameters are greatest for the Danes (-.915) with Netherlands (-.344), U.K. (.153), France (.500) and W.G. (.623) following the order listed. The order of the parameters reflects the consistently greater use of the "very happy" category by the Danes, regardless of marital status, compared to other nationalities. Conversely, the W.G. values reflects the in-

frequent use of the "very happy" category by the West Germans.

The marital status parameters are precisely in the order suggested by Veenhoven (1983) with the married are the happiest, followed by the never married, and the widowed.

Table 3 presents the ANOVA Table for the data. Both country and marital status effects are highly significant. The effect "country" accounts for about 62% of the remaining sum-of-squares after the effect of "boundary" is removed. The effect "marital status" accounts for about 31% of the sum-of-squares, excluding "boundary" sum-of-squares.

TABLE 3

ANOVA TABLE

MODEL PARAMETERS EQUATION (7)

Source	d.f.	S.S.	M.S.	F	P
Boundary	5	63.82	12.78	203.57	.000
Country	4	10.87	2.72	43.33	.000
Marital Status	3	5.48	1.83	29.15	.000
Error	18	1.13	.063		
Total	30	81.29			

The correlation of predicted and observed logits is .99.

4. Conclusions

The model proposed in this paper presents a first step toward modeling the influence of language in cross-national surveys. In the present case, a single question item, taken as a linguistic entity, is decomposed into language specific parameters. Our analysis of this item is illustrative of analyses which may be carried in other subjective indicator areas, such as quality of life (Reynolds and Barksdale, 1978), life style (Wells, 1979), and consumer sentiment (Katona, 1979). For example, the five items constituting the classic Index of Consumer Sentiment are in service throughout the European Economic Community. A fruitful application for the proposed model might involve similar linguist analysis for the several components of this international consumer instrument.

Appendix

In Equation (7) an estimate of an "above k" response is given by $b_i - (t_{k(j)} + d_j)$ with

$$\sum_j d_j = \sum_k t_{k(j)} = \sum_i \eta_{ijk} = \sum_j \eta_{ijk} = \sum_k \eta_{ijk} = 0$$

where in η_{ijk} are the pooled (ij), (ik), and (ijk) interactions. The following linear forms estimate the terms of (7) subject to the above restrictions:

$$b_i = \lambda_{i..} \quad \equiv \quad \text{the mean logit for marital status } i,$$

$$d_j = \lambda \dots -\lambda_{.j.} \quad \equiv \quad \text{the (reversed) main effect for country } j.$$

$$t_{k(j)} = \lambda_{.j.} - \lambda_{.jk} \quad \equiv \quad \text{the (reversed) nested effect of boundary } k \text{ within country } j.$$

Sums-of-squares estimates are provided by

$$J * k \sum_{i=1}^3 b_i^2 \quad \equiv \quad \text{sum-of-squares for marital status,}$$

$$I * K \sum_{j=1}^5 d_j^2 \quad \equiv \quad \text{sum-of-squares for country,}$$

$$I \sum_{j=1}^5 \sum_{k=1}^2 t_{k(j)}^2 \quad \equiv \quad \text{sum-of-squares for boundary,}$$

$$\sum_{i=1}^3 \sum_{j=1}^5 \sum_{k=1}^2 \lambda_{ijk}^2 \quad \equiv \quad \text{sum-of-squares total.}$$

with I, J and K equal to 3, 5, and 2, respectively.

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A CASE STUDY OF BIAS IN PARAMETER ESTIMATES AND FORECASTS OF MULTINOMIAL CHOICE MODELS IN CONSUMER CHOICE STUDIES*

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Abstract

Conjoint equations derived from a sample of consumers are used to simulate consumer choices in 15 different orthogonal, main-effects fractional factorial designs to generate choice alternatives. These choice alternatives were placed into choice sets according to an orthogonal, main-effects fractional factorial design which provides sufficient conditions to estimate the parameters of multinomial logit (MNL) choice models. The only variable across the 15 different simulations was the difference in designs used to generate choice alternatives. The 15 different simulations have the property that the designs can be concatenated to allow estimation of all main-effects and two-way interactions independently of one another and of significant but unobserved three-way interactions. This makes it possible to know which interactions are significant, if any. Results indicate significant bias in the parameter estimates of the main-effects plans. However, these biases appear to have little effect on predictive accuracy relative to a model which incorporates the significant interactions.

Introduction

Several recent papers in the marketing and consumer literature have dealt with discrete choice models and their estimation from observed or controlled experimental choice data. (See, e.g., Gensch and Recker 1979; Punj and Staelin 1978; Currim 1981, 1982; Mahajan, Green and Goldberg 1982; Batsell 1980; Basell and Lodish 1981; Louviere and Woodworth 1983; Louviere and Hensher 1983; Louviere 1983). All of these papers have illustrated methods of data collection and estimation of choice models given the data. The models which have been applied and interpreted have been almost without exception "main-effects-only" in form. Little evidence regarding variation in parameter estimates or forecast accuracy is available for situations in which unobserved interactions are present in the utility function to be estimated from the choice data.

Such problems in parameter bias are normally approached using numerical simulation methods applied to artificial data generated by a known model specification and random error. Recent work in the design and analysis of controlled discrete choice experiments (Louviere, 1983; Louviere and Woodworth 1983), however, makes it possible to examine the problem in another way. This alternative approach makes use of conjoint choice simulation methods (Green, DeSarbo and Kedia 1980; Louviere 1983; Curry, Louviere and Augustine 1981, 1983) which involve three components: (a) a set of individual conjoint equations defined over a set of multiple attributes; (b) a set of conjoint alternatives which are the object of the choice simulation and which consist of combinations of levels of the attributes in (a); and (c) a set of choice sets generated by a separate experimental design according to the estimation requirements of the research (Louviere 1983; Louviere and Woodworth 1983).

This approach represents a case study alternative which can offer insights into parameter and forecast variation for the case at hand.

In particular, because the set of conjoint equations (a) is fixed, and the choice set generating design (c) can be fixed, it is possible to study how changes in the conjoint design which generates choice alternatives (b) affects the parameter estimates and forecast accuracy of the derived choice models. Of course, it is also possible to examine how changes in (c) affect the estimates and forecasts for fixed (b); this is planned for a followup to this paper. Thus this paper focuses upon the bias in the parameter estimates and the forecasts of choice models derived from main-effects experimental plans in (b) in a case in which there are known to be significant interactions among the attributes.

The data for this case are from a study of the likely retirement destination choices of elderly individuals in Iowa. A random sample of 327 Iowans aged 55-65 participated in a study of retirement migration options based upon 15 different orthogonal main-effects conjoint tasks. Individuals were randomly assigned into each of the 15 different tasks. These main-effects plans were developed from a 3^{10} complete factorial of retirement destination and general economic conditions attributes. The ten attributes (listed in Table 1) were derived from a preliminary study of Iowans aged 55-65 using an open ended telephone survey followed by a structured mail survey. Details of the survey and results can be found in Pampel, Levin, Rushton and Louviere (1984, in press). The goal of the retirement destination choice research is to forecast the likely retirement destination choices of the sample as a function of attributes of interest to policy makers.

It is a property of the 15 different main-effects plans that they aggregate to permit a test of all of the two-way interactions independently of both main-effects and three-way interactions (but not higher-order interactions). Thus, the plans can be concatenated to estimate attribute interactions; this allows one to know which of the two-way interactions are significant (assuming interactions of a higher order than three are zero). In this way the variation in parameters and forecast accuracy of main-effects plans can be examined for the 15 different plans which we will use as multiattribute alternatives (component (b) above), given a fixed choice set generating design (component (c) above). The alias sets for these 15 different design plans are given in the Appendix, which also briefly outlines the theory of parameter bias as reflected in this study.

Method of Approach

In order to compare the aggregate choice models derived from the 15 different main effects plans, a several step simulation approach is employed as follows:

(1) A computer file of 327 conjoint equations is created based on the categorical responses of the sampled individuals to a 2^7 treatment orthogonal main-effects fraction of the 3^{10} factorial. Each of the 327 individuals therefore is represented by 21 parameters estimated from categorical responses to the 27 treatments by means of O.L.S. regression.

TABLE 1

Factors (Levels) Varied in the Main-Effects Plans

FACTORS (LEVELS)	FACTORS (LEVELS)
<u>Climate</u>	<u>Neighborhood Population Ages</u>
Southeastern	Older Retire
Southwestern	Recently Retire
Northern	Mixture of Young and Old
<u>Terrain</u>	<u>Travel Time to Close Relatives</u>
Flat	0-1/2 Hour
High Rolling Hills	1-2 Hours
Mountains Nearby	More than 6 Hours
<u>Nearness to Sea or Lakes</u>	<u>Travel Time to Health Services</u>
Long Distance	0-1/2 Hour
Many Lakes Nearby	1/2-1 Hour
Coastal Location	1-2 Hours
<u>Type of Location</u>	<u>Local Living Expenses Compared to Present Location</u>
Rural	10% Lower
Suburban	Same
City	10% Higher
<u>Population of Nearest Metropolitan Area</u>	<u>Nationwide Inflation</u>
20,000-50,000	5% per Year
100,000-300,000	10% per Year
1,000,000/More	20% per Year

(2) The fifteen different orthogonal main-effects fractions of the 3^{10} factorial described above are used to create "alternatives" which will be placed in choice sets. Each of the 15 different main-effects plans has 27 treatments or "profiles." Each profile represents a choice alternative; each of the 15 sets of choice alternatives are the objects of the 15 different choice simulations we develop. As previously mentioned, the 15 plans can be aggregated to permit estimation of all main-effects and two-way interactions independently of one another, and independently of three-way interactions (but not of higher-order interactions). This property of these plans will be used to compare estimates of main-effects parameters from "main-effects only" plans with the same estimates from the aggregated plans adjusted for significant two-way interactions.

(3) Each of the 15 sets of 27 alternatives (profiles) developed in (2) are placed in choice sets using a 32 treatment orthogonal main-effects fraction derived from the complete 2^{24} factorial, which represents all possible choice sets of the 27 alternatives. This fractional factorial is used to place the 27 alternatives in 32 different choice sets. The orthogonal main-effects fraction from the 2^{24} used to create choice sets has the property that each alternative's presence/absence in choice sets is balanced with every other alternative across all the choice sets, and that marginal choice probabilities for each alternative can be estimated independently of the other marginals.

These properties are sufficient conditions to estimate Multinomial Logit Choice (MNL) models from choices observed over the 32 sets (Louviere and Woodworth, 1983). The MNL model may be written as follows:

$$p(i|A) = \exp[V(i)] / \sum_{V(j) \in A} \exp[V(j)], \quad (1)$$

where

$p(i|A)$ is the probability of selecting alternative i from a choice set A in which i is a member,

$V(i), V(j)$ are the "part-worths", "utilities" or "values" of alternatives i and j , respectively, and

\exp is the expression for "exponentiation."

The V 's in equation 1 capture the marginal probabilities; they are parameterized as a linear-in-the-parameters function of the attributes of interest. In the present case the attributes are the 10 attributes (at three levels) used to generate the 15 different main-effects plans in step (2) above. Attributes are coded as orthogonal polynomials (-1, 0, +1 for Linear; +1, -2, +1 for Quadratic).

The utility function of the MNL models will contain 21 parameters consisting of all 20 main-effects (10 attributes at three levels) and an intercept term. All choice sets have a "base" alternative added to them which is used as the reference point for the utility scale, and all choice probabilities are relative to this base. In the particular empirical example--choice of retirement destination--the base is the respondent's present residential situation. Hence, the model parameters are interpreted as slopes with respect to the probability of choosing a particular retirement alternative relative to staying with their present situation.

(4) A choice rule must be used (assumed) to convert the predicted conjoint utilities to choices or choice probabilities. The research reported in this study used the choice rule that the "highest predicted conjoint utility in each choice set equals first choice." Thus, each of the 327 respondents' equations are used to simulate which alternative each respondent would be expected to choose in each of 32 choice sets used in the 15 different simulation studies. The expected first choices of each respondent in each choice set are summed with those of the other respondents to obtain the expected aggregate choice frequencies for the sample of 327 individuals. Because each of the 27 alternatives appears in exactly one-half of the 32 choice sets, there are 432 possible aggregate choice frequencies, plus the additional 32 choice frequencies for the base alternative, which appears in every choice set, for a total of 464 choice observations.

(5) These 464 choice observations are subjected to a G.L.S. (weighted least squares) regression analysis using the Berkson-Theil method to estimate the 21 parameters of interest (See Hensher and Johnson 1981; Louviere and Woodworth 1983; and Mahajan, Green and Goldberg 1982). Because there are 15 different main-effects plans, there are 15 different sets of parameter estimates to be compared with the estimates derived from a G.L.S. analysis of all 15 sets concatenated to form a larger set of choice data. This latter data set, as mentioned previously, permits independent estimation of all main-effects and two-way interactions. All parameter comparisons are based on these estimates.

It is important to note that the following are constant across all 15 choice simulations: (a) The 327 conjoint equations, (b) the 32 choice sets, (c) the choice rule, and (d) the method of estimation. The only

variable across the choice simulations is the 15 different main-effects plans. Hence, the only parameter differences which can occur across the 15 different choice simulations must be due to differences in the main-effects plans. Of course, if the utility function which describes the migration destination tradeoffs was strictly additive (no interactions), we would expect no differences among the 15 choice models except for rounding errors.

Thus, these simulations provide a case study which permits us to examine variations in parameter estimates in a situation in which we know that there are a large number of significant two-way interactions (In particular, 100/180 possible two-way interactions are significant. See Louviere 1983). Additionally, this case provides the opportunity to compare the forecast accuracy of each utility function with that of the utility function which includes the significant two-way interactions. The motivation for the latter comparison is that, despite bias in parameter estimates, the main-effects plans may forecast well. If one could demonstrate that such models were robust in general, similar to that of linear statistical models (Dawes and Corrigan, 1974), this could be of considerable practical importance. This case study, of course, cannot be generalized but can provide tentative conclusions which can be examined in more case studies.

Results

Of course, it is well-known that main-effects parameters estimated in the presence of unobserved interactions will be biased. Although useful, numerical simulation results provide little guidance as to what to expect in a real empirical situation such as that described in this paper. For this reason the results of this analysis are useful in that they provide some indications of the magnitude of the bias in a real case study. Although we make no claim that these results will generalize to other cases, they are suggestive of what can occur, and can serve as a basis for examining other cases.

The primary results are contained in Table 2, which provides a complete listing of the 15 sets of estimated "main-effects-only" parameters, the mean and standard

deviation of these estimates, the estimates for main effects adjusting for significant two-way interactions (derived from concatenating the 15 data sets), the "main-effects only" estimates derived from the concatenated data, and the mean and standard deviation of the differences between the parameters for the model with interactions and the 15 sets of "main-effects-only" parameters.

Primary interest centers on the column labeled "Mean of the Differences" and its associated standard deviation, as well as the t test values for the null hypothesis that the mean of the differences equals zero. In general, 14 of the 20 main-effects parameters are significantly different on average relative to the estimated parameters adjusted for two-way interaction effects. An analysis of the difference means

$$[(\sum_{i=1}^{15} (b_i - b_{ADJ})) / 15]$$

regressed against the parameter estimates for the adjusted (for interactions) model reveals that there is a positive relationship between the two ($r=.67$). The intercept is $-.008$, and the slope is 0.28 , indicating a fairly systematic bias towards overstating the parameter value (b_{ADJ} in the main-effects plans. Thus, we conclude that there is a significant bias in the majority of the estimates. A simple regression of the estimated t statistics for the difference distribution against the adjusted parameter estimates also reveals a positive relationship ($r=.61$), indicating that larger positive and negative t values tend to be associated with larger positive and negative adjusted parameter estimates. In general, therefore, the larger the absolute value of the parameter, the larger the bias.

Having confirmed, as expected, that bias exists, how much difference does this make in predicting choice probabilities? To answer this question we compared the predictions of each of the 15 different "main-effects-only" models with the predictions of the model incorporating all significant interaction effects. We randomly selected 31 treatments from the entire 3^{10} factorial to use as the target set for prediction. Because of the large amount of tabular material, we have summarized the results in Tables 3 and 4. Table

TABLE 2

Estimates of Main-Effects Parameters and the Distribution of Those Parameters Across the 15 Different Main-Effects Plans

ORTHOGONALLY CODED ATTRIBUTE LEVELS	M I	A II	I III	N IV	E V	F VI	F VII	E VIII	C IX	T X	S XI	S XII	XIII	b' XIV	S XV	MEAN (b)	S. DEV S _b	MODEL WITH INTERACTIONS	MAIN EFFECTS ONLY MODEL	MEAN OF THE DIFFERENCES	STD. DEV OF THE DIFFERENCES	
X1 LIN.	.0399	.1140	-.0513	.0881	-.0066	-.0177	.0470	.0287	-.0230	.0973	.0500	.0395	-.0098	.0185	.0334	.0342	.0434	.0971	.0624	-.0629	.0434	
X1 QD.	-.1160	-.1146	-.0985	-.1344	-.0942	-.0741	-.1055	-.0968	-.1080	-.1143	-.1380	-.0997	-.0990	-.1091	-.1080	.0159	.0159	-.0549	-.1113	-.0531	.0159	
X2 LIN.	.0088	.0699	.0542	.0908	.0918	.0154	.0685	.0462	.0765	.0541	.0203	.0747	.0915	.0243	.0421	.0553	.0287	.0324	.0473	.0229	.0287	
X2 QD.	.0119	.0400	.0202	.0663	.0117	.0227	.0387	.0115	.0354	-.0127	.0370	.0554	.0004	.0358	.0561	.0287	.0217	.0247	.0399	.0040	.0217	
X3 LIN.	.0704	.1513	.1448	.1172	.1151	.0342	.1074	.1095	.0851	.1026	.0785	.0341	.1802	.0527	.1039	.0991	.0418	.0465	.0919	.0526	.0418	
X3 QD.	-.0976	-.1117	-.1113	-.1581	-.1133	-.1096	-.1756	-.1514	-.1442	-.1335	-.1345	-.1292	-.1405	-.0946	-.1525	-.1305	.0236	-.0924	-.01308	-.0381	.0236	
X4 LIN.	-.3158	-.2441	-.2636	-.3366	-.2904	-.2419	-.3043	-.2680	-.2487	-.2289	-.3335	-.2463	-.2427	-.3033	-.1869	-.2703	.0422	-.1815	-.2848	-.0888	.0422	
X4 QD.	-.0186	-.0739	-.0458	.0044	-.0285	-.0258	-.0149	-.0292	-.0267	-.0074	-.0326	-.0253	-.0232	-.0579	-.0125	-.0262	.0221	-.0099	-.0255	-.0163	.0221	
X5 LIN.	-.3154	-.2018	-.2671	-.3367	-.2454	-.2774	-.2078	-.3021	-.2502	-.2374	-.2487	-.2692	-.2579	-.2264	-.2599	.0372	.0372	-.1881	-.2725	-.0718	.0372	
X5 QD.	.0584	.0303	.0551	.0720	.0562	.0648	.0948	.0376	.0455	.0460	.0587	.0598	.0336	.0637	.0772	.0569	.0170	.0417	.0566	.0152	.0170	
X6 LIN.	.1564	.1405	.1414	.1305	.1268	.1200	.1754	.1410	.1262	.1413	.1409	.1025	.1237	.0938	.1091	.1313	.0209	.1133	.1475	.0180	.0209	
X6 QD.	.0147	.0271	.0312	.0152	.0195	.0288	.0133	.0446	.0610	.0326	.0176	-.0011	.0076	.0054	.0014	.0213	.0167	.0048	.0165	.0165	.0167	
X7 LIN.	-.1528	-.2312	-.0996	-.1643	-.1374	-.1376	-.1528	-.1296	-.1440	-.1620	-.1396	-.1998	-.1187	-.1562	-.2082	-.1556	.0345	-.1686	-.1501	.0130	.0345	
X7 QD.	-.0171	.0244	-.0132	.0116	.0415	-.0301	-.0066	.0326	.0010	-.0041	-.0046	.0495	-.0186	.0271	.0090	.0068	.0240	.008	.0064	-.0014	.0240	
X8 LIN.	-.1768	-.1970	-.1798	-.1006	-.1877	-.1714	-.2223	-.2239	-.2419	-.1283	-.1379	-.1548	-.2569	-.2122	-.2025	-.1863	.0434	-.1409	-.1846	-.0454	.0434	
X8 QD.	-.0136	-.0234	-.0643	-.0406	-.0536	-.0118	-.0392	-.0128	.0232	-.0190	-.0104	-.0002	-.0392	-.0259	-.0244	.0221	-.0238	-.0279	-.0006	.0221	.0221	
X9 LIN.	-.3551	-.3702	-.2961	-.3173	-.2925	-.2964	-.3244	-.3407	-.2433	-.2569	-.2501	-.2281	-.2902	-.3014	-.3634	-.3017	.0442	-.2075	-.3009	-.0942	.0442	
X9 QD.	-.0295	-.0298	-.0368	-.0525	-.0381	-.0286	-.0675	-.0443	-.0432	-.0133	-.0197	-.0620	-.0603	-.0583	-.0344	-.0412	.0163	-.0351	-.0525	-.0061	.0163	
X10 LIN.	-.2366	-.2881	-.2065	-.2993	-.2837	-.2167	-.2506	-.2242	-.2126	-.2218	-.2170	-.2939	-.2140	-.2386	-.2154	-.2413	.0333	-.1760	-.2428	-.0653	.0333	
X10 QD.	.0030	.0038	-.0103	.0032	-.0273	-.0012	-.0296	.0030	-.0249	-.0293	.0098	.0268	-.0258	-.0139	.0229	-.0021	.0205	.0042	.0039	-.0063	.0205	
INTERCEPT	2.45	2.47	2.47	2.46	2.46	2.50	2.49	2.49	2.51	2.48	2.50	2.48	2.50	2.49	2.51			2.914	2.47		2.47	
GR. MEAN	2.43	2.43	2.44	2.44	2.44	2.43	2.48	2.46	2.47	2.49	2.46	2.51	2.46	2.47	2.49	2.50		2.46	2.46		2.46	
F	147.9	142.7	88.8	228.2	100.9	84.8	239.3	235.1	108.9	130.6	106.0	98.5	103.2	103.9	201.5			1529.4			20/6459	
DF	20/411	20/411	20/411	20/411	20/411	20/411	20/411	20/411	20/411	20/411	20/411	20/411	20/411	20/411	20/411	20/411						20/411
R ²	.88	.87	.81	.92	.83	.80	.92	.84	.86	.84	.83	.83	.83	.83	.91				.83			.83

3 contains the summary of the differences in predicted values for the 31 treatments (alternatives) for each of the 15 different "main-effects-only" models. As can be seen from Table 3, no t values approach significance at the level $\alpha=0.10$ ($=1.67$); hence, we conclude that there are no reliable prediction differences between the model including interaction terms and the 15 main-effects models. However, it should be noted that all difference means in Table 3 are negative, indicating small, but systematic under predictions.

TABLE 3

Average errors for 31 Randomly Selected Alternatives Relative to the interaction Model Predictions

FLAT #	SUM	MEAN	STD. DEV.	T-STATISTIC
1	-.039	-.0013	.0056	-1.29
2	-.042	-.0014	.0059	-1.32
3	-.041	-.0013	.0058	-1.25
4	-.042	-.0014	.0049	-1.59
5	-.037	-.0012	.0049	-1.36
6	-.040	-.0013	.0048	-1.51
7	-.040	-.0013	.0051	-1.42
8	-.040	-.0013	.0056	-1.29
9	-.038	-.0012	.0056	-1.19
10	-.039	-.0013	.0062	-1.17
11	-.041	-.0013	.0051	-1.42
12	-.039	-.0013	.0058	-1.25
13	-.038	-.0012	.0057	-1.17
14	-.040	-.0013	.0048	-1.51
15	-.039	-.0013	.0054	-1.34

TABLE 4

Average Prediction Errors for Smallest, Median, Largest and Base Alternatives Assuming the Interaction Model to be True

FLAT #	SUM	MEAN
1	-.0010	-.0003
2	-.0010	-.0003
3	0	0
4	-.0010	-.0003
5	-.0010	-.0003
6	0	0
7	.0020	.0005
8	-.0010	-.0003
9	-.0010	-.0003
10	-.0010	-.0003
11	-.0010	-.0003
12	-.0060	-.0015
13	-.0010	-.0003
14	-.0010	-.0003
15	0	0

Table 4 examines four selected treatments based on the predictions of the model with interactions. This is done to simulate a much smaller choice set. The reason for this focus is that minor differences in a vector of 31 predicted probabilities could be exaggerated in small choice sets because the conversion formula is:

$$\hat{p}'(i) = \hat{p}(i) / \sum_j \hat{p}(j), \quad (2)$$

where \hat{p}' is the predicted probability of treatment (alternative i in the smaller choice set) based on $\hat{p}(i)$, $\hat{p}(j)$, the predicted probabilities in the larger set. This formula is simply the MNL model based on the estimated marginal choice probabilities. It can be noted in Table 4, as in Table 3, that the prediction differences are trivial. Thus, we tentatively conclude, at least for this case study, that despite

bias in the main-effects estimates, differences in predictions are small.

If this later finding could be shown to generalize it would be of considerable practical applications importance. Despite bias, one could use "main-effects-only" plans to design alternatives in conjoint simulation systems, and expect little decrement in predictive ability (provided, of course, that the MNL Model is a good approximation of the choice process of interest).

Discussion and Conclusions

This paper has presented and discussed a case study of the degree of bias in the parameters of "main-effects-only" utility functions in MNL choice models for an empirical problem in which there are known to be a large number of significant interaction effects. The research method employed controlled choice simulations in which the only variable was the difference in "main-effects-only" designs. Fifteen different main-effects plans were chosen for study because they aggregate to permit independent tests of both main-effects and two-way interaction effects in the presence of significant but unobserved three-way interaction effects. In this way we tested for significant two-way interaction effects and adjusted the main-effects estimates for them. This permitted us to compare the estimates derived from the 15 different main-effects plans with the estimates of the main-effects adjusted for significant interactions.

Results, as expected, indicated significant bias in the majority of the estimates of the main-effects parameters of the 15 different main-effects plans. Despite this bias, however, the predictions of the "main-effects-only" choice models for a target set of 31 treatments were not significantly different on average from that of a choice model adjusted to account for significant interactions.

We tentatively suggest that controlled choice experiments which use main-effects plans to create choice alternatives, and use 2^N design plans to place these choice alternatives into "choice sets" will produce forecasts of choice probabilities that will differ very little from forecasts based on models which permit utility functions to incorporate significant interactions. This conclusion is not substantially different from that derived by Green, DeSarbo and Kedia (1980) in a numerical simulation of a special case of a wider study of aggregate choice surfaces produced from conjoint simulator systems by Curry, Louviere and Augustine (1981, 1983).

It would be useful to examine these tentative conclusion with respect to other types of empirical problems. In particular, it would be interesting to know whether the number of attributes (ten in the present case) or the directionality of the marginals (large majority positive or negative in direction compared with the mix in this case), or the empirical context (Are there conjoint problems for which the conclusions would be different?) changes the tentative conclusions of this research. While the latter three are not the only important issues in generalization, they are at least key issues which could be examined with existing conjoint data sets. We hope sufficient interest has been generated in this problem to encourage additional case studies so that a better idea of generality can be obtained.

Appendix: Alias Sets for Case Study

It is well known that the exclusion of some nonzero parameters from a model results in biased estimates of the parameters remaining in the model unless the design is orthogonal with respect to the two sets of

parameters. The purpose of this appendix is to exhibit the general nature of this bias, and to identify explicitly the structure for this case study.

Let β_1 denote the main effect parameters (and μ) and β_2 the two factor interactions. Then for any fractional factorial design the true model is

$$\underline{Y} = [X_1 : X_2] [\beta_1/\beta_2] + \epsilon = X_1\beta_1 + X_2\beta_2 + \epsilon \quad (A.1)$$

If the parameters of β_2 are assumed negligible the model analyzed would be

$$\underline{Y} = X_1\beta_1 + \epsilon \quad (A.2)$$

and the resulting least square estimates are

$$\hat{\beta}_1 = (X_1'X_1)^{-1} X_1'\underline{Y} \quad (A.3)$$

The expected value of $\hat{\beta}_1$ is then

$$\begin{aligned} E\{\hat{\beta}_1\} &= E\{(X_1'X_1)^{-1} X_1'\underline{Y}\} \\ &= (X_1'X_1)^{-1} X_1' E\{\underline{Y}\} \\ &= (X_1'X_1)^{-1} X_1' [X_1\beta_1 + X_2\beta_2] \text{ from Eq (A.1)} \\ &= \beta_1 + (X_1'X_1)^{-1} X_1' X_2 \beta_2 \\ &= \beta_1 + A \beta_2 \end{aligned} \quad (A.4)$$

The matrix A is usually called the alias matrix, and the nature of the bias depends upon the matrix A and the values of the parameters in β_2 . For example, if $X_1' X_2 = 0$ (zero matrix), then A is a zero matrix and the estimates of β_1 are unbiased for β_2 .

In this case study there are 15 main effect designs each of which produce a different (nonzero) alias matrix A. The β_2 is the same for all 15 plans. Hence, the differences in bias between main effect plans results from different linear combinations of the elements of β_2 , as directed by the alias matrix for the design. Since the 15 main effect plans in this case are all regular fractions, the effects in β_2 can be partitioned into sets (alias sets) which affect the bias of main effects. Table A1 contains these sets.

TABLE A1

Alias Sets for the Main Effect Plans

Main Effect	Interactions								
F ₁	F ₂ F ₇	F ₂ F ₈	F ₂ F ₁₀	F ₃ F ₈	F ₇ F ₈	F ₉ F ₁₀			
F ₂	F ₁ F ₉	F ₁ F ₁₀	F ₃ F ₄	F ₃ F ₆	F ₄ F ₆	F ₅ F ₈	F ₉ F ₁₀		
F ₃	F ₁ F ₇	F ₁ F ₈	F ₂ F ₄	F ₂ F ₆	F ₄ F ₆	F ₅ F ₁₀	F ₇ F ₈		
F ₄	F ₂ F ₃	F ₂ F ₆	F ₃ F ₆	F ₇ F ₁₀	F ₈ F ₉				
F ₅	F ₂ F ₈	F ₃ F ₁₀	F ₆ F ₇	F ₆ F ₉	F ₇ F ₉				
F ₆	F ₂ F ₃	F ₂ F ₄	F ₃ F ₄	F ₅ F ₇	F ₅ F ₉	F ₈ F ₁₀			
F ₇	F ₁ F ₃	F ₂ F ₈	F ₃ F ₈	F ₄ F ₁₀	F ₅ F ₆	F ₅ F ₉			
F ₈	F ₁ F ₃	F ₂ F ₅	F ₂ F ₇	F ₃ F ₇	F ₄ F ₉				
F ₉	F ₁ F ₂	F ₁ F ₁₀	F ₄ F ₈	F ₅ F ₆	F ₅ F ₇				
F ₁₀		F ₁ F ₂	F ₁ F ₉	F ₃ F ₅	F ₄ F ₇				

The first column contains the main effect factor with a linear and quadratic component. The following columns contain the interactions affecting the bias in the main effect estimation. Note that the interaction for two

three level factors has four degrees of freedom (parameters). It should be noted that there are three more alias sets which contain only two factor interactions. Effects in these three sets are orthogonal to the main effects and hence do not contribute to bias in main effect estimates.

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Abstract

This paper analyzes the situation in which a simple model does not adequately describe the relationships in a multiway contingency table. In such cases the typical solution is to fit models with more complex interactions until an adequate fit is obtained. In some cases, however, the researcher can use structural zeros to retain the simple model for a portion of the population and either ignore or explicitly model the relationships in the remainder of the table. This approach is illustrated in an examination of the relationship of certain demographic characteristics to telephone publication status.

Introduction

Over the last fifteen years, a number of survey researchers have examined differences between the characteristics of households with published versus unpublished telephone numbers. These studies have found that differences exist on a rather large number of demographic variables. For example, households with unpublished telephone numbers are more likely to be urban and from either the east or west coasts of the U.S. and tend to have younger heads and to fall into a low-to lower-middle income bracket. Studies also indicate unpublished telephone numbers tend to be characteristic of individuals who are single, divorced, or separated. Finally, unpublished numbers tend to be more likely in households which are nonwhite, which have young children present, and in which the head has a high school education or less. A review of these results is included in Tyebjee (1979).

In general, the studies which generated these results used an analysis of bivariate relationships--separately examining the effects of demographic characteristics on publication status. However, a more salient question to the practicing consumer researcher would deal with the combined relationship of these characteristics to publication status. That is, what is the probability that an individual with a certain combination of characteristics has a published telephone number? For questions of this sort the researcher would use multivariate analysis. In the analysis of publication of telephone numbers, the researcher would treat publication status as a dependent variable and probably fit a logit model to the multiway table formed from the demographic variables and publication status. Among other things, such an approach would give the researcher greater insight into the relative importance of the demographic variables as predictors and an idea of the variation in proportion published across demographic segments of the population. Perhaps implicit in the mind of the researcher is a simple main effects model--that is, the more of the characteristics individuals have that make them unlikely to publish telephone numbers, the greater would be the expected proportion of unpublished numbers.

This paper analyzes the situation in which the main effects model does not adequately describe the data. A common procedure in such situations is to elaborate the model using interactions. Such a procedure will always improve model fit although at the expense of parsimony. After elaboration, model selection could then be based on a comparison of candidate models using both the fit and parsimony criteria. This paper offers an alternative approach which focuses on identifying the source of the lack of fit and retaining the main effects model for

the portion of the population in which it appears tenable. This approach can offer a more interpretable model since interactions derived under a model elaboration procedure may be theoretically inexplicable and will generally impede the understanding of main effects.

Data

Data analyzed were gathered by telephone interview in October, November, and December 1980 from 1,382 adult women who resided in the 48 coterminous states and the District of Columbia. Respondents for the study were limited to women between the ages of 20 and 59 who were not currently pregnant or lactating. Telephone numbers called for the interviews were selected by random digit dialing. Three call backs were made to numbers which were busy or rang with no answer. Adjusted response rate to the survey was 52.8 percent.

During the interviews, respondents were asked questions about demographic characteristics and whether their number was published in a directory. About 16.5 percent of the sample had voluntarily unpublished numbers and 2.5 percent had involuntarily unpublished numbers--numbers assigned after publication, inadvertently unpublished, etc. Thus, about 19 percent of the sample has unpublished numbers in the analysis. These results are quite consistent with those reported by Rich (1977) for the Bell System and with other previously reported research (Glasser and Metzger 1972, Groves 1978, Groves and Kahn 1979). The analysis reported here is based on 1371 cases, eliminating 11 cases with missing values.

For pedagogical purposes this paper analyzes the relationship between telephone publication status and age, education, marital status, and race. These variables were selected and included as dichotomies for illustrative purposes. As noted earlier, other variables are also related to publication status and could have been used instead of or in addition to the ones selected.

Results and Discussion

Table 1 presents bivariate crosstabulations of age, education, marital status, and race with publication status. In Table 1, all four of the variables had strongly significant bivariate relationships to publication status. Individuals who were nonwhite, nonmarried, younger, or who had less education were more likely to have an unpublished telephone number. These results are quite consistent with the results reported in the literature cited earlier.

As suggested earlier, however, the researcher would probably be interested in the multivariate relationship of the variables and publication status. Table 2 presents observed frequencies in the five way table and the proportion of published numbers by combinations of demographic characteristics. In Table 2, women with all of the characteristics conducive to having a published number--women who were married, older, white, and better educated--had ninety-one percent published numbers. However, only thirty-one percent of the women with all of the opposite characteristics had published telephone numbers. In general in the table, increasing the number of characteristics associated with unpublished numbers tends to increase the observed proportion of unpublished numbers. To formally test the basic main effects model, one would fit a logit model to the data of Table 2.

TABLE 1

Crosstabulations of Publication Status by Selected Demographic Characteristics

	Proportion Published	N	X ²
<u>Age</u>			
Younger (20-34)	.76	589	15.6*
Older (35-59)	.85	782	
<u>Education</u>			
Lower (12 years or less)	.78	761	11.5*
Higher (More than 12 years)	.85	610	
<u>Marital Status</u>			
Married, widowed	.85	1109	58.9*
Nonmarried	.64	262	
<u>Race</u>			
White	.84	1238	68.2*
Nonwhite	.54	133	

*p < .001 with one degree of freedom

TABLE 3

Logit Estimates of Various Models for Publication Status

Model	L ²	X ²	d.f.	P
M1. P, EMRA ^a	147.71	172.72	15	.001
M2. EP, MP, RP, AP, EMRA	24.94	23.95	11	.01
M3. MAP, EP, RP, EMRA	20.43	20.06	10	.03
M4. MEP, AP, RP, EMRA	17.88	19.13	10	.06
M5. MEP, MAP, RP, EMRA	14.93	15.19	9	.09
M6. MEAP, RP, EMRA	8.56	8.59	7	.29
M7. MEP, MAP, REAP, EMRA	6.67	6.85	5	.25
M8. MEAP, REAP, EMRA	1.81	1.87	4	.77
M9. EP, MP, RP, AP, EMRA ^b	7.74	7.82	10	.65

^aP = Publication Status

E = Education

M = Marital Status

R = Race

A = Age

^bSee text.

TABLE 2

Observed Frequencies, Proportion Published, and Standardized Residuals by Demographic Characteristics

Age	Education	Marital Status	Race	Number		Proportion Published
				Published	Unpublished	
Younger	Lower	Non	Non	4 (.3, .6) ^a	9 (-.2, -.3) ^a	.31 (.22) ^b
			White	22 (-1.2, -.4)	27 (1.4, .4)	.45 (.49)
		Married	Non	12 (.1, -.1)	11 (-.1, .1)	.52 (.54)
			White	160 (-.1, 0)	42 (.1, 0)	.79 (.79)
	Higher	Non	Non	5 (.1, .7)	7 (-.1, -.5)	.42 (.30)
			White	70 (1.6, *)	11 (-2.5, *)	.86 (.59)*
		Married	Non	6 (-.7, -.6)	6 (.9, .7)	.50 (.63)
			White	169 (-.3, .1)	28 (.8, -.3)	.86 (.85)
Older	Lower	Non	Non	5 (.1, .2)	8 (0, -.1)	.38 (.35)
			White	30 (-.4, -.1)	17 (.7, .1)	.64 (.65)
		Married	Non	23 (-.3, -.7)	16 (.4, 1.1)	.59 (.69)
			White	335 (.6, .3)	40 (-1.5, -.8)	.89 (.87)
	Higher	Non	Non	4 (.5, .8)	2 (-.5, -.7)	.67 (.45)
			White	28 (-.9, -.4)	13 (1.8, .6)	.68 (.73)
		Married	Non	13 (.5, .4)	2 (-.8, -.8)	.87 (.77)
			White	223 (-.3, -.1)	23 (.9, .5)	.91 (.92)

^aThe first value in parenthesis is the standardized residual under model M1. The second is the standardized residual under M9.^bValues in parentheses are expected proportions under M9.

*See text.

Table 3 presents the results of this model fitting. In Table 3, acronyms for independent variables are the first letter of the variable they represent (i.e., M = marital status, A = age, E = education, R = race, P = publication status) and the inclusion of an interaction implies the inclusion of all lower order relatives. The logit models listed in Table 3 are presented in the loglinear models style employed by Goodman (1970) but are completely equivalent to the style of presentation used by, for example, Green (1978). Interpretation of the models is straightforward. For example in Model 2,

EP refers to the main effect of education on publication status and the other effects are defined similarly. The EMRA term is fit in all the models under the assumption that the joint marginal of the predictor variables is fixed. This assumption is always justified for product-multinomial sampling designs, for example, experiments in which the number of observations within treatment levels is fixed by design. It is convention to also adopt a conditional logit approach when the sampling design is multinomial and the researcher can clearly distinguish response from explanatory variables even

though the number of observations within levels of the explanatory variables is not fixed. Such an approach is advocated by Cox (1970), for example.

Model M1, a logit baseline model is included for comparison purposes. Model M2 is the main effects logit model fit to the data of Table 2. This model does not adequately describe the data and the researcher might, as noted earlier, be lead to consider more elaborate models. DeSarbo and Hildebrand (1980) describe elaboration procedures which could be used for model selection. A subset of the possible models to be considered is included as M3-M8. While models M6-M8 adequately describe the data, the fit comes at the expense of including complex interactions. Further, it is not clear whether, for example, M6 or M7 would be preferred since in both cases the included interactions have no theoretical meaning and are only included to improve fit, i.e., to better reproduce the observed table. It is not uncommon in practice to find loglinear modeling results in which simpler models do not adequately describe the data. As noted, the common practice in such cases is to elaborate the model to find the most parsimonious model which does fit the data. For a consumer research example of this type of elaboration, the reader can see, for example, Peterson, Leone, and Sabertehrani (1981).

An alternative approach to seeking model fit through data dependent fitting of interactions is to examine the main effects model for the source of the lack of fit. This can be done using standardized residuals produced under the main effects model. Standardized residuals produced under M2 are included in Table 2. An examination of Table 2 indicates that the primary source of deviation from the main effects model appears to be women who were younger, better educated, white, and not married, as the residuals for these women are comparatively large. One approach to dealing with these individuals is to assume a different model operates for them than operates for the rest of the population. Thus, rather than attempting to fit these individuals with interactions, one could fit the main effects model to all of the population except for these individuals. Such a procedure could be accomplished using structural zeros.

Structural zeros in a cross-tabulation arise from logical impossibilities--men with hysterectomies, for example--rather than from sampling. The researcher would generally want to treat structural zeros in a special way since models chosen should not fit nonzero expected frequencies to such cells. The analysis of cross-classifications with structural zeros is termed incomplete table analysis and models fit to such tables are termed quasi-loglinear models. Summary treatments of incomplete table analysis can be found in Bishop, Fienberg, and Holland (1975), Fienberg (1980), and Haberman (1979). Loglinear models programs that allow the user to input a design matrix can be used to fit structural zeros; Freq (Haberman 1979) and Multiquail (Bock and Yates 1974) are two of the many programs available. In addition, both BMDP and SPSS-X include loglinear models programs which allow the user to specify structural zeros. All of the models fit in this paper used the BMDP-4F program.

Model M9 treats the cells representing the younger, better educated, white, nonmarried individuals as structural zeros and the resulting improvement in fit of the main effects logit model is dramatic, $L^2 = 7.74$ on 10 d.f. A discussion of how degrees-of-freedom were calculated for M9 is included later. In addition to the chi-square statistic an examination of residuals for this model in Table 2 suggests the model fits the data quite well. The fit of the model suggests that for most of the population, a main effects logit model is appropriate and the expected probability of having a

published number can be calculated easily from the parameter estimates for the model. These estimates are:

Age	
Young	-.323
Old	.323
Education	
12 years or less	-.197
13 years or more	.197
Marital Status	
Unmarried	-.695
Married	.695
Race	
Nonwhite	-.600
White	.600
Constant	.569

Thus the log of the odds of a woman having a published number if she were older, better educated, married, and white is

$$.323 + .197 + .695 + .600 + .569 = 2.384$$

The expected proportion published for those individuals under M9 is calculated as:

$$e^{2.384} / (1 + e^{2.384}) = .92$$

The expected proportions for all of the demographic combinations considered are listed in Table 2.

The problem with the main effects model fit to the complete table is evident from an examination of these expected proportions. While the observed proportion published for younger, better educated, nonmarried white women was .86, the expected proportion under M9 based on the data in the incomplete table was .59. The structural zero approach thus retains the usefulness of the information available from the main effects model--the size of the main effects coefficients, for example, and provides insight into the origins of the lack of fit of the main effects model. These insights are lost when the researcher simply includes interactions in order to more accurately reproduce observed cell frequencies.

Conclusions and Comments

This paper has advocated the use of structural zeros in certain situations in which simple models do not adequately describe the relationships in a data set. The use of structural zeros was illustrated on the analysis of telephone publication status for a situation in which a main effects logit model did not fit a set of data. For some situations this approach seems to be preferable to the data dependent inclusion of interactions for the purpose of achieving model fit. However, in situations in which there are a priori reasons for including the interactions, the researcher would probably not use the structural zero approach. The paper concludes with a few comments on the use of structural zeros in analyzing contingency tables.

- (1) The early work on incomplete table analysis was begun by Goodman (1968, 1969). This early work involved fitting models of quasi-independence to social mobility tables and represented an attempt to account for the clustering on the main diagonal which occurs in these tables. The quasi-independence model applied in mobility analysis fits the model of independence to those cells not on the main diagonal of the table.

Quasi-independence models have also been applied in situations in which researchers are interested in scaling response patterns. The quasi-independence

model is equivalent to a restricted latent class model and quasi-independence can be included as one of many possible models tested in a latent class framework. Illustrations of this use of quasi-independence models can be found in Clogg and Sawyer (1981), Dillon, Madden, and Mulani (1983), and Goodman (1975, 1979b).

- (2) Degrees-of-freedom calculations for incomplete table analysis can be quite complicated and are dependent on the model selected. In the simplest cases, the degrees-of-freedom will be the degrees-of-freedom for the model applied to the complete table minus the number of structural zeros. Fienberg (1980), lists a formula which is useful more generally. Degrees of freedom are calculated as the number of nonzero estimated cells in the table minus the number of estimated parameters. Table 2 contains 32 cells, however since two cells are regarded as structural zeros, there are only 30 cells with nonzero estimated frequencies, i.e., estimation is based on information in only 30 cells. There are 21 unique loglinear parameters implied by a main effects logit model applied to five dichotomous items. In M9, however, the parameters corresponding to the joint marginal of the predictors, EMRA, cannot be estimated because of the zero marginal entry, thus there are $30 - 20 = 10$ d.f. for M9.
- (3) In general, the use of structural zeros is not the same as eliminating offending cases from the original data set, i.e., replacing frequencies in the offending cells with "sampling" zeros. Such a procedure would not, in general, guarantee that these cells would have estimated expected frequencies of zero. However, identical results to M9 could have been obtained by the elimination of younger, better educated, nonmarried white women from the data set and then estimating the main effects model. For this example the results of the analysis with sampling zeros and structural zeros would be identical because of the assumption of a fixed margin for the joint predictor variable. This assumption guarantees zero expected frequencies for the cells in question, i.e., women who were younger, better educated, white, and not married.
- (4) Although in this paper structural zeros were used to eliminate certain cells from the analysis of a table in which a single model was tested, it should be evident that in some cases it will be possible to fit more than one formal model to a table using structural zeros to eliminate certain cells for the first model, then eliminating other cells in a second analysis with another model, and so on.
- (5) Finally, for pedagogical purposes this paper has assumed dichotomous predictor variables within a specified model in analyzing telephone publication status. The author does not advocate collapsing categories of variables indiscriminately; such a procedure can lead to the appearance (or disappearance) of interactions which do not exist (or exist) in the uncollapsed variables (see Goodman 1979a), and thus to erroneous conclusions about the relationships in the table. For discussions on collapsing categories in polytomous variables, the interested reader should consult Duncan (1975), Feick (1984), or Goodman (1981).

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A STUDY OF PSYCHOLOGICAL GENDER DIFFERENCES:
APPLICATIONS FOR ADVERTISING FORMAT

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Abstract

The main purpose of this paper is to explore the psychological differences between men and women and then make suggestions for possible applications to the advertising format. Psychological research has shown that women tend to excel in empathy and interpersonal relationships and tend to minimize hostility and conflict. Men perceive threat from intimacy while women sense threat from separation. These gender differences can be translated into scenarios for advertising format making the advertisement more acceptable to each of the sexes.

Introduction

The topic of gender gap is becoming increasingly popular in politics, sports, advertising, education and employment. Women have become an important factor as they constitute 53% of the total electorate. The nomination of Geraldine Ferraro to the Vice-Presidency of the U.S. by a major political party is an indication of the advances made by women. The position is also changing with respect to the workforce. By 1985, the Bureau of Labor Statistics predicts that 50.3% of all women over 16 will be in the workforce. Also the purchase patterns of working women and women in general are changing. Some of the recent marketing research has concentrated on the difference between various groupings of women (Bartos 1977, 1982; Lazer and Smallwood 1977; Spain and Bianchi 1983; Strober and Weinberg 1980; Venkatesh 1980). In these studies the following segments have been identified; the stay-at-home housewife, the plan-to work housewife, the "just a job" working woman and the career oriented working women. Working women are more involved in financial activities, are more inclined to travel and are more likely to purchase a car on their own than non-working women (Bartos 1977, 1982). It has also been shown that the career-oriented working women, with their changing needs and increasing income, may need to be marketed to differently from the stay-at-home housewives (Bartos 1982; Venkatesh 1980), but the following question still remains: should the valuable working women's segment whose purchase patterns may be becoming more similar to those of the male counterparts be marketed to differently than men who have careers?

One important way to answer the above stated question is to study the psychological differences between the sexes and reach out to them accordingly. As Bem (1981) and Markus and Crane (1982) point out the male-female dichotomy is the most fundamental one in society and it affects the information processing strategies of gender schema. In Marketing while the differences between men and women have been studied with respect to media usage, little research has been reported with respect to the application of psychological gender differences for the purposes of advertising. In psychology, the gender differences have been studied from many angles, sexual, biological, social, and psychological. Primarily the gender differences have concerned topics like androgyny, sex role self-concept, levels of motivation and perception. But it is the psychological gender differences that hold unique promise for advertising. It is the purpose of this paper to explore these differences and suggest propositions, scenarios and hypotheses for application in the ad. format and tone.

We wish to thank Susan Batura for her help at an early stage of this project.

Psychological Bases of Gender Differences

There is a vast amount of literature available on gender differences. Maccoby and Jacklin (1974) was an important comprehensive study on psychological differences. Contrary to what Roberts (1984) said about this study, there have been many advances since then in psychology to further refine the research on psychological differences. Maccoby and Jacklin (1974) pointed out two major gender differences; hostility and empathy. With respect to hostility, there was overwhelming evidence that men scored higher than women on most forms of expression of aggression. With respect to empathy, even though women scored higher on this trait than men the evidence was not conclusive. Since then studies by Antill (1983) and Wheeler et. al. (1983) provide very strong evidence that women have greater capacity for interpersonal relations and empathy than men. The works of Bem (1974, 1977, 1981), Spence et. al. (1975), Markus and Crane (1982) with respect to measurement of sex role self-concept and androgyny are an evidence of the recognition of the gender differences with respect to these two traits. We begin this section with a review of the literature on hostility, then on empathy, and finally how these traits affect the interpersonal relations for men and women.

Hostility and Aggression

The greater incidence of male violence in both fantasy and reality is, as stated by Pollack and Gilligan (1983), and acknowledged by Benton et. al. (1983), a sex difference that is widely accepted. Maccoby and Jacklin's (1974), review of aggression found using a wide variety of behavioral indexes, that males appear to be the more aggressive sex in a wide variety of settings and these studies consistently reveal that males are more aggressive than females.

Aggression may be the intent of one individual to hurt another. In turn, hurt may be the desire to hurt for its own sake or hurt may be the desire to control another person (for other ends) through arousing fear. The degree of hurt may range from vindictive daydreams to physical violence (Maccoby & Jacklin 1974).

Across cultures, Whiting and Pope (1974), found differences between sexes with respect to level of aggression. While physical violence was rare among children (ages 6-10), boys engaged in more rough and tumble play (mockfighting); more verbal insults; and were more likely to counter-attack if aggressed against verbally or physically than girls. Standardized eliciting have been used to research aggression in individuals older than pre-school age. In modeling studies, boys exhibited more aggression than females following exposure to an aggressive model.

There are suggestions that males and females may be equally aggressive in their underlying motivations to hurt. The two sexes may show their aggression differently, though. Maccoby & Jacklin (1974), mention two approaches to explain this hypothesis. The first addresses reinforcement of different forms of aggression. It may be that girls are "allowed" to show hostility in subtle ways but not physical ways. On the other hand, physical aggression may be thought appropriate for boys, whereas cattiness, for example, is not. Different

socialization pressures preclude behavioral differentiation in these two directions. The second approach deals with anxieties about aggression among females. Training girls to think that they may not behave in a certain way and directly punishing them for aggressive behavior actively discourages them from displaying aggression. As a result, it is suggested that females build up greater anxieties about aggression and greater inhibitions against displaying it. This would lead to displacement, attenuation or disguised forms of aggression. While Feshbach (1969), states that when indirect, non-physical forms of aggression are evaluated, the evidence of differences between males and females is not compelling as with physical aggression. However, Sears et. al. (1965), found that boys did display both more physical and more verbal aggression. Hotfield, et. al. (1967), and Whiting and Pope (1974), reported similar findings.

Some studies show that girls have a great deal of information about aggression that they never put into practice. "The question is whether their failure to perform aggressive actions is to be attributed to anxiety-based inhibition that has been developed as a result of negative socialization pressure in the past." (Maccoby and Jacklin 1974).

These lines of thinking follow those of Freud and presume that females are abnormal in repressing aggression; that the open aggressive behavior of males is normal. Perhaps, the lesser ability of males to extend understanding, affection and sympathy (female traits) leads them to exhibit greater aggressive behavior. Maccoby and Jacklin "urge serious consideration of the possibility that the two sexes are not equal in initial aggressive response tendencies."

On the basis of existing studies, Maccoby and Jacklin (1974) state that girls and women are less the objects as well as agents of aggressive action. "Males aggress primarily against each other and seldom against females" Pollack and Gilligan (1982), though, found that women are most often the victims in fantasies. Evidence that biological differences play a role in expression of aggressive behavior also exists. Studies conducted with animals show that females injected with male hormones exhibit increased aggressive behavior. When males are injected with female hormones, they become less aggressive.

In addition to being expressed as interpersonal hostility, male aggressiveness has also been thought to express itself through competition and dominance. Males are more interested in competitive sports than females. Competition involves varying degrees of aggression and cooperation (e.g. team versus individual sports). In academics, both sexes are equal but academic achievement does not involve defeating another as do sports.

With regard to dominance, studies conducted by Omark and Edelman (1973), reveal that: boys congregate in larger groups than girls; sexes tend to stick together although a few girls (the "toughest") could be found in large groups; there was more rough and tumble play among boys; boys were rated as "tougher" with some overlap where the toughest girls were tougher than the least tough boys; and boys' dominance hierarchies were more stable than those of females. The establishment and maintenance of dominance hierarchies among animals has also been studied and supports these findings. In general, it appears that boys dominate others, particularly other males, more frequently than females dominate others. Girls tend to be more compliant, but primarily toward adults rather than peers. Maccoby & Jacklin (1974), suggest that girls may attempt to form a "coalition" with adults "as a means of coping with the greater aggressiveness of boys, whose dominance they do accept."

Traditionally, these patterns have differed for adults, though. Marriage, in the past, was more important to women because of economic necessity, sexual double-standards, and the rearing of children. As a result, women were more likely to accept, rather than reject, dominance. As women continue to enter the work force, they are less inhibited with regard to sexual relationships outside of marriage and have fewer children, their reasons for accepting or tolerating male dominance no longer exist.

Empathy

While Maccoby and Jacklin (1974) found little support for gender differences with regard to empathy and related capacities, psychological theory has long accepted that women are emotionally more responsive, sympathetic, empathic, nurturant and interpersonally oriented than men (Eisenberg and Lennon, 1983; Anderson and Bem, 1981; Deaux 1976; Hoffman 1977).

Definitions of empathy have varied over the years. In recent years, empathy has been defined in affective terms (affective responsiveness to another's emotional state). Empathy has also been defined as the ability to feel the same emotion as another (Feshbach and Roe 1968; Stotland 1969). Coke, Batson and McDavis (1978), equate sympathy and compassion with empathy. Still others see empathy as a combination of emotional matching and sympathetic responding (Hoffman 1982; Mehrabian and Epstein 1972; Eisenberg and Lennon 1983).

Hesselbart (1981) treats the male characteristics of dominance and aggressiveness and the female characteristics of warmth, nurturance, cooperation and sensitivity as "perceived" difference. Theorists generally believe that sex role differences are in some way related to women's part in reproduction. Sociobiologists believe that females, because they can be certain that their offspring are theirs, have more of an investment in their children. Males never know for sure whether their children are indeed their own. "This investment difference puts males in a sellers market, competing to be attractive to females," (Hesselbart 1981). Historically, males have been able to provide females with economic provision and protection, which increased their attractiveness. As a result, sociobiologists believe that aggression and other male traits were predisposed in males. Likewise, nurturance was predisposed in females because of the long dependency of infants.

The predisposed traits, though, may be changing in importance as children have become less of an economic necessity since the industrial revolution. Women, after the industrial revolution, moved outside of the home and began earning incomes of their own. Thus, economic provision by males may not have the same degree of importance as it once did. Whether the associated masculine traits such as aggression will also weaken is yet to be seen.

Garai and Scheinfeld (1968) found that girls are more interested in social stimuli of all kinds. They are more responsive to the nuances of relationships as implied by social cues and are more sensitive to the reactions of others toward one another and toward themselves. Females exhibit greater interest in people and show a greater capacity for interpersonal relations (Maccoby & Jacklin 1974). Some recent research discusses cultural influences and the socialization process as being responsible for the sex differences noted here (Thomas 1983; Hesselbart 1981). Parsons and Bales (1955), classified men as liason between family and society (instrumental role) and females as the facilitators of interpersonal harmony within the family (expressive role) on the basis that males and females have been socialized to assume these roles.

As previously discussed, it has been speculated that the

sexes may be similar in their knowledge of aggressive responses but differ in their willingness to display or accept them due to negative socialization processes (Maccoby and Jacklin 1974; Eisenberg and Lennon 1983). If this is the case, then it is possible that these tendencies may change over time as society changes. However, this does not alter the fact that these differences are apparent in our society today, or that they affect the way people perceive and react to themselves, others and their environment.

Eisenberg and Lennon (1983), contrary to Maccoby and Jacklin (1974), report that differences in empathy between Males and females do exist. It should be noted, though, that the greatest psychological differences between sexes with regard to empathy result when the test measures are self report scales. The differences strongly favor women. When reflexive crying and self report measures in lab settings were used, moderate differences favoring females were found. Physiological or unobtrusive observations of nonverbal reactions to another's emotional state yielded no differences between sexes.

Evidence of sex differences also comes from psychological research dealing with the way men and women construct relationships between themselves and others (Bakan 1966; Carlson 1977; Guttman 1965; McClelland 1975; Miller 1976; Witkin 1979). McClelland (1975) in observing fantasies of women and men, concluded that women are more oriented to both sides of interdependent relationships whereas men are more likely to structure social relationships in a hierarchy. Gilligan (1977) found that judgements of men are characterized by a morality of rights designed to protect separation. It was also found that judgements of women are characterized by reasonability and tend to sustain relationships among individuals.

Effects of Hostility

Given the psychological gender differences of aggression hostility and empathy, a question remains as to whether these traits affect the structuring of human relationships. Pollack and Gilligan (1982) analyzed fantasies of aggression to determine if they reflected differences in the way men and women perceive social realities and in the way they structure relationships between self and others. In their review of existing literature, Pollack and Gilligan (1982) noted that Bramante's study (1970), was the only one to address the connection between aggression and affiliation in fantasy. Bramante reported that men responded violently to romantic films. Horner (1969) indicated that women responded with violent imagery to achievement cues while May (1980) interprets differences in male and female fantasies as being due to the fact that women inhibit aggression and assertion and that men fail to perceive social relationships. Peplau (1976), connected competition and aggression and speculated that women with traditional roles and women who fear success see competition as an aggressive act that attempts to hurt or dominate the opponent.

Pollack and Gilligan (1982) hypothesized that men would project more violence (infliction than achievement) and that women would project more violence into situations of achievement than affiliation. Situations of affiliation were portrayed by people in close relationships to one another (man and woman in peaceful scene). Situations of achievement were portrayed by people primarily at work. The resulting study showed that men and women perceive danger in different situations. There was a much greater incidence of violence among men in situations of affiliation in fantasy. The reverse held true for women.

The difference between the sexes is linked to man's perception of danger in intimacy and woman's perception of danger in isolation from relationships. Content analysis revealed that the danger in situation of affiliation as seen by males, is a danger of entrapment in relationships or of rejection or betrayal. The perceived danger elicited feelings of hostility. The danger that females described in situations of achievement, on the other hand, was a danger of isolation and being left alone.

Men perceived the most danger in situations where people were touching physically and women perceived the most danger in situations where a person was totally alone. Competitive situations appear safe to men as they establish clear boundaries, protection separation, between people. These same boundaries, to women, represent the possibility of isolation, being set apart. Women who associated violence and isolation did so as a result of being singled out from others.

In contrast to the findings of Maccoby and Jacklin (1974), Pollack and Gilligan (1982), found that in fantasy women were often the victims of aggression than males. It was suggested that in fantasy, aggression may be substantially different. Pollack and Gilligan (1982) state that man's perception of relationships as dangerous and of women as victims of violence underlines the reality of women's fears. Women see relationships as protective, as a means of avoiding isolation. The fact that women often continue relationships in which they are being hurt may be due to their perception of relationships as protective. That has sometimes been interpreted as masochism, may only be that it is often difficult for women to overcome their beliefs and realize that a particular situation is dangerous as opposed to safe. The same situations where women seek safety (affiliative) are where men perceive danger and situations men find safe (isolation) women perceive danger.

Effects of Empathy

A study by Antill (1983) found interesting results with married couples. Individuals were rated on various dimensions of femininity and masculinity. Antill hypothesized that males would be happiest when paired with an androgynous (i.e., people who have both masculine and feminine traits) female; females would be happiest with an androgynous male; that happiness would be greater in couples where there is at least one androgynous partner; that complementary couples would be happier than those who are similar. The hypotheses could not be supported as it was found that couples, where both partners were rated high on femininity, were happier than couples where one or both partners were low on this dimension. Similar couples were clearly happier than complementary couples. Femininity in both sexes was found to be the most important ingredient in marital happiness. It seemed that the femininity of the wife was more important in the early years of marriage whereas the husband's capacity for feminine traits increased in importance in later years with the arrival of children. The feminine traits used in this, and similar studies, centered on capacities such as empathy, sympathy and understanding. Specifically, feminine scale items included being: cheerful, affectionate, loyal, sympathetic, sensitive to needs of others, understanding, compassionate, eager to soothe hurt feelings, warm, tender, gentle and loving children. Masculine scale items were: defending own beliefs, being assertive, having strong personality, being forceful, having leadership ability, making decisions easily, being dominant, willing to take a stand, being aggressive, acting as a leader, being individualistic and ambitious. It has also been found that individuals high on androgyny scales, which are by definition high in femininity, have greater flexibility in sex role behavior thus increasing harmony in relationships (Ickes, and Barnes 1978; Gilbert et. al. 1978;

Bem 1975; Giele 1978). In a study conducted by Gilbert et. al. (1978), it was found that both males and females saw the ideal opposite-sex person as being more androgynous than the sex-typed extreme. While masculine traits may result in self-confidence, achievement and leadership, they do not appear to be the qualities associated with long-term relationships.

Loneliness

Loneliness can be defined as the relative absence of meaningful social participation. Psychological gender differences have been shown to exist with respect to loneliness. As reported by Jones, Freeman and Goswick (1981) loneliness correlates with low self-esteem, shyness, feelings of alienation and external locus of control. A variety of other variables such as inhibited sociability (Horowitz and French 1979); boredom; restlessness and unhappiness (Perlman, Gerson and Spinner (1978); and dissatisfaction with social relationships (Russel, Peplau and Ferguson 1978) have also been shown to correlate with loneliness.

Russel, Peplau and Cutrona (1980) identified factors which related to loneliness. One of these factors was number of close friends. A study by Rubenstein (1979) also found that lonelier people had fewer close friends. These studies do not address gender differences with respect to the effectiveness of males and females as friends. Nor has any distinction been made between quality of interaction and quantity of interaction.

Prior discussion clearly indicates that males and females greatly differ in their ability to respond effectively in social relationships. The greater social responsiveness and empathy attributed to females should result in less loneliness in those individuals who interact with female friends. A study by Wheeler, Reis and Nezlek (1983) explores the differences associated with gender and with quality versus quantity of interaction time.

Wheeler et. al. (1983) found that the degree of loneliness expressed by both sexes was negatively related to the amount of time spent with women, the less lonely an individual. It follows that women who appropriate more social time to males than females would be more lonely. Both sexes were found to require the qualities of disclosure, intimacy, pleasantness, and satisfaction in order to avoid loneliness.

While both sexes need the same things in a relationship in order to prevent loneliness, it has been indicated that females are more adept at providing them. Males were found to be less close to their best friend of the same sex and to other friends than females. Therefore, in order for the time spent with males to reduce loneliness, the experience must be more meaningful than the time spent with women, since females contribute more meaningfulness and emotional closeness to social interaction.

Psychological femininity was also found to play a significant role in loneliness. Individuals, whether male or female, who possessed the more feminine traits (expressive/affiliative) were less lonely. Masculinity did not correlate with loneliness. Meaningfulness in interactions was correlated with the existence of femininity for males. This held true for interactions with other males and with females. Turning to the quantity of time spent as opposed to meaningfulness, femininity was correlated with time spent with females for both sexes. When well-being is measured in terms of emotional contact and cohesion, those individuals high in femininity demonstrate greater well-being.

Time spent with females and femininity independently overlap with meaningful interactions with males as predictors of loneliness for males. According to Wheeler et. al. (1983), meaningfulness with males predicts loneliness largely by itself for females.

Overall, the strongest predictor of loneliness was found to be interaction meaningfulness. The ability to develop meaningful relationships or interactions would therefore be a desirable trait for males and females. Literature has shown that in any interaction the presence of at least one female partner results in more intimacy and closeness for both the sexes (Deaux 1976; May and Henley 1981) and therefore more meaningfulness. Wheeler et. al. have suggested that females may be able to elicit latent intimacy behavior from males, or alternatively that females simply add intimacy which is experienced by both partners in an interaction. It is pointed out by these authors that men high in meaningfulness spend more time with women and may learn to contribute more to a relationship, increasing their desirability to others as partners. Furthermore, Helson (1964) has suggested that because meaningfulness with males occurs less frequently than does meaningfulness with females, it may have greater reward value for both men and women. Thus findings with respect to loneliness and androgyny further lend support to the higher or superior interpersonal empathetic capabilities of women as compared to men.

Measurement of Sex Role Differences and Applications in Marketing Literature

The measurement of sex role differences poses a problem, i.e. whether it should be on sex basis (male or female) or whether it should be on the basis of sex role self-concept from the point of view of social desirability. Psychological literature contains plenty of information. Bem (1974) suggests that on the basis of gender self-concept people can be divided as: highly masculine, highly feminine, and androgynous which is equal on both feminine and masculine traits. In this study sex role orientation was measured on Bem Sex Role Inventory (BSRI). Spence et. al. (1975) challenged Bem's concept of androgyny based on balance between feminine and masculine items, and instead proposed 4 categories: high masculine-low feminine, high feminine-low masculine, high feminine-high masculine, low feminine-low masculine. The third group was termed as androgynous and the fourth group was termed as undifferentiated. The main difference between Bem and Spence et. al. classification being that androgynous were defined to be high on both masculinity and femininity rather than a balance between the two. Measurement was done on an inventory similar to BSRI called Personal Attribute Questionnaire (PAQ). Bem (1977) modified her categories and accepted the four divisions suggested by Spence et. al. and also accepted the idea of scoring along the median split.

The idea of sex role self-concept is important because people process information on lines of gender schema. The theory of gender schema has special significance for application in marketing and advertising. According to Bem (1981) the biological dichotomy in society is the most fundamental. The sex-typed schematics (high masculine, high feminine) process information fast with regard to their respective gender. The androgynous people process information with equal speed with respect to both masculine and feminine items. Markus and Crane (1982) further refine the concept in their self schema theory in which the sex typed schematics are divided into masculine schematics and feminine schematics. These two groups are presumed to process information with respect to their gender but not necessarily with equal efficiency. The androgynous group processes information efficiently on some masculine traits (self-confidence) and some feminine traits (nurturance and compassion).

The undifferentiated group does not process information with respect to either schema efficiently. This group is aschematic. The major contribution of Markus and Crane (1982) is to further differentiate between masculine schema and feminine schema. In the Marketing literature, there is greater support reported for Markus and Crane than for Bem's classification (Gentry and Haley 1984).

Marketing Literature and Gender Differences

The question is how can this knowledge of the gender differences be used to the best advantage in the area of marketing. A review of Marketing literature reveals that gender differences have been studied in various marketing contexts. The main thrust of the consumer research to date, has been the analysis of gendered products and the effects of sex role self-concept on product perceptions i.e. masculine and feminine product perceptions (Allison, Golden, Mullet and Coogan 1980; Alreck, Settle and Belch 1982; Gentry and Haley 1984; Golden, Allison and Clee 1979; and Zimkond, Sciglimpaglia, Lundstrom and Cowell 1984). Other topics addressed are sex Role Stereotyping in ads, the portrayal of females in advertisements, and comparisons among different groups of women (Bartos 1977; Fennell and Weber 1983; Martin and Roberts 1983; Roberts 1984; and Venkatesh 1980).

Trends in research on the effect of sex role self-concept on product perception indicate that the sex of an individual has more important influence on how that individual sex types a product than is sex role self-concept. Because sex role self-concept is typically measured by the "modified" "Bem Sex Role Inventory" (using four categories as opposed to three) which includes those psychological traits considered to be different for males and females, it appears that such gender differences do not have a strong impact on a product being perceived masculine or feminine (Allison, Golden and Coogan 1980; Gentry and Doering 1978; Golden, Allison and Clee 1979). Golden et. al. (1979) implied that product sex type is related to the sex of the person that is typically thought of as using the product. Limited support was found for the conclusion that males will perceive a feminine typed product as more sex typed and that females will perceive a masculine typed product as more sex typed for both masculine and feminine product images. Sex role self-concept appeared in this study to be an influence on sex typing of specific products.

Only a few studies have appeared in the marketing literature with respect to advertising and gender differences. Alreck, Settle and Belch (1982) pointed out that advertisers often "gender" their brands by making the brands appear more masculine or more feminine through the use of sex stereotypical messages or portrayals. The results of this study indicated that the effect of individual sex role specificity differs between men and women. For males, "the more they tend to prescribe behavior on the basis of sex, the more they accept the masculine brand and reject the feminine brand" (Alreck et. al., 1982). Greater sex role specificity among females results in greater acceptance of the feminine brand, however, this does not appear to affect the acceptance or rejection of masculine brands. Furthermore, Fennell and Weber (1983) is perhaps the only study that suggests the application of psychology of women to the portrayal of women in advertising from a feminist point of view, they do not provide concrete suggestions as to how these psychological differences can be translated into ad. format

As evidenced by current advertisement, industry appears to be placing more emphasis on male/female relationships, and interpersonal relationships in general. Therefore, greater attention is being paid to the feminine traits that are important in building relationships (e.g., Diet-Pepsi; Bell Telephone/AT&T). Because these ads have

appeared for a variety of products and companies, one would believe that research has been conducted within industry. Yet, no evidence from a psychological perspective was found in consumer and marketing research to explain why these advertisements would be more appealing. As the psychological literature indicates, men and women bring different attributes to relationships and, therefore, a better understanding of these attributes might be used to make advertising more effective.

Gaps in consumer research also are evident with respect to the existence of "male" traits and "female" traits in males. Research has indicated that as women progress in the work force to positions traditionally held by men, they are gaining in self-confidence an attribute usually assigned to males. It is yet to be seen whether these women are taking on the more negative masculine traits frequently associated with self-confidence as well: competitiveness and aggressiveness. If so, how should this influence marketers with regard to the portrayal of women in advertising?

As women increasingly fill traditional male roles, it would be beneficial for marketers to know whether psychological gender differences and/or occupational differences will play a role in advertising effectiveness and purchasing patterns. As males are increasingly "told" they are allowed to display the feminine traits of empathy, etc. should marketers portray them as such? Should advertisers take the initiative and accentuate the positive male/female traits that are found in more androgynous persons and downplay the extreme masculine and extreme feminine traits that are considered to produce a less healthy psychological outlook? Or, should the advertisers continue to perpetuate the stereotypes?

The lack of research on psychological gender differences in relation to advertising format has led us to the development of the following propositions. These proposals should be viewed as initial steps toward understanding how knowledge of psychological gender differences can be used in the creation of advertising.

Propositions for Research

By paying greater attention to the psychological gender differences, it is proposed that advertising can be made more appealing. In turn, it is hoped that more appealing advertising will lead to more effective advertising.

Proposition I

Advertising can be made more appealing by creating less threatening scenarios in ads. The following scenarios could be tested:

For Males. Male socializing with female in a casual setting; male socializing with female in an intimate setting.

Hypothesis: The first scenario will be less threatening to males as it avoids the feeling of entrapment and affiliation that could be conveyed by the second scenario. As a result, the first scenario will be more appealing.

For Females. Female socializing with one or more females who are peers; female "BOSS" directing or supervising a lower level female at work.

Hypothesis: The first scenario will be less threatening and therefore more appealing to females. The hierarchy of the second scenario presents greater chance of isolation for the female supervisor and less affiliation.

These hypotheses stated above follow from the research of Pollack and Gilligan (1982, that deals with violence

resulting from situations of affiliation and isolation. It was found that males felt more danger in situations of affiliation whereas females had a greater fear of isolation resulting from achievement and being singled out from others.

For Males and Females. Female in a meaningful relationship with a male; female "BOSS" directing or supervising a male.

Hypothesis: The first scenario will be less threatening to males and females. As in the previous test, the affiliation present in the first scenario will be appealing to females. As indicated by Maccoby and Jacklin (1974), males more frequently attempt to dominate. Because the second scenario does not allow for this, it (the scenario) will be less threatening and therefore more appealing.

Proposition II

Advertising can be better targeted to the sexes by paying attention to the number of "friends" involved in the ad. The following scenarios can be tested:

For Males. Males socializing/playing in a large group (of males); males socializing/playing in a small group (of males).

Hypothesis: The first scenario will be more appealing to males as they have a preference for large groups.

For Females. Females socializing/playing with a large group (of females); females socializing/playing with a small group (of females).

Hypothesis: The second scenario will be more appealing to females as they have a preference for small groups.

These hypotheses are drawn from Maccoby and Jacklin's review (1974), of Omark et. al. (1973), that found that boys congregate in large groups while girls gravitate toward groups of two's and three's.

Proposition III

Attention to the level of competition depicted in an advertisement can affect the appeal of an ad. Scenarios to be tested:

For Males. Male competing against self (academically or athletically); male directly competing against others (as an individual or part of team).

Hypothesis: The second scenario will be more appealing to males as it establishes boundaries and hierarchies as presented by competition.

For Females. Female competing against self (intellectually or athletically); female directly competing against others (individually or part of team).

Hypotheses: Females will find the first scenario more appealing as they are less concerned with defeating and aggressing against others.

There is little doubt that males are more interested in competitive sports. While males and females are equal academically, striving for academic achievement does not involve defeating another. The kind of competition present in certain sports involves varying degrees of aggression (Maccoby and Jacklin 1974).

Proposition IV

Avoiding the presence of loneliness in an ad can make the ad more appealing. The following scenarios have

been developed for testing:

For Males. Male with female(s) - no emphasis/presence of meaningfulness in relationships; male with male(s) - no emphasis/presence of meaningfulness in relationships.

For Females. Female with female(s) - no emphasis/presence of meaningfulness in relationships; female with male(s) - no emphasis/presence of meaningfulness in relationship.

Hypothesis: The first scenario for males and the first scenario for females will be most appealing. This is based on research which indicates that the more time spent with females (regardless of meaningfulness) the less lonely a person is, male or female (Wheeler et. al. 1983).

Proposition V

Also related to loneliness, deals with the meaningfulness of relationships and their portrayal in ads.

For Males. Male sharing personal feelings with another male (best friend); male sharing personal feeling with a female.

Hypothesis: The second scenario will be more appealing to males. To stave off loneliness, meaningfulness and closeness, must exist in a relationship. Males are less close to their best male friend than they are to a female (Wheeler et. al. 1983).

For Females. Female spending social "non-meaningful" time with female; female sharing personal feelings with female.

Hypothesis: The two scenarios will be equally appealing to females. Time spent with females is important but meaningfulness of time does not add extra benefits (Wheeler et. al. 1983).

Proposition VI

Loneliness and happiness can also be related to the existence of feminine traits in males, and androgyny in general. By portraying males with more feminine traits advertising can be made more appealing. Male interacting with child in an affectionate, gentle, compassionate, nurturing way (feminine); male interacting with child in an assertive, dominant, forceful, aggressive way (masculine).

Hypotheses: The first scenario will be more appealing to both sexes as it has been shown that both men and women prefer individuals who bring female characteristics to interpersonal relationships (Antill 1983). It has also been shown that greater well-being exists among persons high in femininity (Wheeler et. al. 1983). Androgynous male and female interacting; sex-typed extremes, male and female, interacting.

Hypothesis: The first scenario will be more appealing to both males and females as each sees the ideal opposite sex person as being androgynous (Antill 1983).

Proposition VII

This final proposition combines the aspects of group size and meaningfulness of relationships. Test:

For Males. Male sharing close, personal feelings with one male; male sharing close, personal feelings with small groups of males.

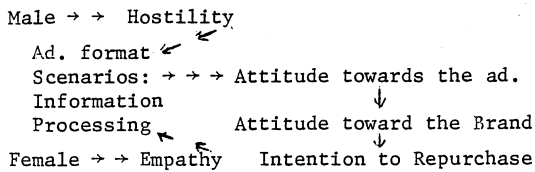
Hypothesis: Because males tend to be close or intimate with only one friend, the first scenario would be more

appealing.

For Females. Females sharing close, personal feelings with one female; female sharing close, personal feelings with small group of females.

Hypothesis: Both scenarios will be appealing to females as they have the capacity for having close relationships with a greater number of persons (Wheeler et. al. 1983).

The testing of these hypotheses ought to be a challenging task. Edell and Burek (1984) posit that various ad. formats be experimented to determine the degree of involvement. If we combine Markus and Crane's (1982) self-schema gender theory with McKenzie and Lutz (1982) model of the effect of the attitude towards the ad. on the attitude towards the brand (from the perspective of classical conditioning), the following conceptual model may be suggested:



The main thesis here is that the psychological gender differences may determine the tone of the ad., which would determine the extent of involvement, attitude towards the ad. and attitude towards the Brand. Already there is some evidence with respect to the effectiveness of emotional advertising (Puto and Wells 1984; Ray and Batra 1983).

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GENDER ROLE PORTRAYALS IN ADVERTISING: AN INDIVIDUAL DIFFERENCES ANALYSIS

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Introduction

In recent years, researchers have been monitoring an increasingly dynamic consumer market with respect to social roles relating to gender. In particular, most of the attention has focused upon the changing role of women in contemporary society. Much of the research has been limited to the examination of sex role portrayals in advertising (Courtney and Lockeretz 1971; Wagner and Banos 1973; Wortzel and Frisbie 1974; Venkatesan and Losco 1975; Belkaoui and Belkaoui 1976; Lundstrom and Sciglimpaglia 1977; and Weinberger, Petroskius, and Westin 1979). The content of this research, which utilizes mass media as the focal point for investigating social change, has primarily been one dimensional in that it is limited to variations in the content of advertisements as they have evolved over time. Empirical investigations geared toward the reactions of those viewing the changing roles depicted in promotional campaigns have been given little attention.

The purpose of the current study is to bridge the gap between these noted changes in advertising and consumer reactions to these changes. The effect of specific audience characteristics on reactions to divergent roles in advertisements portraying women will be examined. The personality and attitude of the viewer are believed to be salient diagnostic audience characteristics to be investigated. Specifically, the masculine, androgynous, feminine nature of personality is expected to explain differences in reactions to changing female roles in advertisements. In a dynamic sex role environment, such a personality variable may be more explanatory than gender per se. Viewer's attitudes toward the role of women in society is also investigated as an explanatory variable eliciting an evaluative reaction to traditional versus non-traditional role portrayals in promotional campaigns.

Literature

The trait approach measuring masculine, feminine, and androgynous (i.e., both masculine and feminine) personality characteristics has been applied in a limited number of marketing studies. These have examined such issues as product and brand use, leisure time activities, media exposure, and decision making (Burns 1977; Gentry and Doering 1977). It was proposed in these studies that the consumer's personality trait would identify differences in behavior not explained by gender. Some significant findings supporting this proposition were reported. Burns (1977) found that female consumers having masculine personality characteristics reported having a more dominant influence in family decision making for some product categories. Gentry and Doering (1977) reported that androgynous individuals significantly differed from others in their leisure time activities in that they tended to be more active recreationally. However, personality characteristics of this type were not found to explain differences in product use, brand preferences, or media exposure. In the study presented herein, the concept of masculine, androgynous, feminine personality is examined as an explanatory variable with respect to reactions to advertising content rather than preferences for particular types of media.

The attitude of consumers toward the role of women has been identified in the marketing literature as a factor

in profiling lifestyles and in influencing family decisions. Green and Cunningham (1975) investigated differences in consumption related aspects of family decision making between families in which the wife is characterized by varying role related attitudes. Wives with a liberal view of the female role were more likely to participate with their husbands in decision making than their conservative or moderate counterparts. Liberal minded women actually dominated the decision process in selected product categories. Duker and Tucker (1977) examined the reactions to stereotypic female roles portrayed in advertisements by women who were measured on independence and predispositions to the women's liberation movement. Their findings indicate that neither independent personalities, nor pro-feminist views affected the subject's regard for the stereotypic female role in advertisements.

Venkatesh (1980) found that three groups of women, who were identified as traditionalists, moderates, and feminists, differed significantly across various demographic, lifestyle, and magazine readership dimensions. In addition, a large number of feminists, unlike traditionalists, perceived that role portrayals in advertising depict women as "sexual objects" and do not reflect changes that are taking place in contemporary social values. The measures employed were self reported general attitudes. In contrast, the current study undertaken actually measures reactions to specific role depictions in varying advertisements.

Hypotheses

As a consequence of contemporary changes in sex related social roles, it is expected, as indicated by the above literature, that variations in consumer behavior are a function of personality type rather than gender. It is hypothesized in this study that the masculine, androgynous, feminine personality proclivities of advertising viewers will explain more variation in purchase intentions than gender by itself for a product promoted by a traditional versus non-traditional female model. Thus, males and females may react similarly to varying female roles; but masculine, androgynous, and feminine women, and men, may differ significantly. It is felt that a viewer's reaction to a particular sex related role will be congruent with their gender trait personality. That is, women with masculine personalities will be more likely to react positively to the portrayal of a female model in a traditionally male-linked role, whereas feminine women will react favorably to a traditional female role for the model. In contradistinction, both masculine and feminine men will react negatively to a non-traditional female role for the model. Androgynous personality types of both genders should react similarly to either traditional or non-traditional role portrayals.

Consumers' reactions to traditional versus non-traditional role depictions are also expected to be consistent with their attitudes toward female roles. Consumers with liberal attitudes toward the role of women are expected to react more favorably to the portrayal in advertisements of a non-traditional female role than those consumers with conservative or moderate views. This expectation is consistent with previous findings, noted earlier, that liberal women differ significantly from others in several consumption related behaviors.

Methodology

Due to the complexities involved in testing the reactions to an advertisement and intention to buy, a bogus product was utilized in this study. This reduces the problem of previous exposure to advertisements and/or previous experience with the product. A bogus brand of mouthwash, Min-Tee, served as the product stimulus. The product category was chosen because of a Target Group Index report indicating a balanced user ratio between men and women. Thus, it is assumed that the bogus brand, Min-Tee, is neutral and not necessarily associated with a gender related image. This neutral image is deemed important because of the gender role focus of the research.

The data were collected by personal interviews throughout the City of New York. The interviewers were trained during eight sessions conducted over a four week period. The training included instructions on general interviewing techniques, handling non-response, and role playing situations concentrating specifically on eliminating interviewer bias. A total of 435 interviews were conducted, but after editing, there were a total of 420 useable interviews.

There were several types of data collected during the interviews. First, the intention to buy the product was measured. A five point scale anchored by definitely would buy and definitely would not buy was employed for this measure.

Subjects' masculine, androgynous, or feminine personality was also measured. Bem's Sex Role Inventory (BSRI) was employed which treats masculinity and femininity as two independent dimensions. The inventory consists of disguised structured questions in the form of an adjective checklist with a seven point scale anchored by almost never true and almost always true. See Table 1 for the BSRI checklist. Respondents were asked to indicate how well each personality characteristic described him/her.

Bem (1974) estimated the internal consistency of the BSRI by computing alpha coefficients separately for the masculinity and femininity scores of subjects in each of two samples. Results found the scores were highly reliable (Masculinity = .86, Femininity = .80, Androgyny = .85). The relationship between masculinity and femininity was independent with correlations approximately zero. Test-retest reliability was calculated after the scales were administered for a second time to a subset of the original sample. The three scores proved highly reliable over the four week interval between tests (Masculinity $r = .90$, Femininity $r = .90$, Androgyny $r = .93$).

Subjects' attitudes toward the role of women in society were measured using the "autonomy for women" inventory developed by Arnott (1972). The autonomy inventory is shown in Table 2 and consists of ten Likert-type statements. The intensity of agreement with the statements is measured on a seven point scale anchored by strongly agree and strongly disagree. Scores were tabulated and subjects were categorized as conservative, moderate, or liberal. The points scored on the ten item inventory can range from 10 (strongly negative on all items) to 70 (strongly positive on all items). According to Arnott's scheme, scores ranging from 10-25 are categorized as conservative in attitude toward the autonomy of women, those with scores ranging from 33-47 are moderate, and those with scores ranging from 55-70 are liberal. The seven point separation between conservative and moderate, and between moderate and liberal categories is used in the scoring to distinguish the three categories by intensity of responses. The reliability of the "autonomy for women" inventory was

examined by Arnott and produced an $r = .78$ in a test-retest of sociology students.

TABLE 1

ADJECTIVE CHECKLIST MEASUREMENT OF FEMININITY, MASCULINITY AND ANDROGYNY

1. self-reliant	31. makes decisions easily
2. yielding	32. compassionate
3. helpful	33. sincere
4. defends own beliefs	34. self-sufficient
5. cheerful	35. eager to soothe hurt feelings
6. moody	36. conceited
7. independent	37. dominant
8. shy	38. softspoken
9. conscientious	39. likeable
10. athletic	40. masculine
11. affectionate	41. warm
12. theatrical	42. solemn
13. assertive	43. willing to take a stand
14. flatterable	44. tender
15. happy	45. friendly
16. strong personality	46. aggressive
17. loyal	47. gullible
18. unpredictable	48. inefficient
19. forceful	49. acts as a leader
20. feminine	50. childlike
21. reliable	51. adaptable
22. analytical	52. individualistic
23. sympathetic	53. does not use harsh language
24. jealous	54. unsystematic
25. has leadership abilities	55. competitive
26. sensitive to the needs of others	56. loves children
27. truthful	57. tactful
28. willing to take risks	58. ambitious
29. understanding	59. gentle
30. secretive	60. conventional

Source: Bem, Sandra L. (1974) "The Measurement of Psychological Androgyny," Journal of Consulting and Clinical Psychology, 42, 155-162.

TABLE 2

AUTONOMY FOR WOMEN INVENTORY

1. The word "obey" should be removed from the marriage service (+ on autonomy).
2. Girls should be trained to be homemakers, and boys for an occupation suited to their talents (-).
3. The initiative in courtship should come from men (-).
4. A woman should expect just as much freedom of action as a man (+).
5. Women should subordinate their career to home duties to a greater extent than men (-).
6. Motherhood is the ideal "career" for most women (-).
7. Within their marriage, women should be free to withhold or initiate sexual intimacy as they choose (+).
8. The husband should be regarded as the legal representative of the family group in matters of law (-).
9. The decision whether to seek an abortion should rest with the wife (+).
10. Her sex should not disqualify a woman from any occupation (+).

Source: Arnott, Catherine C. (1972) "Husbands' Attitudes and Wives' Commitment to Employment," Journal of Marriage and Family, 34: 673-81.

Manipulation Check

In order to validate the experimental advertisements as depicting traditional and non-traditional role portrayals, a pre-test was conducted. Originally, there were two advertisements featuring the same model in two different situations. The background in one ad was an executive office setting while the other background was a supermarket. The product promoted in the advertisements, a mouthwash, is positioned in situations of social interaction, such as an office or shopping situation. It was expected that the situation would dictate the perceived traditional/non-traditional role portrayal. A pre-test sample of 159 students were asked to respond by telling a story about the female model in the advertisement. These stories were reviewed by two content analysts, working independently, to determine the perceived role portrayed. Results indicated that a similar role was perceived in both ads since the described occupation of the model was that of an executive or career woman. Apparently, the figure and not the background was the dominant cue. The model was attired in a gray pin-striped pantsuit. Accordingly, two additional advertisements were developed featuring the same model in the same settings, only this time attired in a dress.

All four advertisements were utilized in the study. Similarly, subjects were asked to relate a story about the model featured in the ads. Content analysis clearly indicated that attire was the dominant cue determining expected role. The traditional role was depicted in ads in which the model was attired in a dress. In the office setting, she was perceived as a secretary, while in the supermarket, she was seen as a housewife. The non-traditional role was depicted in the ads in which the model was attired in a pantsuit. In both the office and the supermarket, she was perceived as an executive or career woman, traditionally male linked roles. In summary, two advertisements depicted a traditional female role, while two depicted a non-traditional female role.

Results

In the analysis of the data, purchase intent is the dependent variable and defined as the respondent's reaction to the advertisement. Personality characteristics, attitude toward the role of women, and the four advertisements are the independent variables. Specific contrasts between the purchase intent ratings, for sub-components of the personality and attitude categories, are the main interest in this study. Orthogonal contrasts of the data provide this needed information. The contrasts are evaluated within the traditional and non-traditional advertisements.

The utility of segmenting the audience by sex-role related personality characteristics is of no consequence if gender per se can provide the same information. Therefore, a preliminary ANOVA testing the significance of gender was undertaken and no significant differences were found. The ANOVA for purchase intent by sex resulted in a F ratio with a .55 level of significance. A factorial ANOVA testing interactions between gender and the ads, and between personality characteristics and the ads, on variations in purchase intent, were also found to be insignificant with .29 and .40 levels of significance, respectively. Thus, the data were analyzed separately for men and women to test the hypotheses relating to personality characteristics.

There were significant differences found in the purchase intentions of women reacting to the non-traditional female role based on personality characteristics (see Table 3). The orthogonal contrasts indicated that feminine women were significantly more positive in

their purchase intentions than the masculine women (see Table 4). This evidence is contrary to the hypotheses that masculine women would react more positively to the non-traditional ad, and feminine women would react more negatively.

TABLE 3

RELATIONSHIP BETWEEN PURCHASE INTENT AND PERSONALITY CHARACTERISTICS IN BOTH ATYPICAL AND TYPICAL ROLES (ONE WAY ANALYSIS OF VARIANCE)

Non-Traditional Role			
Group	n	F Ratio	Level of Significance
Female	101	3.279	.04
Male	119	.721	.48
Traditional Role			
Group	n	F Ratio	Level of Significance
Female	81	.586	.55
Male	119	4.051	.02

Total n = 420

TABLE 4

ORTHOGONAL CONTRASTS FOR EXPERIMENTAL COMPONENT (PERSONALITY CHARACTERISTICS) AS RELATED TO PURCHASE INTENT

Non-Traditional Role					
Personality Characteristic Mean Rating					
Group	n	Feminine	Masculine	Difference	F Level of Significance
Female	101	3.4426	4.1429	-.70	.01
Male	119	3.3750	3.7275	-.35	.25
Traditional Role					
Personality Characteristic Mean Rating					
Group	n	Feminine	Masculine	Difference	F Level of Significance
Female	81	3.4507	3.6875	-.24	.56
Male	119	2.889	3.7917	-.90	.01

Total n = 420

There were no significant differences found in the purchase intent of men reacting to the non-traditional role based on personality characteristics. Interestingly, though, masculine personality typed men were significantly more negative than feminine men in their reaction to the traditional female role. With respect to androgynous men and women, a bivariate analysis was conducted because the number of orthogonal contrasts are constrained by the degrees of freedom. There appear to be no differences in reaction to the non-traditional role by androgynous subjects; however, they both have negative purchase intentions (see Table 5).

TABLE 5

PURCHASE INTENTIONS OF ANDROGYNOUS MEN AND WOMEN AS
A REACTION TO TRADITIONAL AND NON-TRADITIONAL ROLES

Purchase Intent*	Advertisements			
	Non-Traditional		Traditional	
	n = 76		n = 56	
	n	%	n	%
Positive	10	13.1	8	14.3
Neutral	23	30.3	16	28.6
Negative	43	56.6	32	57.1
Total	76	100.0	56	100.0

*The purchase intent scale was collapsed from 5 to 3 categories. The scale was collapsed in this case to test for gross differences (i.e., positive, neutral, negative) in reaction to typical and atypical role portrayals.

Reactions to the role portrayed in the ads based upon the respondent's attitude toward the role of women were also investigated. There were no significant differences in purchase intent found based on attitude (men .73 level of significance, women .26 level of significance). There are some limitations to the current study. Only one product was investigated and it may be that its neutral aspects attenuated the findings. Only print ads were employed as opposed to other media. Also, intentions, rather than actual behavior, were measured.

Discussion

Personality characteristics were evidenced as a significant, albeit limited, factor in explaining purchase intent as a function of the female roles featured in four print advertisements. As hypothesized, androgynous males and females reacted similarly to the ads. Unexpectedly, however, cross-sex typed women (i.e., those having masculine personalities) were found to react unfavorably to the advertisements depicting a non-traditional female role. Men with masculine personalities responded unfavorably to the traditional female role, also an unexpected finding.

It was noted in the literature reviewed that masculine women behave differently from others in their influence in the family decision process. The results of this study indicate that the masculine personality explains differences not explained by gender in reactions to ads. However, further research is needed to determine why the masculine personality operated contrary to expectations.

The idea that one's attitude toward the role of women in society will predispose reactions to varying sex role depictions in advertisements was not supported in this study. Respondents with conservative, moderate, or liberal attitudes toward the female role did not react differently to the traditional versus non-traditional role portrayals. In the literature reviewed, liberal women were reported to differ from conservatives and moderates in their attitudes toward sex role stereotyping in advertising. Thus, it would seem that a general attitude toward gender related roles will not predispose a consumer to react in a specific manner toward a specific individual advertisement. As gender related role portrayals in advertising continue to evolve, it is important for marketers to not only

realize how advertising content changes, but to be able to monitor and anticipate reactions to these changes by selected target audiences. More research effort in this area of investigation is needed.

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ANDROGyny AND MIDDAY MASTICATION:
DO REAL MEN EAT QUICHE?

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Abstract

The Bem Sex Role Inventory (BSRI) measures the sex role variables of masculinity and femininity. People who are high on both scales are classified as androgynous. This study investigated the relationship between sex, sex-role identity measured with the BSRI, and food preferences for lunch. Although only a few preferences related to sex roles, sex differences were observed in preference for ham, beef, vegetarian food, fast food, "good" food, "junk" food, sandwiches, hamburgers, eggs, pizza, hot dogs, health food, spaghetti, salad, and total number of responses. These results and their implications for consumer behavior are discussed.

Introduction

Marketers have shown a great deal of interest in speculation about the changing sex roles in our society. Yet, in spite of this widespread awareness of the importance of shifting sex roles, insufficient attention has been given to the direct measurement of sex roles, as opposed to sex, within the consumer behavior literature. Social science in general, on the other hand, has lately shown a massive interest in sex role measurement. The Bem (1974) Sex Role Inventory (BSRI), for example, is the most widely regarded instrument for measuring sex roles. It was cited 142 times in 1982 in social science literature but cited only twice in marketing and consumer behavior literature, according to the Social Science Citation Index. And neither of these two citations (Belk, Bahn, and Mayer 1982; Sirgy 1982) could be classified as primarily about sex roles.

Sex Role Measurement in the Marketing Literature

A few operationalizations of measures of sex-role identity (Gough 1952, 1975; Spence, Helmreich, and Stapp 1974) have nevertheless appeared in the marketing literature (e.g., Osmond and Martin 1975; Settle, Alreck, and Belch 1981). Use of Gough's California Psychological Inventory (CPI) Fe Scale showed that behavior was consistent with sex-role identity (Fry 1971). Specifically, more feminine men were more likely to smoke feminine cigarettes than were men identified as masculine. Although Morris and Cundiff (1971) could not support the hypothesis that sex-role identity as measured by Gough's femininity scale was related to men's ratings of hair spray, they did find that males with a relatively high feminine identity and a high level of anxiety express strongly unfavorable attitudes towards the use of this feminine product.

Contrary to expectations, Gentry and Doering (1977) found that sex explained more of the variability in consumer behavior than did sex-role identity as measured by Bem's (1974) scale. Two masculinity-femininity scales were utilized to explore male and female perceptions of a wide variety of products and leisure activities and to explore whether sex-role identity within each sex is related to product perceptions (Gentry, Doering & O'Brien 1978). Analyses of the CPI Fe Scale (Gough 1975) and the Personal Attributes Questionnaire (PAQ: Spence, Helmreich, and Stapp 1974) found only weak support for a congruency between sex-role identity and the use of products with a neutral sexual identity or one opposite of the individual's sex-role identity.

An exploratory study (Golden, Allison & Clee 1979) designed to investigate (1) the influence of sex-role identity upon product perceptions and (2) the influence

of sex, product use, and self-esteem upon masculine and feminine perceptions of product did apply Bem's (1974) scale to measure sex-role identity. A strong systematic relationship among product perceptions and sex, sex-role identity, use, and self-esteem across products could not be demonstrated; but it could be concluded that the independent variables do influence masculine and feminine product perceptions. Sex-role identity appeared to be more important for feminine product perceptions than masculine product perceptions. The individual's sex and product use are at least as important, however, for product perceptions as sex-role identity.

A measure of sex-role specificity (Settle, Alreck, and Belch 1981) was related to the likelihood of trial and use of brands of soap (Alreck, Settle, and Belch 1982). The more men tend to prescribe behavior on the basis of sex, the more they accept the masculine brand and reject the feminine brand. But women who exhibit sex-role specificity tend more to accept the feminine brand, although their attitudes towards sex-role prescriptions do not affect their response to the masculine brand. A study of the relationship of expectations of male versus female salesperson performance with sex-role identity and sex-role attitudes (Martin and Roberts 1983) suggested that "use of the BSRI has more to offer to the study of consumer behavior than do the more commonly used sex-role attitude scales" (i.e., PAQ: Spence, Helmreich, and Stapp 1974). Another recent use of a sex-role scale in the consumer behavior literature (Qualls 1984) reported sex-role identity is significantly associated with perception of spousal influence, level of preference agreement, and mode of conflict resolution, but not related to preference pattern or decision outcome when using the Osmond and Martin (1975) sex-role attitude scale.

Relevant Sex Role Measurement in Other Literature

Although not published in the consumer behavior literature per se, several marketing-related studies have examined sex-role identity. Vitz and Johnson (1965) used the CPI Fe Scale and the mf (feminine interests) scale of the Minnesota Multiphasic Personality Inventory to test the hypothesis that the more masculine the personality of a smoker, the more masculine the image of the smoker's regularly smoked cigarette (i.e., masculine individuals smoke masculine-image cigarettes and feminine individuals smoke feminine-image cigarettes). Findings moderately support the hypothesis: within each sex masculinity correlates positively with the masculine image of the cigarette smoked.

The relationship between the impact of one's sex-role identity and one's leisure behavior has received limited examination. Havighurst (1957) found that women preferred socializing and reading while men were more interested in sports, fishing, and gardening. A study of 187 fourth through sixth graders (Rosenberg and Sutton-Smith 1960) investigated the frequency of playing and attitudes towards children's games. Preferences for football, hunting, cars, sewing and dolls did confirm traditional sexual preferences, but these researchers observed no differences between boys' and girls' attitudes toward baseball or basketball. The results also indicated that girls developed a greater preference for play roles of girls.

Some research does associate differing sex-role identity to the choice of leisure activities. Studies of the traditional stereotype that athletes are perceived as

being more masculine have yielded inconsistent results. Schendel (1965) supported the idea that male twelfth grade and college athletes were more masculine than non-athletes, but opposite findings were found for ninth graders. Controlling for intelligence, Berger and Littlefield (1969) found no significant masculine-feminine differences between football and nonfootball players. Using only females, Simon (1971) found athletes to be significantly less feminine, but a study of a wide range of activities (Ibrahim 1969) reported sex-role identity was not related to recreational activity.

To extend the literature concerning sex, sex-role identity and leisure, Gentry and Doering (1979) related measures of sex and sex-role identity, the CPI Fe Scale and the PAQ, to a wide variety of leisure and media usage behaviors. In general, sex was more frequently related to attitudes toward and usage of leisure activities and to media usage than were the sex-role identity measures. There were significant sex differences for 18 of the 28 leisure activities and for 19 of the 43 media relationships. These numbers decline for the CPI measure (16 of the 28 leisure activities and 16 of the 43 media relationships) and are even lower for the PAQ measure (14 of the 28 leisure activities and 10 of the 43 media relationships).

Specifically, sex predicted relationships for watching ballet(f), going to car races(m), going fishing(m), going hunting(m), ice skating(f), knitting(f), swimming(f), reading about and watching sports(m), watching daytime soap operas(f), reading women's magazines(f), reading newspapers(m), and listening to talk shows on the radio(m). Some activities and media were related more strongly with the sex-role identity measures than with sex. Interestingly, androgynous people were more likely to watch ballet, ride bicycles, go to car races, go swimming, and go to movies. In general, androgynous individuals were more active recreationally and were more likely to watch documentaries, read news-oriented magazines, and prefer R-rated movies.

Sex in the Marketing Literature

The literature on sex, used as a surrogate for sex role in marketing, is far too voluminous to attempt to review in the present paper. We know that Marlboro cigarettes were once positioned to appeal to feminine roles but now are positioned to appeal to masculine roles (Hawkins, Best, and Coney 1983). Automobile marketing uses sex role segmentation to some extent (Stuteville 1971). And of course many other products, such as cosmetics, soft drinks, and leisure equipment, are aimed specifically at sex-role related segments (Scott 1976). Furthermore, many products previously tied to sex roles are becoming unisex (e.g., blue jeans and hair dryers).

Sex Roles and Food

Decisions about food ingestion are among the most basic we make, as are sex role enactments. It would be therefore reasonable to assume that, since culture determines both decisions about food preference (when did you last eat chicken head soup?) and about sex roles (how many women have you seen today wearing veils?), the two areas ought to interact. Mass culture certainly gives us guidelines about the relationship between sex roles and food selection (Real men do not eat quiche). Some evidence also exists in the empirical literature for this link. For example, Dickens & Chappell (1977) suggest that men reject food that is pale, foreign, fussy, or tasteless. And Sadalla (1981) has shown how pervasive the relationship is between food preference and social identity.

The Sadalla research is particularly probative in the present context. He demonstrated that subjects presen-

ted with the food preferences (vegetarian, gourmet, health, fast food, or synthetic food) of a hypothetical person displayed significant consensus in personality inferences about that person. Furthermore, these social judgments have some basis in reality. That is, people with different food preferences do indeed have measurably different personalities. Thus, it would seem reasonable that people would also use food preference as an expression of role enactment preference.

Bem's Theoretical Perspective

Bem (1974) proposed that the concept of androgyny (a combination of the Greek words for male and female) is central for understanding current trends in sex role development and enactment. Although most concepts view sex-role identity as dichotomous (either masculine or feminine), she argues that in fact masculinity and femininity are separate, independent dimensions. A person can be both assertive (a male trait) and cheerful (a female trait). A person who is high on only one dimension may be masculine or feminine. A person high on both masculinity and femininity is androgynous, a more healthy and adaptive position, according to Bem. People low on both are called undifferentiated.

Bem (1981) has presented Gender Schema Theory. It asserts that the phenomenon of sex typing derives in part "from gender-based schematic processing, from a generalized readiness to process information on the basis of sex-linked associations that constitute the gender schema. In particular, the theory proposes that sex typing results from the fact that the self-concept itself gets assimilated to the gender schema" (p. 354). This theory implies that gender ought to influence how one processes information about foods based on sex role expectations. For example, the traditional role of male as food procurer ought to lead to a different approach to judging food than the traditional role of female as food preparer. For example, males ought to value food more based on the "size of the kill" (e.g., cattle are harder to kill than chickens), whereas the nutritional aspects of food ought to be more important for women, who have historically planned menus and prepared food. The present study may yield insight into the value and application of the gender schema theory, although it has found only moderate support at best in the study of advertising recall (Markus, Crane, Bernstein, and Siladi 1982; Gentry and Haley 1984).

The Present Study

The present study investigated the influence of sex and sex-role identity on selection of a midday meal. Sex-role identity was measured through use of the Bem Sex Role Inventory. It was hypothesized that both sex and sex role would significantly influence meal selection. Lunch was investigated because it is the meal most often eaten away from home and because it is the meal with the least range of alternatives.

Method

The respondents were 84 men and 55 women enrolled in junior-level sections of consumer behavior at a large public university. Respondents volunteered to participate as part of a class exercise. Numerous restaurants specializing in lunch surround the campus, in addition to campus cafeterias.

Respondents completed the Bem Sex Role Inventory (Bem 1974). This scale asks respondents to rate 60 adjectives on a 7-point scale ranging from "Never or almost never true" to "Always or almost always true" of the respondent. Twenty adjectives within the scale describe feminine characteristics, and twenty describe masculine characteristics. These items may be summed

to yield scores for femininity and masculinity. In the present study these scores were dichotomized at the median within each sex and used as factors in analyses of variance. The interaction between these factors provides information about androgyny since people high in both femininity and masculinity are androgynous. The BSRI also includes 10 positively-worded and 10 negatively-worded social desirability items, which are summed after reversing the negative items, to yield a measure of social desirability.

In addition, respondents replied to the following query: "Next to each day tell what you had for lunch that day during the past week. You need not list everything you had; we are only interested in major items, such as soup or hamburgers. Items like French fries are not of interest." Coding of the responses to this question followed two strategies. First, specific foods were tabulated, such as ham, beef, or peanut butter and jelly sandwich (PBJ). Secondly, foods were classified into Sadalla's categories of vegetarian, health, gourmet, fast food, and synthetic. In several cases foods fell into two categories (e.g., "French dip" is beef and soup). Two independent judges, unaware of the hypotheses and unaware of any respondent's sex or sex role, coded the lists of food. Both judges rated 30 overlapping protocols in order to assess coding reliability, and in 92% of the cases they agreed.

Several higher level factors also were computed by summing coded categories. Total sandwiches were computed by adding beef, hamburger, tuna, and PBJ. Good food consisted of vegetarian, health, gourmet, and salad. Junk food included fast food, synthetic food, hot dogs, pizza, and hamburgers.

Results

Only one food category, vegetarian, correlated with the BSRI Social Desirability Scale, $r = .17$, $p \leq .05$. Since this correlation was relatively small and not part of a pattern, it will not be examined further.

Analyses of variance were computed using factors of sex, dichotomized masculinity, and dichotomized femininity. The main effects from the analyses of variance are reported in Table 1. A main effect for masculinity was observed on PBJ, revealing that masculine people eat PBJ sandwiches more often than low masculine people. A main effect for femininity was observed on tuna, indicating that feminine people eat tuna more often than low feminine people. All other main effects involved sex as the independent variable. For example, the main effect for vegetarian foods implies that women eat vegetarian food more often than men.

The main effect for total coded responses must be qualified by a three-way interaction, $F(1,132) = 4.72$, $p \leq .05$. Examination of that interaction suggested that women who were low on both femininity and masculinity had fewer coded responses than men who either were androgynous (high masculinity and femininity) or undifferentiated (low masculinity and femininity).

Several other significant interactions do not influence the interpretation of the main effects. Health food is eaten more often by men who are low on femininity than by anyone else, $F(1,132) = 3.52$, $p \leq .10$. Feminine females eat more salad than anyone else, $F(1,132) = 3.82$, $p \leq .05$. Feminine men and masculine women eat less spaghetti than other groups, $F(1,132) = 2.88$, $p \leq .1$. And Freudians will delight in the final interaction: Feminine men and low feminine women eat more hot dogs, $F(1,132) = 3.71$, $p \leq .05$. We will refrain from interpreting this last finding as evidence that people who eat hot dogs are really swallowing masculinity. We will also avoid interpreting the main effect

for egg from a Freudian perspective.

TABLE 1

ANOVA Main Effects

Independent Variable	Dependent Variable	df	F	≤ p	\bar{X}_M	\bar{X}_F^*
Sex	Ham	1,132	10.53	.001	.47	.11
Sex	Beef	1,132	12.40	.001	1.33	.68
Sex	Vegetarian	1,132	6.62	.01	.35	.79
Sex	Fast Food	1,132	7.76	.01	1.28	.75
Sex	Good Food	1,132	7.78	.01	.65	1.28
Sex	Junk Food	1,132	9.03	.01	2.13	1.21
Sex	Sandwiches	1,132	5.12	.05	2.29	1.62
Sex	Coded Responses	1,132	4.72	.05	10.61	9.42
Sex	Hamburger	1,132	5.28	.05	.54	.26
Sex	Egg	1,132	3.68	.05	.46	.24
Sex	Pizza	1,132	2.81	.1	.15	.05
Masculinity	PBJ	1,132	3.09	.1	.39	.16
Femininity	Tuna	1,132	3.64	.05	.20	.33

*The symbol \bar{X}_M refers to the mean for male, masculine, or low feminine respondents. The symbol \bar{X}_F refers to female, feminine, or low masculine respondents.

In answer to the question posed in the subtitle, "Do real men eat quiche?" the answer is, "No!" But neither does anyone else. In the entire study we uncovered only two examples of eating quiche for lunch. In one case, the respondent was an androgynous male, in the other a feminine female. These frequencies are not the stuff of which significant findings are made. Perhaps the age, region, or attitudes toward cholesterol of participants inhibited quiche consumption.

Chicken and fish, two other foods popularly believed to be sex-role linked, showed no significant effects either. This finding may be due to the increased concern with cholesterol and resulting shift to white meat among individuals of both sexes.

Discussion

Consistent with some previous conclusions (Gentry and Doering 1977; Golden, Allison, and Clee 1979; Gentry and Doering 1979; Alreck, Settle, and Belch 1982) the results imply more utility for the direct measurement of sex than for sex role constructs in the present context. Although these results do not invalidate Bem's (1981) Theory of Gender Schemata, they do raise questions about the utility of her empirical procedures.

One evident result from the pervasive sex differences is that men eat more than women as measured by total number of food items listed. For ham, beef, total coded responses, junk food, hamburgers, egg, and pizza this pattern applies. The adaptive significance of this finding may be that men simply need more food than women because of their larger body weight. Furthermore, men have historically been associated with more active pursuits that require higher caloric intake. This second source of difference is declining within the United States, as all job categories for both men and women require fewer of the hunter-gatherer skills our genes have bestowed on us, and as active leisure pursuits become less sex linked.

Men did not outeat all women in all categories, and the content of the differences is notable. Men ate more junk food but less "good" food and less vegetarian food. Feminine females, who may be especially likely to diet, ate more salad, a staple of many weight reduction programs.

In hunter-gatherer societies sex role specialization thrusts stronger men into the hunting role and food procurement role, whereas women occupy the food preparation role. One aspect of food preparation is knowledge of nutrition. Women have therefore been more conscious of and concerned with the quality of food. Again, sex roles may be changing. Kitchen technology over the past half century has greatly reduced the need for a full-time food preparer, and the hunter-gatherer need for physical strength in food procurement hardly provides an apt description for food procurement in the supermarket-dominated post-industrial United States. Probably consciousness of food quality is shifting, as the concern for health food among masculine males implies. Furthermore, increasing career orientation among women has diminished the time available for food preparation. Finally, relaxing of sex role stereotypes has allowed more men to take home economics classes, to become "househusbands," and actually to participate in food preparation.

Marketing Implications

We cannot know from this study whether other product categories or other populations will manifest encouraging evidence for the utility of BSRI scales, but the present data imply that segmentation and marketing efforts may do well to attend to sex before investing a lot of effort in unraveling the details of sex roles as measured by the BSRI. This finding is contrary to the trend toward a society with fewer stereotyped behavior differences between the roles of males and females on the basis of sex alone. If this trend continues, we may find ourselves in an androgynous society (Osofsky and Osofsky 1972). Perhaps the study of within-gender differences may be more worthwhile than between gender differences (Roberts 1984). The lack of marketing literature on the BSRI may reflect a lack of notable findings. Even within the psychological literature the BSRI has its share of critics. Locksley and Colten (1979), for example, have suggested that androgyny shares many of the psychometric flaws of other personality constructs and that it cannot be understood apart from the structured features of situations in which it is embedded. Deaux (1984) argues that androgyny consists more of instrumentality and expressiveness than masculinity and femininity. And Taylor and Hall (1982) propose a whole list of concerns.

If sex differences are indeed more important than sex role differences, then marketers need not be as concerned with the sex role images of their products. Rather, attention should focus on appealing to the appropriate sex. For food preferences, it appears that individuals are related by sex as opposed to their levels of masculinity and femininity.

The findings could have significant implications for public policy makers. From marketing's standpoint, it would seem the F.T.C. and other interest groups promoting social change need not be focusing on whether the roles of the sexes are being accurately depicted. They should focus instead on consumer education, safety of products, and information dissemination. Furthermore, if our society is moving towards fewer behavioral differences between the roles of males and females on the basis of sex alone, "accurate role depiction" will be ambiguous.

To sum it up, our society may be reaching toward a point of undifferentiated sexual roles. Yet, as the data show, the different sexes do prefer different food products; therefore, sex is an appropriate segmentation variable. Since the different sexes do have several significantly different food preferences, marketers ought to do more to study and determine these specific differences, and then they ought to design promotions appropriately. If a marketer seeks to change product perceptions, he or she should change the sex featured as using the product, for example.

More research needs to be done into "why" these varieties of food preferences exist. The answer to this question will guide future marketing efforts. For example, if the differences are due to the learning of "traditional" male and female eating habits, then marketers can perhaps influence this process and still aim appeals for products at both sexes. If the differences are somehow more genetic or hereditary, then marketers will have less control over influencing preferences.

Summary

The change in sex roles has spurred an interest in the application of masculinity-femininity measurement to purchase behavior. Results of this study of food preferences are not supportive of this trend; however, sex differences proved to be more important than sex roles in explaining differences.

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THE IMPENDING SURPLUS OF CHILD HEALTH CARE PROVIDERS:
IMPLICATIONS FOR PATIENTS, PRACTITIONERS AND PEDIATRIC
TRAINING PROGRAMS

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ABSTRACT

Causes of the impending crisis in child health care and implications for physicians, patients and residency training are explored from the perspective of a pediatric teacher/practitioner. To survive in this new medical environment, physicians must develop a greater understanding of patients as consumers of medical services. Directions for future research are outlined including the need to understand: how patients select providers, how practice characteristics impact on patient satisfaction, how satisfaction relates to subsequent health care behavior, and whether the impending surplus can be utilized constructively to deliver new marketable physician services designed to assist parents with unmet needs.

Private practitioners find themselves unprepared to face the impending crisis in health care created by the growing surplus of providers, declining demand for service, and changing patterns of physician reimbursement. Physicians are ill equipped because until recently they have practiced in an environment where demand has exceeded supply and funding has been limitless. Consequently, there has been little motivation for residency training programs to invest the resources needed to rigorously explore practice issues and to teach residents the organization/management and communication skills that may be critical to their survival in a tight market. In spite of this lack of commitment and late hour, there may still be time to equip practitioners with the understanding and skills needed to face a new health care environment. To do this, however, academic and private practitioners must recognize that a crisis exists and explore its causes and implications for both physician and consumer behavior. They need to collaborate with psychologists, business and marketing experts and investigate practice survival issues including: how and why patients select specific providers, how practice and provider characteristics impact on satisfaction/dissatisfaction, how satisfaction influences patient behavior and whether unmet patient needs can be identified and converted into new marketable physician services. An improved understanding of these issues should enable the private practitioner to develop survival strategies needed to remain competitive in the health care market of the next decade. Although this paper will focus primarily on issues as they relate to child health care and pediatric residency training, it is clear that all fields of medicine eventually will experience the problems of excess supply and declining demand.

The causes of the crises in child health care are easily identified and related to changes in the supply and demand aspects of practice (Burnett & Bell 1978, U.S. Dept. of Health and Human Services 1980, Budetti 1981). Over the next decade the number of pediatricians will increase steadily while family practitioners and nurse clinicians will join in growing numbers the ranks of child health care providers. In 1978 the Graduate Medical Education National Advisory

Committee (GMENAC) counted 24,850 active pediatricians in the U.S. accounting for 40% to 50% of all child health care visits (U.S. Dept. of Health and Human Services 1980). Estimates for 1990 range from 47,000 (GMENAC) to a high of 53,000 (Bureau of Health Manpower 1978). Although the number of family practitioners should grow only from 67,900 in 1978 to 88,250 in 1990 (U.S. Dept. of Health and Human Services 1980), it is unlikely that pediatricians will be able to expand their market share since non-physician providers in increasing numbers (26,800 in 1978 to 56,000 by 1990) (U.S. Dept. of Health and Human Services 1980) will compete for pediatric patients. At the same time, the number of children less than 18 years of age will not increase proportionally and if Bureau of the Census (1977) predictions are correct, will remain essentially unchanged from 63,327 in 1978 to 64,776 for 1990. In addition, improvements in public health and the development of new vaccines should diminish the importance of many acute illnesses further reducing demand for care (American Academy of Pediatrics 1979). Because these trends are likely to continue, the GMENAC has projected a 25% surplus of pediatricians by 1990.

Third party carriers recognize that the impending surplus provides an opportunity to impose on physicians both practice and financial restrictions designed to control skyrocketing health care costs. Although these programs will contribute to the precarious position of the private pediatric practitioner, it is unlikely that physicians already seeing 10% to 15% fewer patients now than in 1976 (Owen 1983) will refuse to participate, especially if they believe acceptance will ensure access to enough patients to support their practices. Individual providers also recognize that even if they refuse to participate others, worried about survival, will opt for these programs ensuring their success.

The elements of the crisis will impact upon all components of health care system. For example, the increasing number of child health professionals is having at present a constructive effect by alleviating shortages and geographic maldistribution of physicians. However, if unrestrained growth continues it may lead to intense competition for patients which may contribute to provider economic insecurity, job dissatisfaction and higher dropout rates within the profession. This insecurity may also provide physicians incentives for excessive treatment or scheduling which may have an adverse effect upon patients by increasing costs and threatening the quality of medical care. Supportive data is provided by studies examining the relationship between numbers of physicians per capita and elective surgery involving non-functional tissues. Wennberg and Gittelsohn (1973) found that rates for tonsillectomy (a procedure with rare therapeutic benefit but measurable morbidity) were dependent on physician density and ranged from 8% to 62% across 13 Vermont areas. A study by Mathematica Policy Research (1978) also suggested that physicians can induce demand for care. A 1% increase in the number of physicians in Quebec resulted in a 0.61% rise in visits per capita and a 1.54% increase in the number of low priority surgery payments.

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Excessive provider competition may also support continuing erosion of public confidence in physician authority. The technical quality of care is at an all time high, however, practitioners frequently see patients who are suspicious and have little confidence in the medical profession (Anderson, Kravits et al. 1971, Eisenberg 1977, Haug & Lavin 1979). Although few studies have asked how competition motivated physician behavior might impact on medical consumer confidence, an abundance of anecdotal evidence suggests that it may increase dissatisfaction, doctor shopping, maternal anxiety and distrust of the medical profession. For example, University physicians often encounter patients with trivial but persistent symptoms (i.e. nasal congestion, cough, colic, spitting up in infancy) whose parents fear their child has a dreaded but yet unrecognized disease. While taking a history and examining the active well-nourished infant it becomes apparent that the child is well and that the perception of illness has occurred in response to a ploy utilized occasionally by physicians to save time (avoid explanations) and maintain satisfaction. Physicians intuitively understand Needle and Murray's (1977) finding that meeting patient expectation is a significant determinant of satisfaction. Because pediatricians recognize that parents do not like leaving the office empty-handed and fear losing them to other providers, they may resort to prescribing symptomatic treatments with limited therapeutic benefit (decongestants, cough medicine, antispasmodics, and formula changes) or indiscriminate antibiotic usage for minor symptoms and viral illness. Because these treatments are usually benign and childhood disease self limited, therapy often appears effective to both physician and patient. However in the occasional child where trivial symptoms become persistent, parents may decide that the provider does not know what he is doing and begin to doctor shop. After the second or third encounter where parents experience variations on the same theme (new formulas, different antibiotics or decongestants), they either recognize what has occurred and become disenchanted with the medical community or convinced that their child is seriously ill. Problems such as this may become more prevalent with increasing provider competition and contribute to patient dissatisfaction with the medical profession.

Cost containment strategies also will impact on provider and patient behavior. Beside threatening provider financial security, these plans may create problems for physicians and patients by limiting free choice. Donabedian (1981) has suggested that freedom to select a physician not only provides the patient evidence of self worth but also offers the opportunity through repeated trials if necessary of matching the social and psychological attributes of client and practitioner in a manner that is likely to improve satisfaction of both. Dissatisfaction may result from either loss of the notion of freedom or actual inability to leave a provider or practice. For example Hooper et al. (1982) have demonstrated that patient characteristics (age, ethnicity, sex and appearance) can influence physician behavior. Consequently, if patients have difficulty leaving a practice where a mismatching of attributes exist it is likely that the physician patient relationship will deteriorate further.

These plans also may impact upon patient satisfaction by altering provider availability. For example, several studies have documented that patients utilizing prepaid health programs wanting to see their physician must wait longer to schedule and may have less time with that provider than their counterparts who use traditional fee for service physicians (Mechanic 1975, Wolinsky & Marder 1983). These observations support the notion that some prepaid physicians with scheduled hours maybe less patient dependent than their fee-for-service colleagues. When fee-for-service physicians encounter periods of increased demand they maybe more likely to respond by working longer hours than salaried physicians who may respond by processing patients more rapidly or by rationing services by changing scheduling policies (Mechanic 1975, Freidson 1970). Many pediatricians, by convincing parents that their door is always open and there is always time for one more question, utilize their availability as a mechanism of communicating interest and concern. Because parents recognize these policies as costly to the physician, they are likely to influence parents' perceptions of provider motivation. Consequently, any change in practice style limiting provider availability might be expected to decrease patient satisfaction and trust.

Although these changes should affect provider security, patient satisfaction and quality of care, pediatricians will be unable to avoid this crisis by altering its causes. Consequently, they must take this opportunity to collectively reevaluate practice, improve their understanding of patients as medical consumers and develop survival strategies cognizant of the impending changes. Because of inexperience however, they must enlist assistance from psychologist, business and marketing experts and explore critical survival questions including: how and why parents select specific health providers, how practice and provider characteristics impact on satisfaction/dissatisfaction, how satisfaction influences subsequent health behavior and whether the impending provider surplus can be utilized constructively to develop new marketable physician services designed to assist parents with unmet needs.

Few studies have explored medical consumers' search and decision making strategies and asked whether those who select different types of physicians (i.e. pediatricians versus family practitioners) seek different sets of benefits from them. In general it appears that most patients tend to select health care providers almost blindly (Parsons 1951, Glassman & Glassman 1981, Stewart et al. 1984). Both Glassman and Glassman (1981) studying selection of obstetricians and Stewart and Hickson et al. (1984) in studying selection of child health providers (pediatricians, family/general practitioners) found that patients/parents had consulted only 1.2 sources of information per selection and that the most common source was a friend or neighbor. While search strategies appear consistent for patients selecting various types of providers, there is evidence that consumers may seek different sets of benefits at least from pediatricians versus family practitioners (Stewart et al. 1984). Although cross sectional in nature this study suggested that those selecting family practitioners were more interested in issues related to cost and convenience, while families selecting a pediatrician were more interested in issues related to provider availability and perceived technical competence. Prospective studies are needed to validate

these observations and to explore what psychological and health belief variables may be responsible for these differences. Understanding how patients shop, what they are looking for and why should help physicians recruit and retain patients in a tight market. Additional benefits might be realized if the information obtained could be utilized to develop means of teaching parents to become more discriminating medical shoppers and thereby improve their access to quality care. One of the problems with free choice in the medical market place is that parents have the opportunity to select inferior physicians and facilities. For example, Donabedian (1981) has suggested that although Medicaid has enabled many patients to transfer from old crowded public institutions to the private sector for care, the results often have been harmful to the patient and costly to society because of poor provider selection.

Studies of patient satisfaction with office characteristics also may be beneficial to providers and their patients. Physicians must understand how various practice characteristics: location, office hours, waiting time, decor, phone services and billing impact on consumer satisfaction. Techniques such as importance-performance analysis might be useful to practitioners who could target for improvement practice characteristics perceived important by customers. In addition, pediatric residency programs could utilize this information to develop training sessions designed to meet a very important educational need.

Of greater importance, however, will be studies designed to expand our understanding of satisfaction and how it influences the health care consumer's behavior. Satisfaction is recognized as a multidimensional concept involving patient attitudes about various components of the health care system: access, convenience, availability, continuity, cost, technical quality of care and provider humanness, (Deisher et al. 1965, Alpert et al. 1970, Hulka et al. 1970, Fisher 1972, Ware & Snyder 1975, Doyle & Ware 1977). Resident physicians recognize that the technical quality of care and outcome have only moderate correlations with satisfaction and are often reminded of this truth while trying to reeducate intensely loyal patients of technically weak, but kind and compassionate practitioners. The high marks that faith healers receive further supports the notion that outcome may be of only limited importance in predicting satisfaction (Cobb 1954).

Probably more important than outcome is the quality of the interpersonal relationship (rapport) between physician and patient. Provider characteristics which appear to promote good rapport include the ability to: convey concern and understanding, communicate clearly and adequately and receive and send appropriate nonverbal messages. Patients view the empathetic qualities of their providers (i.e. kindness, interest, concern, understanding) as their most important attributes (Reader et al. 1957, Deisher et al. 1965). If they identify these qualities in their provider, patients are more likely to establish continuity of care (DiMatteo et al. 1979). Physicians who establish rapport and meet or exceed patients' information expectations are also likely to receive high marks and be recognized as highly competent (Ben-Sira 1976, 1980, DiMatteo & Hays 1980), while those who do not are likely to engender patient dissatisfaction (Korsch et al. 1968, Waitzkin et al. 1972). In addition to verbal communication, nonverbal messages appear to have a

significant role in the physician-patient relationship. Physicians more adept at receiving and sending nonverbal signals receive higher patient ratings on their interpersonal skills (Friedman 1979, DiMatteo et al. 1980). Further investigation is needed to explore how additional physician and patient characteristics impact on rapport and whether residents can be taught the verbal and nonverbal skills needed to ensure optimal patient satisfaction. Not only will failure to explore these issues impair the private practitioner's ability to survive the coming decade, it may also have a measurable impact upon patient health.

Multiple studies have documented the relationship between satisfaction and patient behavior. Ware and Davies (1983) have suggested that satisfied and dissatisfied patients behave differently and that changes in satisfaction with care may impact on at least two categories of consumer behavior: adherence (compliance to care regimens) and reactive (changing providers, doctor shopping). For example, dissatisfied patients are less likely to comply with treatment regimens and more likely to drop out of care than their satisfied colleagues (Davis 1968, Caplan 1979, Taylor 1979). In addition, dissatisfied consumers are less likely to establish continuity of care (Ware et al. 1975, Breslau & Mortimer 1981), more likely to doctor shop (Kasteler et al. 1976), drop out of prepaid care groups (Ware & Davies 1983) and seek help from non-medical healers (Cobb 1954). There also appears to be a relationship between patient disenchantment with the medical profession and the number and size of malpractice suits (Vaccarino 1977). These studies suggest that attention to patient satisfaction (both in research and residency training) offers potential benefit to all components of the health care system: providers, patients, and third party carriers.

Even equipped with new organization and communication skills, the residency graduate of the next decade will face a difficult struggle in a medical market of increasing supply and declining demand. Although numerous studies suggest that physicians may create some demand (Wennberg & Gillelsohn 1973, Mathematica Policy Research 1978), it is unlikely that fee for service pediatricians will be able to survive by increasing the number of follow up visits for otitis media or piercing ears. In addition, it is doubtful that parents will comply with scheduling changes or purchase new services unless those services fulfill a perceived need. Even so, the surplus will exist and provide practitioners the opportunity to spend more time with patients and expand the types of services delivered. Consequently, the key is to identify unmet patient health care needs and develop new marketable physician services for them that families need and are willing to purchase.

With this in mind, a recent study (Hickson et al. 1983) sought to identify the concerns of 207 mothers seeking care in private pediatric offices. Only 30% of those interviewed were most worried about aspects of their children's physical health. The remaining 70% were most concerned about problems of parenting, child behavior, development and adjustment to life changes (psychosocial concerns). Although the majority of these psychosocial concerns conceivably could be handled in private offices, only 28% of those interviewed indicated that they had asked for help or even mentioned their concern to a pediatrician.

Communication about these issues was explored in a number of ways. Mothers were asked why they had failed to make their health provider aware of their concern. The most frequent responses were that they were unaware that their pediatrician could provide assistance or did not believe he wanted to help. Characteristics of parents communicating were compared with those who had not. Higher father occupation ratings, maternal education, age and the Caucasian race correlated significantly with communication. Maternal occupation, marital status, and intensity of concern did not correlate with communication. The final analysis, however, suggested that physician interest in psychosocial concerns was a more important predictor of communication than sociodemographic characteristics or intensity of concern and suggests that physicians overly or otherwise influence parents' decisions about whether or not to seek help for these needs. Consequently pediatricians may be successful in promoting demand for new services, if they can convince parents that they are interested and able to assist. Training programs must help the practitioner identify legitimate unmet child health care needs and provide training required to deal with these issues. Finally, both academic and private pediatricians must enlist assistance from marketing and business experts to develop cost effective means of delivering these services in the average practice.

The supply and demand aspects of child health care are changing rapidly. These changes are likely to have a significant impact upon both physician and patient behavior. Consequently, medical training programs if they are going to adequately equip their graduates to face the health care market of 1990, must invest the resources necessary to teach and investigate issues related to medical consumer satisfaction. Finally they must explore ways to constructively utilize the health care provider excess to assist parent with unmet child health care needs.

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Information Search and Decision Strategies
Among Health Care Consumers

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Abstract

A study of the selection of health care providers for children revealed little systematic search activity among consumers for this high involvement task. Differences were found between users of specialists, pediatricians, and generalists, family and general practitioners. Reasons for the lack of search activity and the presence of the specialist/generalist dichotomy are offered.

Medical practice in the United States has been described as one of the last bulwarks of an individualized, entrepreneurial tradition (Mechanic 1972). But it has been recognized for quite some time now that the physician's approach to medical care and health is dominated by what is known as "technologic imperative" (Fuchs 1968). That is, medical tradition - and medical school education - have long emphasized the objective of giving the best care that is technically possible, virtually to the exclusion of most other considerations. Not surprisingly, this has resulted in a supplier or "production" dominated industry with changes in its character coming largely as responses to advances in medical science and technology. While sociologists have drawn attention to this phenomenon and have called for changes that make the medical care system as a whole more responsive to the needs and aspirations of the consumer and the society (Suchman 1963, Mechanic 1968, 1972), it is only in recent years that health care providers have been willing to adopt a consumer orientation. This belated change of outlook may be safely attributed to recent developments in the medical care "market-place". In earlier years, the demand for health care services had spiraled, thanks to a growing population, a larger number of persons in age groups that require more medical attention, increased government funded health coverage and possibly an increased rate of medical care utilization by the average person (Fein 1967, Mechanic 1972). But this picture has drastically changed in the last few years, with a substantial increase on the supply side not being matched by commensurately increased demand, which is in turn partly due to consumer reaction to sharply rising health care costs. Hence as compared to

the past, it appears that the future will belong to health care providers who can effectively marry the resources at their disposal to the attitudes and demands of specific segments of consumers (Mitchell & Mitchell 1960).

In the above context, it is worth examining the market for primary health care for children, which is the focus of this paper. Primary child health care is provided by pediatricians, family physicians (FP's), general practitioners (GP's) and mid-level practitioners (physician assistants and nurse practitioners). Pediatricians are estimated to currently cater to about 55% to 60% of the market, while non-physicians provide to barely 5%, and that too generally on reference or delegation by physicians. FP/GP's are estimated to devote 15% to 30% of their practices to child health care (Budetti 1981), and they may be considered to be a significant source of competition to pediatricians.

During the last decade the total number of practicing pediatricians in the U.S. is estimated to have increased at an average annual rate of about 4% (Burnett & Bell 1978), with the current figure being around 32,000. This number is expected to rise to about 41,000 by 1990. This rapid growth of provider supply is taking place in a period where it is estimated that the total number of children aged 18 years or under in the U.S. population will decline by about 1.5 million between 1975 and 1990, with the result that the number of children per pediatrician is expected to be halved during these years (Budetti 1981). Further, while during the last few years there has been a decline in the number of GP's in active practice, this has been more than compensated for by a sharp increase in the number of family physicians, and the total number of providers in this category is expected to increase at a rate of between 2% to 3% per annum during the current decade. Commenting on the effects already noticeable due to the "squeeze" in primary care, Owens (1983) notes that between 1976 and 1982 both GP/FP's and pediatricians are seeing between 10% to 15% fewer patients per week, they are working less hours and more physicians in both categories are practicing well below capacity. But obviously the worst is yet to come and it is estimated that one out of every four general pediatricians may be surplus by 1990, though there may be some shortages in the subspecialties. Pediatrics is an excellent current example of the effects of physician oversupply.

It is worth mentioning here a couple of other recent trends in the primary health care business where the impact is yet to be felt by pediatricians. First, there has been a boom in walk-in or convenience clinics with well over a thousand of them operational and serving over 12 million patients (Eisenberg 1983).

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Second, the implications of the "wellness movement" (Bloch 1984) for the business are yet to be known.

With the change in the balance between demand and supply, consumers are finally coming into their own and as the editors of Medical Economics(1983) note, "they are grading tougher and shopping around." Also, as predicted by Reeder(1972), the traditional doctor-client relationship has begun to undergo drastic change to accommodate the role of patient as consumer. The result is that health care professionals are becoming increasingly interested in marketing issues related to the services sought to be provided by them.

The present study is part of an on-going project that seeks to empirically investigate some of the above issues. Specifically, we are seeking answers to the following research questions:

- How do consumers search out a primary health care provider?
- How do different consumers perceive the alternatives available to them in terms of different types of providers?
- Are consumers who select different types of providers in fact seeking different(or differentially weighted) sets of benefits?
- Can these consumers be segmented on the basis of demographic or psychological variables?
- What are the marketing implications of the answers to the above questions for the different types of providers?

There have been virtually no published studies in this area in the past. While the literature abounds with studies in the general area of patient satisfaction (see Ware et al 1978 for a comprehensive review), none of these directly addresses the marketing issues highlighted above. However, Glassman & Glassman (1981) have investigated physician selection and patient satisfaction in the area of obstetric care and where relevant their findings will be compared to those of the present authors.

METHOD

We began by conducting open-ended interviews of 70 mothers waiting to see one of seven pediatricians in private practice. They were asked how they first became aware of their child's HCP, how they investigated their alternatives, what factors were important in their decision making, and whether they had ever left (or seriously considered leaving) a provider, and if so the reasons for the same. The responses from these preliminary interviews were used to develop a closed-ended questionnaire which was administered to a mail panel of 750 families (maintained by the University of Arkansas) in the state of Arkansas. Of the sample, 630(84%) of the households returned the questionnaire. Out of these, 244 households indicated that they had children less than 18 years of age in the home. 229(94%) of these families identified a regular child health care provider;

99 a pediatrician, 119 a generalist(GP or FP) and 11, other providers. The results presented in this paper are based on the data collected from these 229 families. In all cases the questionnaires were completed by the mothers who were instructed to answer the questions relating to health care with specific reference to the youngest child living at home with them. The respondents, like members of most mail panels, represent relatively better educated, higher income groups with under-representation of less privileged groups, racial minorities and mobile sections of the society. The generalizability of the results reported in this paper is limited to middle and upper class, stable families.

RESULTS

Detailed examination of the data revealed that the 61 households using the services of FP's did not significantly differ from the 58 households going to GP's on any of the variables of interest. This was in line with our expectations since both these categories of HCP's essentially try to provide comprehensive primary care for all family members as compared to pediatricians who specialize in child care. After verifying the above result, the data for consumers going to FP's and GP's was merged for the rest of the analysis so as to represent a segment using the services of a "generalist" which was then compared with the other segment that uses the services of a "specialist"(pediatrician).

1. Provider Loyalty: On an aggregate basis, 60% of the respondents reported using the same HCP for more than 4 years, and 35% of the total respondents reported using the same HCP for more than 8 years. This would indicate on the whole fairly strong loyalty to the provider, subject of course to the bias present in our sample. But our result is consistent with the finding reported by Cartwright(1967) in a study conducted on almost 1400 patients in Britain. Cartwright comments, "...in spite of this somewhat arbitrary method of selection, people do not change their doctor frequently...probably dissatisfied patients do not change their doctor often enough."(p. 21-22) Our data further shows that 50% of those using a generalist have been using the same provider for over 8 years as compared to a figure of 27% for those going to a pediatrician; this difference is consistent with our finding in the SES data that shows that families in the latter group have significantly younger children.

2. Profile of the Choice Set: Respondents were asked the number of HCP's seriously considered before they selected their present provider. Their responses reveal generally limited information search. 34% of all respondents did not consider any alternative providers; another 32% considered just one other alternative provider; the rest considered 3 or more providers. Consumers using a generalist did not differ from consumers using a specialist with respect

to number of providers considered. The SES data did not reveal any significant differences in age/education/income of parents or in the size of the family between consumers carrying out a very limited search and those engaging in a more extensive search. 30% of those selecting a pediatrician and 22% of those selecting a generalist considered a 'mixed' choice set of alternative providers from both categories, but a very large majority of consumers in both segments limited their choice set to physicians within the selected category.

3. Sources of Information in Search Process: Respondents were requested to indicate all sources of information they had utilized in identifying and evaluating provider alternatives. Options identified from the earlier open-ended interviews included (1) Friends and neighbors, (2) Other family members, (3) Other physicians, (4) Encounters as a patient(I used the doctor as a child or doctor provided my prenatal or obstetrical care), (5) Encounters other than as a patient(I heard the doctor speak at PTA meeting or Lamaze class), (6) Phone directory, (7) Government agencies and (8) Local medical societies.

In general, parents utilized very few sources of information, averaging just 1.2 for all who responded, with almost no difference in this figure between those who selected a generalist and those who selected a pediatrician. 82% of the total respondents indicated having used just one source of information, with no respondent mentioning more than three sources. It is possible that the passage of time since the selection resulted in respondents recalling only the salient sources, producing an underestimate of the number of sources actually utilized. Nevertheless, our findings are in line with earlier studies carried out in somewhat different areas of medical care. Few of the respondents in the Cartwright(1967) study mentioned using more than one source of information and Glassman & Glassman(1981) have reported that their sample of 286 women also mentioned an average of 1.2 sources in selecting an obstetrician.

Some significant differences were found in the sources of information utilized by the two segments. Families who selected a pediatrician were significantly more likely to have gone by the recommendation of a friend or neighbor or of another physician, while those selecting a generalist were more likely to have utilized their own experience as a patient. The proportion of respondents(53%) among pediatrician users who went by the advice of a friend or neighbor is very close to the figure of 46% reported by Glassman & Glassman(1981) in their study.

4. Demographic Differences: In general, few significant differences were found between those using a pediatrician and those going to a generalist in terms of socio-economic status variables. The parents in the former group were significantly younger, with two-thirds of the male parents in this group being 36 years or less in age, while in the case of their

counterparts in the latter group, two-thirds were over 36 years. A similar difference was found between the mothers in the two groups. 82% of families going to a pediatrician mentioned that their youngest child was aged 10 years or less, while this was true of only 46% of the families taking the child to a generalist. This obviously supports the previously mentioned finding of younger families tending to use pediatricians; this result is also consistent with the intuition that some families switch over from a pediatrician to a generalist as the child gets older.

No significant differences were found between the two groups of consumers in terms of size of family, number of years resident in the same state, education of either parent, occupation of either parent and employment status of the male parent. Somewhat unexpectedly there was a significant difference in the employment status of the female parent, fewer working mothers were present in the group using pediatricians.

An important finding was that there was no significant difference in annual household income between the two groups even though one recent survey(Owens 1983) reports that pediatricians charge on an average about 20% more than GP's/FP's; our finding indicates that there is no particular relationship between the affluence of families and their choice between pediatricians and generalists.

5. Factors Considered as Important in Selection of HCP:

Respondents were asked to indicate on a 5-point scale ranging from "Most Important" to "Not Important" the impact of 15 factors(identified from the open ended interviews) on the selection of their child's HCP.

The following factors were considered to be of more than average importance by consumers in both categories, but with no significant difference between them:

- Recommendation of friend or neighbor
- Personality of provider
- Whether provider explains properly
- Can get appointments quickly

Similarly, the following factors were considered to be of less than average importance, but again with no significant difference between the two groups of consumers:

- Recommendation of other family members
- Provider's office hours
- More than one physician in practice
- Convenient location
- Age of provider
- Whether provider recommends breastfeeding

Significant differences were found between the two groups. Those using a pediatrician tended to

rate as more important the recommendation of another physician and whether the physician calls back quickly. Those going to a GP/FP were more concerned about whether the physician could treat all family members and provide pre-natal care, the amount of waiting time, getting prescriptions on the phone and the prices charged by the provider.

A multiple discriminant analysis was conducted, using Wilks' Lambda as the criterion, to check on the power of the above variables to predict the group membership of the individual respondents. The analysis produced a function with six variables as follows:

Variable ("Importance Factor")	Standardized Canonical Discriminant Function Coefficients
1. Treats all family members	(+) 0.93
2. Calls back quickly	(-) 0.51
3. Prices charged	(+) 0.39
4. Favors Breastfeeding	(-) 0.35
5. Recommended by another physician	(-) 0.26
6. More than one physician in practice	(-) 0.17

The (+) coefficients in the above are those that push the function in favor of GP/FP group membership while the (-) coefficients favor pediatrician group membership. Since the initial sample size was not large enough, a hold-out sample was not available on which to check the accuracy of classification by using the function. But when used on the original data sample itself, the above function correctly predicted the group membership in 81.7% of the cases, which may be considered to be reasonably good in spite of the upward bias (Frank, Massy & Morrison 1965) that may be present when using such a procedure.

6. Causes of Dissatisfaction: Patient satisfaction has often been conceptualized in the health care literature as an independent variable to predict consumer behavior in areas such as over-all use of medical services, choice and utilization of particular health care programs, facilities etc. (Donabedian 1966, Ware et al 1978). Hence the present study sought to gain further insight into the consumers' preferences for particular types of HCP's by first identifying the respondents who had either already changed their child's HCP or were seriously considering leaving their current provider, and then by inquiring into their reasons for dissatisfaction. Thirty-five respondents confirmed having changed their child's HCP and another 49 were seriously considering such a change. These 84 respondents were distributed as 34 in the use-pediatrician group and 50 in the use-generalist group. These families were then asked to indicate the sources of their dissatisfaction from a list of 17 reasons identified in the open-ended personal interviews. The 84 respondents mentioned,

in all, 161 reasons out of which 148 were pertinent to provider-consumer interaction.

The following reasons were most often given, ranked by frequency of mention, by those using a pediatrician's services:

- Doctor not interested in child's behavior
- No concern for child
- Child not getting better
- Doctor incompetent: didn't know what he/she was doing

In contrast, these were the most frequent reasons given by those going to a GP/FP:

- Office(clinic) too far away
- Found another MD more convenient
- Staff were rude
- No concern for me

DISCUSSION

Consumers in general appeared to be carrying out a limited search before selecting a HCP, even though it would appear to be obvious that a decision involving the child's health and development should be one of "high involvement". No SES differences were found between those carrying out an extremely limited search and those doing a more extensive search. We speculate that the differences probably lie in psychological variables not investigated in the present study. Our findings with regard to sources of information in choice process are consistent with earlier literature, and in particular the importance of word-of-mouth information was highlighted. It is interesting to note how little change has occurred in the consumer's choice process in the last 30 years in the context of Parsons'(1951) remark that the majority of people choose their physicians "blindly" on the basis of recommendations of friends or neighbors and without any further inquiry! With regard to reference by another physician, one might speculate that in a competitive provider market, obstetrician-gynaecologists may prefer to refer the mothers (who use their services) to pediatricians for the health care of the child, to avoid the possibility that the child's HCP may take away the "repeat business" of delivering the next child, which could happen if the HCP were to be a GP/FP.

The present results reinforce the notion that high involvement alone does not produce substantial systematic search behavior. Rather, the results obtained with health care consumers appears consistent with the findings of Furse, Punj, and Stewart(1984) and their suggestion that even high involvement tasks may generate little information search if the consumer does not have the ability to evaluate the information, is distracted or has time constraints, or has repeated the decision process many times. In such cases the consumer may use some simple heuristic for decision making rather than engage in extensive search activity. Among health care consumers the prominent heuristic appears to be the

advice of friends, relatives, and other health care providers.

Consumers who use the two different kinds of providers cannot be readily segmented on the basis of SES variables. The only clear differentiation that emerged was in terms of younger families being positively correlated with the use of a pediatrician's services. But here again one can think of at least two alternative explanations for this finding. First, it could be on account of compliance with socio-cultural norms or opinion leaders within the family's reference group resulting in a decision to send the child to a pediatrician since it is the modern, trendy thing to do for the younger parents. Second, it could be simply because as parents and children get older, the parent decides that the child no longer requires a "specialist" and thus falls back on GP's/FP's.

Our findings with regard to importance of various factors in provider selection, and the reasons for dissatisfaction, probably constitute the most interesting aspects of the data collected in the present study, particularly since they support each other in terms of converging on the differences between the two groups of consumers. While earlier studies such as Deisher et al(1965) have found a somewhat similar set of "importance factors" in the selection of a pediatrician, and other studies such as Doyle & Ware (1977) have pointed out that the two major aspects of consumer perceptions of satisfaction are access mechanisms and physician conduct, our study is probably the first one to highlight that different groups of consumers who are using different types of primary HCP's are in fact seeking somewhat different(or differentially weighted) sets of benefits. While both groups of consumers appear to attach equal importance to the "art of care"(Ware & Snyder 1975, Ware et al 1978, Ware 1981), that is, the physician's "personal" qualities(Hulka et al 1970, 1975), those consumers who use a pediatrician appear to attach more importance to the perceived professional competence ("Quality of care-technical" in Ware et al's terminology) while the consumers who use a generalist seem to be more concerned about the cost and convenience of care. Our finding regarding the importance of the "art of care" to all consumers is consistent with earlier studies such as Korsch et al(1968), Kane(1969), Kasteler et al(1976) and Cartwright(1967). And our finding that consumers who are more concerned about the price(cost of care) are also likely to be more concerned about the convenience of care is consistent with earlier psychometric investigations of patient satisfaction(Hulka et al 1970, 1975) which have grouped these concerns along a common dimension.

The significant difference between the two groups on "the physician should call back quickly" is worthy of some comment. It appears to the present authors that this may be an indicator of more parental concern on the part of pediatrician users with regard to the health of their children, and this would be quite consistent with our hypothesis that these consumers

have higher expectations with respect to the outcomes of the professional(technical) performance of the physician. Indeed, our study suggests that differences in expectations between the two groups of consumers with regard to quality/outcomes of care may turn out to be a crucial factor. The causes of dissatisfaction mentioned by pediatrician-users clearly indicate that they are more critical of their physician's performance, and since it is difficult to believe that pediatricians as a group objectively perform worse than GP's/FP's, it would appear to be a case of higher expectations. What is not clear is whether these higher expectations are part of the original frame of reference(Mechanic 1968, Larsen & Rootman 1976) of the consumer or whether these are in fact generated during the course of parent-physician interaction(in which case it may be possible that the pediatrician is the real causal factor).

Why is it that very few consumers who use a GP/FP mentioned physician's performance as a cause of dissatisfaction? One possibility, as we have seen already, is that these consumers may have lower expectations in terms of the outcomes of medical care and the physician's contribution to these outcomes. Another possibility is that these consumers may share, implicitly or explicitly, the belief that they lack the competence to make an evaluation of the physician's performance(Cartwright 1967). Hence they may prefer to be critical only in those areas where they believe they are in a position to make judgements.

Future Research: We are currently in the process of validating some of the findings and hypotheses discussed above. In particular, we hope to investigate further the issue of whether the two kinds of providers are competing in the same market and whether consumers can be segmented along the benefit dimensions tentatively put forward by us. Also, as discussed earlier, few demographic differences have been found between the two groups of consumers, and in the current phase of our research we hope to gain some insights into the psychological variables that may represent the underlying dimensions of difference. With regard to the consumer's choice process, a cross-sectional sample survey, such as the one used in this study, can result only in tentative findings on account of problems of recall and experience bias in the respondent's answers. A full-fledged longitudinal study is required to validate these findings.

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CONSUMERS AND CHOICE:
THE FORGOTTEN ELEMENT IN HEALTH CARE COST CONTAINMENT POLICY¹

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Abstract

The responses of 365 potential consumers to three cost containment strategies in health care are examined. The aggregate sample proves negative toward two strategies and positive toward the third. Also, demographic characteristics which predict approval of one strategy predict disapproval of other strategies. These findings are discussed in the context of recent events in California.

Introduction

Numerous strategies to contain the spiraling costs of health care have been introduced in both the public and private sectors over the last two decades. These strategies have been extraordinarily varied in scope and have spanned a wide array of prescriptive approaches (competitive, regulatory, innovative, voluntaristic; McNerney 1980). By and large, however, they have been unable to blunt the persistent inflation of health care costs.

This paper explores one of the factors presumed by many observers to be responsible for this disappointing track record: consumer responses to containment strategies. To be effective, a cost-saving strategy must force a reduction in the overall utilization of the health care system by consumers. To do so, the strategy must impose new costs on consumers to develop cost-saving responses among the latter. Since those responses often require dramatic changes from established consumption patterns, the long term prospects of any strategy depend in part on how accurately it has anticipated the responses of consumers to its new costs.

Yet, over the years little systematic effort has been made to incorporate an understanding of consumer responses into the development of containment policy. Consumers have rarely been asked how they react to care delivered under a new and different containment strategy. As a consequence, consumer responses have often not been anticipated very well by providers and reimbursers seeking new cost-saving ways to deliver and finance health care.

In the discussion below I illustrate the use of one framework for addressing these concerns, using a study that probed potential consumer responses to three cost containment strategies: (1) use of insurance incentives to persuade consumers to choose providers who have contracted with reimbursers to provide services at a discount (preferred provider); (2) use of administrative guidelines to ration the availability of health personnel and resources (health planning); and (3) use of provisional arrangements to encourage consumers to take responsibility for personal health maintenance (self care).

Three key questions are addressed in the analysis. How do consumers respond in the aggregate to specific scenarios they are likely to encounter under each of the three broad containment strategies? What segments of consumers are likely to respond positively or negatively to the strategy scenarios? And, what do consumers think will happen to their care under each strategy?

¹Views expressed in this paper are the author's own and are not necessarily shared by Rand or its research sponsors. The author wishes to thank John Ware, without whose help this manuscript would not have been possible. The author is a consultant to the Health Sciences Program at Rand.

This study finds that aggregate consumer responses are negative to two of the three strategies--preferred provider and health planning--and positive to the third--self care. Second, demographic characteristics which predict approval of one strategy predict disapproval of other strategies. No one strategy, therefore, is likely to be accepted by everyone.

Three Cost Containment Strategies

A successful cost containment strategy for health care restructures patterns of care for consumers. In the course of this restructuring, consumers agree either to absorb novel and unfamiliar costs or to endure an increase in familiar costs. This section of the paper introduces the three containment strategies with an emphasis on the costs each is likely to generate for consumers.

Strategy I: Preferred Provider. The preferred provider strategy is a relatively new, yet swiftly evolving concept in health care. In theory, it is designed to take advantage of competitive principles. It seeks to increase "marketplace pressures" in health care by making both providers and consumers more accountable for the financial impact of their treatment decisions.

In practice, this strategy has produced a wide variety of organizational forms all of which are known as preferred provider organizations (PPOs). As a rule PPOs share the following description: "a group of fee-for-service providers who have a contractual agreement to provide health care services at a discount to a defined pool of patients who have free choice of provider but have an economic incentive to utilize PPO member providers ("Preferred Provider Organizations" 1982). The economic incentives to choose "member" providers are typically manipulated through insurance reimbursement arrangements (Enthoven 1978). For example, consumer coinsurance rates, copayments, and deductibles may be lower if "member" providers are chosen.

Preferred provider tactics, however, are not necessarily restricted to PPO fee-for-service arrangements. For example, reimbursers may require consumers to obtain estimates for a given service from multiple providers and base reimbursement on the lowest estimate. Such a tactic does not distinguish "member" providers from non-member providers though it uses a similar coinsurance incentive to steer consumers to the preferred (less expensive) providers.

For consumers accustomed to traditional fee-for-service insurance arrangements, preferred provider tactics introduce a tradeoff between freedom of choice and out-of-pocket payments which in fact becomes a new cost. If the provider of their choice is not a preferred provider, they have to pay more. Accordingly, this study presented scenarios which described health care encounters in which restriction of choice for provider was emphasized.

Strategy II: Health Planning. In contrast to the preferred provider strategy, health planning is regulation-based. It attempts to coordinate the resources in organized health care so as to alleviate duplication and maldistribution of these resources. It assumes that coordination problems stem primarily from two factors: the independence of providers, particularly physicians and hospitals, and the multiplicity of reimbursers (Newman, Elliot, et al. 1978).

To address these factors, health planning seeks to impose resource limits on providers through a secondary layer of health provision which administers resources. This administrative structure supplements traditional cost sharing methods with either implicit or explicit rationing. Implicit rationing acts through constraint. It places broad limitations on the treatment decisions of providers via prospective budgets, need assessments, etc., but otherwise allows them to remain relatively flexible. Explicit rationing, in contrast, acts through restraint. It curtails provider autonomy through such mechanisms as pre-review, concurrent review, etc., all of which reflect an enhanced influence for the administrator (Mechanic 1978).

In practice, tactics for both types of rationing attack coordination problems by placing the initial burden for cost containment on providers, not consumers. For example, health administrators can minimize duplication of inpatient hospital bed supply and high cost technological equipment in a given area and thus limit the availability of these items to providers (implicit rationing). They can also mandate the curtailment of ancillary or "extra" services by providers (explicit rationing).

Both types of rationing do, however, generate secondary consequences for consumers, including increased inconveniences and reduced access to service. Since a major objective of health planning is to shift the burden of rationing from an economic to a non-economic basis, these consequences represent non-economic costs. Consumers, for example, may wait longer for appointments, experience longer delays in obtaining these appointments, etc., when seeking care under arrangements guided by health planning. Hence, the health planning scenarios in this study described situations which increase the access inconveniences that routinely occur when receiving care.

Strategy III: Self Care. This third strategy is based on recent innovations in health care. It seeks to tap a larger social movement in which the individual consumer participates more fully and accepts greater responsibility for the services received from professionals (Gartner and Reisman 1974). In health care this movement has produced a shift from the traditional medical model of "expert" physicians and "passive dependent" patients to the partnership model which emphasizes the many ways consumers can assume greater individual responsibility for health matters (Levin, Katz, et al. 1976).

Thus, in contrast to the other two strategies, self care seeks to place the initial burden of containment on consumers. Specifically, Fry (1978) has outlined four spheres of self care activity: (1) health maintenance, (2) disease prevention, (3) self diagnosis, treatment, and recovery from illness, and (4) patient participation in professional care. Expanded consumer activity in each sphere, if properly undertaken, is thought to reduce overall utilization of the health care system.

Tactics designed to promote such activity have recently begun to appear in a wide variety of governmental and corporate settings. For example, with respect to self recovery providers can opt for ambulatory (outpatient) surgery whenever medically appropriate instead of inpatient surgery. Without an inpatient stay, consumers (and their families) are forced to take more responsibility for patient recovery in the immediate postoperative period (Marks, Greenlick, et al. 1980).

For consumers, the acceptability of these tactics depends largely on their capacity to assume the increased personal responsibilities. That is, some segments of the population (e.g. the old and infirm) may be considerably less capable than others (e.g. the young and healthy) of responding to the demands implicit in the

transfer of responsibilities encouraged by self care. Those segments may therefore perceive that the transfer places their health unnecessarily at risk. Accordingly, the self care scenarios in the study stressed the personal responsibility component.

Methods

Sample. The data for this study were gathered from a random sample of 365 adults. The sampling frame was the west side of Los Angeles. There was substantial variation on the education and income continua though, on average, respondents (Rs) were relatively well educated and had substantial income. Likewise, the variation in age was considerable with Rs ranging from 18 to 84. Rs were more likely to be white than nonwhite, female than male, and to have been married at least once.

Procedures. Rs were contacted in their homes via a computer assisted telephone interviewing system on the UCLA campus for a 20 minute telephone interview during March-April, 1981. The interview protocol benefitted from three pretests involving some 130 respondents. Also, among the analytic methods used in the study were recently developed structural equation or causal modeling techniques (Bentler 1980). (A detailed discussion of the study's use of CATI for data collection and of structural equation techniques for data analysis can be found in Allen (1983).)

Variables. For each strategy a set of five scenarios was generated. The tactics emphasized in each set of scenarios were: for the preferred provider strategy, (1) using coinsurance incentives to pressure consumers to choose "member" providers, (2) basing reimbursement rates on an average of the charges of local "member" providers, and (3) basing reimbursement on the lowest of three estimates from (either "member" or non-member) providers; for health planning, (1) regulating the availability of physicians, inpatient bed supply, and technological inputs by increasing access inconveniences, and (2) curtailing ancillary services by providers; and for self care, (1) using coinsurance incentives to promote preventive behaviors, (2) opting for ambulatory surgery whenever medically appropriate, and (3) promoting increased consumer record keeping.

For example, one scenario (for the preferred provider strategy) read as follows: "You would receive the full amount usually paid by your health insurance policy for any surgery received from the surgeon of your choice. However, coverage would be based not on the rate of this surgeon, but on the average rate of 30 local surgeons from a list approved by your insurance company." All scenarios were responded to on a five point approval-disapproval continuum.

For each strategy, nine expectation judgments were also obtained referencing three dimensions of health care: quality of care, access, and finances. Each judgment was framed so as to compare Rs' anticipation of care under the proposed (or hypothetical) strategy with their perception of the care they were receiving from their current health care arrangements. Quality of care judgments encompassed the projected doctor's thoroughness, courtesy, and efficiency. Access judgments included projected waiting times, both for getting an appointment and for office visits, and the level of inconvenience associated with getting care. Financial judgments incorporated the projected consequences of the strategy in question for amount of health insurance premiums, breadth of coverage, and insurance deductibles.

Finally, six demographic variables--age, education, income, sex, marital status, and race--were employed.

Results

Statistics for the scenario responses (grouped by strategy) revealed that responses to the self care scenarios were more favorable than responses to the health planning scenarios which, in turn, were more favorable than responses to the preferred provider scenarios. Specifically, the self care strategy drew a largely positive response; nearly two-thirds of the sample were either strongly or somewhat approving. The health planning strategy, in contrast, drew a comparatively negative response; nearly two-thirds of the sample were either strongly or somewhat disapproving. The preferred provider strategy drew an even more negative response with nearly three-quarters of the sample classifiable as either strongly or somewhat disapproving. Statistical tests confirmed the significance of these differences.

Subsequent analyses turned from treatment of the sample in the aggregate to an examination of segments within the sample via structural equation techniques. Specifically, data were analyzed to predict scenario responses from two sets of variables: (1) the six demographic variables and (2) the three dimensions of expectation judgments made with reference to the strategies. Each strategy was treated separately in its own hierarchical model. In the model, each demographic variable was hypothesized to affect each expectation variable directly and the scenario response variable indirectly through each expectation variable. Furthermore, each of the three dimensions of expectation judgments and the demographic variables was hypothesized to affect the scenario response variable directly.

Results indicated that quality of care expectations exerted the greatest direct effect on preferred provider scenario responses. Quality of care expectations, in turn, mediated the effects of race and education. In addition, income exerted a negative direct effect on the response variable.

Thus, in the context of a sharply negative response by the aggregate sample to the preferred provider strategy, low SES non-whites were evidently less opposed to the restriction of choice imposed by the strategy. Rather, the strategy's screening function appears to have been seen by these Rs as an assurance for provider competence and courtesy that was unavailable in their current health care arrangements. High SES whites, in contrast, clearly based their negative responses on the perception that the strategy, in restricting their freedom choice, would funnel them toward providers of poorer quality. Providers approved by an insurance company would be "cheaper," less competent, less courteous, etc. than providers of their own choice.

For health planning, age showed the greatest direct (positive) effect. Also, financial expectations exerted a moderate direct effect by mediating a negative effect for age. In addition, quality of care expectations yielded a moderate effect on health planning scenarios by mediating a negative effect for education. Also, being white led to a direct positive effect on health planning.

The sample's aggregate negative response to health planning, therefore, was not prompted by expectations regarding the increased access difficulties hypothesized above to constitute new costs for consumers. The predictive findings here would, instead, seem to suggest several anomalies. For example, though whites were more likely to approve the strategy than non-whites, highly educated Rs also foresaw decrements in competence and courtesy among providers under the strategy relative to their current providers. Perhaps, highly educated whites tend to be sympathetic to the overall objectives of health planning, but distrust specific consequences

for the strategy in implementation. Such anomalies will require future research to resolve.

Finally, for self care access expectations the greatest direct effect. They in turn mediated the effects of income and age. Financial expectations exerted the next greatest direct effect, mediating a negative effect for age. In addition, being white and having high education was associated directly with approval for self care.

Thus, the sample's positive aggregate response to self care derived principally from those segments in the sample which would seem most able to assume the transfer of personal responsibilities encouraged by the strategy. Those most likely to be healthy and independent of others for their well being (younger, high SES whites) linked their approval to expectations that the transfer would result in shorter waiting times, fewer inconveniences, etc. as well as lower insurance premiums, lower deductibles, etc. Those less likely to be healthy and independent (older, low SES non-whites), in contrast, foresaw worsened access and financial outcomes for themselves and responded accordingly.

Overall, it can be noted that demographic characteristics which predicted disapproval of the preferred provider strategy predicted approval for self care (being high SES and white) and to a lesser extent health planning (being white). Similarly, a key characteristic which predicted disapproval of health planning predicted approval of self care (youth). The sample's responses therefore proved highly complementary across the three strategies.

Discussion

As has been the case historically, in passing recent legislation to encourage statewide PPO development, California policymakers have not used empirical data as the basis for anticipation of consumer responses. Instead, they appear to be using untested assumptions provided by the competitive approach that underlies the strategy. These assumptions hold that consumers will respond positively in the aggregate to the marketplace pressures brought to bear by the strategy. Or, consumers across the demographic spectrum will be equally likely to respond positively. Or at the least, those consumers most affected by the changes brought about by the legislation will be the most likely to respond positively.

The data here, however, support none of these assumptions. The data of course are clearly preliminary and need further replication, yet they sound a note of warning. Specifically, they indicate that the overall response of consumers to care scenarios they might experience under California's implementation of the preferred provider strategy is negative. Moreover, young low SES non-whites are more likely to respond positively to the kind of care described by these scenarios than old high SES whites. By implication, consumer responses to the preferred provider-guided interventions will be far from homogenous across the demographic spectrum. Indeed, insofar as there is likely to be a positive response, it will probably occur among those least affected by changes in Medi-Cal--or even private insurance companies.

The data further indicate that consumer responses to the preferred provider strategy are likely to be more negative than responses to two alternative containment strategies available to California--health planning and self care. Thus, from the viewpoint of consumer responses the prospects for cost containment in California might well be improved by an upgraded emphasis on these and/or other strategies as well.

Calls for the use of multiple strategies can be found elsewhere in the containment literature. For example, McNerney (1980) has suggested that each cost-saving method--whether regulatory, competitive, innovative or voluntary--can make unique contributions to a long-range, effective containment solution. The viable strategies which derive from various methods, therefore, should be developed together by testing them in combination with one another. Indeed, consumer responses can provide the blueprint for this development. Discriminations in strategy responses across segments of consumers can guide policymakers toward an optimal combination of the strategies.

The data suggesting a complementary response structure across the three strategies are consistent with this theme. If no one strategy is likely to appeal to all consumers, then it would appear advantageous for policymakers to explore which strategy(ies) various segments of the consumer population in question is (are) most likely to find appealing. Furthermore, if the segments respond most positively to several distinct strategies, then policymakers should endeavor to include each in the combination of strategies to be tested and developed.

Policymakers can exploit data on consumer responses for more than just the determination of strategy inclusion, however. Specifically, consumer response data can be used to devise appropriately formulated marketing initiatives when implementing strategies. These marketing initiatives should seek to address why consumers respond as they do to each strategy. By identifying and effectively addressing consumer concerns, policymakers can maximize the chances that consumers will accept and ultimately behave in ways which are conducive to the success of containment interventions.

The data above provide preliminary information for formulating marketing initiatives for two of the three strategies. For the preferred provider strategy, the crucial issue is likely to be quality of care. Specifically, (in contrast to low educated non-whites) high educated whites will tend to foresee poor outcomes along the quality of care dimension resulting from the restriction of choice by the strategy. Therefore, if preferred provider tactics are marketed in terms which strive to address the quality of care concerns of high educated whites (and the hopes for better quality of care outcomes of low educated non-whites), their containment prospects should improve.

For the self care strategy, the crucial issues are likely to be access and finances. That is, (in contrast to younger high income consumers) older low income consumers will tend to foresee poor access and financial outcomes resulting from the increased personal responsibility objective of self care. Thus, if self care tactics are marketed in terms which tackle the access and financial fears of older low income consumers (and exploit the advantages along the two dimensions anticipated by younger high income consumers), the containment prospects of the tactics should similarly improve.

For the health planning strategy in contrast, the implications for marketing are less straightforward. Both quality of care and finances are likely to be important issues. Expectancies along neither dimension, however, are likely to mediate the positive (negative) responses that older (younger) respondents will show toward health planning. Other psychological variables could plausibly mediate this relationship, for the hypothesized mediators tested in this study certainly were not exhaustive (e.g. perceptions of the efficiency levels of health care bureaucracies).

Other limitations respecting the study should be noted as well. For example, sampling is a concern, both for respondents and for dependent variables. Clearly, this study's inferences to statewide developments would be more persuasive if based on data which systematically sampled both urban and rural consumer populations throughout the state. In addition, longitudinal data would considerably strengthen the cross-sectional prospective data gathered here, particularly if the attitudinal responses were supplemented by behavioral response data from those actually receiving care under the aegis of each strategy.

Second, expectation judgments may not be sufficient in and of themselves as a basis for determining the "why" underlying consumer responses. Rational choice theories in the social sciences, for instance, would stipulate that the expectation judgments which consumers make along the three dimensions of care need to be considered in conjunction with the values placed on the dimensions (Allen 1983). The effectiveness of marketing initiatives stand to be considerably enhanced if devised on the basis of the two components together, rather than expectation judgments alone.

Third, to simplify the introduction of consumer-oriented analyses, this study has assumed that the three strategies are more or less interchangeable as vehicles for cost containment. Obviously, this assumption bears little weight in the real world. For instance, whereas the full cost containment potential of the self care strategy has clearly yet to be tapped, it likely will be only a fraction of the potential achievable under purely competition-based or regulation-based strategies. Such considerations introduce layers of policy-oriented complexity featuring relative cost and price issues which effective marketing initiatives will have to incorporate. The present analysis, however, only acknowledges them.

These limitations notwithstanding, this study introduces a methodology for incorporating consumer responses into containment policy that would appear particularly useful either prior to or in the preliminary stages of strategy implementation. In so doing, this study suggests serious reconsideration of the well-established precedent for pursuing cost containment in health care in the absence of data on consumer responses. Containment policy utilizing empirical data on consumer responses has substantially greater chances of successfully anticipating these responses and, ultimately, of achieving its cost saving objectives.

Indeed, this study outlines a framework for an iterative process that could serve as an integral component to containment policy. Briefly, this iterative process would seek to optimize the match between alternatives for cost containment and consumer acceptance. For example, policymakers might begin by surveying various strategy-inspired delivery systems and marketing initiatives that are feasible alternatives for a given population of consumers. Feasibility in this case would be determined by such variables as current modes of health care practice, the quantity and quality of available resources, the experience of health care personnel, etc. Policymakers would then seek to establish a feedback loop based on multiple contacts with samples from this population. This feedback loop would monitor consumer responses for the purpose of formulating and revising the systems and initiatives. Its objective would be to develop promising long term matches between the systems and initiatives on one hand and segments of consumers on the other. It would continue through the implementation period to monitor consumer responses for the benefit of future implementation efforts. Such an

iterative process could be executed relatively cheaply, yet it could greatly facilitate a long range solution to the cost containment crisis that now confronts health care.

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CHANGE IN MEDICAL CARE PROVIDER: A CAUSAL ANALYSIS OF
THE CONSEQUENCES OF PATIENT DISSATISFACTION[1]

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Abstract

Longitudinal data were used to examine one behavioral consequence of patient dissatisfaction with medical care. Individual differences in satisfaction were found to predict subsequent change in health care provider. Implications of this result and future research needs are discussed.

Introduction

Several factors motivate research that focuses on consumers' perspectives about health care services. First, current legislative proposals stress greater reliance on consumer preferences in the allocation of medical care resources. Second, we are beginning to see an integration of marketing into the health care arena (Cooper and Kehoe 1978). The new attention to marketing stems, in part, from policymakers' emphasis on increasing competition in order to control rising health care costs. A more thorough understanding of consumers' perceptions of health care services and of consumers' health care decisionmaking may aid both the public sector in formulating policy and private insurers and providers in developing effective, consumer-responsive marketing strategies.

The growing empirical and theoretical literature concerning the patient satisfaction concept reflects this consumer-oriented emphasis. There are several theoretical justifications for surveys of patient satisfaction. First, patient satisfaction is an ultimate outcome of the delivery of personal medical care services. Second, patient satisfaction ratings contain useful information about the structure, process, and outcomes of care, as well as an unique evaluative component. Third, satisfaction predicts how patients will behave in the future, and thus provides information about health care decisions.

Most published studies have treated satisfaction as an outcome of the care process. Results from these studies tend to support the hypothesis that patient satisfaction ratings are affected by the structure, process, and outcomes of care (Ware et al. 1978).

Some researchers have also investigated the relationship between patient satisfaction and patient behaviors. These studies (Ware et al. 1978, Ware and Davies 1983) suggest the usefulness of patient satisfaction measures in predicting behavior. With few exceptions, the data used to test these relationships came from cross-sectional surveys; measures of current satisfaction were used to explain past behavior.

The study we report here used a prospective design to examine one behavioral consequence of patient satisfaction. Our analysis used longitudinal data; satisfaction at a point in time was used to predict subsequent change in the patient's usual physician. In the remainder of this paper, we give a brief summary of our research; the reader interested in more detail is referred to Marquis, Davies and Ware (1983).

Our data came from the Rand Health Insurance Experiment (HIE), a longitudinal social experiment designed to estimate the effects of different health care financing arrangements on use of services, health status, and patient satisfaction (Newhouse et al. 1981). Our analysis sample included adults aged 18 or older in one of the HIE sites, Dayton, Ohio.

To measure provider change, we first obtained self-reports of the provider visited most often during the year preceding a personal interview. Providers visited during the following year were then identified from insurance claim forms. A comparison of providers visited in the two years revealed a distinct bimodal distribution; 71 percent of respondents saw the doctor mentioned in the initial interview for either all or none of their visits in the subsequent year. Therefore, we developed a dichotomous provider change measure. We assigned a score of 1, indicating provider change, to individuals who saw the same doctor for less than 50 percent of visits; we assigned a score of 0, indicating no change, if the same doctor was visited for 50 percent or more visits.

Patient satisfaction scores came from the self-administered, four-item General Satisfaction scale constructed by Ware, Snyder, and Wright (1976), and Ware et al. (1983). These scores were obtained during the initial interview and were used to predict provider change in the subsequent year. General Satisfaction scores can range from 4 to 20. Observed scores in our data ranged from 4 to 19; the mean and standard deviation were 11.9 and 2.65, respectively. The internal-consistency reliability was 0.70.

Because of the way we defined provider change, the sample for analysis was restricted to adults who had used medical care in the years preceding and following the initial interview (50 percent of Dayton adults). The average age of the analysis sample was 39 years. Sixty-seven percent were female; 9 percent were black. The average number of years of school completed was 12.8. Family incomes averaged \$13,033 (1972 dollars).

We used a simple bivariate analysis to estimate the total effect of patient satisfaction on the probability of provider change for respondents in the bottom, middle, and top thirds of the General Satisfaction score distribution. We also fit a multivariate linear probability function, regressing the indicator of physician change on General Satisfaction, age, education, family income, sex, general health status, prior use of medical services, and insurance plan generosity.

Results

The bivariate analysis revealed substantial differences in rates of physician change for groups that differ in satisfaction with care. The least satisfied patients (the lower third of the distribution) were 57 percent more likely to change physicians than the most satisfied group (Table 1). Individuals scoring in the middle third of the satisfaction distribution were about 27 percent more likely to change physicians than those in the top third of the distribution.

[1] This research was supported by the Health Insurance Study grant from the Department of Health and Human Services.

The multivariate analysis confirmed that consumer satisfaction makes a significant contribution to the prediction of provider change ($t=3.05$), even controlling for other correlates of change. From this model, we estimated that each one-point decrease in overall satisfaction with medical care increased by 3.4 percentage points the probability that an individual would change physicians in the next year.

Our multivariate analysis assumed a linear relationship between satisfaction and subsequent provider change. Our examination of the errors in

Table 1

INDEX OF PHYSICIAN CHANGE FOR THREE GROUPS
DIFFERING IN SATISFACTION WITH CARE

Satisfaction Tertile	Probability of Change Relative to Probability for Most Satisfied Group
Low	1.57
Middle	1.27
High	1.00

prediction revealed that they were not related to the satisfaction score; hence, there was no reason to reject a linear functional form. This finding was important, because it suggests that the probability of provider change increases quite evenly as satisfaction with care decreases. We do not observe a "threshold" point at which decreasing satisfaction is translated into an action to change providers. If this result is replicated with larger samples at the extremes of the score distribution, the probability of changing providers would differ by more than 50 percentage points for persons at the highest and lowest satisfaction level.

Discussion

An important reason for obtaining patient satisfaction ratings is that they may predict how patients will behave in the future. We found that satisfaction ratings do have predictive validity in relation to a consequential patient behavior: our results indicate that patient dissatisfaction causes provider change. This causal relationship has been suggested by others (Ware et al. 1976). The longitudinal design of the Health Insurance Experiment permits the causal inference that cross-sectional studies cannot test.

While our findings support the predictive validity of satisfaction ratings, future research must address several issues if we are to better understand the "so what?" of patient satisfaction. One line of future inquiry would be to evaluate distinct sources of dissatisfaction that may lead to provider change. The general satisfaction measure has a certain advantage as a predictor because the distinct features of care--access, costs, availability, technical quality, interpersonal aspects--can be weighted differently by different patients when they rate the overall satisfaction. However, if satisfaction data are to be used to formulate public policy or to design consumer-responsive marketing strategies, we need to be able to point to the particular features of care that influence patients' choices about their health care (Ware and Davies 1983).

Another issue that requires further research is the relationship between satisfaction and other patient behaviors of consequence. Among the many behaviors of interest to providers and medical care delivery systems in this regard are the decision to use or not use services and compliance behavior.

Our research represents a first step in investigating the behavioral consequences of patient satisfaction. The conclusion that patient satisfaction has predictive validity suggests that satisfaction ratings may be used by providers and medical care plans to monitor performance; to remain viable, they must keep their customers satisfied. Further investigations of the effect of different dimensions of satisfaction on consumer behavior would help us understand how consumers make choices about health care. Such understanding would increase the success of public and private initiatives aimed at consumers of health care.

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EFFECTS OF VERBAL AND VISUAL INFORMATION ON BRAND ATTITUDES

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Abstract

Subjects were presented with eight advertisements varying in argument strength and picture attractiveness. Although little argument and picture information could be recalled, both had significant effects on brand attitudes under both high and low involvement conditions. The findings emphasize the role of nonfactual information in mediating attitude formation even under conditions that maximize attention and involvement.

Introduction

The relative significance of content and non-content information in mediating attitude formation toward messages has been the focus of much interest in persuasion and advertising research. One route of investigation has led to specifying the conditions under which one type of information becomes dominant over the other. These studies (e.g., Petty, Cacioppo and Schumann 1983) have shown that under high level of personal involvement attitudes are influenced by evaluation of the message content, whereas under low involvement conditions attitudes are affected by peripheral cues (e.g., source attractiveness) which are not related to the content of the message. However, in many of these studies motivational involvement has been confounded with the quality of processing information. For example, the minimal effects of source attractiveness on attitude under high involvement conditions could either be caused by minimal processing of the source while subjects are engaged in extensive processing of the message content, or by motivational factors which minimize the influence of processed peripheral information on attitudes. While several studies have shown that peripheral information is equally remembered under high and low involvement conditions, it has been argued (e.g., Hutchinson and Moore 1984) that postexposure recall and recognition measures do not necessarily reflect the depth of information processing during exposure. Thus, in the absence of direct measures of processing quality it is difficult to assess the role of nonfactual information in forming attitudes under high involvement conditions. Indeed, several studies have shown that under conditions which encourage extensive processing, peripheral information can influence attitude toward the message. For example, Mitchell and Olson (1983) instructed subjects to concentrate on remembering advertisements and found that pictures which provided no explicit brand information influenced attitudes toward the advertised product.

The present study focuses on situational rather than personal involvement. An attempt was made here to devise an experimental manipulation in which both high and low involvement conditions would entail extensive processing of factual and pictorial information from advertisements. Furthermore, the high involvement condition was characterized by processing information for the purpose of forming brand attitudes and inferring the true quality of the advertised brand. This manipulation is similar to the high involvement brand processing strategy used by Mitchell, Russo and Gardner (1980). The purpose was to investigate whether under this type of high involvement, in the process of forming brand attitudes subjects would maximize the processing of content information and minimize the influence of picture information, since the latter was not inherently related to the quality of the brand. This manipulation of involvement is different than those used in the past. In fact, one could argue that according to some definitions the present low

involvement is a form of high involvement since it entails extensive processing of the advertisements. Nevertheless, for the purpose of the present study, it is sufficient that the high involvement instructions produced higher involvement than the low involvement instructions by requiring subjects to form brand attitudes during exposure to the advertisements.

The second purpose of the present experiment was to explore the possibility that the advertisements could influence the formation of brand attitudes at some later point in time following exposure, when information from the advertisements could not be adequately retrieved. It was hypothesized that affective reactions generated during exposure to the advertisements could outlast the representation of the specific information that had originally produced them, thereby influencing brand attitudes. This hypothesis is indirectly suggested by findings (e.g., Greenwald 1968) showing that subjects' recall of abstractions and inferences of factual information are better predictors of attitude change than recall of the factual information itself.

Method

Subjects and Stimuli

The subjects were 16 undergraduate business students enrolled in marketing research courses. Eight subjects were assigned to the high involvement condition and eight were assigned to the low involvement condition. Both groups were presented with all eight advertisements.

Each advertisement consisted of a fictitious brand name, a product name, a background picture, and two arguments. To maximize the nonfactual nature of the pictures, none provided any explicit information about the advertised brand. Each picture was either attractive or unattractive. For example, an attractive young woman vs. an average looking middle aged woman. To further enhance the affective difference between the two types of pictures only the attractive ones were colored. The two arguments supporting the brands were either both strong or both weak. For example, the (strong) arguments for a pen brand were (1) precision balanced and hand crafted in Germany, and (2) Ink doesn't blott or run, and the (weak) arguments for a coffee brand were (1) available in new colored cans, and (2) good in the morning, noon, or night. Two advertisements were constructed for each combination of argument strength and picture attractiveness (i.e., strong attractive, strong unattractive, weak attractive, and weak unattractive) resulting in a total of eight advertisements.

Procedure

Subjects participated in two sessions which were separated by 30 hours. The first session included the instructions and the presentation of the advertisements, and the second consisted of attitude and memory questionnaires.

Session I. Subjects were told that the slides they were about to see were of preliminary pictures and drawings which would be used as a basis for constructing professional advertisements. They were further told that the brands depicted in the advertisements have been used in various parts of the world and that the manufacturers were planning to introduce them to the American market in the near future.

All subjects were instructed to extract as much information as possible from the brand and product names, the arguments and the pictures since they would later be asked questions about them. The high involvement group received additional instructions; they were instructed to form an attitude towards the brand during each advertisement presentation and the following rest interval. They were told that each brand had a given known quality, and that their task was to infer the true quality of the brand on the basis of the information provided in the advertisement. The instructions were followed by the presentation of the advertisements. Each slide was presented on the screen for eight seconds and was followed by an eight-second rest interval.

Session II. In the second session all subjects were presented with a booklet that contained attitude and memory questionnaires. The attitude questionnaires consisted of three seven point binary scales ranging from -3 to +3 (a. extremely bad to extremely good, b. extremely unsatisfactory to extremely satisfactory, and c. extremely poor quality to extremely high quality). For each of these questionnaires subjects were instructed to circle a single number that best represented their attitude towards each brand. The attitude questionnaires were followed by a recall task in which the eight product and brand names were presented and subjects were asked to write down anything they could remember about the picture, the arguments, and any impression they had of each advertisement.

Results

Manipulation Checks

A comparable sample of 16 new subjects completed two manipulation checks. In the first, they were presented with the eight product and brand names and their 16 arguments and were asked to rate on a seven point scale how persuasive was each argument in supporting its brand. In the second test these subjects were presented with the eight pictures and were asked to rate how pleasant each was on a seven point scale. These checks indicated that the manipulations produced the intended effects. The strong arguments were significantly more persuasive than the weak arguments ($p < .001$), and the attractive pictures were significantly more pleasant than the unattractive ones ($p < .0001$). Furthermore, no significant differences in persuasiveness were found among the eight strong arguments and among the eight weak arguments, and no significant differences in pleasantness were found among the four attractive pictures and among the four unattractive ones.

Recall and Attitudes Measures

The criteria for scoring recall responses were extremely lenient. Any response indicating recollection of a part of a picture or a part of either one or both arguments, as long as it was uniquely associated with the correct brand was scored as a correct response for this brand. Table 1 shows the proportion of arguments and pictures correctly recalled for the two involvement conditions. An analysis of variance indicated no significant differences among the four cells of Table 1.

TABLE 1

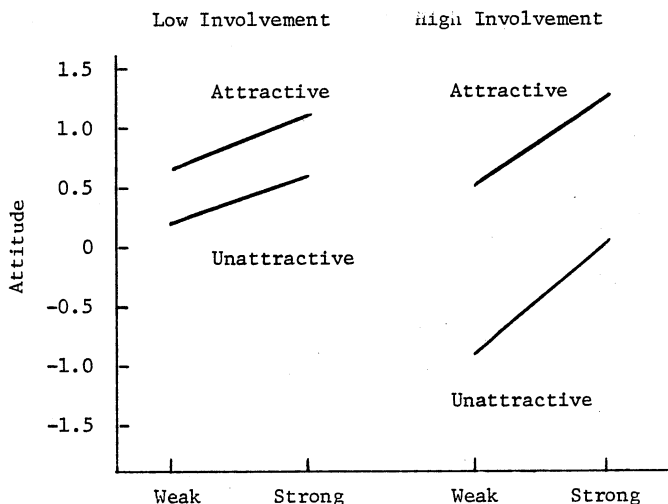
Proportion of arguments and pictures recalled under high and low involvement conditions

	Low Involvement	High Involvement
Arguments	0.23	0.25
Pictures	0.30	0.27

Since the intercorrelations among the three attitude scales were very high responses were averaged across them in order to assess the general attitude toward each brand. Figure 1 presents the attitude judgements for the various combinations of arguments and pictures under the two involvement conditions. An analysis of variance

FIGURE 1

Brand attitudes as a function of argument strength and picture attractiveness under low and high involvement conditions



revealed that all main effects were significant. Low involvement subjects, strong arguments, and attractive pictures produced more positive attitudes than high involvement subjects $F(1,14 = 5.83, p < .05)$, weak arguments $F(1,14 = 5.9, p < .05)$, and unattractive pictures $F(1,14 = 18.12, p < .001)$ respectively. Also significant was the interaction between condition and picture attractiveness $F(1,14 = 4.62, p < .05)$ indicating that the latter effect was greater under the high involvement condition. While this interaction seems to be caused by the difference in negative attitudes towards the unattractive pictures, the direction of the effect may be due to individual differences between the two groups. More important is the relative attractiveness effect within each group of subjects. While the effect of argument strength tended to be stronger under the high involvement condition, this interaction did not reach statistical significance.

Discussion

The results indicate poor recall performance 30 hours following the presentation of the advertisements. That is, on the average, both argument information and picture information was recalled successfully from about two of the eight advertisements. Moreover, due to the lenient criteria of scoring recall responses, a correct response reflects remembering something about the advertisement rather than a detailed recollection of it. Thus, minimal information about the advertisements could be retrieved by subjects while making attitude judgements about the brands. Yet, brand attitudes were significantly influenced by both the strength of the arguments and the attractiveness of the pictures. This finding indicates that affective reactions generated during exposure to the advertisement could outlast the cognitive representations that had originally produced them. The present results, while limited to the short interval between presentation and attitude judgements, suggest that recall performance is not crucial for advertising affectiveness. Affective responses to an advertisement could be dissociated from their specific source and

transformed into a global attitude judgement about the quality of the brand at some later point in time. In fact, one could speculate that under certain conditions the absence of recall rather than its presence may be more effective in generating a positive attitude toward the brand because of the inability to critically evaluate the retrieved information during attitude formation.

The second major finding of the present experiment is that the high involvement instructions did not eliminate the influence of picture attractiveness on brand attitudes. In fact, this effect was greater under the high involvement condition than under the low involvement condition. This unexpected finding could be attributed to the fact that the high involvement instructions intensified the overall processing of the advertisements without enabling subjects to selectively focus on the arguments. However, this result is only suggestive and should be interpreted with caution. The combination of a relatively small sample size and the low significance level (.05) of the interaction between condition and picture attractiveness, and the substantial (unexplained) difference between the two conditions in negative attitudes towards the unattractive pictures suggest that this particular finding should be further substantiated by future research.

Irrespective of the above interaction, the present results clearly indicate a strong effect of picture attractiveness for both conditions. Why should pictures which are unrelated to brand quality influence brand attitude of highly attentive and involved subjects? This result is probably due to the automatic generation of affective reactions toward the salient pictures. Pictures are more perceptually salient than verbal information, their processing requires less cognitive effort, and they are more powerful in generating immediate emotional responses. Since the affective system is immediate, automatic, and inescapable (e.g., Zajonc 1980) these responses are likely to be generated regardless of the subjects' level of involvement. To exclude these affective reactions from the formation of brand attitudes they must be distinguished from the reaction generated by the verbal information. However, as recent data (e.g., Johnson and Tversky 1983) suggest, once generated, emotional reactions are likely to be dissociated from their informational source, making this distinction rather difficult. Consequently, the nature of the unrelated pictures would produce some effect on brand attitudes regardless of the specific goals of the subjects.

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JUDGMENTS OF VERBAL VERSUS PICTORIAL PRESENTATIONS
OF A PRODUCT WITH FUNCTIONAL AND AESTHETIC FEATURES

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Abstract

This study follows the methodology employed in Holbrook and Moore's (1981) study of feature interactions in consumer judgments of verbal versus pictorial presentations. It uses a more functional product, wrist watches, as the stimulus. In contrast to the findings in the original study, pictorial presentation of stimuli generated significantly fewer main effects and significantly fewer interaction effects in judgments of the stimuli than did verbal presentation. Individual cognitive strategies did not appear to explain these results as they did in the original study. Verbal loop, imagery coding and dual coding theories were utilized to explain findings.

Introduction

One objective of advertising is to communicate information to consumers that will result in positive evaluation of the advertisement itself and ultimately, the product. Major paths of theory development dealing with "successful" advertising, typically in terms of recall and effectiveness, can be traced to research in the areas of attitude formation and change and information processing.

The area of information processing in advertising draws upon neurophysiological research such as brain wave measurement and left-brain, right-brain activity. This represents the most basic beginnings in understanding how people think, perceive and remember. Psychological theories of information processing focus on incoming stimuli (e.g., pictures, words, etc.), and how they are perceived, encoded, stored and remembered.

The present study is designed to ascertain differences in consumer information processing when subjects are presented with either visual or verbal stimuli and are asked to evaluate eight typical wrist watch designs.

Background

Major theories tested in visual and verbal information processing overlap and to a certain extent, contradict each other. Information processing theory has roots in physiological functions of the human brain and in psychological theories that attempt to understand cognitive processes (Appel, Weinstein and Weinstein 1979; Bugelski 1977; Geschwind 1979; Hansen 1981; Paivio 1971; Paivio 1978; Richardson 1977; Rossiter and Percy 1980; Shephard 1967; Weinstein, Weinstein and Appel 1980).

Holbrook and Moore (1981) applied visual/verbal information processing theory in predicting assessments of an aesthetic product, sweaters, (also see Holbrook and Moore for a review of left-brain right-brain activity). They theorized that evaluation of such a product would be a "gestalt like phenomenon in which features combine configurally as well as additively." (p. 103). They provided support for the presence of cue configurality, or interaction effects in assessments of such products. They further presented 32 sweaters in either verbal or visual treatments and suggested that these treatments tend to be processed by discrete processing systems. Pictorial presentations are processed holistically by the right-brain hemisphere. They are judged simulta-

neously as gestalts, and should generate many feature effects and interactions. Conversely, verbal presentations are processed atomistically and sequentially by the left-brain and should generate fewer feature effects and interactions. The results of the Holbrook and Moore study generally support these hypotheses.

The current study replicates the methodology and analyses employed by Holbrook and Moore but applies them to a relatively more functional product, wrist watches.

Methodology

Wrist watches were chosen as the stimuli in this replication study since they could be judged on function as well as style. The sweaters used in the Holbrook and Moore study were judged only on design features, so respondents were making primarily aesthetic judgments. It might be argued, however, that the potency factor in the original study constitutes a functional dimension, since the higher loading items (light/heavy, smooth/rough, soft/hard) could be interpreted as describing the warmth a sweater provides in addition to tactile attributes. In contrast, the replication subjects assessed the watches on both aesthetic and functional criteria.

The watches were designed to differ on three features, each with two levels: leather versus metal band; round versus square face; digital versus analog function. These three features combined to yield eight different watches which were presented as the stimuli in either pictorial or verbal treatments. In contrast, the sweaters in the Holbrook and Moore study combined five features, each with two levels, for a total of 32 sweaters. Fewer features were used in this study to simplify the task of completing the questionnaire. Moreover, in explaining their findings, Holbrook and Moore posited that their subjects may have perceived the task of evaluating the 32 sweaters as difficult and consequently resorted to simplification strategies (attempting to be consistent or focusing on one or two main features across sweaters). Such simplifications would tend to blur the difference between holistic and atomistic processing. Reducing the number of stimuli to be judged was an attempt to prevent this problem.

Following the task design used by Holbrook and Moore, subjects were given either the eight verbal descriptions (words treatment) or the eight pictorial representations (pictures treatment) in a written questionnaire. Examples of the watch designs and verbal descriptions are shown in Figure 1. Respondents were asked to judge each watch on 28 seven-point semantic differential scales. Twenty pairs of bipolar adjectives representing the evaluation - activity - potency factor structure of Osgood, Suci and Tannenbaum (1957) were used. Additionally, eight items used specifically to describe watches were added, based on preliminary interviews with 12 graduate students. These final 28 items are shown in Table 1. While the instrument was not completely randomized, four different watch and bipolar item orders were presented, and no significant response bias on the bipolar items was indicated. Instructions to respondents were identical to those used in the original study. Subjects further answered questions concerning information processing strategies

and product usage and provided demographic and psychographic data.

FIGURE 1
STIMULUS EXAMPLES

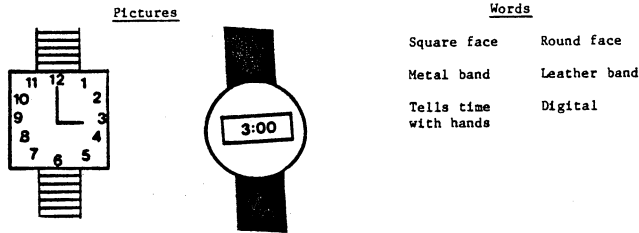


TABLE 1

GENERAL FACTOR STRUCTURE

<u>Evaluation</u>	<u>Activity</u>	<u>Utility</u>
Gaudy-Plain	Flashy-Not flashy	Strong-Weak
Unstylish-Stylish	Fancy-Plain	Comfortable-Uncomfortable
Displeasing-Pleasing	Unusual-Ordinary	Sturdy-Dainty
Bad-Good	Dynamic-Static	Reliable-Breakable
Poorly made-Well made	Active-Passive	
Nondurable-Durable	Complex-Simple	
Expensive-Inexpensive		
Disorderly-Orderly	<u>Potency</u>	
Uninteresting-Interesting	Light-Heavy	
Dull-Lively	Thin-Thick	
Tacky-Refined	Feminine-Masculine	
Unsophisticated-Sophisticated	Soft-Hard	
Ugly-Beautiful		
Modern-Old fashioned		

A more heterogeneous sample was used in this replication, with the purpose of extending the generalizability of the findings. A convenience sample consisting of 110 respondents ranging in ages from 18 to 49 was used. Surveys were completed in one sitting and were administered by trained marketing graduate students. Respondents were assigned at random to the words treatment (n = 51) or the pictures treatment group (n = 59).

Hypotheses

The Holbrook and Moore study initially tested three hypotheses with respect to differential judgments between verbal and pictorial stimulus presentations:

- H₁: Highly subjective fashion related objects should tend to be processed as gestalts.
- H₂: The presentation of stimuli in pictures (words) should encourage the right (left) hemisphere's tendency toward holistic (atomistic) and integrative (analytic) processing, thereby producing a more global (restricted) focus on various design features.
- H₃: Pictures (words) should tend to engage the imagery (verbal) system to be processed simultaneously (sequentially) in the right (left) brain, and therefore, to produce relatively more (fewer) interaction effects.

In testing the first hypothesis, Holbrook and Moore predicted a tendency toward feature interactions in judgments of the 32 sweaters in both verbal and pictorial stimulus presentations, since fashion items would tend to engage the right hemisphere. In the replication study, a similar tendency toward cue configurality across both treatments was predicted, since watches are

a fashion item. However, their more utilitarian nature would indicate that this tendency toward feature interactions might be weaker than with the sweaters used in the original study. As Holbrook and Moore discussed, where product benefits are primarily functional, the decision maker would be more likely to use an additive decision model. Watches lie somewhere between highly aesthetic and highly functional products. While no effort was made to compare watches and sweaters along such an aesthetic - functional dimension, the emergence of a utility dimension in the watch study factor analysis indirectly confirms the functional nature of the product.

Following Holbrook and Moore, Hypothesis 2 would be supported by a great number of significant main feature effects in response to the pictorial versus verbal treatment. Similarly, the third hypothesis would predict that the pictures treatment would generate more feature interactions in responses than words.

In the original study, subjects were recontacted and a second set of data was collected regarding task-related information processing strategy, in an effort to clarify results of the original hypotheses testing. In this study, subjects indicated agreement on a 7-point scale to four items, corresponding to the hypotheses below:

1. When I rated the watches, I made an effort to be very consistent in my answers.
2. When I rated the watches, I made an effort to simplify the task by focusing on one or two features.
3. When I rated the watches, I tried to "add up" their relative pluses and minuses.
4. When I rated the watches, I tried to form a mental picture of what each watch would look like.

Normalized scores on these items were used to test the following four hypotheses:

- H_{4A}: An emphasis on consistency should reduce the relative advantage of pictorial versus verbal presentation in encouraging feature interactions.
- H_{4B}: A strategy of simplification should also produce a smaller relative tendency for picture treatments to evoke feature interactions.
- H_{4C}: A tendency to try to treat the (product) features additively should decrease the relative tendency of pictures, as compared with words, to produce feature interactions.
- H_{4D}: Attempting to form mental pictures of the stimuli should also reduce the relative advantage of pictorial versus verbal displays in encouraging feature interactions.

In the present study, these data were collected in the original administration, which would presumably enhance the reliability of the results, and the same four hypotheses were tested.

Analysis

This replication study modified the original data reduction methodology in order to maintain independence among the eight watches presented. Holbrook and Moore used principal components analysis with varimax rotation to reduce their 20 scales for each of the two treatment groups (words and pictures). The responses

TABLE 2

MEAN SIGNIFICANT MAIN, INTERACTION AND COMBINED
EFFECTS IN INDIVIDUAL-LEVEL REGRESSION ANALYSES OF
FACTOR SCORES

Factor	Treatment	Main Effects	Interactions	Combined Effects
Evaluation	Pictures	.39	.27	.66
	Words	.67	.59	1.26
	Total	.52	.42	.94
Activity	Pictures	.19	.14	.33
	Words	.24	.22	.46
	Total	.21	.17	.38
Potency	Pictures	.25	.10	.35
	Words	.61	.33	.94
	Total	.42	.21	.63
Utility	Pictures	.49	.37	.86
	Words	.49	.39	.88
	Total	.49	.38	.87
Overall	Pictures	1.32	.88	2.20
	Words	2.00	1.53	3.53
	Total	1.64	1.18	2.82

on the 32 sweaters were combined in each of these analyses. Theoretically, this procedure is justified, since the 32 sweaters probably adequately sample the domain of possible styles. However, since each subject's responses on each of the 20 bipolar scales are brought in 32 times, independence among stimuli is not maintained. Attempting to remedy this problem, sixteen different factor analyses were initially conducted in this study. Principal components analysis with varimax rotation was used to reduce the 28 bipolar scales for each of the eight watches within each words or pictures treatment.

Following Holbrook and Moore, pooled factor scores then served as dependent variables in individual level regression analytic conjoint analyses. The independent variables were the three treatments (leather/metal band; round/square face; digital/analog function) operationalized as dummy variables and the three two-way interactions of these variables. The complete model is described in pp. 107-108 of the original study. These analyses determined the number of significant main and interaction effects on each factor for each subject in each treatment group (4 factors x 110 subjects = 440 regressions). As in the original study, the number of significant main and interaction effects in the 440 individual regression analyses were aggregated across subjects for hypotheses testing.

Four regression analyses were used to test Hypotheses 4A-D. The dependent variable was the number of significant feature interactions across the four judgmental factors for each subject. The independent variables were treatment group (operationalized as a zero-one dummy variable indicating membership in the pictures or words treatment group), the subject's normalized rating on the task variable of interest (maintaining consistency, attempting to simplify, adding up features or forming mental pictures) and a treatment x task interaction term, whose coefficient was of primary interest in the testing of Hypotheses 4A-D. A complete model is given in Holbrook and Moore (p. 110).

Results

Following Holbrook and Moore, the relative strengths of the main and interaction effects were judged by calculating the ratio of the Hays' omega-squared statistic for the strongest main effect divided by that for the strongest interaction effect for each subject on each judgmental factor. The median ratio in the original Holbrook and Moore study was 1.06. They interpreted this as an indication of cue configularity in judgments, since the strongest interactions were about as important as the strongest main effects in assessing sweaters. In the replication, however, the median ratio was higher at 1.89. This would suggest that the strongest main effects were nearly twice as important as the strongest interaction effects. This was predicted, considering the less aesthetic and more functional nature of watches.

As shown in Table 2, Hypothesis 2 was not supported. The pictures treatment showed fewer main effects than words (1.32 versus 2.00, $p = .03$). This contrasts sharply with the Holbrook and Moore results, which supported the second hypothesis at $p = .05$.

Similar to the results of the original study, Hypothesis 3 was not supported. Pictures showed fewer interactions than words (.88 versus 1.53, $p = .01$). Holbrook and Moore had similar results directionally, but they were not statistically significant.

In testing Hypotheses 4A through 4D, results of the replication contrast strongly with those of Holbrook and Moore. Their results suggested that a cognitive strategy explanation was more plausible than a task simplification explanation, since Hypotheses 4C and 4D were most strongly supported. In the current study, the task simplification explanation received more support, since only Hypothesis 4B could be supported in the predicted direction ($p < .10$).

In testing Hypothesis 4A, the main treatment effect was significant ($p < .01$) and the main task effect (maintaining consistency) was not. Neither effect was significant in the original study. The interaction of treatment and task effect was significant ($p < .10$) as it was in the original study, but in the opposite direction of the hypothesis. Efforts to be consistent in judgments were found to "promote the relative advantage of pictures over words in eliciting feature interactions" (Holbrook and Moore p. 110) in both studies.

In testing Hypothesis 4B, Holbrook and Moore predicted that efforts to simplify the task would decrease the impact of pictures in evoking feature interactions, however, their results were significant ($p < .10$) in the opposite direction. In the replication, by contrast, the interaction was significant in the direction predicted by Holbrook and Moore. The main effect for treatment group was not significant in the original study but was significant ($p < .01$) in the replication. Conversely, the main effect for task (attempting to simplify) was negative and significant in the original study and negative but not significant in the replication.

While Holbrook and Moore found strong support for Hypotheses 4C and 4D, neither were supported in the replication study. The interactions of treatment and task (adding up features in 4C; forming mental pictures in 4D) were not significant. The main effect for treatment was significant ($p < .01$) in both equations and

and the main effect for task was not significant in either.

Discussion

Results of the replication study vary significantly from those in the original study on the testing of Hypotheses 2 and 3. Explanations for these differences may lie in methodological differences between this and the Holbrook and Moore study as well as in theory. First, this study uses a more functional product while the original research focuses on a highly aesthetic product. Second, the replication manipulates three attributes as opposed to five in the original study. Finally, a broader, less educated sample is used in the replication. The discussion below incorporates both methodological and theoretical explanations of the findings.

For Hypothesis 2, Holbrook and Moore anticipated and their results substantiated that pictorial presentations would generate more main feature effects than verbal presentations. Results in this study indicated the opposite: verbal presentations elicited more main feature effects in consumer judgments of watches than pictorial presentations. A possible explanation for this finding lies in Paivio's (1978) dual-coding hypothesis. Paivio suggested that there are two distinct symbolic systems, one specialized for processing pictorial information and the other for processing verbal information. He proposed that these two systems are interconnected and processing in one system can activate processing in the other. Rossiter and Percy's (1980) dual loop theory suggests that both visual and verbal inputs could be processed through either a verbal belief process or a visual imagery process. Further theoretical support is provided by Bugelski's (1977) imagery coding theory. This contrasts with Holbrook and Moore's original premise that pictures would be processed through the right-brain, holistically as gestalts and words would be processed through the left-brain, atomistically and sequentially. It is important to note that Holbrook and Moore recognized that this approach was oversimplified but served as a starting point for research.

The replication results from the testing of Hypothesis 4D suggest that some type of dual loop phenomenon took place. The responses to the item "When I rated the watches, I tried to form a mental picture of what each watch would look like," were skewed very high, relative to the responses on the other three information processing items. Regardless of treatment (pictures or words), some 66% of respondents marked a 6 or 7 on the 7-point scale. This would indicate that subjects from both treatments tended to form a mental picture of the watches they assessed. In cognitive terms, both pictorial and verbal inputs were being processed through visual imagery. This would explain why Hypothesis 4D was not supported and it would also explain why the words presentation would generate at least as many significant main feature effects as the pictorial presentation.

It appears that the functional nature of the watches product may have triggered the visual processing of the verbal presentation. Percy (1981) distinguished between concrete and abstract words:

"Concrete words are generally described as those which refer to objects, persons, places or things that can be seen, heard, felt, smelled or tasted. Abstract words refer to those things that cannot be experienced by our senses...Concrete words tend to excite more visual imagery..." (p. 108).

Because they are evaluated more in terms of functional attributes, watches are more concrete. There was no

need to experience them aesthetically, and from the pictorial and verbal presentations, subjects had all the information they needed to evaluate them. In contrast, the sweaters in the original study constituted a more abstract stimulus. Information vital to making aesthetic judgments, such as experiencing actual tactile or color characteristics was missing in both the pictorial and verbal descriptions. In another study using real sweaters, Holbrook (1983) noted that weaknesses in presenting such artificial representations of real products. Net, because of their more concrete nature, the watches tended to elicit more visual imagery regardless of the presentation treatment.

The results of Hypothesis 3 also contrasted with the original study. Holbrook and Moore suggested that pictorial presentations would generate more feature interactions in judgments than would verbal stimuli, and this was not supported. In the watch study, the words treatment was found to generate more interactions than the pictorial treatment. This finding might be explained the same way as the Hypothesis 2 results. Because of their functional rather than aesthetic nature, watches tended to be processed through a visual loop regardless of the presentation treatment. This would indicate right-brain, gestalt-type processing which would elicit feature interactions.

While this explanation adequately explains why verbal presentations might be expected to generate as many feature interactions and main effects as pictorial presentations, it fails to clarify why the verbal presentations elicit significantly more than the pictorial presentations. The results of Hypothesis 4B testing may shed some light. Supporting Holbrook and Moore's original hypothesis, efforts at task simplification (specifically, focusing on one or two features) was found to decrease the impact of pictures in evoking feature interactions. Holbrook and Moore's findings were significant in the opposite direction, suggesting again a difference inherent in the different types of products judged. Another explanation for this difference in the two studies may lie in sample differences. The replication sample contained a broader cross-section of people who were less-educated than the graduate students used in the original study. It may be that the average person might resort to task simplification in an effort to complete a lengthy questionnaire more readily than a graduate student.

Further research in assessing differences in consumer processing of verbal and pictorial information is needed. The present study indicates that some differences may be explained by the nature of the product (functional versus aesthetic) being evaluated.

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THE EFFECTS OF KNOWLEDGE AND IMAGERY ON
ADVERTISING RESPONSES TO AN INNOVATION

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Abstract

This study attempts to determine if the verbal and visual imagery effects found in past research with traditional products is replicable with a dynamically continuous innovation among subjects with varying levels of product knowledge. To date, innovation research has largely overlooked the issue of communication effectiveness, especially in the earlier stages of product adoption. Results indicate the importance of providing individuals with information (preferably concrete information) and suggest that risk-reducing information can prove valuable, especially as subjects learn more about the innovation. Findings also address recent research on the efficacy of pictures in ads.

Introduction

Innovation has concerned marketers for some time. Techniques for launching innovations, characteristics of innovators and early adopters, and strategies to improve the innovative, new product performance of business units have all received close scholarly scrutiny (Calantone and Cooper 1981, Jacoby 1971, Midgley 1977, Urban and Hauser 1980). Since these studies have addressed varied types of innovations, it is helpful to employ a taxonomy.

In his widely cited efforts to apply diffusion theory to marketing, Robertson discussed three types of innovation classified along a continuum reflecting how "continuous or discontinuous their effects are on established consumption patterns" (Robertson 1971, p. 7). The three categories included continuous, dynamically continuous, and discontinuous innovations. A continuous innovation involves alteration of an existing product and causes little behavior change in adopters. A dynamically continuous innovation involves the creation of a new product or of a significantly modified existing product and has some, but not drastic, effect upon consumption behavior. A discontinuous innovation commercializes an entirely new and different product that represents a new product class involving new technologies and radically different consumption behavior patterns.

In their efforts to explicate the diffusion and adoption processes (Brown 1981; Rogers 1983; Rogers and Shoemaker 1971), sociologists and geographers have focused upon the effects of the more radical forms of innovation, i.e., discontinuous and dynamically continuous ones. Many marketing researchers have focused on aspects involving the least radical or continuous form of innovation (Darden and Reynolds 1974; Kotler and Zaltman 1976; Ostlund 1972). This is to be expected since most new consumer products are of this type (Booz, Allen, Hamilton 1982). With the recent commercialization of technological advances in several fields (for example, birth control pills, interferon-based insulin and other planned products of generic engineering, video games, home computers, programmable calculators, microprocessor controls for automobile engines, etc.), marketing interest in the adoption processes involved in more radical innovations will, in all likelihood, increase.

One important research area regarding more radical innovations is the effect of advertising upon the early stages of consumer awareness. These early stages have

been described in a number of adoption process models that are now familiar in the marketing lexicon.¹ Each of these models begins with one or two stages called "awareness," "interest," or "knowledge." Each also hypothesizes that potential buyers begin the adoption process through receiving and processing information about the innovation. The argument can be made that this initial portion of the adoption process is all the more crucial for marketers of more radical innovations because prior knowledge of the product class is limited or--in the most radical cases--nonexistent. Unfortunately, little is known about the types of advertising that prove most effective under this constraint.

Several recent consumer behavior studies have considered the effect of imagery through pictures and verbal statements upon possible adopters of new products of the least radical, or continuous, innovation types. Using a hypothetical new shampoo brand, Kisielius and Sternthal (1984) investigated the effect of various vividness manipulations in ad claims upon subjects' judgments of the product. They found that vividness effects upon judgments vary by situation. To explain the cognitive elaboration process that they believe mediates judgment, they proposed an availability-valence hypothesis based on the favorableness of information available in memory. Rossiter and Percy (1980) used high vs. low visual emphasis and explicit vs. implicit verbal claims in ads for a fictitious new beer brand to assess effects on subjects' product attitude and intention to try the product. They found that the combination of high visual emphasis and explicit verbal claims had greater positive effect upon both dependent measures than did other ad conditions. Using ads for fictitious new brands of cars, cameras, and calculators, Edell and Staelin (1983) tested their proposed model to explain differences in consumer responses to pictorial and verbal advertising stimuli. They found that "unframed" pictorial ads (i.e., those in which the information conveyed by the picture was not restated verbally) produced less clear recall of brand items and statements and fewer evaluative thoughts--pro or con--about ad claims than did other conditions. In contrast, "framed" pictorial ads and verbal ads in which objective messages were displayed produced more arguments in support of claims than counter arguments. In addition, no significant differences were found between the framed pictorial and verbal conditions. Edell and Staelin note that this finding differs from that of Kisielius (1982), who found that a sentence-only condition produced more positive brand attitudes than did the pictures and sentences condition.

The limited recent research into the effects of verbal and visual ad presentations for continuous innovations indicates a consensus on the importance of visual and verbal effects in advertising. However, it is also revealed that reported results on their relative importance under varied conditions are still equivocal. It

¹Perhaps most widely known among these are the "adoption process" model resulting from rural sociology diffusion studies in the 1940's and 1950's (Ryan and Gross 1943); the "hierarchy of effects" model (Falda 1966; Lavidge and Steiner 1961); and the "innovation-decision process" model (Rogers 1983, 1971). In addition, Midgley has recently proposed a "new model of innovativeness" (Midgley 1978).

It is notable that previous studies have dealt with fictitious new brands in known product classes, i.e., with continuous innovations, and thus have presumed prior knowledge of the product type.

Additionally, at least three recent studies provide evidence that attitude toward the ad, as well as attitude toward the product or brand, is an appropriate measure of ad effectiveness (Lutz, MacKenzie, and Belch 1973; Mitchell and Olson 1981; Shimp 1981).

With this background in mind, it appears that a study of the relative importance of visual and verbal messages in ad presentations for a more radical innovation, specifically a dynamically continuous one, would be a contribution to both the innovation/diffusion and the advertising imagery literature.

Hypotheses

Our purpose is to investigate the effects of visual emphasis and verbal content upon consumers exposed to information about a dynamically continuous innovation (as defined above). Specifically, we examine the effects of experimentally varied visual ad stimuli (picture emphasis or copy emphasis), verbal ad stimuli (concrete or abstract claims), and levels of knowledge about the product class (little or no knowledge of the innovation or experimentally provided prior knowledge). Our hypotheses are as follows:

H1: Pictorial emphasis in ads for a dynamically continuous innovation will produce more favorable attitudes (i.e., toward the ad, the product, and information seeking behavior) than will copy emphasis.

Substantial evidence supports the idea that visual factors can have strong positive effects on memory, learning and attitude toward the brand (Paivio 1971; Paivio and Csapo 1973; Shepard 1967; Lutz and Lutz 1977; Alesandrini 1982). In line with recent studies cited previously, attitude measures will be taken not only upon attitude toward the brand or product, but also on attitudes toward the ad. Because of the newness of the dynamically continuous innovation chosen for the study and the consequent assumption that subjects were all in the early stages of the adoption process, intention measures were confined to attitudes toward information-seeking behavior.

H2: Concrete (high imagery) verbal claims in ads for a dynamically continuous innovation will produce more favorable attitudes (i.e., toward the ad, the product, and information seeking behavior) than will abstract (low imagery) verbal claims.

Concrete verbal information appears to have higher imagery value, be better understood, be remembered better, and be more influential in decision making than is more abstract verbal information (Paivio 1969; Paivio et al. 1968; Alesandrini 1982; and Nisbett et al. 1976). Imagery value has been defined here and measured in past studies (Lippman 1974; Paivio et al. 1968) in terms of the degree to which words generate mental images among respondents.

H3: Picture emphasis and concrete verbal claims in ads for a dynamically continuous innovation will produce more favorable attitudes (i.e., toward the ad, the product, and information seeking behavior) than will a copy emphasis ad with abstract claims.

Studies discussed in the previous section, particularly Rossiter and Percy (1980) and Edell and Staelin (1983), lend support to this hypothesized relationship.

H4: In the awareness stage of the adoption process, the more knowledge that consumers have about a dynamically continuous innovation, the more likely they will be to expend energy in further information seeking.

We found no studies in the literature that directly support this hypothesis. However, based upon the several currently employed models of the adoption process, we will expect that in the early stages of the adoption process, as potential buyers of a more radical innovation learn more about the new product type, they would be more willing to seek out further information.

H5: The more knowledge that consumers have about the innovation, the less risky they will perceive it to be.

This hypothesis, too, is deduced from the various adoption process models currently in use. As consumers progress through the various stages from awareness to adoption, they would logically have to come to terms with whatever risks the innovation holds for them. A decision to adopt would imply that adopters have come to perceive the innovation as less risk-laden over the adoption process timeframe. Dickerson and Gentry (1983) provide some empirical support for this hypothesis. They found that early adopters of home computers had more experience with and knowledge about them than did nonadopters.

Methodology

Experimental Manipulations

The hypotheses were tested in a 2x2x2 factorial design in which the knowledge level of subjects (present knowledge versus experimentally-induced knowledge), the verbal content of the advertisements (concrete versus abstract information) and the visual content (picture emphasis versus copy emphasis) were manipulated. The product chosen for the experiment was a compact disc (CD) player, a new revolutionary stereo turntable in which a laser beam picks up digital audio signals from discs. The compact disc was selected because it was thought to be a product in which a college audience would be interested and because of its newness on the market (thus resulting in limited product information among subjects as a whole).² The product was also judged to be a dynamically continuous innovation, one which would require some but not total behavioral change as a result of its purchase.

In the knowledge manipulation, half the subjects viewed the ad and completed the questionnaire using only their present level of knowledge about the product during the experiment (no additional information was provided). Before receiving the questionnaire and ad, the other half of the participants were given a sheet of paper describing the products, its benefits and limitations. They were instructed to read the description and write down all the advantages and disadvantages of the product that they could find or think of. Subjects were allowed ten minutes to complete this task. The purpose of this exercise was to give subjects information that they could later recall from memory and to simulate a knowledge level that they would likely have between the introduction and growth stages of the product life cycle.

²Thirty-five out of sixty of the "no knowledge" group had never heard of a CD player before the experiment. No subject in any condition owned a CD player. Although 25 subjects in the "no knowledge" group initially indicated awareness of the existence of CD players, the experimental knowledge treatment did yield significant attitudinal differences between the groups. Additional inquiries into subjects' knowledge level were omitted so as not to contaminate the knowledge manipulations.

The verbal content manipulation resulted in subjects receiving ads which conveyed similar information; however, in half the ads, the information was specific (concrete), while in the other half it was nonspecific (abstract). The information was chosen as a result of interviews with an expert panel composed of an independent stereo store owner, two experienced stereo equipment salespeople, and a stereo buff. The content of the ads was a combination of product attributes that the panel had found to be important among prospective buyers and information provided by manufacturers that described the unique benefits of the product.

Lastly, in the visual content manipulation, the ads were constructed so that three-fourths of the ad was dominated by a picture or verbal copy while the other fourth emphasized the opposite. Rossiter and Percy (1978, 1980) employed a comparable manipulation. The picture used was an actual photograph of the compact disc player supplied to dealers by the manufacturer.

Subjects

Subjects were juniors and seniors recruited from undergraduate business courses. One hundred twenty students participated in the experiment, 15 of whom were randomly assigned to each of the eight treatment conditions such that all cells of the design were evenly balanced. Thus, each subject viewed only one advertisement.

Stimulus Materials

The hypotheses were tested utilizing the four print ads pictured in Figure 1. Print was selected as the experimental medium because it is the primary medium in which stereo advertising is found and it is consistent with imagery operationalizations in the recent research cited earlier.

Procedure

Subjects were initially told that they would be viewing an ad for a new product and were asked for their impressions of the ad and of the product. They were instructed that the ad was not in finished form but rather a concept mock-up that an ad agency might produce in the first stages of generating possible ads. Those subjects to be provided with preliminary information about the product were then given the sheet of paper describing the product and were asked to list its benefits and limitations (as indicated earlier). Once this exercise was completed, the subjects were handed the ad and a questionnaire in a packet. Subjects in the limited knowledge conditions received the packet only without the initial information manipulation. Prior to viewing the ad, subjects in all groups were first asked if they had ever heard of a compact disc player before and they were instructed to record "yes" or "no" on the cover page of the packet. The purpose of this question was to determine the general level of awareness about the product in the limited knowledge treatment groups.

Next, all subjects were given one minute to view the ad in their packets, after which they completed the questionnaire with the aid of the experimenter. First, subjects were asked for their overall reactions to the ad on a series of seven-point bipolar adjective scales, which would later be factor analyzed to obtain an overall (composite) attitude toward the ad measure. A second question read, "As best as you can judge, based on this ad, how would you rate this product?" Subjects once again responded on a series of bipolar adjective scales which would also be factor analyzed to obtain a composite attitude toward the product measure. The exercise also included three verbal compliance measures, each reflecting varying levels of further information seeking. In line with the early stages of the most

common adoption process models, information seeking appeared to be the most appropriate measure of behavioral intention. Subjects indicated their interest in getting more information about the product and seeing a demonstration of the compact disc player on seven-point semantic differential scales bounded by "highly interested" and "not interested at all." A higher level of information seeking would be indicated by subjects' responses to the question, "How likely are you to go to a stereo store and ask for a demonstration for more information about the compact disc player?" Subjects responded on a seven point scale anchored by "highly likely" and "not likely at all."

Results

To measure subjects' overall "attitude toward the ad" and "attitude toward the product," their responses to each construct were factor analyzed. The primary factor representing subjects' attitude toward the ad (ATTAD) was composed of adjective pairs with loadings > 0.6 which included likeable-unlikeable, interesting-uninteresting, entertaining-unentertaining, artful-artless, and good-bad. The factor representing subjects' attitude toward the product (ATTPRD) was characterized by the adjective pairs: good-bad, superior-inferior, pleasant-unpleasant, and risky-riskless. This latter factor is very similar to the product attitude factor employed by Rossiter and Percy (1978). The remaining items on each scale were dropped from subsequent analyses because of low loadings or lack of factor interpretability. Analysis of variance was used to test the primary hypotheses. The results are summarized in Table 1.

From hypothesis 1 we would predict that ads high in visual content (picture emphasis) would produce more favorable attitudes than ads low in visual content (copy emphasis). Therefore, a PICTURE main effect would be expected in the analysis of variance tables for subjects' attitudes toward the ad, the product, and information seeking behavior.

The results indicate an apparently significant main effect for visual emphasis in subjects' attitude toward the ad (ATTAD), which would partially support this hypothesis ($F = 15.078$, $d.f. = 1$, $p \leq .001$). The high visual content condition induced a significantly more favorable attitude toward the ad ($X = 3.25$, $S.D. = 1.208$) than the low visual content condition ($X = 4.14$, $S.D. = 1.316$). However, a significant PICTURE x INFO interaction effect ($F = 3.741$, $d.f. = 1$, $p = .056$) deems the PICTURE main effect tenuous. High visual content in ads was more effective in generating a favorable attitude toward the ad ($X = 3.19$, $S.D. = 1.354$) than low visual content ($X = 4.53$, $S.D. = 1.183$) only when abstract verbal claims were made. No significant effects were obtained for attitude toward the product (ATTPRD) ($F = .34$, $d.f. = 1$, $p = .561$), interest in getting more information (SEEK) ($F = .007$, $d.f. = 1$, $p = .935$), interest in seeing a demonstration (DEMO) ($F = .036$, $d.f. = 1$, $p = .851$), or interest in visiting a stereo store for a demonstration (STORE) ($F = .840$, $d.f. = 1$, $p = .361$) at the $p \leq .05$ level.

The second hypothesis predicts that concrete verbal claims will produce more favorable attitudes than will abstract verbal claims. It was tested by examining INFO main effects. The hypothesis was supported for subjects' ATTPRD ($F = 3.807$, $d.f. = 1$, $p = .054$). Subjects who were exposed to concrete (high imagery) verbal claims reported a more favorable attitude toward the innovation ($X = 2.9$, $S.D. = .868$) than those exposed to abstract verbal claims ($X = 3.22$, $S.D. = .929$). An INFO main effect for DEMO was marginally significant ($F = 2.88$, $d.f. = 1$, $p = .092$), while the main effect for ATTAD ($F = 2.158$, $d.f. = 1$, $p = .145$), SEEK ($F = .06$, $d.f. = 1$, $p = .806$), and STORE ($F = 1.049$, $d.f. = 1$, $p = .308$) were

FIGURE 1

Ad Copy Variations Used in the Experiment: Picture vs. Copy Dominance (Rows)
and Concrete vs. Abstract Verbal Claims (Columns)

THE COMPACT DISC PLAYER

Experts in audio technology project that within the next 20 years, over 80% of new stereo systems purchases will include compact disc players

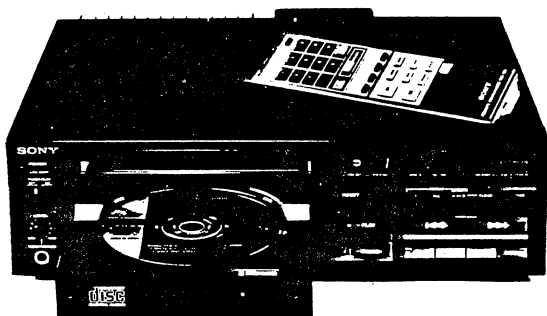
Less than 1/100 the distortion of conventional LP records

In home testing simulations, the sound quality of compact discs was unaffected through 100,000 plays

Over 200 record titles now available on discs and 20 more are added each day



THE COMPACT DISC PLAYER



Experts in audio technology project that within the next 20 years, over 80% of new stereo systems purchases will include compact disc players

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THE COMPACT DISC PLAYER

Wave of the future

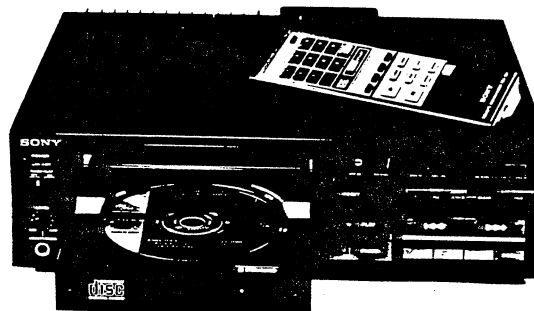
Transparent sound clarity

Discs last forever

Rapidly growing selection of record titles available



THE COMPACT DISC PLAYER



Wave of the future

Transparent sound clarity

Discs last forever

Rapidly growing selection of record titles available

nonsignificant. Thus, while subjects' attitude toward the product was affected, their interest in seeking further information was not.

The third hypothesis predicts that ads with high visual content (picture emphasis) and concrete verbal claims will produce more favorable attitudes than will ads dominated by verbal copy with abstract claims. A PICTURE x INFO interaction would be expected for each of the attitudinal measures. The hypothesis was supported in subjects' attitude toward the ad (ATTAD) as seen in Figure 2 ($F = 3.74$, $d.f. = 1$, $p = .056$). Subjects who received the concrete verbal claims and high visual dominance treatment displayed a significantly more positive attitude toward the ad than those who received the abstract verbal claims and low visual dominance treatment ($t = 3.59$, $d.f. = 58$, $p < .001$). Although there was a significant PICTURE x INFO interaction for sub-

jects' interest in getting more information, SEEK ($F=4.187$, $d.f.=1$, $p < .05$) as shown in Figure 3, there was no significant difference in means between the picture dominant, concrete verbal claim ad and the copy dominant abstract claim ad ($X=2.17$ and $X=2.13$, respectively). A test of simple main effects also revealed that subjects exposed to the ad with abstract verbal claims and high visual content reported a greater interest in getting more information than those exposed to the ad with abstract verbal claims and low visual content ($F=4.06$, $d.f.=57$, $p < .001$).

Hypothesis four predicted that consumers in the experimentally induced knowledge condition would be more likely to expend energy in information seeking than subjects in the "no knowledge" condition. A main effect for KNOWLEDGE would be expected on each of the information seeking measures. The hypothesis received par-

TABLE 1

Analysis of Variance Summary Tables

Criterion Variable	Effect	s.s.	d.f.	F	p
ATTAD	Knowledge (K)	.075	1	.048	.828
	Picture (P)	23.763	1	15.078	.001
	Info (I)	3.400	1	2.158	.145
	K x P	4.107	1	2.606	.109
	K x I	.456	1	.290	.592
	P x I	5.896	1	3.741	.056
	3 - way	.736	1	.467	.496
ATTFRDT	Knowledge (K)	1.251	1	1.542	.217
	Picture (P)	.276	1	.340	.561
	Info (I)	3.088	1	3.807	.054
	K x P	.501	1	.617	.434
	K x I	1.813	1	2.235	.138
	P x I	.567	1	.699	.405
	3 - way	.088	1	.109	.742
SEEK	Knowledge (K)	.076	1	.060	.806
	Picture (P)	.008	1	.007	.935
	Info (I)	.075	1	.060	.806
	K x P	1.875	1	1.507	.222
	K x I	1.008	1	.811	.370
	P x I	5.208	1	4.187	.043
	3 - way	1.008	1	.811	.370
DEMO	Knowledge (K)	.075	1	.036	.851
	Picture (P)	.075	1	.036	.851
	Info (I)	6.075	1	2.880	.092
	K x P	1.008	1	.478	.491
	K x I	.408	1	.194	.661
	P x I	3.008	1	1.426	.235
	3 - way	.075	1	.036	.851
STORE	Knowledge (K)	21.675	1	7.558	.007
	Picture (P)	2.408	1	.840	.361
	Info (I)	3.008	1	1.049	.308
	K x P	5.208	1	1.816	.180
	K x I	3.008	1	1.049	.308
	P x I	7.008	1	2.444	.121
	3 - way	.408	1	.142	.707
RISK	Knowledge (K)	18.408	1	8.562	.004
	Picture (P)	.075	1	.035	.852
	Info (I)	3.008	1	1.399	.239
	K x P	.208	1	.097	.756
	K x I	1.008	1	.469	.495
	P x I	.008	1	.004	.950
	3 - way	.075	1	.035	.852

tial support. An EXPERIENCE main effect was found with respect to STORE ($F=7.558$, $d.f.=1$, $p \leq .01$). Subjects exposed to the "knowledge" manipulation indicated that they would be more likely to go to a stereo store and ask for a demonstration ($X=3.3$, $S.D.=1.67$) than subjects in the "no knowledge" manipulation ($X=4.15$, $S.D.=1.735$). There was no EXPERIENCE main effect for measures tapping subjects' interest in getting more information, SEEK ($F=.06$, $d.f.=1$, $p=.806$) or interest in seeing a demonstration, DEMO ($F=.036$, $d.f.=1$, $p=.85$).

The expectation in hypothesis 5 was that subjects exposed to the "knowledge" manipulation would rate the new disc player as less risky than those in the "no knowledge" treatment. A KNOWLEDGE main effect for subjects' RISK perceptions would be expected. While a KNOWLEDGE main effect did appear for RISK ($F=8.56$, $d.f.=1$, $p \leq .001$), the effect was not in the hypothesized direction. The "knowledge" group rated the product as more risky ($X=1.17$, $S.D.=1.56$) than the "no knowledge" group.

SUMMARY AND IMPLICATIONS

Our study examined the effect of various ad presentations on subjects' attitudes toward a dynamically continuous innovation while subjects were in the early or later awareness stages of the adoption process. Experimental manipulations involved ads with high or low realistic picture dominance, concrete or abstract verbal claims and a knowledge/no knowledge subject condition. The study found no strong influence of picture dominance on any of the three attitudinal measures (attitude toward the ad, attitude toward the product, and attitude toward information seeking). Picture dominance positively affected subjects' attitude toward the ad only when verbal claims were low in information (abstract claims). These results appear to contradict those of Rossiter and Percy (1978), who found a similar effect

FIGURE 2

Interaction Effect of PICTURE and INFO for Attitude Toward the Ad-ATTAD

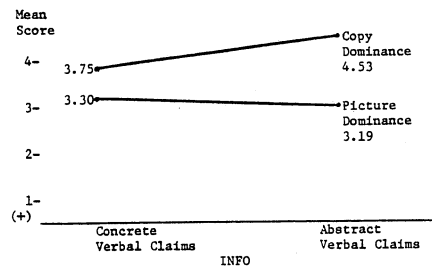
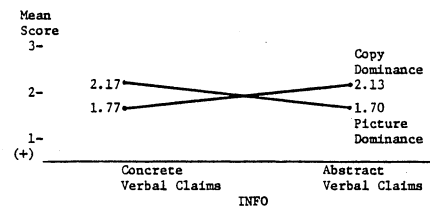


FIGURE 3

Interaction Effect of PICTURE and INFO for Interest in Getting More Information-SEEK



operating for attitude toward the brand but in a concrete information condition. For a dynamically continuous innovation, the large picture (here a realistic picture of the compact disc player) appears to provide subjects with added information, which abstract claims alone do not convey.

Results did indicate that concrete claims are superior to abstract claims in influencing subjects' attitude toward the product and their interest in seeing a demonstration. It appears that the type of information presented (whether concrete or abstract) is more critical than the visual imagery (picture dominance) in affecting subjects' attitudes. This result compares favorably with those of Kisiellius (1982).

In addition, the more knowledge that subjects had about the innovation, the more they tended to actively seek information (in terms of a demonstration). However, with this added knowledge, they were more likely to perceive the product as risky. These results support the notion that as individuals move through adoption process effects models, it is important to address their risk perceptions as well as to provide them with more information. The results of this study do not indicate a significant difference between the verbal and visual treatment conditions employed in terms of subjects' risk perceptions. Since risk appears to be an important variable inhibiting product adoption, future research should address whether there is a preferable method of ad presentation which would effectively reduce the risk perceived by those with increasing amounts of product knowledge.

Finally, if we count the knowledge manipulation of the present study as concrete information, our results indicate that information, whether provided by the ad itself (picture or concrete information) or by natural experience during diffusion, may be the most powerful factor in the earlier stages of consumer adoption processes for more radical innovations.

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CONSUMER SATISFACTION AMONG CHILDREN

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Abstract

The consumer satisfaction of children is probed in this study. The focus is on CS/D toward toys among 6-11 year-olds. The research examines age, television exposure and parent-child interaction effects on children's CS/D.

Overview

The objective of this paper is to examine some aspects of consumer satisfaction and dissatisfaction (CS/D) among pre-teenage children. In spite of the fact that the volume of CS/D research has grown in recent years-- Hunt (1983) compiled a bibliography of 610 entries in the area in 1982 -- only limited attention has been paid to CS/D phenomena among children (Atkin 1975a; Goldberg and Gorn 1978). This is particularly surprising, since children's satisfaction with advertised products would seem to be a logical dependent variable in research examining the effects of television advertising on children, as well as in more general investigations of consumer socialization processes.

Children's patterns of CS/D would seem to underlie the concerns of many critics of advertising to children. A familiar criticism by consumer advocates is that children's products do not match the expectations generated by marketing promotion to children, particularly television advertising. Feldman and Wolf (1974), for example, elaborate the critics' concern that: "Commercials sometimes seem to magnify the benefits of particular toys... This encourages false expectations. When these are deflated... the child is frustrated."

Critics have also argued that children's disappointment or dissatisfaction with products leads to parent-child conflict and children's frustration, particularly when purchase requests are denied (ACT 1971). However, research has not explicitly examined the extent to which children are satisfied or dissatisfied with products, much less whether request denial is related to broader patterns of dysfunctional intra-family conflict.

Conceptualization of CS/D Among Children

Two main approaches to conceptualize CS/D are evidenced in the research literature. One approach conceptualizes satisfaction as a function of the discrepancy between a consumer's expectations about the product and obtained product performance (Day 1977; Oliver 1977). This "disconfirmation of expectations" paradigm has been derived from adaptation level theory, assimilation contrast theory, and from various psychological consistency theories. Although the underlying mechanisms differ somewhat, the CS/D process is similar: consumers compare actual performance of a product to their expectations about performance, and if performance is less than expected, consumer dissatisfaction results; if expectations are met or exceeded, satisfaction results.

Various criticisms of the disconfirmation of expectations paradigm have been advanced. These include its focus on product-specific evaluations as the primary determinant of satisfaction, as opposed to more general cognitive responses to consumption experiences. Another criticism is whether the model holds under various levels of involvement (LaTour and Peat 1979).

Recently, Westbrook and Reilly (1982) advanced the "value-percept disparity" hypothesis in an attempt to improve upon the disconfirmation of expectations model. Their approach broadens the evaluation process to include other cognitive processes following purchase and broadens the concept of expectations to include not only expectations about the product, but expectations relative to all experiences associated with product purchase.

Although extended discussion of these streams within the CS/D field is beyond the scope of this paper, it is important to assess their implications for CS/D among children. Two issues would seem to be particularly important. First, adult paradigms of CS/D assume a reasonably clear and coherent set of product expectations. Children may have less extensive and well-formed expectations, owing to age-related differences in their information-processing abilities, and to their more limited experience with products. Second, adult CS/D models posit a single consumer who perceives, buys, and then evaluates -- or more generally experiences -- a product. In the case of children, most product desires must be channeled through purchase requests to one or more parents. The introduction of parent-child relationships into the CS/D process may mean that children's expectations and satisfaction levels are influenced by the nature of parent-child interaction. Following Westbrook and Reilly's reasoning, this would suggest that conceptualization of CS/D for children must take into account the broader experience of product acquisition and consumption, such as to include not only evaluations of products versus expectations, but also the role of parent-child interaction.

It may be, for example, that a child's satisfaction with a product is shaped not only by his/her product evaluations, but also by the feelings and cognitions generated by the parent-child interaction preceding and following receipt (or non-receipt) of the requested product. A boy may be delighted with a bicycle he persuaded his parents to buy for him, not only because the bike exceeds his expectations, but also because he feels successful in negotiating its purchase. Conversely, the boy may feel keen disappointment if he does not receive a particular bike after he has invested time, effort and emotion negotiating with parents.

Objectives and Hypotheses

Our objective is to assess levels of consumer satisfaction achieved by a sector of the marketing system -- toy and game manufacturers -- among a particular segment of the population -- children between 6-11 years old. We examine the relationship of three variables -- age, amount of television viewing, and level of parent-child interaction -- to both the actual level of product satisfaction which children experience when they receive requested products, and the level of disappointment which they experience when they do not receive requested products. Our hypotheses follow.

Age. Compared to younger children, older children will experience greater product satisfaction with requested products received, and less disappointment when they do not receive requested products. This is in line with existing research evidence that older children are more

discriminating toward advertising, less trusting, and therefore, we assume, less likely to have unrealistic expectations for products (Robertson and Rossiter 1974; Ward 1974). Older children are also more likely to have their requests granted by parents and, even if denied, should be better able to understand the reasons why (Isler, Popper and Ward 1979).

This hypothesis is also derived from recent research in the area of children's information processing. In reviewing this work Roedder (1981) has described age-related differences in children's abilities to select, store and retrieve information. "Limited processors" (approximately ages 3-6) have the greatest difficulty in selecting information relevant to a task, and cannot use storage and retrieval strategies even when prompted in a task environment; "cued processors" (about ages 7-11) show greater abilities at information selection and can use storage and retrieval strategies when prompted to do so; "strategic processors" (about ages 11 and over) possess developed skills necessary to select, store and retrieve information.

These processes elaborate stage-related notions posited in cognitive development theory -- for example, younger, pre-operational children focus on perceptual aspects of television commercial stimuli, suggesting an inability to select information more relevant to consumption (Wackman and Wartella 1977). Given these age-related differences, we expect younger children to have less well-formed product expectations, and, therefore, to show less satisfaction with requested products actually received. On the other hand, younger children should evidence greater disappointment when they do not receive products, since their less developed information-processing abilities may mean they are not selective in their product requesting behavior. Older children are more likely to rank-order product requests, in terms of their desires and their perceptions that some requests will be granted. Therefore, they should show less disappointment when low priority products are not purchased for them.

A related basis for the age-differences hypothesis stems from the notion that children who are "cued" processors -- about ages 7-11 -- should show somewhat greater levels of disappointment when they do not receive products, and, perhaps greater levels of dissatisfaction with products they do receive. This is because they have developed some abilities to select useful information from commercial messages, and can store and retrieve information, but they have not developed adequate defenses to yielding. This two-factor theory of persuasion has been discussed elsewhere (McGuire 1969; Rossiter 1980).

TV Exposure. We expect that children who watch less television will experience greater product satisfaction than high television exposure children. This is because low TV exposure children hold more discriminating attitudes toward commercials, and, therefore, should have lower product expectation levels (Rossiter and Robertson 1974). Of course, TV exposure is related to structural variables, such as social class. In fact, Atkin (1975b) found a .41 correlation between TV viewing and purchase requests among children, but the correlation dropped to .29 when age, sex, race and scholastic performance were controlled. When mother and child estimates of viewing were combined, the viewing request correlation was .28 for cereals, and .17 for toys, but when the demographic factors were again controlled, the correlations dropped to .22 and .10 respectively. Nonetheless, it is reasonable to hypothesize that children who watch more television are exposed to more commercial messages than low exposure children, and, therefore, form more intense product expectations. Consequently, they are less likely to be satisfied with requested products received, and more likely to be disappointed when they do not receive requested products.

Parent-Child Interaction. Both general parent-child interaction, and specific parent-child interaction about consumption have been positively related to children's development of consumer skills (Ward, Wackman and Wartella 1977). In fact, parent-child interaction contributes to even kindergarten-aged children's consumer skills. Thus, we expect that children whose parents interact frequently with them will develop more realistic expectations about products and the probabilities of receiving them. Consequently, children from high interaction homes should experience greater satisfaction with requested products received, and less disappointment when requested products are not received, than children from low interaction homes.

Research Design and Measures

The research consisted of a wave of interviews with children just before Christmas and a wave of interviews just after Christmas. The pre-wave was specifically conducted to measure children's Christmas present requests to parents. The post-wave was designed to measure what presents children actually received and to gauge satisfaction levels for products received and disappointment levels for products not received.

A sample of 253 children was obtained stratified by socioeconomic level. The sampling was limited to boys at five schools within the Philadelphia-area Catholic school system. The social classes represented, based on occupational and educational analysis, are from upper-lower to upper-middle social class. The sample does not include economically-disadvantaged children nor does it encompass race as a variable. Interviews were conducted with approximately equal numbers of children at first, third, and fifth grade levels and took place within the schools on an individual student basis. Measurement procedures were exhaustively pretested in order to gauge their comprehension for young children and included both open-end and closed-end questions.

Variables

Two dependent variables were examined: (1) satisfaction level after receiving an item requested from parents and (2) disappointment resulting from not receiving an item requested.

- Product satisfaction was measured by a combination of three rating questions for each present the child received: how much "fun" it was, how good it "looked," and how well it "worked." The child was asked to compare each item received relative to prior expectations.

The three components of satisfaction -- fun, visual impression and product performance -- seem to measure somewhat different dimensions of the phenomenon. It would appear that the first two dimensions assess affect whereas the third dimension is a cognitive (performance) dimension. The intercorrelations among the dimensions (based on Kendall tau analysis) are as follows: "fun-looked" .24; "fun-worked" .18; "looked-worked" .17. All are highly significant (.001 level).

- Non-receipt disappointment was measured based on open-end probing of the child's feelings after not receiving a requested item. During this questioning we also assessed how the child resolved any disappointment experienced as a result of non-receipt.

Three independent variables were examined: (1) the child's age, (2) his level of television exposure, and (3) the level of parent-child interaction.

- Age was determined based on school records.

- . Television Exposure was measured based on the child's self-report of viewing by time period; for example, before dinner on weekdays, or Saturday morning.
- . Parent-Child Interaction was assessed using a seven-item index of the child's self report of how often parents engaged in a series of activities with him.

Findings

Satisfaction with Products Received

Satisfaction levels with presents received are shown in Table 1. The children in our sample received 43 percent of their Christmas present requests. A major finding is that product satisfaction far outweighed dissatisfaction: 90 percent of the presents received were felt to be the same as expected, or better than expected, and only 10 percent of the presents were worse than expected. Also, as hypothesized, satisfaction was found to be greatest among older children, low TV exposure children, and children from homes characterized by high parent-child interaction.

The relationship of age to satisfaction level is positive and significant (.14 Kendall tau correlation). The percentage level of satisfaction with presents received increases from 84% at first grade to 91% at third grade to 95% at third grade. When children are dissatisfied, the older children are more likely to evaluate the present on its performance dimension, whereas the younger children are slightly more likely to evaluate on the "fun" dimension.

These results, contrary to some of the critics' concern, suggest that children are not particularly disappointed with Christmas presents. It does not appear that they build unrealistic product expectations; if anything, the reality is likely to be more appealing than the expectation, given that for the total sample, 58 percent of the children rated the product better than expected and only 10 percent rated the product worse than expected (Table 1).

There is, however, relatively more dissatisfaction at younger age levels. This is consistent with the literature findings that younger children are less discriminating toward commercials and less aware of possible message-product discrepancies (Adler, et al 1980). More specifically, as we hypothesized, younger children who are limited processors may experience less product satisfaction since they were not selective in forming product expectations, and did not retrieve and use stored information in evaluating products received. It

should be recognized, however, that our post-interview with the children occurred at the beginning of January, and it is possible that some initial short-term dissatisfaction could have occurred, which was resolved by the time of the interview.

The relationship of television exposure to satisfaction, while significant, is minor (-.06 Kendall tau). Low TV exposure children are slightly more satisfied with presents received than high TV exposure children. This effect, however, is entirely concentrated at first grade, where low TV viewers indicate 92 percent satisfaction, whereas high TV viewers indicate only 76 percent satisfaction. Consistent with our age-related hypothesis, it may be that limited processors who watch relatively more television have particularly acute problems in selecting, storing and retrieving information to use in evaluating (and possibly in requesting) products. The lower satisfaction by TV exposure finding is also most concentrated on the "fun" dimension of satisfaction; that is, high TV exposure children are more likely to think that the product is not as much fun as expected.

Parent-child interaction relates positively to satisfaction (.14 Kendall tau) as hypothesized. Again, this relationship is strongest at first grade level and is relatively unimportant at third and fifth grade levels. This finding is consistent with Ward, Wackman and Wartella's earlier finding that parent-child interaction is most important in contributing to consumer skill development among very young (kindergarten-aged) children. Their findings suggest that older children are less responsive to parent-child interaction, and learn more through direct experience and modelling parental behaviors. It would seem that interaction provides a means for the child to test out his/her expectation levels and to modify them in line with parental feedback; even if this means simply rejecting some short-term product desires in the case of limited processors who have very limited storage and retrieval strategies. The "fun" dimension of satisfaction is found to be affected more by parent-child interaction than the "look" and "performance" dimensions.

Disappointment at Requests Not Received

Disappointment levels are shown in Table 2 for requests not received. For the 57 percent of requests which children did not receive, they register disappointment in 35 percent of the cases and are indifferent (no disappointment) in 65 percent of the cases. Disappointment is higher among younger children and children with high television exposure and is higher among children with high levels of parent-child interaction, contrary to our expectation.

TABLE 1
SATISFACTION LEVELS FOR REQUESTS RECEIVED

Requests Received	Satisfaction Levels	Relationship of Independent Variables ^a
43% of requests were received as presents	Greater Satisfaction than expected 58% Same as Expected 32% Less Satisfaction than Expected 10% 100%	. <u>Age</u> -- Positively related to satisfaction (.14, .01 level) . <u>TV Exposure</u> -- Negatively related to satisfaction (-.06, .05 level) . <u>Parent-Child Interaction</u> -- Positively related to satisfaction (.14, .01 level)

^aBased on Kendall tau correlation analysis

TABLE 2
DISAPPOINTMENT LEVELS FOR REQUESTS NOT RECEIVED

Requests Not Received	Disappointment Levels	Relationship of Independent Variables ^a
57% of requests were not received	Disappointment Reflected 35% No Disappointment Reflected 65% 100%	<ul style="list-style-type: none"> . <u>Age</u> -- Negatively related to disappointment (-.10, .01 level) . <u>TV Exposure</u> -- Positively related to disappointment (.08, .01 level) . <u>Parent-Child Interaction</u> -- Positively related to disappointment (.08, .01 level)

^aBased on Kendall tau correlation analysis

The relationship between age and non-receipt disappointment is as follows: first grade -- 37%; third grade -- 41%; and fifth grade -- 25%. Thus, younger children reveal greater disappointment, although this is accentuated slightly at third grade level for reasons of which we are unaware. Whether an overall disappointment level of 35 percent some two weeks after Christmas is high or low is difficult to say and we have no data as to whether this disappointment level might have been higher had we interviewed the child on Christmas day immediately after discovery that he had not received a particular request.

As we hypothesized, younger children are less skillful in selecting information about products in order to form preferences and expectations. Consequently, they may not "rank-order" their preferences as well as older children, and, assuming that gifts were received somewhat in line with parental perceptions of the intensity of their children's desires, older children should show least disappointment. Since younger children may not have had such firm and ordered pre-Christmas expectations and desires, they would be more likely to show higher levels of disappointment.

An alternative explanation is the "two-factor" persuasion model we hypothesized earlier. It may be that younger children can select store and retrieve information, but have not developed defenses to yielding. Therefore, they would have desires for many products, and experience greater levels of dissatisfaction when they are not all received. This might explain the finding that disappointment levels continue to be high among third grade children who are likely to be cued processors. As hypothesized, this "two-factor" explanation should be particularly applicable to these children.

When the children were asked why they did not receive the items requested, their responses fell into the following categories:

- . External Blame -- e.g., "my parents couldn't afford it." This rationale accounted for 41 percent of the cases and was most prevalent among third grade children. "Expense" was also the most frequent reason cited by parents for refusing to purchase a child's request (Bureau of Advertising 1971).
- . Internal Denial -- e.g., "I didn't really want it." This reason was given in 36 percent of the cases and occurred most among fifth grade children.
- . Self Blame -- e.g., "I was a bad boy." This response occurred 9 percent of the time and was distributed about equally by grade level.
- . No Explanation. Children could provide no reason in 14 percent of the cases, with this response concentrated at first grade level.

The children, therefore, were generally able to verbalize why they did not receive requests. A certain amount of dissonance reduction may well be reflected in the responses -- but we did not postulate a dissonance theory design in advance of the research in order to examine this possibility. Some readers may find it encouraging that only 9 percent of the children attributed "self blame" for not getting presents, since this has been viewed by some critics as a possible consequence of unfulfilled "advertising-induced" expectations.

The relationship of television exposure to disappointment is positive (.08 Kendall tau). High TV exposure children reflect somewhat more disappointment when they do not receive presents than low TV exposure children. This effect is highly concentrated at first grade and diminishes substantially by fifth grade. It would appear, therefore, that television advertising has the potential to build high desire among young children and they are perhaps least able to select and process product-related information, and to assess the probabilities of actually receiving items. These limited abilities result in less ordered product preferences and expectations, in turn resulting in higher levels of disappointment.

Parent-child interaction, contrary to our prior expectation, is associated positively with disappointment at non-receipt; that is, those children with high parent-child interaction actually reflect slightly greater disappointment (.08 Kendall tau). In some ways this may be a logical finding. If children have high levels of interaction with their parents, they may implicitly believe that their parents know more about what they want and may feel "let down" when they do not, in fact, receive their requests.

Interestingly, it is the older children (not first graders) who experience this interaction-disappointment relationship the most. This may be consistent with the prior finding of Ward and Wackman that older children receive more of their requests, probably because they have learned to be selective in their product desires and requests (Ward and Wackman 1972). Given such positive reinforcement, we can expect greater disappointment at non-receipt than for younger children, who are denied a higher proportion of their requests.

Conclusion

The effectiveness of a marketing system must ultimately be evaluated in terms of its ability to satisfy consumer needs. In this article we have examined the domain of children's toys and games and have assessed the degree of product satisfaction which children experience.

Our overall conclusion is that children are predominantly satisfied with presents received from parents: 90% of our sample said that the presents were the same or better than expected and only 10% expressed dissatisfaction. Younger children experience somewhat less satisfaction as do children with high media exposure, whereas children from homes characterized by high parent-child interaction experience somewhat more satisfaction. The implication to be drawn is that, for the most part, children's expectations are not particularly exaggerated as a function of advertising and that most products deliver in line with their advertising promises.

The dissatisfaction which does occur is mainly disappointment upon not receiving presents requested. Overall, 35% of the children in our sample reflected non-recipient disappointment. This disappointment was most pronounced among younger children, children with high television exposure, and contrary to our initial expectation, children from high parent-child interaction homes.

The relationship of age to satisfaction is worth noting. As hypothesized, younger children are more likely to be dissatisfied with the presents they receive and disappointed when they do not receive their requests. This reflects their greater difficulties in selecting, storing and retrieving information in order to form product preferences and expectations. Without such ordered preferences, disappointment is inevitable.

Television exposure level also relates negatively to satisfaction. Children with high media exposure are somewhat less satisfied with the presents which they receive and somewhat more disappointed if they do not receive their requests. This would seem to be a logical outcome of heightened desire and expectation resulting from heavy television reinforcement. The strength of the relationship is not substantial, however, although significant.

Finally, parents play a key editing and mediating role. In the process of requesting presents from parents, children are provided with a check on their desires and an alternative information and evaluation source. Children from homes characterized by high parent-child interaction experience greater satisfaction with presents received, probably as a result of the editing which has been done to rule-out certain toys and games in advance. Interestingly, however, these same children experience somewhat greater disappointment if they do not receive their requests, probably since they feel more "let down" if they have discussed presents and did not receive them.

This set of results, we believe, provides some "base line" data on children's product satisfaction. However, we have only begun to tap a very complicated phenomenon since the child's satisfaction is intimately related to the process of parent-child interaction. Future research must probe intra-family communication processes, parental coping styles, and the opportunity which such interaction presents for consumer training and socialization. More specifically, future research should examine the question of the extent to which children's product satisfaction is a function of the child's success or failure in parent-child interaction, as well as the child's product expectations.

We also need a more direct test of precisely what children at different ages take away from commercial advertising. It is not clear that they form specific product expectations in the same way that such expectations are treated in adult models of CS/D. Consistent with Westbrook and Reilly's theorizing, it may be that children's satisfaction and dissatisfaction with products is powerfully affected by other aspects of the consumption situation -- such as their feelings about negotiating with their parents, and outcomes as they occur in the family

context. We have not examined this question here, but our uncertainty led us to use the emotional term "disappointment" rather than the more delineated cognitive concept of "dissatisfaction" when discussing children's feelings.

Finally, more specific analyses should focus on children's information processing as it relates to CS/D. One could argue that youngest children, who are "limited" or "cued" processors, have little basis for forming any product expectations from advertising owing to their difficulties in selecting, storing and retrieving information. On the other hand, children do have product perceptions and expectations and they do exhibit levels of satisfaction and disappointment. What is not clear is the extent to which these expectations and outcomes are specifically formulated by the younger child. We have hypothesized that their lower levels of satisfaction and higher levels of disappointment result from their relative inability to select relevant information, and to store and retrieve that information in an overall strategy of product evaluation and purchase request. A more precise test of this hypothesis is needed to determine if this "non-selective" notion is correct, or whether even young children have rather specific product expectations.

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HEMISPHERIC FUNCTION AND INVOLVEMENT

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Abstract

A recent hypothesis relates high and low involvement to information processing in the left and right cerebral hemispheres, respectively. This paper examines current research findings in the areas of involvement and hemispheric function, in an attempt to determine whether that hypothesis has merit.

Introduction

The way in which degree of involvement with an issue affects attitude has been a topic of concern to social psychologists for a number of years (Chaiken 1980; Sherif and Cantril 1947; Sherif, Sherif, and Nebergall 1965). Experimentally, an individual's involvement is classified as high or low depending on whether an issue has personal relevance for him (Apsler and Sears 1968; Petty and Cacioppo 1979; Rhine and Severance 1970). Consumer behavior researchers (e.g., Gardner, Mitchell, and Russo, forthcoming) as well as social psychologists (Petty, Cacioppo, and Heesacker 1981; Petty, Cacioppo, and Schumann 1983) have found that level of involvement helps determine how persuasive a message is, and which aspects of it have greater impact on attitude.

It has been suggested that the left half of the cerebral cortex guides information processing under conditions of high involvement, while the right hemisphere predominates when involvement is low (Hansen 1981; Krugman 1979). The primary purpose of this paper is to evaluate and reformulate that hypothesis in light of what is known in the respective areas of involvement and hemispheric function. Let us take a brief look at each field separately, so that we may determine how the hypothesis might be clarified.

Involvement

Investigators of involvement have operationalized the term in a number of ways. Krugman (1967) suggested that television induces a passive, low involvement state while print evokes higher involvement. It is interesting that the opposite has also been posited (Worchel, Andreoli, and Eason 1975). Others have placed individuals in high or low involvement groups on the basis of the personal importance of an issue or product category (Hovland, Harvey, and Sherif 1957; Newman and Dolich 1979). Finally, some researchers have classified certain products and issues as high- or low-involvement (Lastovicka and Gardner 1979; Rhine and Severance 1970).

As Russo (personal communication) points out, in all of these cases involvement is conceptualized in terms of its possible antecedents. Doubtless certain product categories and methods of message presentation tend to evoke higher involvement than others. However, one cannot assume that an individual's internal state will necessarily be altered by a given antecedent. Moreover, in each of the above cases, presumed involvement level is confounded with variations in characteristics of the medium, subject, or product.

An accurate picture of information processing under different levels of involvement is more likely to emerge when all factors (product, medium, subject type) except level of involvement are kept constant (see Petty, Cacioppo, and Schumann 1983 for a discussion of these issues). Several investigators have taken this

approach, and have experimentally induced states of high and low involvement in subjects (Gardner et al., forthcoming; Park and Young 1984; Petty et al. 1983). For these studies the question of external validity arises (Cook, personal communication). Probably the proper procedure is to develop a theory of involvement in a well-controlled laboratory environment, and then to test and refine it in field settings. Let us examine the attempts at theory development.

Petty, Cacioppo, and Schumann (1983) informed both high and low involvement groups that they would be required to evaluate a series of advertisements. The high involvement subjects were told that the product in the experimental ad would soon be available in their area, and that following the experiment they would be allowed to select a free gift from the experimental product category. The low involvement individuals were informed that the product in the experimental ad would not soon be available in their local area, and that they could choose a free gift from another product category.

Four experimental advertisements were composed for Edge razors. Each contained either strong or weak arguments, and a photograph of a famous or non-famous endorser. Each version was viewed by a high involvement group and a low involvement one. The experimental advertisement was presented as one in a series of advertisements.

Subjects rated their overall impression of the product on the scales good-bad, satisfactory-unsatisfactory, and favorable-unfavorable. To check that the manipulations of argument quality and endorser identity were effective, several additional questions were asked.

Analyses of the attitudinal measures revealed that involvement level interacted significantly with endorser identity as well as with argument quality. Endorser identity had a greater impact on the low involvement group than on the high involvement one. Argument quality, on the other hand, had more influence on attitudes of the latter group than on those of the former.

To account for these results, Petty et al. present the notions of central versus peripheral routes to persuasion. When an individual is highly involved in deciding about an issue or product, he processes the contents of a communication which are directly relevant to a thoughtful evaluation of the issue or product. As Petty et al. point out, the most important product-related information might be an attractive endorser. The defining characteristic of central processing is thus not whether the information attended to is in pictorial or verbal form. It is the effortful evaluation of any message contents that are directly related to product attributes or aspects of an issue.

The peripheral route, utilized under low involvement conditions, is distinguished by a less effortful, more associationistic style of processing information. Positive or negative cues associated with the object under evaluation are fed into a simple decision rule. In this study a pictorial cue, endorser type, was employed. Petty and Cacioppo (1984) found that a decision rule may be activated by number of message arguments (the more the better). Chaiken (1980) observed a peripheral style of processing in response to a verbal description of a message source as likeable or dislikeable. Thus either the central or the peripheral route to persuasion may

involve a consideration of verbal and/or pictorial information, and source as well as message cues.

Gardner and her colleagues view involvement as the internal motivational state of an individual at a given moment. Intensity of involvement affects attention level, and the individual's goal in processing information will determine the type of strategy he employs to do so. With respect to the effects of advertisements, the authors note that two kinds of strategies are relevant: a brand processing and a nonbrand one. The authors postulate that a brand processing strategy will be used by individuals with a recognized interest in the product. During exposure to the advertisement they retrieve their knowledge about the brand or product class, and are likely to integrate new information from the advertisement with their pre-existing knowledge. In the course of this integration process, arguments in favor of or against the brand are frequently generated.

People utilizing a nonbrand strategy have another set of goals in viewing the advertisement, such as enjoyment, censorship, or stylistic evaluation. They do not fully retrieve their knowledge of the brand or product category, and so make few inferences about product characteristics and performance. Therefore counter-arguments and support arguments are not as probable.

When attention level is high, Gardner et al. define high involvement in terms of the use of a brand processing strategy, and low involvement in terms of a nonbrand strategy. (The authors observe that a low attention level always leads to low involvement.) In this investigation, attention was held at a high level, and subjects were instructed in the use of a brand or nonbrand processing strategy.

As compared to the nonbrand processors, the high involvement group displayed superior memory for brand information, and formed less favorable attitudes toward the brands advertised.

The third investigation to be discussed here is interesting because the authors distinguish two different types of high involvement (Park and Young 1984). Like Gardner et al., they assert that the individual's goal in attending to an advertisement is one major determinant of how the information content will be processed. The two kinds of high involvement which Park and Young distinguish are cognitive and affective. Cognitive involvement occurs when the individual's goal is to learn about the functional performance of a brand. Affective involvement results from the association of emotional or aesthetic components of an advertisement with one's desire to express a specific type of self-image to the world. Park and Young define low involvement in terms of lowered arousal toward an advertisement, either because of distractors or a lack of interest.

The authors' description of attitude formation in a cognitive involvement situation resembles the explanation of the central route to persuasion presented by Petty et al., as well as the outline of a brand processing strategy in the Gardner et al. study. Park and Young describe attitude formation under conditions of affective involvement as follows. When watching an advertisement, the individual identifies an image that he matches to an actual or desired image of himself. Attitude toward the brand advertised derives from the affect which is stored with the image of self. The image-matching is accomplished through an analogical process in which stimulus and internal representation are compared in a global fashion. Information processing in an affective involvement situation is less effortful than under cognitive involvement conditions, because it is more automated.

The investigators characterize attitude formation in a low involvement situation as "ephemeral in nature, weak in intensity, and transient in stability, depending on the frequency of exposure" (p. 10). Visual aspects of a commercial should have a greater influence on attitude than should verbal aspects, because the former are easier to process. Park and Young assert that the peripheral route of Petty et al. corresponds to this situation. The nonbrand processing strategy described by Gardner et al. does not appear to have a clear analog in the Petty et al. classification scheme or in the Park and Young taxonomy. Likewise, the affective involvement condition of Park and Young does not appear to correspond to any classification level of the other two groups of investigators.

In this study, as in the other two, involvement was varied with instruction, and the stimulus was an advertisement (commercial). The investigation revealed that brand attitude varies not only as a function of involvement type, but also with the presence or absence of music, and with attitude toward the advertisement. Specifically, attitude toward the advertisement was not significantly associated with brand attitude in the cognitive involvement condition, but was an important determinant of brand attitude in the affective and low involvement situations. The presence of music in the commercial appeared to reduce the amount of brand information processing by the cognitively involved subjects, and resulted in less favorable brand attitudes. The authors suggest that this result is explicable by the assumption that music interferes with the generation of support arguments. Music had a positive effect on the brand attitudes of the low involvement group. Its effect on the affectively involved subjects was not clear.

In sum, recent investigations of involvement indicate that level or type of involvement helps determine the extent to which brand-related information will be processed and affect brand attitude. Moreover, in producing an effect on attitude, the involvement variable apparently interacts with several other mediators of brand attitude formation, such as music, attitude toward the advertisement, and endorser type. It is not clear that one taxonomy of involvement is superior to the other two. A combination which distinguishes processing strategy from attentional level, and cognitive from affective brand processing might be most productive at this time.

Functional Hemispheric Asymmetries

The most compelling evidence that the two cerebral hemispheres subserve different functions has come from studies of so-called "split-brain" patients. Split-brain surgery, a technique for controlling epileptic seizures, involves the cutting of some nerve fibers which connect the two hemispheres. People who have undergone this surgery have virtually intact but independent hemispheres. The two hemispheres may be studied separately in the same person, by presentation of information to one hemisphere alone, via connections from the opposite visual field, ear, or hand.

Roger Sperry and his colleagues found that the two halves of the brain showed differences in ability as well as style, in the performance of a variety of tasks. The left hemisphere is the center for speech, writing, and calculation. The right hemisphere cannot respond in speech or writing, and can only calculate very simple additions. It excels at functions which Sperry (1974) characterizes as "non-linguistic, non-mathematical . . . holistic and unitary rather than analytic and fragmentary . . . involving concrete perceptual insight rather than abstract sequential reasoning" (p. 11). For example, the left hand (right hemisphere) of split-brain patients is superior to the right hand (left

hemisphere) at constructing block designs, and at copying and drawing two-dimensional representations of three-dimensional objects, such as Necker cubes and houses. The right hemisphere is also superior at detecting direction of motion and discriminating the orientation of lines and two-dimensional objects, and has better binocular depth perception than the left (see Springer and Deutsch 1981 for a review).

Studies of normal adults reveal that virtually all right-handers display the pattern of left and right hemisphere asymmetries outlined above. In the intact brain, speech dominance can only be directly determined by observing whether an individual can speak when each hemisphere in turn is inactivated by a barbiturate such as sodium amytal (Wada and Rasmussen 1960). However, several non-intrusive tests have been developed, from which specialization for language and other tasks may be inferred. In these tests, stimuli are usually presented either tachistoscopically or dichotically.

In a tachistoscopic task, the subject must respond to each of a series of stimulus items briefly presented to the right or left visual field, or to both. Accuracy and average response time is calculated for each visual field, and the hemisphere opposite the one which receives a better score is considered to be dominant for the task. Right-handers show a right visual field superiority, indicating left hemisphere dominance, on word and syllable identification (e.g., MacKavey, Curcio, and Rosen 1975; Levy and Reid 1978), and left visual field (right hemisphere) dominance on visuo-spatial tasks such as dot location (Levy and Reid 1978), face recognition (Leehey and Cahn 1979), and recognition of braille letters (Hermelin and O'Connor 1971).

On dichotic tasks, two auditory stimuli are presented simultaneously, one to each ear, and the subject is to report what he or she heard in one or both ears. Most right-handers display a right ear (left hemisphere) advantage for identifying words and syllables (Kimura 1967; Shankweiler and Studdert-Kennedy 1967), and a left ear (right hemisphere) superiority for recognizing melodic contours (Kimura 1964) and nonverbal emotional sounds such as crying and laughing (King and Kimura 1972).

A right hemisphere advantage has also been found for identifying emotions conveyed by intonation (Safer and Leventhal 1977). Moreover, studies of brain-damaged populations indicate that an intact right hemisphere is essential for the accurate interpretation of emotional aspects of stimuli, such as the emotional content of stories (Wechsler 1973), intonational cues (Heilman, Scholes, and Watson 1975), and facial expression (Cicone, Wapner, and Gardner 1979).

Superimposed on these patterns of functional specialization are stable, task-independent differences in hemispheric arousal. Individuals who show higher left than right hemisphere activation, as indexed by EEG and cerebral blood flow, perform better on verbal tasks and worse on spatial ones than do persons displaying higher right hemisphere arousal (e.g., Gur and Reivich 1980). Because asymmetrically greater arousal of one hemisphere leads to motoric and attentional orientations toward the side of space opposite the more highly aroused hemisphere, it is possible to infer which hemisphere is more aroused by administering various tachistoscopic tests. In such tests, stimuli which both hemispheres are equally skilled at processing are flashed to one or both visual fields. The hemisphere opposite the field for which performance is better is inferred to be the more highly aroused (Levy, Heller, Banich, and Burton 1983a). In addition, Jerre Levy and her colleagues at the University of Chicago have developed a free vision test which is sensitive to individual differences in arousal

asymmetry (Levy, Heller, Banich, and Burton 1983b).

Evidence indicates that differences in personality characteristics are associated with variations in the direction of arousal asymmetry. For example, Dawson, Tucker, and Swenson (1981) observed that individuals who show a predominance of leftward lateral eye movements (higher right hemisphere arousal) tend to be extroverted and give positive self-descriptions. Right-movers are inclined toward introversion and negative self-descriptions.

Involvement and Hemispheric Function

At first glance, the sequential, analytic processing style of the left hemisphere appears well suited for handling information under conditions of cognitive involvement. The holistic strategy employed by the right hemisphere, on the other hand, seems ideal for processing information in a situation of affective involvement. Unfortunately, a second and longer look reveals a very important unresolved issue.

The processing of information in an advertisement is clearly a much more complicated task than are the laterality tasks commonly administered to normals. The relative simplicity of the latter is of course unavoidable under conditions of tachistoscopic presentation. This is because a guarantee of initial reception by one hemisphere necessitates brevity of stimulus presentation, or severe competition between simultaneously presented stimuli.

Studies of brain-damaged populations indicate that optimal performance on complex linguistic as well as pictorial tasks is impossible without two intact hemispheres (Huber and Gleber 1982; Wapner, Hamby, and Gardner 1981; Winter and Gardner 1977). However, right- and left-hemisphere damaged groups do exhibit different sorts of deficits on such tasks.

Huber and Gleber presented scrambled stories, some in pictorial and others in sentence form, to left- and right-damaged patients, as well as to normals. All brain-injured patients made more errors than did the normals. Most of the left-hemisphere damaged subjects scored higher on the pictorially presented stories than on those in sentence form. The right-damaged group obtained fewer errors on the verbal than on the pictorial presentations.

Wapner, Hamby, and Gardner required neurologically impaired patients to recount stories presented auditorily or on film, and to answer various sorts of questions. Right-hemisphere injured subjects used correct phonology and syntax, and accurately recalled basic facts and many details. However, their stories often contained embellishments and confabulations. They also had difficulty explaining the moral of a story, and could only describe characters' motivations if these were straightforward. Left-hemisphere damaged patients were hardly eloquent, but showed none of the deficits exhibited by the right-damaged subjects.

Advertisements (and everyday communications in general) frequently contain figurative or metaphorical use of language to convey abstract concepts in concrete form. The study by Winter and Gardner (1977) strongly suggests that the right and left hemispheres play different but equally essential roles in the use of metaphor. Two tests of metaphor comprehension--a pictorial and a verbal one-- were administered to right- and left-damaged patients. The right-hemisphere injured subjects were able to explain the meaning of a given metaphor, but could not select a picture demonstrating the standard interpretation. Left-damaged patients could perform the pictorial task, but were not able to explain

the meaning.

What these investigators suggest is that the two hemispheres play different but equally crucial roles in certain complex tasks. Where does this leave us with respect to involvement? Clearly, we cannot fall prey to the tempting analogy between differences in hemispheric processing style and variations in the handling of information under the two (or more) involvement levels. However, the strong associations between certain personality characteristics and side of greater arousal do indicate that the two hemispheres may indeed play differentially important roles in some higher order mental activities.

For this reason, it is suggested that the hypothesis be reformulated to take into account interactions between involvement type and stimulus properties, and then tested properly. A productive reformulation would be stated something like the following: if an advertisement contains only a straightforward verbal enumeration of functional characteristics of a brand, and if an individual is cognitively involved, then the left hemisphere will predominate in processing. If, on the other hand, the advertisement contains no verbal elements, but is instead pictorial and attempts to match the brand to some cultural metaphor, then the right hemisphere will be the more active processor.

Finally, proper testing with normals is likely to require meticulous and expensive physiological measures, of cerebral blood flow for example. It is crucial that the population be administered standard laterality tests, and that hemispheric arousal be assessed as well. Without such rigorous testing, the debate about the importance of brain function in involvement will remain unresolved.

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CONSUMERS' INVOLVEMENT PROFILE : NEW EMPIRICAL RESULTS¹

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Abstract

A new stream of research on consumer involvement is reviewed. A cumulative body of empirical results, based on 22 product categories and more than 4400 observations, leads to three main implications :

1. One should stop measuring involvement by a single indicator, but substitute it by an involvement profile based on the antecedents of involvement.
2. Prediction of the consequences of involvement entails taking into account the full involvement profile. The consequences depend on the antecedent conditions of involvement.
3. In each market, it is possible to identify segments with contrasted involvement profiles. An illustrative application is presented. High and low involvement are just two situations among many others.

Background

A survey of current uses and measures of consumers' involvement reveals two basic facts : a circular mis-usage and an hesitation concerning the dimensionality of the concept.

Measuring the Concept by its Consequences

When researchers do not rely on one single item of product "perceived importance," they fall often in a circular mis-usage : to operationally define involvement they make use of alleged consequences. For instance Engel and Blackwell (1982) suggest measuring involvement by the time spent during product search, the energy spent, the number of brands examined, the extensiveness of the decision process. Robertson (1976) uses brand commitment as an indicator of product involvement. Stone (1984) defines involvement as time and/or intensity of effort expanded in the undertaking of behaviors. But, as also noted by Cohen (1983) and Rothschild (1984), is it involvement or what results from involvement ? This reminds us of the fallacy of measuring attitudes by behavior thus preventing any test of the theory concerning the behavioral consequences of attitudes.

Hesitations about Involvement Dimensionality

Summarizing current involvement work, Rothschild (1984) regrets that the prototypical paper consists in a theoretical review where it is shown that involvement has many dimensions, with some disagreement among authors as to the number of such dimensions (Houston and Rothschild 1978 ; Bloch and Richins 1983 ; Muncy and Hunt 1984). This constant recommitment of the concept seems also to block engaging in new empirical work and collecting fresh data.

These two basic facts are related. Looking at a recent review of indicators of product involvement (Antil 1984), one is struck by the overwhelming majority of

measures that are in fact consequences of involvement. Since these consequences are distinct aspects of consumer behavior, it is not surprising that many authors feel they are actually measuring different concepts, despite the common name : involvement (Muncy and Hunt 1984).

The stream of research we conducted since 1981 stemmed from the same diagnosis. At a theoretical level, in order to test empirical propositions concerning the consequences of involvement, a displacement of emphasis was needed : indicators of involvement should be found in the antecedents of involvement. Also, instead of saying this is the "real involvement" and this is not, one should move from the search for the elusive single dimension to the acceptance of an involvement profile : the relationship of a consumer to a product category is better described by a profile on a parsimonious number of facets. At a practical level, in order to provide managers with a tool to segment markets in subgroups with differing involvement profiles, a set of reliable and valid scales had to be created (one scale by involvement facet). This resulted in the creation of generalizable items that could be made product specific, thus meeting the need expressed by Mitchell (1979), Bloch (1981) and Antil (1984).

This paper will present in turn the thought process used in identifying the facets of the involvement profile, the measurement of the profile, evidence of nomological validity (data concerning the consequences of involvement), and an illustration of how the involvement profile is being currently used for market segmentation.

The Facets of Consumers' Involvement

Consumers' degree of involvement in products or issues is commonly held as a major mediating variable of consumer behavior. Despite differences in emphasis and preferences among researchers, a consensus seems to emerge as to its following generic definition (Mitchell 1979 ; Bloch 1981 ; Cohen 1983 ; Rothschild 1984) : "involvement is an unobservable state of motivation, arousal or interest. It is evoked by a particular stimulus or situation. It has drive properties : its consequences are types of searching, information-processing and decision making" (Rothschild, p. 217).

Since involvement is a hypothetical variable, it cannot be directly measured. Involvement is inferred from the presence or absence of its alleged determinants or antecedents. Actually, a review of the researchers' practices in operationally defining involvement reveals a small number of such antecedents.

Early research on involvement conceptualized it as a permanent or at least enduring drive state, stemming from the product or issue being tied to one's ego, or central values or self-concept (Sherif and Cantril 1947 ; Ostrom and Brock, 1968). Typically, the Sherifs used W.C.T.U. members as high-involved subjects, hereby implicitly suggesting three possible antecedents of their involvement : having a deep interest in the issue, finding it extremely rewarding (enjoyable) to act about the issue, identifying oneself totally with the issue. Drawing from the literature on leisure behavior and hobbyists, Bloch and Bruce (1984) suggest the same three

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antecedent conditions. For them, enduring involvement at high levels is akin to product enthusiasm : it is evoked by a strong, abiding, hobby-like interest in the product class in question. Also, the involvement state is linked to the rewards generated by the usage of the product (enjoyment, pleasure). Finally, the actors identify themselves completely with the activity : the hobby acts as a message of who they are, vis-à-vis relevant others. The hobby expresses their self-concept. Interestingly, when trying to classify product categories in terms of involvement, Lastovicka and Gardner (1979) found three classes of products : high involvement and low involvement products and what they called special-interest products (related to the respondent's hobby).

A number of researchers have tried to experimentally manipulate people's degree of involvement. Thus, Zimbardo (1960) told the students in the "high involvement" group of a communication persuasiveness experiment, that their opinions would be made public. In doing so, Zimbardo suggested two possible antecedents of involvement (i) making one's intimate opinions overtly available to others, as a sign of the kind of person one is, and (ii) perceived risk, at least one of its two sub-components (Bauer 1967) : the perception of that the decision may lead to negative consequences. As noted by many authors, such experiments do not create an enduring involvement but a transitory, situational arousal state.

In a marketing context, this led to the distinction between product involvement and purchase-of-the-product involvement. The former is enduring, the latter may be only transitory or situational. The former entails the latter, but the latter does not entail the former : despite no interest nor pleasure in Champagne, buying a bottle of Champagne to receive good friends is an involving situation because one may be judged on the chosen brand, or because of the price. Actually perceived risk is the most frequently quoted antecedent condition of purchase involvement or lack of it. Whenever a wrong decision has important negative consequences and making a wrong decision may occur, involvement is present (Chaffee and McLeod 1973 ; Tyebjee 1979 ; Arora 1984 ; Muncy and Hunt 1984). For instance Antil (1984) considers that low involvement arises when consumers have high confidence in the expected benefits of the product choice (the subjective probability of making a mispurchase is absent). The risk may be physical, financial or psychological (if the brand choice is perceived as related to one's self-image).

To summarize, five antecedent conditions of involvement have been used by researchers : interest in the product category, enjoyment or pleasure derived from it, perception of self expression through product category, and the two components of perceived risk : the stake and subjective probability factors (Bauer 1967). The first facet (interest) is an antecedent of enduring involvement only. Pleasure and sign value may apply to both enduring and situational involvement. Perceived risk induces mostly situational involvement. In any case by measuring a consumer's position on each of these five facets, the exact nature of his/her involvement is specified.

Measuring the Involvement Profile

Having identified five facets of involvement, at least theoretically speaking, a major question is left open : do some or all of these facets converge in fewer dimensions, or is there actually five facets, exhibiting specific variance, thus discriminant validity. There would be no point in keeping our a priori distinctions between facets, if empirically, for consumers, these facets converge.

To answer this question, we followed Churchill's (1979) iterative multistep approach. A multi-item scale was

created for each of the five facets. On the basis of a literature review, consumers' in-depth interviews and interviews with marketing experts, the scales were developed through successive small data collections. They can be applied in any product category : this result is far from being trivial, since many items that apply well to, say, dresses look ridiculous when asked about dishwashing liquid. The scales resulting from the pruning process are monodimensional and are, with one exception, fairly reliable. Table 1 presents the reliability coefficients of each scale in a large survey (n = 1568, measures done over 20 product categories, 800 housewives or so were interviewed, each one about two product categories).

Now the main question remains : are these five presumed facets empirically distinct or do they converge in fewer dimensions ? To answer this question, an oblique factor analysis of all the items in the five scales was performed. An oblique solution was retained since, all facets being tied to the same construct, no independence was postulated. Three independent data collection were undertaken :

- A 20 products survey on 1568 observations with female respondents (these products range from TV, mattresses, bras and dresses, to detergents, yoghurts or perfumes) (Table 2).

- A survey of 588 female respondents, on bread.

- A survey of 2250 male and female respondents on a frequently purchased food product.

Table 2 presents the results derived from the first data set.

In the three data collections the results were similar : five factors have an eigenvalue superior to one. Also, as can be seen in Table 2, each scale loads on one factor and no two scales load on the same factor. The five presumed facets do have discriminant validity and seem to empirically tap five distinct aspects of involvement. This conclusion is based on 4400 observations and 22 different product categories. It may nevertheless happen that for some specific product categories two scales merge : for instance in the case of food products,

TABLE 1
MEASURES OF THE PRESUMED FACETS OF INVOLVEMENT

Facet	Number of items	Number of factors	Coefficient of reliability (Cronbach's α)	Examples of items
INTEREST (Generality, Importance of the Product Class)	5	1	0.76	. — is very important to me. . I have a strong interest in —. . — is a topic to which I am completely indifferent.
PLEASURE (Rewarding Value of the Product Class)	3	1	0.83	. I can't say I particularly like —. . For me — is a real pleasure.
SIGN (Perceived Expressive Value of the Product Class)	3	1	0.81	. You can really tell about a person by the — she picks out. . The — I buy reflects a little the kind of person I am.
RISKIMP (Perceived Importance of Negative Consequences of a Mis-purchase)	3	1	0.72	. When you get a — it's not a big deal if you make a mistake. . It's really a problem if you buy a — which does not suit.
RISKPRO (Subjective Probability of a Mispurchase)	2	1	0.54	. When you get a — it's hard to make a bad choice. . When purchasing a —, one is never certain about one's choice.

Source : 1568 observations
Across 20 product categories

* translated from the French originals.

TABLE 3

INVOLVEMENT FACETS AND ASPECTS OF CONSUMER BEHAVIOR

Linear Multiple Regression
(Sample Size : 1568)

Involvement Facets

Dep. Variable	Interest	Sign	Pleasure	Riskprob.	Riskimp.	R ²
Extensive	0.38***	0.09***	0.12***	0.07***	0.33***	0.54***
Decision Process						
Brand Commitment	0.21***	0.08**	-	0.09***	0.08*	0.10***
Reading Articles	0.40***	0.10***	0.06*	-	-	0.21***

... = p < 0.001
.. = p < 0.01
. = p < 0.05
- = N.S

TABLE 2

OBLIQUE FACTOR ANALYSIS
(N : 1568, 20 Product Categories)

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Interest 1	0.65				
Interest 2	0.51				
Interest 3	0.58				
Interest 4	0.48				
Interest 5	0.44				
Sign 1		0.75			
Sign 2		0.76			
Sign 3		0.72			
Pleasure 1			0.78		
Pleasure 2			0.80		
Pleasure 3			0.70		
Riskpro 1				0.51	
Riskpro 2				0.67	
Riskimp 1					0.49
Riskimp 2					0.73
Riskimp 3					0.65

(All omitted loadings < 0.25)

FACTOR CORRELATIONS

	F1 Interest	F2 Sign	F3 Pleasure	F4 Riskpro	F5 Riskimp
F1 - Interest	-				
F2 - Sign	0.38	-			
F3 - Pleasure	0.55	0.47	-		
F4 - Risk (Prob.)	0.16	0.10	0.03	-	
F5 - Risk (Import)	0.50	0.22	0.32	0.24	-

interest and pleasure may load on the same factor indicating that for consumers these two facets are close. Our experience indicates that when the eigenvalue criterion (above 1) leads to four facets, the fifth factor is just below 1 and appears exactly as expected in a confirmatory factor analysis.

At this stage, empirical analyses corroborate the literature review : there seems to be five facets of involvement. Although they are correlated, each one has specific variance. Measuring the five facets allows to better grasp the nature of the involvement state.

Having a measure of the involvement profile, independent of the alleged consequences of the construct, it is now possible to empirically test these consequences. In this process, we shall also contribute to the construct validity of the involvement profile. In effect, it could be said that nothing more than face validity substantiates our claim that we are tapping the involvement construct. Examining the link with involvement consequences is a step towards nomological validity.

The Consequences of Involvement

According to theory, when a consumer is involved in a product category, he should, among other consequences, engage in a lengthy decision process, exhibit brand commitment (Robertson 1976 ; Assael 1981), pay attention to information concerning the product class, etc. In this paper, we shall concentrate on these three variables to demonstrate the nomological validity of the profile.

Two scales were specifically created to measure the extensiveness of the decision process and brand commitment. The propensity to read articles concerning the product category was measured by a single self-report item. Table 3 presents the linear regressions of these three variables on the facets of the involvement profile. The analyses are based on 1568 observations and 20 contrasted product categories.

The extensiveness of the decision process is influenced by all facets of the profile, especially interest in the product category and perception of important negative consequences in case of mispurchase. Expecting a strong pleasure leads also to spend time and energy in the decision process. Brand commitment increases with interest in the category, perception that the product

choice conveys one's image (sign), and the two components of perceived risk. It is independent of perceived pleasure value of the category. Finally, the propensity to read articles increases when one is interested in the product, or when one believes that the choice expresses one's image or when the product has a pleasure value. Perceived risk is not related to the propensity to regularly read articles about the product category.

These results provide nomological validity to the involvement profile. All facets contribute to the prediction of extensiveness of the decision process ; most of them influence the two other variables. Most important is the fact that all facets do not have the same influence on different aspects of consumer behavior. For instance the importance component of perceived risk strongly influences the extensiveness of the decision process, far less brand commitment, but not at all regular reading of articles on the product class. Similarly the rewarding nature of the product (pleasure) affects the decision process and exposure but not brand commitment.

This simply means that limited predictions of behavior can be made from one single indicator of involvement. Only knowing the full involvement profile allows complete predictions. Also, involvement theory is probably oversimplified : as it stands now, it seems that involvement leads to a score of behavioral consequences. Our data indicate that, depending upon the antecedent condition of involvement, some behavioral consequences will take place or not. Further empirical data on other behavioral consequences and other data bases confirm the necessity of taking the antecedent conditions into account if one wants to predict the behavioral consequences of involvement. It is time to quit using single indicators of involvement.

Segmenting Markets by Involvement Profile

Since the exact nature of consumers' involvement can now be measured by means of the involvement profile, it is possible to segment markets on that basis. In a market, say Champagne, what are the prevalent types of involvement profiles ? The authors have performed several segmentation studies in the context of ad hoc surveys devoted to specific product categories. For proprietary reasons, we cannot present these studies here. However, we shall present an example based on a non-proprietary survey, funded by a marketing research foundation (Fondation Jours de France). The purpose of this section

is merely illustrative of the way the involvement profile is currently used by firms to get a new understanding of their market : space constraints prevent any methodological development.

To show how markets can be segmented, we performed a cluster analysis of the 1568 observations available from this non-proprietary survey. These observations had been collected in 20 product categories. (Most product categories had about 50 interviews, four "large" product categories had about 200 interviews). As a result of this richness of product categories, we retained a rather large number of clusters (ten). In commercial applications performed for one product category, the number of clusters retained has been much smaller (between three and six).

Given the number of observations, the cluster analysis was performed using a double dynamic clustering approach.

In this illustrative application, the clustering was performed on the basis of the involvement facets described earlier, as well as of two other variables : the consumer's perceived difference across brands and the consumer's self declared competence. Perceived difference was included following suggestions by De Bruicker (1979), Assael (1981) or Ray (1982), according to which involvement and perceived difference are two distinct dimensions that should be examined together in order to analyse consumer behavior. Using perceived difference as an active variable allowed the possibility to define clusters corresponding to the consumer situations distinguished by these authors.

Similarly Day (1970) and Lastovicka and Gardner (1979) suggest that a consumer's feeling of competence in a product category may change his or her behavior. Four items were used to measure the consumer's competence in a product category (Cronbach's $\alpha = 0.74$) and three items for perceived difference ($\alpha = 0.63$).

Finally, because of the relative unreliability of its present scale, the probability facet of perceived risk was not included as an active variable in the typology.

The ten types finally retained in the cluster analysis were given intuitive names as follows.

-
- 1 Minimal involvement
 - 2 Functional differentiation
 - 3 Undramatized risk
 - 4 Small pleasure
 - 5 Conformist purchase
 - 6 Riskless involvement
 - 7 Functional involvement
 - 8 Pleasure involvement
 - 9 Need for help
 - 10 Total involvement
-

Table 4 presents, for each type, the average scores on four facets of involvement, as well as on the dimensions of perceived difference and competence (for each one of these variables, standardized scores have been computed with a mean of 100 and a standard deviation of 50 over all 1568 observations). Table 5 indicates, for each of the 20 product categories, in which types the consumers have been allocated. For example, 43 % of the consumers of batteries have been classified in the "minimal involvement" type. (For clarity, we reprinted such percentages here only when they were above 10 %). As can be seen, if there are on the whole ten types, each market is generally segmented in no more than five or six main types.

We shall make a brief comment on six of our ten types.

The easiest types to comment on are the two extreme ones : "total involvement" and "minimal involvement," also called by many : high and low involvement.

In the minimal involvement type, consumers are at the lowest on all active variables (interest, sign, pleasure, risk importance, competence and perceived difference). From all points of view, this corresponds to a very limited involvement of consumers in the product category. Products that have many consumers in this minimal involvement type include batteries, dishwashing liquid, detergents, pasta (Table 5).

On the other extreme, the total involvement type is at the highest on all six variables : interest, sign, pleasure, risk importance, competence, perceived difference. From all points of view, the consumers are very much involved into the product category. Products that have many consumers in the total involvement type include dresses, perfume, bras, coffee, Champagne.

Up to now the two types we have described (total involvement and minimal involvement) are reasonably similar to the stereotypes one would expect under those names. One must note, however, that these two types are two extreme cases that together represent only one fourth of all consumers in our sample (9 % for minimal involvement, 16 % for total involvement).

The other eight types, which represent 75 % of our sample, present contrasted profiles. This means that a type has high marks on certain facets of involvement, and low marks on other facets. The picture of these types is no longer all white or all black, it is a picture of nuances.

Consider type 5, the "conformist purchase." This subjective situation concerns almost half of the purchasers of Champagne. Here (Table 4), the consumer attaches only a limited interest to the product (91). However he perceives a high pleasure value in the product (123), a very high sign value (130), an important risk (120) attached to the brand choice, in relation with his belief that large differences between brands exist (123). Unfortunately, he has very limited knowledge in the product class (57) : he does not know how to choose. This typical subjective situation of purchase concerns large segments of consumers in the TV or perfume markets.

Consider type 3, undramatized risk. Here products (Table 4) have only one involving feature : the risk they entail (120). Interest (65), sign (65), pleasure (64) are low. The consumer feels there are very little differences across brands (50) and finds herself incompetent (56). The products that fall the most in that type are two durables : vacuum-cleaners and TV sets (Table 5).

Type 6 is that of riskless involvement. Risk is low (79), in relation to a small perceived difference (92). But there is relatively high involvement on the other facets : interest (113), sign (142) and pleasure (111). This breeds competence (127). The two products most represented in that type are jam and perfume.

Type 7 is that of functional involvement. Here risk (124) and interest (121) are high, but sign (73) and pleasure (47) are low. In this situation the consumer perceives differences between alternatives (121) and feels competent (114). Typical products here are shampoo, dishwashing liquid, detergents.

TABLE 4
TEN INVOLVEMENT TYPES : DESCRIPTION

NAME OF TYPE DIMENSIONS OF THE SITUATION	MINIMAL INVOLVEMENT	FUNCTIONAL DIFFERENTIATION	UNDRAMATIZED RISK	SMALL PLEASURE	CONFORMIST PURCHASE	RISKLESS INVOLVEMENT	FUNCTIONAL INVOLVEMENT	PLEASURE INVOLVEMENT	NEED FOR EXPERTISE	TOTAL INVOLVEMENT
INTEREST	76	16	65	76	91	113	121	135	137	144
SIGN	59	59	65	77	130	142	73	67	93	164
PLEASURE	38	40	64	92	123	111	47	131	141	144
RISK IMPORTANT	19	87	120	41	120	79	124	127	138	133
COMPETENCE	47	48	56	107	57	127	114	135	97	145
PERCEIVED DIFFERENCE	41	128	50	75	123	92	121	150	59	142

Note : Entries are standardized indices (Mean = 100, Standard Deviation = 50)

TABLE 5
SEGMENTING MARKETS BY INVOLVEMENT TYPE

NAME OF TYPE PRODUCT CATEGORY	MINIMAL INVOLVEMENT	FUNCTIONAL DIFFERENTIATION	UNDRAMATIZED RISK	SMALL PLEASURE	CONFORMIST PURCHASE	RISKLESS INVOLVEMENT	FUNCTIONAL INVOLVEMENT	PLEASURE INVOLVEMENT	NEED FOR EXPERTISE	TOTAL INVOLVEMENT
BATTERIES	43	24	15	-	-	-	-	-	-	-
PASTAS	29	-	-	22	-	-	-	-	-	-
MINERAL WATER	19	11	-	25	-	-	15	-	-	-
DETERGENT	28	-	19	11	-	15	17	-	-	-
DISH WASHING LIQUID	31	10	10	11	-	-	18	-	-	-
HOSES	-	12	-	34	12	10	10	-	-	-
SHAMPOO	-	-	11	15	-	16	16	-	-	-
JAM	-	-	-	43	-	21	-	10	-	-
YOGURTS	-	-	12	28	-	12	-	13	13	-
VACUUM CLEANER	-	-	29	-	16	-	-	13	22	-
T.V.	-	-	23	-	23	-	-	-	34	-
FACIAL SOAP	13	-	-	22	-	11	15	-	-	11
CHAMPAGNE	-	10	-	-	48	-	-	-	-	20
COFFEE	-	-	-	17	-	14	-	15	-	22
CHOCOLATE	-	-	-	28	-	14	-	16	-	14
MATTRESS	-	-	-	-	18	-	-	12	34	12
PERFUMES	-	-	-	-	23	19	-	-	-	44
BRAS	-	-	-	-	10	12	10	16	-	36
DRESSES	-	-	-	-	17	-	-	-	-	52
WASHING MACHINE	-	-	-	-	-	-	13	-	33	17

Note :
 . Entries represent the percentage of respondents, interviewed on the product class, belonging to the involvement type.
 . Percentages below 10 % have been omitted.

Conclusion

On the basis of our cumulative body of empirical data, three implications can be drawn :

1) Using single indicators of involvement seems a dead end street. The phenomenon is not unidimensional. Any single index runs the risk of actually merging facets of involvement. For instance measuring involvement by a "purchase importance" item leaves unspecified the roots of this importance, that is the nature of the involvement. If the single index matches one of the five distinct facets, using it only would create another risk. We showed that no consequence of involvement could be predicted unless the full profile of its antecedent conditions was known : no single facet alone allows full prediction of the behavioral consequences.

2) Among practitioners and theoreticians, it is now a habit to think in terms of a mere high-low dichotomy. Actually, segmentation research shows that cases where consumers are low or high on all facets of the profile represent two extreme cases. Most of consumers have contrasted types of profile, with ups and downs on different facets. It is precisely the subjective situation created by the interaction of facets which leads to specific behavioral outcomes.

3) Researchers have now at their disposal five clean, conceptually clear and multi-product scales. We believe the thrust of future research should be to empirically test the so many alleged consequences of involvement. The authors are presently examining how the five facets of the involvement profile relate to involvement in communications, to sensitivity to different appeals and creative styles, and to the purchase of distributor's private brands and generic products.

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FAMILIARITY: PRODUCT USE, INVOLVEMENT OR EXPERTISE?¹

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Abstract

This paper discusses the concept of "familiarity" in terms of expertise and product use. Then it empirically tests the relationships among product use, involvement and expertise.

Introduction

The term product familiarity has emerged as an important explanatory variable in recent consumer research studies (e.g., Johnson and Russo 1984; Punj and Staelin 1983; Bettman and Park 1980). The problem to date is that there is little continuity among research studies as exactly what constructs compose familiarity. The terms product use, knowledge structure and involvement have all been used in conjunction with the term familiarity. Whether or not these terms are interchangeable is the focus of this paper.

Lessig and Park (1981) suggest there are two approaches to measuring product familiarity: a) how much a person knows about the product and b) how much a person thinks s/he knows about the product. For example, a home economist might be an expert or know a lot about sugar. S/he knows there are several forms of sugar (e.g., lactose, fructose and glucose) all with varying levels of sweetness which break down to very similar elements to supply the body with energy. On the other hand, a lay person might also know a lot about the various forms of sugar and recognize them as honey, brown sugar and molasses in their varying degrees of sweetness. The lay person might not realize that each sugar breaks down to different proportions of the same basic elements, C, H, and O once in the body. The two people may have different knowledge structures about sugar and yet may have equal sugar use patterns. What we think we know about a product may come from using that product. What we actually know about a product may be derived from some objective formal or self-training, advertising, hearsay, etc., and not necessarily just from product use. Therefore, the two approaches of actual knowledge, measured objectively, and perceived knowledge, measured subjectively, may have different relations to product use. Researchers should be concerned with this conceptual and empirical precision when investigating the impact of familiarity on decision processes.

Prior Studies

The integration of product use as a measure of familiarity in addition to self-reported knowledge is evidenced in Bettman and Park (1980). They refer to prior knowledge and experience as factors which influence consumers' information search strategies. The criteria for categorizing subjects into groups of low, medium and high experience/prior knowledge with microwave ovens were factors of product ownership, product use, search for product information and a manipulation of added product information. The manipulation check for this categorization consisted of asking subjects how familiar they were with the product. Familiarity was defined in terms of knowledge about which features are important in selecting a brand of the product. In one study, then, the terms experience, prior knowledge, product

ownership, product use and familiarity are all used to classify subjects on a single meaning.

Two more recent studies have used surrogate terms for knowledge or familiarity as the independent variable in the study of decision processes. Usable prior knowledge was measured by Punj and Staelin (1983) by a seven point previous satisfaction scale; time since last purchase; total purchases; and a self-report measure of the decision maker's opinion on the purchase. This study also measured prior memory structure of the product by the number of previous purchases; a self-report question on reading magazines, selling the product, and working on the product; level of education; and self-report on ability to judge product.

Using these measures as surrogates for the same constructs used in the Bettman and Park (1980) study, they find conflicting results and concluded consumers with highly developed product class knowledge structures do not seek less information. This contrary finding may well be due to the different surrogate measures of the knowledge/familiarity construct rather than any true difference.

In a similar vein of research, Johnson and Russo (1984) treat familiarity as synonymous with knowledge. In their study they measure familiarity of automobiles by three variables: 1) number of cars ridden; 2) number of cars owned and 3) a five point self-report scale on knowledge of automobiles as compared to the rest of the population. The highly familiar subjects are also thought to be developed experts. Granted, product use and knowledge may be related, however experimentally each variable may have a different impact on the consumers' information search strategies.

In addition to product use or knowledge, a third construct, namely, involvement, was suspected of contributing to obtained results in information search studies. Using the same data and classification scheme, Park and Lessig (1981) investigated the impact of familiarity on confidence in decision, decision time, satisfaction and use of various attributes. Although they found significant differences among low, medium and high product familiarity subjects on the use of these decision heuristics, they concluded that the subjects' level of involvement with the product category could have contributed to their results. They suggested that motivation (interest or involvement) rather than the subjects' perceived knowledge was the underlying factor influencing the subjects' information search processes.

An initial investigation trying to separate involvement from knowledge was done by Sujana (1983). Using an objective measure of expertise or knowledge structure rather than a subjective measure of familiarity, she found involvement and expertise to be correlated ($r = .51$ $N = 126$) for 35mm cameras. However she argued that knowledge has an independent effect on information processing, as involvement could not explain the information processing pattern of results obtained for experts. The result remained the same even when the influence of involvement was partialled. Hence, she concluded consumer knowledge has an effect on evaluation processes independent of interest or involvement in the product category.

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Therefore, expertise may not be necessarily related to involvement because involvement is a motivational construct whereas expertise is a sustaining construct representing knowledge structure. One does not necessarily have to be an expert in order to be involved with the product. However, involvement may motivate one to gather information and in time become increasingly knowledgeable about the product.

A Study of the Relationships

To investigate the relationships among involvement, expertise and product use, the following preliminary study was designed. The purpose of this investigation was to demonstrate there may be a difference between product use and true knowledge. It was meant to be exploratory, not definitive.

Product Use and Involvement

Involvement is thought to be related to product use by various researchers (e.g., Tyebjee 1979). This relationship was thought to occur because part of involvement is defined as being personal relevance as related to needs of the individual (Engel and Blackwell 1982). Use of the product would, therefore, fulfill a need the consumer has toward the product.

The expectation was that people who use a product frequently should be more involved with that product than people who use that product infrequently. In other words, people who seldom use the product should not be very involved with the product. This proposition was examined by 68 undergraduate students for the product categories of calculators, headache remedies and mouthwash, and by 40 MBA students for the product categories red wine, 35mm cameras and breakfast cereals. Subjects were administered a valid scale of product involvement and product use questions over the various products during class time.

The specific measure of product involvement used was a 20 item semantic differential scale, named the Personal Involvement Inventory (PII), developed and validated by Zaichkowsky (1984). Subjects were grouped into either relatively high involvement or relatively low involvement based on the scale mean involvement score. The measure of product use was a categorical measure tailored to the specific product. Pretesting indicated great difficulty getting a continuous measure of product use as different products had different time use patterns. Therefore product use cannot be directly compared across product categories. Using the chi-square statistic, use was positively related to the PII scores for headache remedies and mouthwash, but not for calculators. The results for the MBA students showed use was related to involvement scores for all of breakfast cereals, cameras and red wine. The results of these analyses are found in Tables 1 and 2. Taken as a whole, these results support the expectation that product use is related to involvement.

Although the data generally confirms expectations, the limitation of these results lies in the fact these product categories do not represent a wide range of products. There may be a class of products where involvement and product use are correlated and another set of products where involvement and product use are not correlated. It is plausible that product use and involvement are correlated when use of the product is optional, i.e., there are a series of product substitutes. For example, milk, tea, coffee, soft drinks and fruit juices are all beverages which may be substituted for one another. Being highly involved with tea would lead one to choose tea over coffee, over milk and perhaps over soft drinks. Therefore consumption of tea and involvement with the product class of tea would be highly

related.

TABLE 1

Product Use By Involvement Score: MBA Subjects

PRODUCT	Low Scores (< 89)	High Scores (> 90)	
35mm Cameras**			
once a month or more	1	12	(13)
1-3 times every 6 months	0	14	(14)
less than once every 6 months	8	5	(13)
	(9)	(31)	(40)
	$\chi^2=17.1$ df=2 p<.001		
Breakfast Cereals**			
once a week or more	8	7	(15)
about once a month	9	1	(10)
less than once every 6 months	14	1	(15)
	(31)	(9)	(40)
	$\chi^2=8.1$ df=2 p<.05		
Red Wine			
once a week or more	0	10	(10)
about once a month	6	11	(17)
less than once every 6 months	13	0	(13)
	(19)	(21)	(40)
	$\chi^2=24.4$ df=2 p<.001		

** The chi-square statistic suffers from too many cells with expected cell frequencies less than five, therefore interpretation may be tentative. This asymmetric distribution of involvement scores suggest breakfast cereals are a relatively low involvement product and 35mm cameras are a relatively high involvement product.

On the other hand, toilet paper, paper towels and kleenex are all paper products and designed for a specific use. I do not think that these products are seen as substitutes for each other. Use of non-substitutable products may not be related to involvement with the product category. In the results obtained for students and calculators, use and involvement are not related. The necessary use of calculators probably leads to this result.

Expertise and Involvement

Although Sujana (1983) suggested that involvement and expertise are not necessarily correlated for cameras, this proposition was again examined for replication and extension to another product category. The relationship between expertise or knowledge and involvement was examined for the product categories of 35mm cameras and red wine. A battery of 15 questions pertaining to expertise of cameras (Sujana 1983) and 11 questions pertaining to the expertise of wines (Reizenstein and Barnaby 1978) were administered to 28 of the MBA students along with the PII scale during class time. These questions were all multiple choice with four answers to choose from for each question. Examples of expertise questions for the two product categories are as follows:

TABLE 2

Product Use By Involvement: Psychology Subjects

PRODUCT	Low Scores (≤ 89)	High Scores (≥ 90)	
Headache Remedies			
1-3 times a week	0	7	(7)
1-3 times a month	3	22	(25)
1-3 times every 6 months	9	5	(14)
less than once every 6 months	17	5	(22)
	(29)	(39)	(68)
	$\chi^2=28.3$ df=3 p<.001		
Calculators**			
6-7 times a week	2	16	(18)
1-5 times a week	3	23	(26)
1-3 times a month	1	10	(11)
1-3 times every 6 months	3	10	(13)
	(9)	(59)	(68)
	$\chi^2=1.4$ df=3 ns.		
Mouthwash			
3-7 times a week	3	11	(14)
1-6 times a month	5	9	(14)
1-3 times every 6 months	11	11	(22)
never have used	16	1	(17)
	(35)	(32)	(67)
	$\chi^2=18.9$ df=3 p<.001		

** The chi-square statistic suffers from too many cells with expected cell frequencies less than five. Therefore interpretation is tentative.

35mm Cameras

- A 110 camera produces a negative whose area is about _____ the size of a 35mm.
 - 3/2
 - 1/4
 - twice
 - the same
 - A viewfinder that prevents you from seeing exactly what the lens sees suffers from a _____ error.
 - focal
 - metering
 - convergent
 - parallex
- Wine
- What is (are) the appropriate wine(s) to decant before serving?
 - Vintage Port
 - Zinfandel
 - Chardonnay
 - Cabernet Sauvignon
 - What is the recommended age for consumption of California Burgandy?
 - immediate
 - 1-2 years
 - 2-5 years
 - after 5 years

The results of a correlational analyses showed no relation between expertise and involvement scores. The Pearson correlation coefficient between the involvement score and the expertise scale for 35mm cameras was .14

(not significant) and for red wine and the expertise scale for wine in general was -.08 (not significant). It should be kept in mind that the measure of product knowledge used in this investigation was an objective measure of expertise, not a self-report measure of knowledge about the product. There may be a great deal of difference investigating "true experts" and "self-reported experts". Self-reported experts may think they know a lot and report they know a lot, but yet given an objective measure of expertise may not score highly. Therefore a self-reported expert measure may be highly correlated with involvement in the product category.

Some caveats are in order about the scales used to measure expertise of cameras and wine. The validity and reliability tests of these scales were not reported by their authors. As an emerging field of study, future studies which measure knowledge structures by scales should calculate p values as well as inter-item correlations (Nunnally 1978).

Expertise and Product Use

The relationship between product use and expertise was examined over wine and 35mm cameras for 28 of the same MBA students. Subjects were divided into relatively high and relatively low scorers on expertise and then, those who use the product more than once a month and those who use the product less than once a month. The result of the chi-square analyses for wine was $\chi^2 = .02$ df=1 not significant and for 35mm cameras, $\chi^2 = 1.14$ df=1 not significant. As this study uses relatively simple measures and analyses, more sophisticated studies should be carried out to substantiate these results.

Discussion

This preliminary study suggests that expertise and product use may not be interchangeable. Furthermore, involvement and product use may be related while involvement and expertise may not necessarily be related. When we measure self-reports about knowledge and product use as a surrogate for measuring knowledge structures, we may be tapping into the person's involvement with the product class rather than complexity of one's knowledge structures in memory. Therefore measuring familiarity as a combination of product use and subjective knowledge structure may not be as insightful as measuring product use and objective knowledge structure.

This suggestion for separating product use and objective knowledge structure in experimental studies seems in line with decision theorists approach to studying memory structures. They define familiarity as a latent construct and manipulate or measure it as a function of number of previous exposures (Simon and Feignbaum 1979). Experimentally, familiar stimuli are distinguished from meaningful stimuli. Generally we find experts are able to recognize meaningful stimuli. An expert is anyone whom we judge has acquired special skills in knowledge of a particular subject. The decision literature also suggests high meaningfulness implies high familiarity, although high familiarity does not necessarily imply high meaningfulness.

Improvements on Measuring Produce Use and Expertise

One of the problems I had with gathering data was the measure of product use. How does one define product use in a universal sense over many product categories? For future studies, perhaps one might employ an index of product use made up of two variables. The first would be frequency of usage or how often the product is consumed. This variable would represent depth of consumption. For frequently purchased packaged goods, depth would be number of occasions per time period the

product was purchased. For durable goods depth might be number of times in the time period the product was used.

The second measure would be designed to capture the breadth of consumption. The breadth of consumption measure for durable goods might be a variety of use situations, e.g., for cameras, use indoors, outdoors, flash, touring, studio, etc. For non-durable goods this variable might be measured by counting the number of brands the person has consumed or purchased over a given time period. Product use then would be defined as two variables representing breadth and depth of consumption experience. These two variables could be analyzed separately or jointly. On an aggregate level, breadth and depth of purchase might be multiplied together to give an index of product use. The multiplicative model of the breadth and depth may conceptualize product use more efficiently and looking at each variable separately may give greater understanding.

The measurement of objective knowledge structure is much more difficult to develop in a general way. First the researchers themselves must know what constitutes an 'expert' in the product class. The decision theorists seem to circumvent the problem of measuring expertise by going to known groups of experts (Simon and Chase 1979). In general consumer research, going to known experts might not always be feasible. Therefore researchers might want to develop their own battery of questions to identify true experts following Sujana (1983). Tests of internal reliability and p-values should then be carried out for any developed measure.

Summary

Consumer researchers should be more precise in what they mean by familiarity when investigating the impact of familiarity on decision processes. This preliminary study demonstrated that the measures of product use and a person's objective knowledge structure about the product may not necessarily be related. Product knowledge was also shown not to be correlated with involvement to the product. The results did show that generally involvement and product use are correlated.

These findings are important in demonstrating that researchers should separate knowledge from product use when doing research in the future. Combining both as one variable may lead to erroneous conclusions. Furthermore, if researchers adopt a common operationalization of familiarity, they may be more confident in comparing results across studies.

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CONSUMER BEHAVIOR FROM A CONTEMPORARY PHILOSOPHY OF
SCIENCE PERSPECTIVE: AN ORGANIZATIONAL FRAMEWORK

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Abstract

This paper extends an earlier argument that the field of consumer behavior should be organized along philosophic dimensions that highlight differences in approaches to research. In drawing upon philosophies of science that are more contemporary than logical empiricism, an organizational framework employing three dimensions is presented.

Introduction

While logical empiricist philosophy has had a dominating influence on consumer behavior research, more contemporary philosophies of science have an important role to play, yet their impacts and contributions are only beginning to be explicitly recognized. In a departure from the logical empiricist's insistence on the single scientific method (Hunt 1983) it has been clearly shown that theories which have evolved from different philosophies and research traditions embody different ontological and axiomatic assumptions, and epistemological criteria (Anderson 1982, 1984; Morgan 1980; Morgan and Smircich 1980; and Pfeffer 1982). Due in part to its multidisciplinary heritage, the field of consumer behavior supports allegiances to a variety of different, and as will be shown, often incompatible, research traditions and philosophies. As a result, consumer behavior has proven very difficult to organize, or synthesize, into a general theory. Past efforts have attempted to organize the field by contributing discipline (Zielinski and Robertson 1981) and by topic (Helgeson et al 1984); general theories of consumer behavior (e.g., Howard 1977; Engel and Blackwell 1982) have been very useful as pedagogical tools but have been largely unoperationalizable. Lack of success at both endeavors is due to the failure to explicitly consider fundamental philosophic issues. Organizational schemes which fail to account for underlying philosophic assumptions, and general theories which attempt to combine philosophically incompatible mid-range theories cannot be particularly productive.

This paper, and its predecessor (Bristor 1984) depart from orthodox thought to argue strongly that a general theory of consumer behavior is neither desirable nor appropriate at this time. Instead, efforts should be directed toward building an organizational framework by drawing upon philosophy of science so as to delineate and highlight differences in assumptions and approaches to consumer behavior research along dimensions that explain why these differences exist. The purpose of the present paper is to present the three dimensions that are seen to best organize the field in such a way that assumes, identifies, and then highlights a variety of fundamental philosophic assumptions and methods that have been brought to bear on consumer behavior research. To better understand theory-method linkages, it is imperative to specifically identify the fundamental philosophic assumptions and implications inherent in consumer behavior theories.

Three dimensions, perspective on consumer behavior, level of analysis, and empirical problem context will provide the foundation for building the desired framework. These three dimensions are all subsumed under a general consumer behavior paradigm which serves as an umbrella over the dimensions by specifying the phenomena and problems of interest, and delineating rough

boundries for the field (Bristor 1984). Before detailing the dimensions and their research implications, it is necessary to consider in general terms the role of philosophy of science in consumer behavior research and the contributions that a philosophy of science based framework can make.

The Role of Philosophy of Science in
Consumer Behavior Research

Considering its fundamental impact on the research process, philosophy of science has been a seriously neglected issue in consumer behavior research. Failure to consider the implications of philosophy of science and to identify the philosophic underpinnings of a theory has often confused and exacerbated research disagreements. For example, the recent circular dialogue between Calder, Phillips and Tybout (1981, 1982, 1983), Lynch (1982, 1983) and McGrath and Brinberg (1983) is a case where the underlying philosophic and methodological issues were never identified and addressed and thus the result was confusion, not resolution. Much of the dispute centers around the role of external and construct validity in consumer behavior research and their relationship to one another. It is not until the fourth paper of the series that Lynch (1983) points out, almost as an afterthought in a footnote, that the two parties employ the term construct validity differently. Unfortunately Calder et al's (1983) reply fails to pick up on this critical distinction. Instead, they return to a rehash of their earlier arguments in which they claim to be adhering to Popper's notions of falsificationism. Without passing judgment on falsification as a philosophy of science, it must be noted that Calder et al appear to selectively extract bits of the philosophy that advance their position but do not fully understand or interpret it. The dialogue is capped by the introduction of a new validity framework (McGrath and Brinberg 1983) that attempts to smooth over past differences. Despite its merits, there still remains the fundamental problem that until terminology is clarified and philosophic positions better understood, each party's arguments will be largely misinterpreted, misunderstood or ignored by the others.

Two important philosophic concepts, paradigms and metaphors, were introduced earlier (Bristor 1984) to show how and why different research approaches were inherent in consumer behavior. To summarize, paradigms refer to the Weltanschauung, worldviews or frames of reference through which researchers approach their scientific tasks. In the context of this framework, each dimension constitutes a paradigm; the general consumer behavior paradigm represents a unifying or shared Weltanschauung while the other three paradigms serve to highlight different approaches to consumer behavior research.

Metaphors are representations of phenomena; broader than just a simple literary illusion, they provide a means for creating, representing and communicating scientific knowledge (Morgan and Smircich 1980). Both theories and models can be thought of as metaphors. For the purposes of this organizational framework, the focus will be on theories as metaphors. This is intended to emphasize that they present only partial or one-sided views of reality (Morgan 1980). Because of

this, a variety of metaphors can and should be employed to gain a fuller understanding of consumer behavior phenomena. Thus, the proposed framework can both organize the field in a manner that makes the philosophic assumptions upon which metaphors or theories are grounded explicit, as well as making consumer behavior researchers more aware of the range of approaches available.

Framework Contributions

In addition to framework benefits suggested earlier (Bristor 1984), the framework makes three other major contributions. First, the framework can be used to delineate a set of conceptual problems found in consumer behavior research. Traditionally, philosophies of science have focused on a variety of empirical problems, which usually exist within the context of a theory, while virtually ignoring broader, more important conceptual problems. These can occur when two theories are in conflict with one another, when a theory conflicts with a methodology or when a theory is incompatible with "extra-scientific beliefs" in areas such as metaphysics, theology, logic or ethics (Laudan 1977). As Laudan notes, scientists who view scientific problems and progress strictly in empirical terms fail to recognize a major source of a discipline's problems. This framework does not provide solutions to such conceptual problems, but, by explicating important philosophic assumptions, it provides a methodology for identifying the source of conceptual problems.

Secondly, the framework extends well beyond dominant logical empiricist thought by rejecting the prevailing notion of the necessity and existence of the single scientific method. It explicitly acknowledges that there are and should be multiple scientific methods and that there exist no universal or objective criteria by which to evaluate the knowledge that each produces. This position is consistent with a relativistic view of science which holds that different research groups will utilize different standards to judge the scientific adequacy of knowledge claims (Anderson 1983 and Peter and Olson 1983).

Finally, the framework provides a means for critically evaluating the usage of theories that were developed in the context of another discipline or research tradition and transferred into consumer behavior. Transfers have always posed problems in the social sciences. For example, Anderson (1984) illustrates several problems resulting from marketing's uncritical adoption of the concept of shareholder wealth maximization from financial theory. The family life cycle (FLC) is an excellent example of a concept that was taken from another field and altered substantially. Originating in rural sociology, the FLC was developed as a processual model to explain and describe family growth development over time. Unfortunately, this has been all but lost on consumer behaviorists and marketers who have generally used the concept as a classificatory scheme (c.f. Wells and Gubar 1966 and Murphy and Staples 1979). More recently, Wagner and Hanna (1983) compared the FLC to family composition variables with respect to their ability to predict clothing expenditures. While these researchers all ask well founded questions, they do not appropriately reflect the original and theoretical underpinnings as developed in rural sociology. While alterations may in fact be necessary in the cross-discipline or research tradition transfer of theory, (see Bristor and Qualls, forthcoming, for suggestions how this might be done with the FLC) it is imperative that researchers understand precisely what they are altering and the implications, philosophically and theoretically, of doing so. The main point is that a better understanding of the goals, axioms and assumptions of theories would help prevent misapplications as

well as specious distinctions and comparisons between theories, and would better facilitate knowledge development in consumer behavior. The following three dimensions of the framework will contribute toward achieving this understanding.

Perspective on Consumer Behavior

A critical philosophic dimension that guides consumer behavior inquiry relates to the perspective adopted by a researcher with respect to the causes or determinants of consumer behavior. The importance of a theory's perspective on consumer behavior is that basic assumptions about the antecedents of behavior have strong implications for the choice of variables and appropriate research methodologies. Furthermore, these assumptions may lead to one theory being incompatible with another in the sense that they cannot be combined without altering or violating the basic ontological and axiomatic assumptions about behavior upon which they are grounded. This argument may be used to explain why general models or theories of consumer behavior that have attempted to integrate several mid-range theories have never been satisfactorily operationalized. For example, operationalizing reference group theory and learning theory together in the Engel and Blackwell model (1982) has not been achieved, not for lack of "good" research but because of the vastly different philosophic orientations of the two theories.

As adapted from Pfeffer's (1982) "perspectives on action" in organizational theory, three general perspectives can be identified: 1) consumer behavior seen as purposive, boundedly or intentionally rational and prospective or goal directed; 2) consumer behavior seen as externally constrained or situationally determined; and 3) consumer behavior seen as random and dependent on an emergent, unfolding process. The first two perspectives are based on the stimulus-response paradigm which assumes that behavioral consequents are predictable from antecedent stimuli. The third perspective rejects such a notion and maintains that, to the extent that prediction is possible, it is from knowledge of the unfolding process rather than a priori conditions (Pfeffer 1982). While the three perspectives are not philosophically compatible, they are all necessary for the development of consumer behavior knowledge. There is a danger in employing only one perspective because researchers often fail to challenge the appropriateness or consider explicitly the implications stemming from the assumptions inherent in each perspective.

Consumer as Purposive, Boundedly or Intentionally Rational and Prospective or Goal Directed

This first perspective has clearly dominated consumer behavior theory; its origins are rooted in the Judeo-Christian tradition and the philosophical underpinnings of American life and culture for which free will and conscious choice are venerated and idealized (Pfeffer 1982). The essence of the perspective is that behavior is internally and goal directed, and that choice occurs according to a consistent set of preferences which maximize value and is thus prospectively rational. Many economic and psychological theories of consumer behavior adopt this perspective.

Examples of the purposive perspective are numerous. Perhaps the most pervasive theory, which has itself been identified as one of the five paradigms in marketing (Arndt 1983), is information processing. Other examples include utility maximization theory, expectancy value theory, the Fishbein model of behavioral intentions and other multiattribute attitude models, and cognitive learning theories.

The implications of this perspective are far reaching.

First, consumer behavior phenomena is seen to be a function of individual-specific processes; thus the source of explanatory variables lies largely within individuals. Secondly, this perspective also implies that since consumer behavior is caused by certain variables, knowledge of the independent variable allows inferences to be made about the dependent variables.

Each perspective has its own set of problems, caveats and limitations. In this case, their importance relates in part to how deeply and implicitly rooted this paradigm is in both scientific and extra-scientific beliefs. This can result in a failure to consider or challenge the appropriateness of the assumptions inherent in this perspective when transferring a theory from one discipline to another or applying it within a particular consumer behavior research context. In addition, if theories are viewed as metaphors, it is clear that, despite providing valuable insight and knowledge, it is only one view or explanation of the consumer behavior phenomenon of interest. With this in mind, it is not surprising that researchers are typically only able to explain a small amount of variance in their dependent variables. In the case of the first perspective, a focus on individual-specific factors will not account for variance due to situational or external factors.

Consumer Behavior as Externally Constrained or Situationally Determined

In direct contrast to the first perspective, the second focuses upon external stimuli and constraints, rather than upon internal individual-specific variables, to explain consumer behavior. Thus, behavior is attributed to situational variables and other external contingencies and demands over which an individual may have little cognizance or control (Pfeffer 1982). Prediction of behavior is possible through knowledge of independent variables, and given certain behaviors or other dependent variables, it is possible to reconstruct or make inferences about explanatory variables. To the extent that cognitions are considered, they are after-the-fact, and rationality is retrospective. Examples of the externally constrained perspective include behavioral theories of learning, the family life cycle, role theories, reference group theory.

Implications of this perspective parallel the first in that it specifically suggest where to look for explanatory variables. However, in this case, they are external to individuals. Thus, this perspective is often associated with sociological theories. As far as researcher's abilities to explain variance, the earlier comments regarding the systematic exclusion of a large group of variables also apply.

CB as Random and Dependent on an Emergent, Unfolding Process

Finally, the third perspective denies that consumer behavior can be predicted from either knowledge of individual or external variables. Too many individual variables impact behavior, and knowledge of external variables is insufficient because they too are numerous and may be very uncertain or ambiguous. While more difficult to characterize and less homogeneous than are the other two, this perspective tends to absorb those theories that are inconsistent with the first two. General characteristics include a rejection of either an internally directed or externally determined rationality of behavior. Rationality, goals and preferences emerge from, rather than guide, behavior. Therefore, the focus of such a perspective is upon the processual, sequential or unfolding nature of behavior, rather than upon static variables. (Pfeffer 1982).

Within this perspective, two very different types of approaches are readily identifiable. Neither group would be described as containing well developed, explanatory theories such as those found in the first two perspectives. The first group might be termed mathematical models and the second, qualitative or processual approaches. In general, mathematical models, such as a stochastic brand switching model based upon past purchase behaviors, have prediction as their goal. As such, the underlying assumption is that the best way to predict future behavior is through knowledge of past behaviors. That is, future behavior probabilistically emerges from past behaviors.

The goals of the second group, the qualitative or processual approaches, are to identify and study behavioral antecedents while recognizing that the behavior of interest cannot be explicitly modelled, a priori, because of its emergent nature. As a result, these approaches have often not been granted theoretical status under logical empiricist criteria but have more frequently been classified as qualitative methodologies. Under logical empiricist dogma, qualitative methodologies do not produce bonafide knowledge and are permissible in the context of discovery, but not justification (Hunt 1983). However, this separation of discovery and justification has been shown to be a sophistic distinction (Suppe 1977). More contemporary philosophies recognize that both qualitative and quantitative research methodologies can achieve a variety of cognitive ends (Anderson 1984). Some recent trends in the consumer behavior literature would suggest that many researchers are finding that traditional logical empiricist methodological prescriptions can only develop our knowledge base so far and only in certain directions. Indeed, there is a great deal of consumer behavior phenomena that cannot be captured by static models and measures, but must be studied by dynamic, processual approaches. The potential knowledge gains from the study of symbolism (Levy 1959 and Solomon 1983), consumer mythology (Levy 1981), or the experiential aspects of consumption (Holbrook and Hirschman 1982) cannot be summarily ignored or dismissed because they fail to fit into the logical empiricist philosophy of science. Appropriate qualitative approaches include ethnomethodologies, hermeneutics, case studies, network analyses and phenomenology. However, there is no a priori reason why these qualitative methods cannot be used in conjunction with qualitative methods, within a particular research tradition, if that would help achieve its cognitive goals. Furthermore, there is also no a priori reason to think that the aforementioned topics cannot ultimately be studied via quantitative methods. One major stumbling block here though is that we have been trained to see the world as containing linear, non-interactive relationships which do not capture emergent, processual behaviors. As a result we tend to ignore the non-linear, interactive relationships or to force them into the mold with which we are comfortable. In summary, the lack of theoretical knowledge from this emergent perspective should be accepted as a challenge to consumer behavior researchers, not as a judgment that it is a useless avenue for knowledge production.

Level of Analysis

A second philosophically derived dimension of the framework that impacts consumer behavior research is the level of analysis chosen to explain phenomena. Three levels that are utilized by consumer behavior theories are individual, group and aggregate. Inherent in this dimension are fundamental beliefs about the nature of human interaction and social structure (Pfeffer 1982). At issue are the questions of whether or not groups and aggregations are merely sums of their individuals or more than the sums, and whether they

should be reduced to the study of individual behaviors or analyzed at higher levels.

All three levels are vital in consumer behavior inquiry because each provides different perspectives on, and solutions to, problems. The choice of a theory which employs theoretical concepts and mechanisms at a particular level has important philosophic and methodological implications. In addition to reflecting beliefs about the nature of human interaction and social structure, a particular level reflects a philosophic preference as to the best way to explain consumer behavior. It also implies what the appropriate unit for data collection might be, as well as how to analyze it.

The issue of the appropriate level of analysis is related to the general problem of data aggregation. Since few group and aggregate concepts exist in consumer behavior that have achieved a desirable degree of validity, researchers must often resort to aggregating individual level measures in their attempts to explain higher level phenomena. (See Borgatta and Jackson, (1980) for a comprehensive treatment of data aggregation.) Thus it is critical for the development of consumer behavior knowledge that the implications stemming from the choice of a level of analysis and data aggregation techniques be made explicit.

Individual Level

Those who support the individual level would argue that all consumer behavior is fundamentally an individual phenomenon. Thus to most productively study consumer behavior, the focus must be on the individual even when studying group phenomena. Use of the individual level of analysis is dominant in consumer behavior theory; examples include attribution theory, attitude theories, and theories of perception, motivation and learning. In part, this dominance is due to the fact that analytically, the individual level has achieved the most sophistication. It is relatively easier to take measurements at the individual level than to capture social and behavioral phenomena at the group and aggregate level.

Group Level

Those who opt for the group level maintain that it is not possible to reduce phenomena to the individual level because there are theoretical mechanisms operating at the group level that do not exist at the individual level. Further, they argue that individual level analyses can become hopelessly reductionistic down to biological mechanisms.

Although Alderson (1956) argued forcefully that the household was the appropriate unit of analysis and Davis (1976) advocated that the family is the critical decision making and consumptive unit, consumer behavior researchers have been slow to develop theories at the group, including the household, level. The cause of the problem is due in part to the lack of truly group level concepts, and the methodological difficulties involved in developing them. Future efforts should be devoted to correcting this deficit. Nonetheless, role theories, reference group theory, theories of household decision making and diffusion of innovations all have important contributions to make to consumer behavior knowledge.

Aggregate Level

Economic theories have contributed heavily to aggregate level analyses. Rather than a focus upon individuals or groups, it is upon aggregate phenomena such as demand curves or consumer sentiments as well as social class and culture. Although aggregate level theories

are rare in consumer behavior research, they too represent an important and unique perspective on consumer behavior phenomena.

Comments regarding the methodological problems of aggregating data or developing higher level concepts are also relevant here. In addition, use of aggregate level data may fall prey to the ecological fallacy (Robinson 1950) whereby inferences about individuals are incorrectly made based upon aggregate measures. An example of such could occur if a researcher wanted to make a statement about an individual's income based upon a knowledge of a correlation between race and income.

Empirical Problem Context

Finally, the third framework dimension relates to the context of the empirical problem. An empirical problem is a substantive question about the phenomena which are a part of a particular science's domain (Laudan 1977). In this framework, four problem contexts are relevant: managerial problems, public policy/consumer welfare problems, consumer problems and theory qua theory problems. In contrast to the forementioned conceptual problems that may occur within or between theories, empirical problems always occur within the scope of a particular frame of reference or theory. Therefore, problems are defined in part by the context of inquiry. Despite this contextual nature, logical empiricists have often treated empirical problems as though they were present in the world as objective pieces of unambiguous data or as if they had a life of their own. Instead it is well established in more contemporary philosophies of science that researchers always approach problems through the lens of some conceptual network (Laudan 1977). A problem in one context may be construed very differently in another. For example, several researchers might see a grocery shopper comparing brands of canned tomatoes and define their research problem very differently. One might be concerned with the positioning of a particular brand; another might be interested in how consumers actually make comparisons. In the second case, using canned beans or peaches as a stimulus would be just as effective. A third researcher might be studying the consumer information environment and the use of unit pricing labels, while a fourth researcher might be trying to develop a normative theory for maximally effective shopping behaviors under time constraints. In other instances, what may be viewed as a problem in one context may not be in another. For example, the long standing topic of brand loyalty illustrates this. Consumer behavior researchers with a social psychology orientation have attempted to explain brand loyalty in terms of factors such as attitudes, personality or lifestyle. Among social psychologists, there has been much controversy over the definition of brand loyalty and its antecedents. However, this group as a whole stands in stark contrast to mathematic modelers who use stochastic models based upon past purchase behaviors to predict brand loyalty. Because their goals relate to brand loyalty prediction, as opposed to explanation, defining and measuring constructs such as attitudes are not even considered to be a part of the problem. A second example of this is the casual relationship between cognitions and affect. It is generally considered axiomatic, not problematic, but to Zajonc and Markus (1982), whether or not, or when, this relationship occurs is a major research problem.

Inclusion of this philosophic dimension in the framework is important for several reasons. First, this dimension extends beyond logical empiricist philosophies by demonstrating the contextual, rather than universal nature of empirical problems. This is not to say that researchers working from different frameworks cannot communicate or have no shared experiences. By virtue

of socialization, culture and education, researchers do hold a multitude of shared experiences in common. Secondly, the framework can show that a particular theory is useful in more than one problem context, but that the goals, assumptions and methodologies may differ by context. For example, information processing may be studied in the theory qua theory context to better understand and develop a theory of short term memory processing of written stimuli. Experimentation using advertisements as stimuli might be part of the methodology. On the other hand, a public policy researcher might operationalize, and apply the theory as given, to set guidelines for regulating the length of time written nutritional information, should appear on television advertisements. His methodology might involve showing advertisement to subjects under simulated viewing conditions. Third, an examination of the forementioned philosophic assumptions and implications within the problem solving context can help researchers to judge the appropriateness of their approach. Lastly, the dimension continues to adopt a contemporary view of science by explicitly recognizing subjective aspects of science.

Managerial Problems

The managerial problem solving context has been a major area for consumer behavior inquiry. This generally involved approaching the research problem from a fisherman's perspective--catching consumers (Tucker 1974). Such goals have strong implications for what theories, variables, measures and methodologies are available for managerial control and thus will be appropriate for problem solving. Relevant issues and theories from this perspective include forming and changing consumer perceptions, attitudes and beliefs using multiattribute attitude models, inducing desired consumer action by moving them up the hierarchy of effects, or designing an effective promotional message by utilizing family role theory.

Public Policy/Consumer Welfare Problems

Empirical problem in the context of public policy/consumer's welfare are increasingly important in consumer behavior research. Although a theory may be used both in this and the managerial context, a problem is likely to be seen somewhat differently and the goals of the research, as well as the methods will be very different. In conducting research to set public policy, assumptions regarding the nature of consumer behavior and the appropriate level of analysis are of critical importance. Examples of public policy/consumer welfare problems include consumer satisfaction/dissatisfaction, information environments and overload and the effects of advertising on children.

Consumer Problems

The context of consumer problems has been sorely neglected in consumer behavior research. Such an approach to consumer behavior involves asking questions from the consumer's point of view, such as how to be the most effective and efficient consumer possible. It also involves the study of consumption behaviors rather than buying behaviors. Relevant topics are only beginning to be considered in the domain of consumer behavior research. They include: consumption and disposition (Jacoby 1978); "having" behaviors (Belk 1982); experiences such as consumer fantasies, feelings and fun (Holbrook and Hirschman 1982); and consumption as a human behavioral phenomenon (Belk 1984).

Theory Qua Theory Problems

This problem context classifies a type of empirical inquiry whose goal is to study and understand basic human

processes without regard for ultimate applications. When a particular application is used in this context, its role is to provide a setting or stimuli, but it is of secondary importance. For example, a researcher may study the information processing of pictorial versus audio presentations and use advertisements as stimuli, but the focus is on theory examination rather than advertising applications. Later research, or another researcher, may employ the theory for certain managerial applications. The importance of this theory qua theory context relates to the need to consider research occurring at the consumer behavior knowledge frontier instead of at the base of core knowledge. Furthermore, since this context is where substantial advances in theoretical knowledge occur, and since theories evolving from this type of research are often transferred to other problem solving contexts for decision making or evaluative purposes, it is particularly important that the philosophic assumptions upon which a theory is grounded are clearly specified.

Summary

This paper continued earlier arguments that a general theory of consumer behavior is neither feasible nor appropriate. Instead, the field should be organized into a framework using philosophic dimensions that can highlight differences and show why theories and research approaches are often fundamentally incompatible. Such an approach rejects logical empiricism in favor of a more contemporary philosophy of science perspective. Three dimensions, perspective on consumer behavior, level of analysis, and empirical problem context, were developed for use in the framework. This represents the second major step in an ongoing research project. The final step will be to actually employ the framework to organize the field.

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A RETURN TO REASON IN CONSUMER BEHAVIOR:
AN HERMENEUTICAL APPROACH

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INTRODUCTION

How we go about researching buyer behavior depends on what we take the consumer to be. The positivistic tradition takes consumers to be passive entities responding to the push and pull of past impressed forces and current situational stimuli. This mechanical model of the consumer is reflected in both the stimulus-response (S - R) and the stimulus-organism-response (S - O - R) models underlying most research methodologies. Positivism, as a conception of science, claims that the behavior of all phenomena (both things and people) needs to be studied using the same scientific method; that the only true scientific explanation is the causal type of explanation (since everything is subject to causal laws) and that all forms of teleological explanations (i.e. explanations based on behavior being purposeful and goal-directed) should be rejected as non-scientific.

Critics of positivism do not deny that things can be done to a person that cause him or her to behave in a certain way. But such involuntary behavior should be distinguished from intentional action which is purposeful action mediated by meanings, deliberation on consequences, and the formation of intentions that are all part of some performance like shopping.

Although the research methodologies used to study consumer behavior have a positivistic bias, I do not believe that those doing the research completely endorse a positivistic view of the consumer. They are driven by their methodology to adopt such a position in the absence of alternative approaches that carry the hallmark of scientific respectability. Yet, as Harré (a professor of philosophy of science at Oxford and a former scientist) and Secord (the American social psychologist) point out, positivism rests on an outdated concept of science (Harré and Secord, 1973). They recommend what amounts to a hermeneutical approach to the study of intentional action while acknowledging there are gray areas which are 'enigmatic' in that a priori it is never certain in these cases whether a causal explanation or an hermeneutical explanation is most appropriate. They argue (p. 28)

1. Human beings must be treated as agents acting according to rule, and it must be realized that it is unscientific to treat them as anything else.
2. Social behavior must be conceived of as actions mediated by meanings, not responses caused by stimuli.
3. The theory of movements, physiology, must be clearly separated from psychology, the theory of actions.
4. It must be clearly appreciated that most human social behavior cannot be made intelligible under the mechanistic, causal paradigm.
5. Reasons can be used to explain actions, and not all reasons can be treated as causes in the mechanistic sense, though in some special cases causes may be cited as reasons.
6. Lay explanations of behavior provide the best model for psychological theory, and properly considered they can be seen to be actually more in accordance with the actual methodology of real natural science than is the positivist methodology which provided the old models

of science which psychologists have copied.

THE HERMENEUTICAL TRADITION

Hermeneutics seeks to provide an objective understanding of meaningful phenomena. Hermeneutics in origin sought criteria for the interpreting of sacred texts; texts for which criteria for interpreting them was assumed to exist as a matter of faith. Later hermeneutics became the theory and practice of interpretation. Its most modern form can be found in the work of Gadamer (1975). This modern view of hermeneutics should be distinguished from the notion that hermeneutics is concerned with empathetic understanding. Hermeneutics is, of course, concerned with understanding but with understanding the meaning to the agent of his or her intentional actions and not with the empathetic (or psychologistic) sense of understanding.

Intentional actions get their meaning from being part of the performance of some intended act and hermeneutics seeks an interpretation of such meanings for the agent. We often need such understanding if we are to get the most out of survey data. Survey 'facts' do not speak for themselves but need to be interpreted against some background understanding of the consumer. A 'detached' analyst's viewpoint is still a biased viewpoint since what is labeled findings is laced with conjectures reflecting theoretical expectancies. Marketers recognize this and the hermeneutic dimension when investigating perceptions even if they unduly restrict the perceptions they investigate.

Under the heading of hermeneutics falls the structuralism of Levi-Strauss, Chomsky's work in linguistics, phenomenology, interpretive sociology, ethnomethodology and most cultural anthropology. I would also include much of the work of those analytic philosophers concerned with linguistic analysis and, more specifically, those concerned with that sub-branch of mental philosophy known as the 'theory of action.'

This paper is based in the main on the philosophical contribution to the hermeneutical tradition. However, as Howard (1982) points out, it is not usual to group their contribution to understanding intentional action under the heading of hermeneutics. Until recently, in fact, analytic philosophy was a defender of positivism. Today theories of action support a teleological model of intentional action and/or of intentional action being rule-governed. Although the rule-following paradigm of intentional action contrasts with the S-R or S-O-R models, there are philosophers who view intentional action guided by reasons and rules as causally induced. In fact the author of one well-known philosophical (teleological) theory of action (Goldman, 1970) is at pains to reconcile his model with current causal, psychological models. However, whether rules and reasons act as causes is a controversy further sharpened by philosophers' inability to agree on the concept of cause.

The theory of action in philosophy is concerned with explicating the meaning of the various concepts of action (words like 'want', 'decision', 'choice', 'preference', 'intention', 'habit', and so on); with critically evaluating the assumptions and criteria used by psychologists and with developing a view of the nature of intentional action.

Antipositivistic analytic philosophers draw a distinc-

tion between things done to a person and things done by a person (Harré and Secord, 1973). Things done by a person are intentional actions which are matters of interest to mental philosophers. The interest lies in seeking the logic of action. This can be contrasted to some extent with the non-philosophic hermeneutic tradition (essentially a continental European tradition) where the focus lies on identifying how the process of action came to be that way.

All philosophic interpretive explanations of intentional action use dispositional concepts like goals, wants, beliefs and intentions and (like history, economics and the decision models in buyer behavior) assume a degree of rationality as a heuristic principle.

Winch's (1958) work is seminal in philosophical hermeneutics. This little book was my own introduction to the idea of intentional action as a rule-following behavior and the approach of Harré and Secord (1973) to rule-identification owes its essence to his work. Winch, a student of the later Wittgenstein, built on Wittgenstein's ideas. However, he was not concerned with developing any model of the process leading to the rules lying behind intentional action but simply focused on defending the concept of rule-following behavior as opposed to the search for causal mechanisms. Today Winch's work might well be categorized as a linguistic conception of interpretive sociology (Bleicher, 1982). Interpreting behavior to Winch is analogous to interpreting a language in that both are rule-governed. The very possibility of intersubjective understanding between and among people rests on the assumption of shared meanings about the rules being followed. Interpreting a protocol statement containing a consumer's thoughts on buying resembles the interpretation of a text. But there are problems. There are the problems of identifying all the relevant meanings and distinguishing between justifying reasons and the motivating reasons on which rules are based. However, as frequently pointed out, bias in protocol statements is no more disturbing than the 'impossibility in the physical sciences of knowing for certain whether one's theoretical explanations are correct'. There is also a hermeneutic dimension to the physical sciences in that the 'facts' investigated are always symbolically structured. The data of any experiment are always interpreted in the light of tentative theories that are constrained by language.

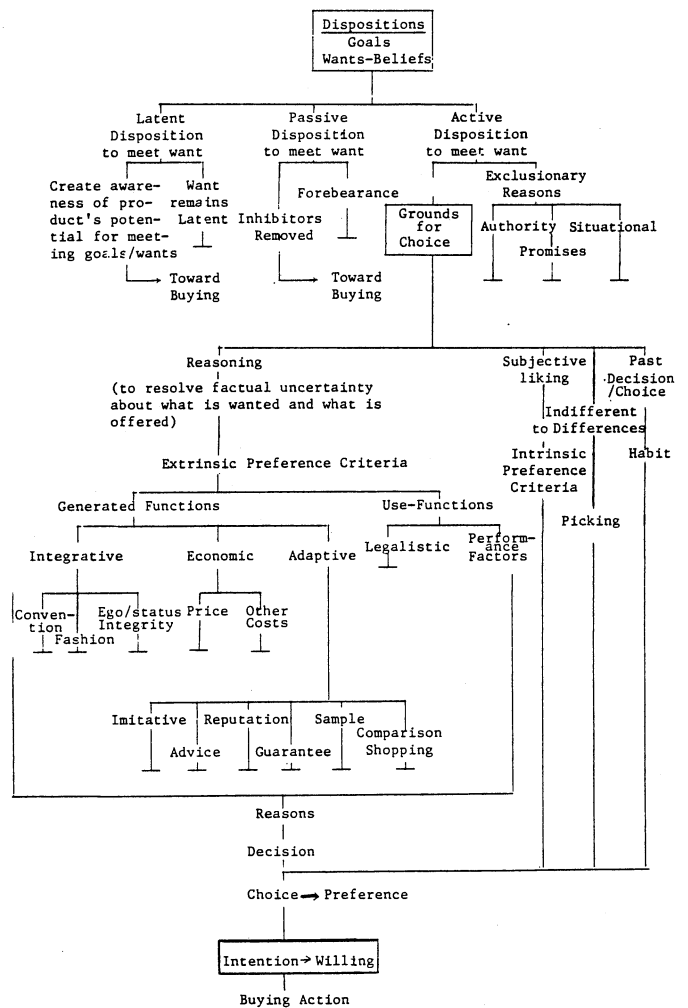
Harré and Secord (1973) have been the most explicit on the problem of discovering the rules lying behind intentional action. They give the name episode to any sequence of happenings in which human beings engage that has a unity and structure. Thus we might speak of the shopping episode to cover the whole set of actions involved in choosing a brand. A description of the actions performed (for example, evaluating brands) and the act achieved (for example, the purchase of brand X) is termed a description of the act-action structure of the episodes.

Harré and Secord give the name ethogeny to the process of rule identification. The ethogenic process consists of first grasping the meaning of the situation for the agent (for example, the consumer), which involves collecting accounts (anticipatory, contemporaneous, and retrospective) from the agent. The key words (or constructs) used by the consumer are the basis for identifying the reasons or rules being followed. Thus if someone says she bought product X because it was 'familiar', it is in the idea of familiarity that we look for the rule (for example, 'I buy what is most familiar'). The meaning of the situation for the individual consumer emerges in the form of the reasons given to justifying buying actions taken. Where different accounts occur, these are 'negotiated' to get agreement.

A PHILOSOPHICAL MODEL OF INTENTIONAL (BUYING) ACTION

Figure 1 shows a model of intentional buying action. It has been built up in an eclectic way from the various writings of philosophers interested in that branch of mental philosophy known as 'theory of action'. Much of the model's descriptive content (some of which is discussed below) however, comes from the analysis of several hundred consumer protocol statements collected by students over a period of ten years. These statements are consumers' accounts (anticipatory, contemporaneous, and retrospective) of their choosing and buying some brand. Consumers in effect just talked about their proposed buy, during buying and after purchase revealing in their own words whatever came to them at the time that seemed relevant to the purchase. Analysis followed the method suggested by Harré and Secord to identify the rules being applied.

FIGURE 1



Goals in Buying

Goals in buying are part of that set of goals representing people's vision of the preferred life. Such goals find expression in vague sets of wants. Between the most general of goals (e.g., to be healthy) and a specific product/brand choice is a gap filled by sub-goals, and sub-sub-goals that reflect these higher level goals and beliefs about means and the relative values (priorities) among goals. Thus, between the goal of being healthy and the buying of vitamin tablets lies a gap that is filled with such secondary goals as being phys-

ically able to work, being free of mental problems, and so on. These are expressions of the goal of being healthy as is the buying of vitamin tablets.

Goals at any level do change. A change in circumstances, education, experience can add or subtract goals, intensify them or reduce their importance. Because visions of the preferred life are apt to be hazy, there is a corresponding lack of clarity about goals in general and hence about wants which are an expression of goals. But such vagueness all round may not lessen the intensity with which certain wants are pursued given their satisfaction can become an end in itself. In any case, marketing can and does get consumers to pursue additional goals that are consistent with the preferred life vision by helping them visualize what it would be like to achieve the state of affairs implied by the goal. Similarly, marketers can influence goal priorities by dramatizing the consequences of neglecting some particular goal (e.g., body hygiene). Vagueness of the preferred life vision and the tenuous link between this vision and the wants that are an expression of that vision make persuasion easier.

Mary Douglas, the cultural anthropologist, (in a book to which Baron Isherwood, the junior author, contributed the economics section) argues there are certain general goals in buying common to all cultures where exchange occurs. Beyond meeting basic physiological needs, goods are bought to:

- Serve as a live information system to signal to others the user's self-image, rank and values. Personal products like cosmetics, clothes, watches, shoes, etc., and products like cars and life insurance would generally fall into this category.
- Mark social events like marriage, and time intervals like births. Cameras, expensive wines, wedding dresses and so on are commonly bought to mark occasions.
- Increase the time available for social involvement. Lawnmowers, washing machines, telephones and TV dinners might be grouped under this heading.
- Give order to events. Under this heading would be newspapers, magazines and other products that help make sense of what is happening in the world around.

Goods assembled in ownership 'present a set of meanings, more or less coherent, more or less intentional.' The consumer's pattern of consumption signals to the world what s/he wants the world to believe s/he stands for. People are anxious not to give the wrong signals, so, to avoid misinterpretation, the signals must be neither vague nor ambiguous but clearly recognizable or standardized in the culture.

I would add an important and constraining sub-goal to the Douglas list. This is that the consumer seeks expressions of such goals without incurring the sense of loss that results from the consumer coming to believe he or she made an error or mistake. Making an error or mistake presupposes the violation of a rule. At the most general level such rules are in respect of achieving goals in an efficient, socially appropriate and consistent manner.

Consumer Wants.

Wants at the highest level are simply vague wants for some form of goal expression. Whereas to have a goal is to be disposed toward the state of affairs described by the goal, to have a want is to have a corresponding disposition to wish a certain state of affairs were true. Having a want does not necessitate having any

special feelings. A consumer may want something over a long period of time without thinking about it except occasionally. Consumer wants are seldom like passions or tensions pressing for relief but dispositions that affect buying only by entering as input to some thinking process which may be sufficiently deliberate as to be called decision-making or so superficial as to represent habitual response.

At this stage it is not clear whether all wants can be related to any particular vision of the preferred life as many wants may be internalized as part of the socialization process. In any case, consumers do act as if searching to find an overall pattern of wants that represent an acceptable specification of some vision of the preferred life. However the relationship between goals (at any level) and wants is seldom one of logical necessity but is contingent. Thus the relationship between good health and jogging is contingent on circumstances while jogging is not the only way to go about enjoying good health. Because of ignorance about the relationship between wants and the goals sought, consumers may want something but not know it and may think they want what in fact they do not want. Wanting something is neither a necessary nor sufficient condition for its possessing worth for the consumer.

Consumer Beliefs.

A want is a disposition towards using, consuming or possessing something; it is not a mechanism compelling action. A consumer does not rush out and act on any want. Beliefs as to consequences will immediately come to mind --beliefs about the relationship between the consequences of buying this or that and the nature of the want, and beliefs about the effect of buying on the promotion or frustration of other wants. Beliefs are dispositions to think of certain things as true and constitute convictions (held with different degrees of confidence) about what is, what is desirable and what ought to be done in given circumstances. Goals together with wants and beliefs constitute reasons for action; they are collectively the enabling conditions producing a state of readiness to consider buying when circumstances are right (e.g., product availability and money.)

Latent and Passive Wants and Exclusionary Reasons for Not-Buying

Consumer--Latent Wants.

A consumer may have a latent disposition to meet some want by some particular product/brand. Hence the consumer can be said to have a latent want for that product/brand. A latent want is activated when the consumer with the latent want for product/brand XYZ perceives the potential of XYZ for meeting some goal better than known alternatives. The emphasis is on showing the connection between product and want/goal--not just on promoting awareness for the product.

Consumers have latent wants for better products and new-to-the-world products catering to new wants since what is on offer in a market at any one time never caters to, or exhausts, all the potential wants that are expressions of the consumer's goals.

Consumer--Passive Wants .

Consumers can be aware of a product's existence and be also aware of its potential for meeting some want but can be held back from buying it by price, social inhibitions (e.g., about hearing aids) or false beliefs and fears (e.g., 'I'll never understand how to use a computer'). Although the word passive suggests sitting back in some way, this need not be so. Someone held back by price from buying an IBM personal computer may be

actively engaged in a search to get one cheaper. As there are always a number of people out there who have a latent want for the firm's product, it is always as well to know the inhibitors to see what can be done about them.

Exclusionary--Reasons.

Both latent and passive wants can be activated if inhibitions can be removed or lowered. However, there are situations where the consumer is prevented from buying, regardless of the merits of the buy when considered purely in terms of its utility for meeting the goal/want to which it caters. Such exclusionary reasons are:

- Authority-based factors. An industrial buyer, for example, may be under orders not to buy on merit but to buy from local suppliers. Alternatively, consumers may refrain from buying in obedience to their religion, etc.
- Promise-based factors. Promises can override the decision that would normally be made--as when a teenager promises his parents not to buy a motorbike even though a motorbike seems the best answer to his transportation problem.
- Situational factors. A consumer may refrain from buying through being unsure of his or her ability to judge due (say) to time pressure, lack of experience, emotional circumstances, or inhibiting physical and social surroundings, as well as shortage of cash.

Grounds for Choice

On what grounds do consumers choose among brands? Figure 1 suggests one classification:

- Past decisions giving rise to habitual choice.
- Picking one brand on no meaningful grounds, the consumer being indifferent to the differences among the brands in his evoked set.
- Subjective liking alone if the basis of preference is purely intrinsic.
- Choice made on the basis of the deliberation that accompanies decision-making.

We will consider each of the above in turn.

Habit

A great deal of intentional buying does not involve any deliberation on rival offerings. Just as the consumer does not decide to eat breakfast, he or she does not always decide each time on what product/brand to buy. Past decisions on what to buy act like precedents. If the past decision was made to purchase brand XYZ and the decision was satisfactory, why not buy the same if conditions have remained the same? Habits not only save time and money but reinforce a common desire to be consistent with previous judgements. However, habits do change. Although there is a disposition to act as before in like circumstances if experience was satisfactory, there is also pressure not to be an 'old stick in the mud' but to be open to new ideas.

'A change in habits can come about through a change in goal/want priorities, fleeting whims or new information suggesting better alternatives. But breaking ingrained habits may not be easy as change suggests risk with even overtones of being disloyal if relationships have become personalized.

Picking.

When the consumer is indifferent as to which of several brands to buy, s/he is not predisposed to any single one of them and could toss a coin to settle choice. This is a 'picking' situation which should be distinguished from the situation where the consumer is disposed toward several brands and must settle the conflict by a decision. (Ullmann-Margalit and Morgenbesser, 1977). But an arbitrary choice may later be defended as a superior one so what was originally a matter of picking may become an habitual choice.

While the consumer may be indifferent to which brand to buy, this does not imply he regards the brands as equivalent or identical to each other. He just does not regard the differences as significant for his purposes. It is up to the seller to promote the differences in his offering as of significance to the consumer.

Subjective Liking--(Intrinsic Preference)

If preference is based purely on the basis of subjective liking, it is known as subjective preference (Von Wright 1963). Thus my liking may be for an apple rather than an orange. If I were asked why I chose an apple, my answer will not tell the questioner why I want what I like. I may point to the specific elements or ingredients that determine my liking but in so doing I am not giving objective reasons for my purchase, like saying I buy apples for health reasons. Intrinsic preference involves the senses--the smell of flower, the looks of a package, the feel of material, the sound of a brand name, and so on. With intrinsic preference, no further purpose is involved beyond pleasure. Hence, if someone is asked why they enjoyed a particular show, they reply in terms of the enjoyment experienced (for example, exciting, funny, novel, soothing). Although intrinsic preferences can show a high degree of stability, they are also subject to change via education (e.g., taste for music) or new associations (e.g., knowing a piece of tasty meat was dog meat)

Reasoning--(Extrinsic Preference)

A want for some form of goal expression allied to the belief that feasible and socially appropriate means are available that are perceived as possible expressions of such wants provides the motivation to consider buying. But where there is uncertainty about which product/brand serves interests best, there will be a need to try and resolve any factual uncertainty about what is wanted and to compare this with what is known to be available. The deliberation that accompanies this process is the essence of what we mean by decision-making. The output of this process is potentially a set of objective reasons for supporting choice leading to extrinsic preference.

Outside the artificial conditions of the experimental situation, consumers do not seem to follow a strict means-end chain by setting out precisely what they want and evaluating brand attributes in the light of some precise specification. There is usually the problem of knowing how much of some product attribute (e.g., horse power of a car engine) they want and how much of an attribute (e.g., fashion/status) is being provided by the different products or brands. Additionally, there is the difficulty of making intelligent tradeoffs (e.g., horse power for fuel economy) when these are required. [Because consumers do specify in (say) conjoint analysis the nature of their tradeoffs does not imply such tradeoffs are particularly meaningful to them.] The more general position seems to be that the consumer knows enough about what he or she seeks and proceeds not so much to compare attributes on brands but to rank the different sets of perceived benefits. Choices may, of course, turn out less than optimal because of errors

due to lack of information, mistakes in logic and mistakes in (inductive) reasoning.

Use-Functions Vs. Generated Functions

Products are bought to perform certain functions, that is, to produce certain effects. Those functions that relate to extrinsic preference can be divided into use-functions and generated functions. Use-functions are the objective uses to which the product is put. The primary use-function of a dishwasher is to clean dishes, while the use-function of toothpaste is to clean teeth. Generally, use-functions dominate our thinking about products. Many products are 'type-identified' by reference to their use-function. Thus anything counts as a coffee percolator if its use-function is to percolate coffee. Similarly, anything qualifies as a 'seat' if its use-function is to be sat on. When we speak of some product being a 'good' one, we usually refer to how well it fulfills its use-function. For instance, a good watch usually means an accurate timekeeper. Disputes as to use-function(s) give rise to ambiguity as to what constitutes a 'good' product. The more accurately a manufacturer can establish a use-function for his product in a market or market segment, the more precisely performance requirements can be laid down.

The generated-function(s) of a product are the additional costs and benefits generated by using, consuming or possessing the product. Thus, while the use-function of a car is to provide flexible, fast means of transportation, this would not be the sole basis for purchasing a Rolls Royce. Such a car is a costly status symbol and may be bought primarily because of this. Some brands are rejected even when they are the most efficient means for the application envisaged. Thus a sitting-room chair is judged not simply on its likely performance as a sturdy, comfortable seat but on how it fits with the other furnishings, how it will be perceived by others, whether it is fashionable (or too fashionable!), its price (too high, or too low), risks of obsolescence, and so on.

Many products possess the same use-function but not the same generated-function (for example, a mass produced dress versus a designer dress), and it may be the generated-function(s) that are vital. The extent to which products perform the same use-functions is a measure of the extent to which the products are substitutes. But whether such substitute products are directly competitive depends on the extent to which they are perceived as similar in terms of both use- and generated-functions and intrinsic liking. Thus a Rolls Royce and a Volkswagen are closer as substitutes than they are as immediate rivals.

Use-functions are generally more visible than generated-functions; indeed, many generated-functions are latent, that is, go unrecognized or unacknowledged. However, non-traditional use-functions may not be obvious and the discovery of new use-functions can be the basis of opening up new markets. Thus it was not obvious that there was a market for books where the primary use-function was to fulfill a role as decorative furniture!

Choice Criteria

What choice criteria do consumers use in decision-making? Concern for generated-functions leads to a consideration of integrative, economic and adaptive criteria, while a consideration of use-functions leads to a consideration of legalistic and technical performance factors.

Integrative Criteria

Integrative criteria refer to the rules consumers employ

to choose brands that will better integrate them into

- their social milieu
- their personality, sense of integrity, projected status and self-image

The distinction is important since integrating with one's milieu means adhering to its norms but accommodating to the pressures of social life completely runs into conflict with satisfying private lives. Integrative criteria are most dominant in dress, home furnishings and decoration.

Convention can influence purchase so decisively that little deliberation takes place. This does not necessarily demonstrate that the consumer has low involvement with the product. On the contrary, the purchase can be so important (for example, a wedding dress) that the buyer adheres rigidly to the book. As Lewis (1969) points out, convention is conforming from choice to what are regarded as the legitimate expectations of others (for instance choosing clothes in conformity to the norms of those with whom we mix). Conventions are socially enforced in that failure to conform can evoke unfavorable reactions from others.

Conformative behavior is not restricted to conforming behavior. Thus, if someone is deliberately not conforming to social norms (for example, not using a wedding ring), her behavior may still be conformative to some other set of norms.

Bandwagon and fashion influence purchase behavior (e.g., Cabbage Patch dolls) that is highly social. The payoff in fashion lies in identifying with the 'in' group in a manner that signals to the world that the person is unique or an 'insider' and not simply an 'outsider' looking on.

Ego and status considerations enter into many purchase decisions. A woman selects a fragrance to suit the image she wishes to project, while a mink coat is a major status symbol. Men are also responsive to the demands of their egos and the desire for status. If we look at the lifestyles of people throughout the ages we are struck by the sacrifices in convenience and comfort of dress and so on in favor of ostentation and display.

People do not always choose in a way that will maximize personal returns to themselves. Sometimes they choose to forgo egoism and self-interest in order to do what they believe is right. Thus a person's sense of integrity may lead him to forgo the more lucrative investment in South Africa for a less materially rewarding investment.

Economic Criteria

Once the consumer is attracted to a product by the benefits it offers, interest shifts to what must be given up in return. Economic criteria like price and cost per unit of effort expended, are used by the consumer to order alternative offerings on the basis of the relative sacrifice being demanded. When such an ordering occurs the immediate consequences of purchase are known. Indecision may arise, however, because, though consumers may know the sacrifice, they are frequently unsure of the future consequences (benefits) of purchase in relation to their future (often uncertain) preferences. Just as failure to achieve some promotion at work is perceived as less of a loss than some demotion, the consumer is generally more concerned with avoiding a net loss than achieving an equivalent net gain.

Adaptive Criteria

A consumer is often uncertain as to the net benefits that will emerge from buying, using or consuming the product. The initial effect of uncertainty as to consequences and future preferences is to inhibit the want, that is, turn it into a passive want until uncertainty is reduced.

For many products, consumers have well-anchored opinions, but for purchases far removed from their experiences there is uncertainty (and often anxiety) over the possibility of making errors and mistakes (that is, not following the right rules). Adaptive criteria refer to the adaptations that occur in coming to terms with uncertainty over the consequences of buying one brand rather than another and the information overload in attempting to master facts about a product.

There are a number of strategies followed by consumers in adapting to uncertainty:

- imitate those 'in the know';
- seek advice;
- buy on reputation/the familiar;
- sample only;
- seek guarantees and reassurance;
- do comparison shopping.

The desire to reduce uncertainty is a major motivation in buying since to be sensitive to uncertainty is to be sensitive to the likelihood of making an error and making an error is damaging to the consumer's sense of competence. Uncertainty avoidance is one explanation for habitual buying since sticking to the tried and true involves no unpleasant surprises. Many consumers seem prepared to sacrifice the advantages of the newest model in the interest of reducing risk.

Legalistic

Where choice is dictated by the demands of others, the criteria can be termed legalistic to suggest buying rules imposed from outside. Legalistic criteria is applied to avoid conflict with what the consumer regards as some legitimate authority (e.g., the government and its safety regulations etc.) or because he puts the interests of others first and accepts what he believes to be their criteria (e.g., wife's known preferences).

Technical Criteria

Technical criteria embrace the manifest physical attributes and performance characteristics that the consumer believes are relevant to the use-functions envisaged for the product. Tradeoff problems abound not only against price. Thus a product (say) that can only be more effective in some use-function (e.g., a water-repellent raincoat) by detracting from aesthetic appeal may be rejected.

Choice → Preference (intrinsic or extrinsic)

The output of a decision, unlike the output of habit, picking and intrinsic preference does not simply bring out into the open choices that were merely unexpressed. It establishes in fact a want that in its specificity was not there before. The choice process in decision-making is one of coming to prefer as the specific want takes shape. Hence to inquire about preferences is to assume such a process has already occurred.

Intention → Willing

For a consumer to have a preference is not sufficient--the buyer must form an intention to buy plus willing the act of buying to occur. One writer compares forming an intention to putting the whole faculty into gear without pressing the accelerator which is what 'willing' is all about.

Example

Appendix 1 is an account given by a housewife of buying the same dishwashing liquid as she habitually bought. Contrary to what might be expected Mary is very conscious of the rules that first led her to choose Palmolive dishwashing liquid, viz:

• Goals, Wants, Beliefs

1. Goals

General: i. Signal to the world self-image/values

ii. Increase time available

Specific: i. Clean dishes in an efficient and socially acceptable way

2. Want expressing the goal

Dishwashing liquid which
- is good for the hands
- cleans well
- retains suds

3. Beliefs

Palmolive has performed well in the past and is still my favorite choice.

• Choice criteria on which habit is based
(initial rules leading to adoption)

1. Intrinsic: i. Packaging--Pretty, clear plastic, emerald green color

ii. Smell pleasant--nice clean smell

2. Extrinsic: i. Technical
- good performance: clean and shining dishes, cleans greasy skillets and frying pans
- makes hands feel soft not itchy

ii. Integrative
- mother and friends use it
- can identify with women on TV advertisement
- ego-conscientious about hands looking nice

iii. Adaptive
- Palmolive familiar
- willing to try samples just in case

iv. Economical
- reasonable price (less than Ivory)
- only one squirt needed
- suds last a long time

A more hermeneutical analysis would seek reasons behind reasons to achieve more depth of understanding but we are content here with simply showing the consumer's reasons for choice.

APPENDIX 1

Protocol Statement

I. MARY'S COMMENTS

A. ANTICIPATORY ACCOUNT

"I intend to buy Palmolive dishwashing liquid. I am very conscientious about my hands. They have to look the best at all times. So I select a detergent which cares about my hands and gives good performance. I have tried Joy, Lux, Octagon and many others. Palmolive is the one I like the best. I have no hesitation about going to the counter and putting it in my grocery basket.

"Palmolive is very soft to my hands. I can wash umpteen dishes with it and my hands are still soft. One thing I cannot tolerate is rough and ruddy hands. The first thing one notices in a woman is her hands. I don't even use hand lotion after washing. Also, I save some money cause I can do many dishes and still have suds. I have suds remaining to clean greasy cast iron skillets and frying pans. Whereas the other detergents, I found that you can only do four or five dishes and then had to add more detergent. My dishes are clean and shiny after using only one squirt of Palmolive.

"Every time a new detergent comes out they send me samples in the mail. I use the samples because I don't like to waste anything and I like to try new things. But none have outperformed Palmolive. You know, I used to use Octagon all the time until I got a Palmolive sample. Octagon comes in a big bottle but it keeps losing its suds. The large economy size was not as economical as I thought. I used Joy but it was rough on my hands and made them itch. They brag about Ivory being soft to the hands, but my hands were very itchy and sensitive.

"My friends at work also use Palmolive. Even my mother uses it--she is 78 years old and suffers from arthritis. I even like their TV ad with Madge who has her customers soak their hands in Palmolive!"

B. CONTEMPORANEOUS ACCOUNT

Comments while Mary was purchasing product at large supermarket:

"I am buying Palmolive (32 ounces) with confidence. I used to buy this junk--Octagon. You need all 48 ounces to wash your dishes! I don't care if it is economically priced.

"I have tried the majority of these brands. Joy is too strong for my hands and Octagon is sudsless. Ivory is more expensive than Palmolive and is not as good. I'd probably buy Ivory, though, if they didn't have Palmolive. But I am not overly impressed with Ivory's cleaning. They sure do advertise a lot! It's foolish for me to pay more (for Ivory) when I like Palmolive.

"It is the prettiest bottle on the shelf. They all have similar form but I like the clear bottle, and the emerald color is attractive. It's better looking than Ajax's whisky color."

C. RETROSPECTIVE ACCOUNT

Comments after using Palmolive:

"I am very happy with my purchase. My dishes are clean and shiny and my hands feel soft and smooth. I am not afraid to do my dishes before I go out for the evening because my hands look and feel good. It also has a good

clean odor. This gives me more confidence that my dishes are clean. I plan on continuing to buy Palmolive unless something better comes out and is less expensive. But it will have to be proven to me."

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SHARING MODELS OF INQUIRY

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Abstract

The interaction of practitioner and academic communities provides a unique opportunity to extend post-positivist theory into a practical sphere. This paper discusses the similarities and differences that these communities have in the process of inquiry and provides a unique means of understanding the advantages of a dialogue between them.

Introduction

Much is said about the distinctiveness of researcher and management practitioner communities (Deshpande and Zaltman 1982). This distinctiveness is thought to be particularly pronounced with respect to the academic researcher and the practitioner communities in marketing. This paper addresses certain aspects of the two communities theory with special reference to two subsets, academic researchers and practitioners, who are primarily concerned with consumer behavior. We are going to argue on the one hand that the differences, while real, are not so great as to create two incompatible cultures or epistemic communities. On the other hand, we shall also argue that many differences which do exist are to be valued or prized so long as they can be understood by the two groups.

The commonalities between the two communities have several origins, two of which are noted here. First, both groups are inquiring communities. They are both motivated by a need to know (Storer 1966). The process of inquiry stimulated by this need subjects both groups to the same set of philosophy of science issues. Secondly, both academic researchers and practicing managers share a common role: they are also consumers. They enact the very phenomena they need to know about. In fact, in terms of basic demographic factors such as income, attained social status, and the like these two groups in their consumer roles probably have considerable similarity in contrast to many other occupational groups.

Thus, the two communities are "participants" in the study of consumer behavior; yet, they are also somewhat detached observers as they develop theories, explanations and predictive tools for use in thinking about and influencing consumer behavior. This status as participant-observers provides a common ground upon which a joint venture can be constructed. There exists a plane of understanding and communication built naturally into the relationship between these two parties. And as they come together, their "interaction" provides an extended opportunity for improving their respective approaches to inquiry, thereby improving their ability to satisfy their need to know.

Role of Multiple Constructions of Reality

Academic researchers and practitioners belong to different epistemic communities which, among other things, have different norms resulting in different rewards or control systems and socialization processes. This leads to different social constructions of reality. The social construction of reality concept argues that people occupying different social positions in society will tend to have different understandings of the same phenomena. These different understandings are the consequence of having different social positions when viewing or experiencing a phenomena. These different understandings

will be reflected in different frames of reference. The different constructions of reality which evolve create an opportunity for synergy, where the whole is more than the sum of its parts. This does not mean that there will be a closer approximation of reality. To the contrary, what is required is an acceptance of the notion that there are as many realities as there are frames of reference and truth tests. For example, the realities of the colors blue and yellow are not altered when they are combined to form green. Green becomes another version of reality which may be useful for a better appreciation of blue or yellow.

By understanding each other's perspectives better, academic researchers and practitioners would understand their own perspectives better. This requires that each group fully appreciate that there is interaction among the various components of inquiry: methods, aims, and suitability of evidence. Moreover, it requires that each group appreciate that there are multiple constructions of reality corresponding to different social groups concerned with the same phenomena. (Other groups would include government agencies, consumer protection groups, and consumers themselves.) Finally, it requires an understanding that the process of inquiry used by each social group to understand a problem results in somewhat different constructions of reality. In summary, all these requirements assume a post-positivist rather than positivist orientation in the conduct of inquiry. One way to encourage wider acknowledgement that post-positivist orientations toward inquiry are more helpful than positivist approaches is to encourage academic researchers and practitioners to examine their assumptions more closely. We shall comment on this briefly below.

Taking A Look at What's Taken for Granted

Earlier it was noted that the assumptions one holds place boundaries on the angles of inquiry and the development of knowledge. These assumptions differentiate the practitioner researcher and academic researcher groups and have defined their separate activities. The single most important aspect of the beginning of the bridge to that gap is that each group examine the nature of its assumptions (either individually or collectively), unearthing what they have taken for granted. By making implicit assumptions explicit (Olson 1981, p. vii), the groups take a look at the unmasked beliefs that have previously directed their efforts. It is in this type of examination that the groups become aware of what they were previously constrained by. Once they have acquired this awareness, they are then more free to choose, more aware of the limitations of what they think and more likely to conduct further inquiry. If a group accepts the fact that their realities are built out of their own assumptions then they are more inclined to question their ways, ends, choices and all other processes shaped by assumptions. Without such an exercise, these groups have failed before they begin; they are bound, in short, to act as Thomas Hunt Morgan noted some scientists do, "as wild Indians who derail trains and look for the horses inside the locomotive" (Gould 1984). As the groups unearth their assumptions, they must struggle with the depth of their biases; in doing so they receive full benefit from this "search for assumptions." If the groups do not in some way

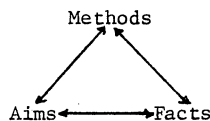
recognize their own assumptions and the limitations that these create, they cannot possibly see how their processes of inquiry and resulting products can be improved.

Before describing the interaction of these two communities, we would briefly like to identify and discuss the four components of inquiry. An awareness of the assumptions that the groups hold concerning these "angles of inquiry" illuminates their differences and provides a framework for a discussion of the interaction between the two groups.

Angles of Inquiry

We are going to take some license here with Larry Laudén's "reticulated model of methodology" (Laudén 1984). This model, described in Figure 1, suggests that the three aspects of inquiry (aims, methods, facts) ordinarily considered as if they were independent or isolated, are in fact inextricably linked by the map of assumptions, expectations and decision rules the researcher or practitioner brings to the process of inquiry.

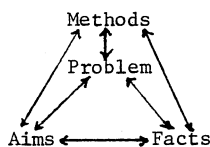
FIGURE 1
Laudén's Reticulated Model of Methodology



Our aims or purposes of inquiry are shaped by the methods we use and the assumptions we make about the nature of the facts and the phenomena they relate to also shape our selection of methods and even our aims. Similarly, our methods influence our aims as well as our assumptions about the factual nature of the phenomena we are concerned with. (As an aside, it is impossible to do justice to the reticulated model in this brief commentary. The reader is urged to consult Laudén's own development of this very rich idea.)

We would like to add a fourth component to this model in order to make much more evident an issue which is latent in the interaction of these three angles. This fourth dimension concerns the problem causing us to undertake a study. For example, the aims of inquiry may involve explanation, prediction or control of some phenomenon. The problem component will dictate why it is that we need to explain, predict, or control. Another term for problem might be motivation. For example, we may be motivated by an inherent curiosity about an issue, a need to preserve our job, a need to rectify an unsatisfactory social condition, and so forth. This motivation is translated into our aims of inquiry. The problem or motivation component concerns why we are bothering with a particular phenomenon such as consumer fraud, brand switching and so on. The nature of the problem will influence what we aim to do about it (e.g., explain, predict and/or control it), our methods, and our assumptions about facts. These latter three angles will also alter the nature of the problem or our motivation. This is shown in Figure 2.

FIGURE 2
Expanded Reticulated Model of Inquiry



This model is important in our discussion of the interaction of practitioners and researchers partly because the two groups have different notions about these angles of inquiry. This model is also important because the four angles of inquiry interact—each influences the other. As a result, what might otherwise be a small difference between the two communities with respect to a particular angle tends to create larger differences as other angles are affected. There is a kind of multiplier effect operating with respect to changes in these angles. This is why two groups who on the surface may appear quite similar may have quite different constructions of reality.

To illustrate the notion of the angles of inquiry for the practitioner and researcher communities, we offer the following example. It should be noted that in the operation of the particular group's assumptions about the problems, aims, methods, and the suitability of evidence, two very different constructions of reality are created and serve as guides to the conduct of inquiry.

Consider a brand manager concerned with offering a cents-off coupon as an incentive for repurchase. This manager will be very familiar with the usage situation. He/she will know a great deal about the customers and the situational factors affecting use including various competitor factors. The manager's basic question or motivation to know may concern the minimum size of the incentive required to encourage repeat use. Let's assume the manager is fortunate and that he/she has encountered an article produced by an academic researcher concerning price incentives and repeat purchase. This publication may reflect a program of research by this person concerning the role of incentives in customer decision making. Let's assume further (and realistically) that the research does not involve the product class or type of use situation which the manager is concerned with. The researcher has used a laboratory experiment involving student subjects. This is appropriate given that the researcher in our example is more concerned with certain processes reflected by incentives in contrast to the manager's concern with a particular context in which an incentive might be appropriate. The motivations of the two parties are different. One is intrigued by a basic process while the other is interested in a particular context. Moreover, one party is more concerned with explanation while the other is more concerned with prediction and control. The preferred method of each also differs. The manager would prefer a representative sample of actual customers. Each also makes different assumptions about the nature of facts relating to incentives. The researcher is more likely to construe the problem as a closed system while the manager is more likely to view it as an open system.

This example points out a few of the differences between academics and practitioners on some of the angles of inquiry. We now turn to a discussion of what will occur when the two communities are brought together to interact.

The Interaction Effect: A New Structure

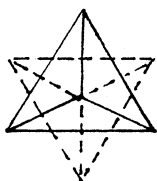
One of the assumptions that has been implicit in this discussion is that as academic researchers and practitioners are brought together, the resulting inquiry and knowledge would not be merely a simple addition of what the two epistemic communities had to offer. The concept of synergism or the interaction effect suggests a very different outcome, a new creation, much as blue and yellow form green or hydrogen and oxygen form water. The color blue and the color yellow are used to create the color green; however, in the color green, one cannot see yellow, nor blue. The original colors combine to form a new creation (green), yet they also exist in their original state. Second, think about how one makes

warm water, some cold and some hot. However, when we feel the water, we do not say, "This water is cold and hot;" instead, we say "It is warm." We no longer feel the cold and the hot in the warm; we have a new creation. Yet the hot and cold are still present.

This same effect is captured in the interaction of practitioners and academics. However, when we first described the angles of inquiry concept with respect to academic researchers and practitioners, the reader may have construed their sharing of approaches in the following way:



With the interaction effect, this simple addition can no longer capture what is occurring. From the example and explanations above, there is the suggestion that a new and different structure is formed as these two come together. A possible configuration is pictured below.



dotted line = practitioner
solid line = academic researcher

In both cases, we can note the original structures, but the combination of "interaction" forms something beyond the capabilities of each. For example, the triangles have become a star.

Therefore, the outcome of this important interaction is a much more complex configuration. The star provides the two communities with a new window through which to observe their old angles of inquiry. Their respective assumptions and realities are no longer seen in isolation. What this interaction stimulates is not necessarily an adoption of new methods, aims or criteria for the suitability of evidence, instead it takes us full circle back to increased appreciation of the similarities and differences between the two communities.

The Interaction Structure: Seeing Similarities and Differences

As we noted in the beginning of this paper and have alluded to throughout, practitioner and researcher communities have different sets of assumptions about the angles of inquiry and hence use different frames of reference to satisfy their need to know. This point is clear. However, in the interaction of these parties, an opportunity to move beyond the barriers of these single constructions is created. This opportunity comes about through the creation of a new structure or framework through which to view their respective worlds. For example, the parties no longer see a simple triangle that guides their inquiry; instead they see their triangle through the lens of the interaction--the star. They now understand how their respective cultures and models of inquiry stand in relation to one another. They discover the areas of intersection (agreement) which define an area where understanding between the parties occurs naturally. As noted before, this natural intersection occurs because of a unique characteristic of these two parties: their role as consumers. As participants in the consumer or customer role, these parties

have a vast wealth of experiences that are valuable resources in inquiry. These experiences provide a common ground for the parties, irregardless of the models of inquiry that are imposed upon them. Ideally, this fact would be used as a vital link between the parties; however, presently there has been little awareness of this important commonality.

The interaction or new structure also provides an opportunity for the parties to be made aware of the differences between the two groups. They may for the first time have to think about other models of inquiry. At best this interaction will be accompanied by or motivate each party to "take a look at what's taken for granted" in their respective constructions of reality and models of inquiry. It is hoped that in this comparison and searching, the parties can enhance, improve and extend their understandings and models.

Summary

The interaction of practitioner and academic researchers offers a unique opportunity to extend post-positivistic theory and principles into application. This interaction provides a new structure through which the two communities gain an appreciation of their similarities and differences. This awareness equips both practitioners and academics with the means to a valuable dialogue and the enhancement of their respective models of inquiry.

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RITUAL COSTUMES AND STATUS TRANSITION:
THE FEMALE BUSINESS SUIT AS TOTEMIC EMBLEM

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Abstract

Modern ritual merits closer attention by consumer researchers. The widespread use of products as ritual artifacts is particularly noteworthy. The female business suit is conceptualized as an artifact which is integral to a modern rite de passage. "Magical qualities ascribed to the suit by novitiates are discussed, and ramifications for positioning strategies are considered.

The Relevance of Ritual

A ritual is a formal behavior system used to express striving for social status, sexual identity, and so on (cf. Rook 1984). It belongs to a category of social mechanisms termed "generalized symbolic media of social interaction" (Parsons 1963). Although ritual is often associated with ancient religious observations, it is important to note that it is not exclusive to primitive cultures, but is expressed in a variety of secular social activities. However, as Rook (1984) has noted, although rituals pervade daily life, they have gone largely unnoticed by marketers.

Products as Ritual Artifacts

The primary relevance of ritual to marketers lies in the use of ritual artifacts. Products are employed in their symbolic capacity to operationalize the ritual (Parsons 1963). As Rook (1984) has suggested, it may be useful to conceptualize many product groupings in this light (e.g., the accoutrements of a child's birthday party).

A ritual artifact takes on the form of a totemic emblem - it is the "outward and visible form" of the moral authority of the community (Durkheim 1954, p. 206). Rook (1984) speculates that products which serve as ritual artifacts may endure beyond the normal product life-cycle.¹

Rites de Passage

Rites de passage, or initiation rites, are a significant form of ritual in our society. These are events which mark an individual's social status transition. They are structured to socialize the novice to the ways of the group, and often involve exotic dress and/or arational behaviors (Campbell 1972; van Gennep 1980).

To the present day, such rites remain a cornerstone of society. In addition, many products and even entire industries are significantly affected by involvement in rites de passage. The makers of training bras and razors are affected, as are the businesses whose livelihood depend upon signifying and recording transition: caterers, formalwear manufacturers, commercial photographers, makers of academic regalia, officers of the court, undertakers, and so on. In many cases, the potent denotative power of clothing is harnessed to demarcate such changes:

¹In the present context, it is worth noting that this is a possible explanation for the existence of "classic" styles, which persevere in the face of fashion's vicissitudes. This endurance hints at the social significance of such symbols, a symbolism which transcends aesthetic or normative considerations.

...every change in a significant life situation -- birth, entering school, graduation from school, getting a job, marriage, parenthood, and even death - requires a change of wardrobe. (Stone and Form 1957, p. 8).

The notion that many symbolically-laden products are in fact consumed as ritual artifacts merits closer scrutiny by consumer researchers. It is proposed that such determined and widespread involvement with such products reflects a need of the consumer to employ material goods in the basic process of self-definition and social behavior (cf. Solomon 1983). In the present context, the female business suit is approached as a modern manifestation of a timeless occurrence: A ritual artifact integral to a contemporary rite de passage.

Business Dress: I Wear, Therefore I Am

Today, concern about dressing for business occupies the energies of many consumers. In some quarters, the question of what to wear to work has taken on the character of an obsession. Executives and would-be executives, goaded on by the flurry of "dress for success" books, wardrobe consultants, store promotions, and so on have discovered what they hope to be a competitive edge in the business world.

While women have traditionally been engaged in the pursuit of fashion, the present hoopla regarding appropriate clothing configurations to wear to work transcends fashion issues. There is in fact some indication that female executives are markedly unconcerned with being in fashion, while simultaneously reporting an inordinate interest in and sensitivity to clothing (Douglas and Solomon 1983).

Fashionability is simply not the basis used to evaluate or purchase in this category. In fact, fashion attributes may be antithetical to the needs of the female executive. Like men, these women now realize that clothing is vital to the communication of credibility, competence, achievement and professionalism. This goal often mandates criteria which would be anathema to the stereotypic fashion plate: conformity, standardization, sensibility, drabness -- in short, the business uniform.

It is often not clear how women should go about satisfying the demands of this professional template. This dilemma was voiced in a representative guide to females entering the corporate "battlefield":

An executive's work clothes are not guided by comfort, looks, attractiveness, taste or novelty - they are responses to the dress orders of the day. His voluntary compliance can be crucial to his success. Upcoming women are also being judged for future potential on the basis of dress. The trouble is, nobody knows what criteria to use - not men or women, not management policy-makers... (Harragan 1977, p. 332).

Given this ambiguity, the dominant strategy appears to be to minimize risk by adopting very conservative options. In real terms, this decision often translates into mimicry of the male uniform -- the conservative business

suit. In fact, a recent national survey of female executives' perceptions of clothing appropriateness revealed that the presence or absence of a jacket was the single most important factor driving these judgments--regardless of whether it was accompanied by a suit or a dress (Douglas and Solomon 1983). In essence, this masculine cue functioned to legitimize a wide range of costumes.

Women are counselled to scrupulously avoid any taint of the "little girl look" (Harragan 1977, p. 339) if they hope to maintain control over subordinates and exert authority. Those who adhere to what has been termed a managerial grooming style are viewed by co-workers (especially male evaluators) as possessing less sex-typed personalities and greater management potential (Cash 1985), and as being more credible (Harp, Stretch and Harp 1985). Clothing appropriateness, then, seems to be viewed as a significant determinant of managerial effectiveness. This linkage is especially robust for those who have the most invested in being effective; a recent study found a positive relationship between preferences for a "businesslike costume" (i.e., male-like conservative) and achievement motivation (Ericksen and Sirgy 1985).

Coming of Age in Manhattan

The need for credibility, to be accepted, or to be seen as efficacious is probably at its zenith during stages of status transition. At such times, the consumer is entering a new role with new demands and expectations (Zaltman and Wallendorf 1979). This situation certainly characterizes the nascent executive. Role-appropriate clothing is often purchased (or conferred) at such times to signify such a transition. Significantly, rites de passage are also likely to be performed during periods of status transition.

An evolving rite. If rites de passage are indeed so pervasive in our culture, why have we chosen for the present to concentrate on one particular manifestation -- the novice female executive? The answer lies in the relatively turbulent nature of this specific metamorphosis.

Most rites de passage are well-defined and fairly static; they are embedded in the pattern of culture and are thus for all intents and purposes, invisible. It is only when doubts arise as to their execution that the precise manifestations of the rite are questioned.² This, we believe, is the case with the progression of women into executive ranks.

The widespread advent of the executive woman is a fairly new phenomenon. Numerous stores, positioning strategies, ad campaigns, specialty magazines and so on are springing up to cater to this growing segment. It is clear that the values and lifestyles of such women now merit such segmentation (cf. Joyce and Guiltinan 1978).

What is not clear is the role these women are expected to play. Since, unlike men, aspiring executive women do not yet have a professional template (i.e., adequate role models, norm routinization) the confusion over exactly what type of role to project -- and particularly, the optional mixture of masculine and feminine properties -- has contributed to the anxiety level regarding the appropriate department, dress, and even eating behavior (e.g., what to order, who should pay and even the new obsession with so-called "power lunching"!) in a business context.

As opposed to males, rites de passage for females in primitive cultures have been paid less attention in the anthropological literature (Eliade 1958). These rituals

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This speculation is similar to a basic assumption of ethnomethodology, which holds that latent social norms can best be studied by violating them (cf. Garfinkel 1967).

tend to be less widespread and developed, and their enactment tends to be triggered at a more individual level (usually by the onset of menarche).

It is interesting to note that sex-role identity is often a key component of such rituals -- during the ceremony, novitiates may wear men's clothing and the theme is often one of temporary androgynization. This amorphous state is terminated at the ritual's conclusion. Like a butterfly, the initiate emerges from a societal cocoon with appropriate gender labeling. Most societies stress the reproductive powers of women in such rites, while for men the emphasis is on working, fighting, etc. Apprehension over fitting into corporate culture may then be traceable to the phylogenetic lack of appropriate work rituals for women.

When the social definition of roles is in flux, such uncertainty is often reflected in radical clothing changes (Bush and London 1960). In the late 1960's and early 1970's, for example, the questioning of sex and social roles led to the testing of new forms of dress with often jumbled meanings (Roach and Eicher 1979). Although the current revolution in corporate settings is a bit more sedate, traumas concerning self-identity and acceptance are no less painful.

The Organization Person

Regardless of the novice's sex, the organizational behavior literature points to the critical nature of the first year in a company for a manager's career (cf. Becker and Strauss 1956; Buchanan 1974). The entry of a new manager is usually treated as a problem of socialization whereby the organization shapes attitudes and behavior to fit the requirements of a new role (Izraeli 1977). This process has been described in terms similar to initiation rites in primitive societies. Becker and Strauss, for example, note that "The passage may involve trials and tests of loyalty, as well as the simple accumulation of information and skill" (1957, p. 259). Corporate success depends upon a process of incorporation--learning the ropes-- similar to the rites employed by more ancient "tribes":

Initiation introduces the candidate into the human community...He learns not only the behavior patterns, the techniques and the institutions of adults but also the sacred myths and traditions of the tribe, the names of the gods and the history of their works...(Eliade, 1958, p. x)

The retooling process. Rites de passage accentuate the permanent quality of a status change (Rook 1984). Nowhere is this more evident than in the often full-scale retooling of the wardrobe upon the completion of college or the M.B.A. This transformation is de rigeur and is often accompanied by school-sponsored seminars, demonstrations and so on conducted by various (self-appointed) arbiters of business dress -- such short courses are often the best attended at a business school! This attention to the need to shed an old skin and adopt a new one for the long-awaited passage is exemplified by the following account:

One woman executive told me that the first thing she did when getting a promotion to a managerial position was to go to the bank and make a \$1,000 loan which she immediately spent on clothes... An appropriately expensive wardrobe is likely to be a better investment in your future than a college course in some technical subject (Harragan 1977, p. 341).

The Pin-Striped Talisman

Why is the preoccupation with acquiring the "correct"

set of ritual artifacts often raised to a level of near-hysteria? Symbols associated with ritual are intimately connected with the specific aims and imperatives of the actors. The iconic properties of such artifacts allow them to embody the hopes and fears of the wearer. Thus, it is not surprising that those who have a lot to lose by failing to be properly initiated attach such import to correct clothing symbolism. In fact, symbolic instrumentation was treated by classical anthropological theory as magic -- "an irrational or mistaken means of attempting to achieve specified ends that presupposed a false relation of identity or substance between symbols and the objects to which they refer" (Munn 1973, p. 592).

Such faith (misplaced or not) in the magical ability of proper clothing to pull one up the ladder of success appears to be endemic to the "dress for success" mania. Clothing is used by novices as a way to ward off the evil spirits of failure. In a sense, it forms a protective exoskeleton which may deflect social injury. In fact, the neurotic nature of ceremonials was noted by Freud, who observed that "...a ceremonial starts as an action for defence (sic) or insurance, a protective measure." (Freud 1959, p. 123, italics in original). Thus, it is proposed that rigid adherence to conservative masculine clothing is a way to minimize risk and insure absorption into corporate culture -- to again borrow from Freud, the process resembles one of identification with the aggressor.

This compulsive reliance upon clothing for role - definition is particularly marked among those who must employ such cues to compensate for a lack of internal assurance (cf. Solomon and Douglas 1985). The function of the suit as a magic amulet is illustrated by the following observation:

Instinctively for most of my working life I preferred two-piece women's suits to one-piece dresses. For reasons I couldn't explain there was a feeling of defenselessness or nakedness about dresses when all the men in the room wore jackets...a man's jacket is his "mantle of authority." (Harragan 1977, p. 338).

It is precisely this "feeling of defenselessness or nakedness" which is obviated by the cloak of proper clothing symbolism. Furthermore, this aversive psychic exposure is probably most profound for those who have yet to develop internal defenses to ward off the evil elements. In other words, relatively new role occupants are the most prone to reliance on external cues for role support (cf. Solomon 1983; Wicklund and Gollwitzer 1982).

Symbol instrumentality--the business ensemble as totemic emblem--is thus posited to attract its most fervent believers among those who need to believe. In short, it seems likely that the ritualistic value of clothing is at its height for those who are being initiated into new social roles.

Some Empirical Evidence

In the context of an ongoing study, data were collected in pilot form to explore relationships between internal role-definition and perceived symbol instrumentality. Although a full report of the study is beyond the scope of this paper (cf. Anand and Solomon 1984), it is useful to refer to some preliminary results in passing.

Ninety graduate business students completed a questionnaire that included a variety of measures related to the constructs of interest. Among these measures was a scale designed to assess role disparity (in this instance, the gulf between self-image and estimated co-worker perceptions of the self). Subjects also rated the perceived instrumentality of clothing (i.e., the degree to which

clothing is perceived as facilitating the attainment of such goals as social acceptance and career advancement). In addition, demographic data bearing on actual experience in work environments was collected.

In brief, it was predicted and found that "belief" in symbol instrumentality was positively related to role disparity ($r = .26, p < .01$). In other words, the greater the gulf between what one is and what one would like to be, the more faith is placed in the power of material symbols to narrow this gulf. This reasoning is conceptually similar to much work on self/product image congruence (e.g., Grubb and Hupp 1968) and the notion that consumers with a disparity between real/ideal self-concept are more susceptible to fantasy in advertising appeals (Assael 1981).

The relationship between role disparity and career experience was supported in the predicted direction ($r = -.38, p < .01$). Specifically, the gulf between self-image and estimated co-worker perceptions of the self is the widest during status transition or in the early stages of one's career. This process of identity formation is well documented in the role theory literature (e.g., Sarbin and Allen 1968).

Conclusions

Consumer behavior researchers are increasingly acknowledging the various psychic functions played by products in society. Possessions are viewed by many as an integral aspect of self, and several writers have urged a greater concentration on the meanings attached to possessions (e.g., Belk 1984; Csikszentmihalyi 1982; Levy 1959; Solomon 1983).

One result of this interest is a focus on the status of products as facilitators of social norms and processes. The current anthropological perspective is influenced by the recent attention paid to products as social currency in such contexts as gift-giving (Sherry 1983), myth (Levy 1981) and ritual (Rook 1984; Rook and Levy 1983).

A focus on the ritualistic aspects of business clothing -- and the broader question of role acclimation-- is potentially of great value for marketing practice as well. If people are in fact consuming various products because they act as guideposts to correct behavior, this then is a tangible product benefit which possesses untold promotional value.

Also, a consideration of the plight of the role novice appears to be worth pursuing. Although most workers in this area concentrate on the role of products in impression formation (i.e., the strategic use of products by the user to influence others' perceptions), this approach suggests that in some cases the consumer passes through "windows of vulnerability" where products and services are more likely to exert an a priori effect on behavior. Parenthetically, this phenomenon may even take on clinical significance, as excessive reliance on and attachment to various objects results in manifestations of fetishism.

Extending the anthropological metaphor, greater attention should be paid to the various "village elders" who guide the novice on his/her path to self-definition. In our society, such mentors are traditionally personified by role models; superiors at work, sports figures, parents, etc. More recently, however, a cottage industry has sprung up which seeks to take their place. A host of image advisors, wardrobe consultants, personal shoppers, books and magazines offer "definitive" guidelines about what to wear to insure success in the business world and elsewhere. Inasmuch as the information sources which legitimize the meaning of ritual artifacts are themselves in flux, this issue-- the dynamics which determine the encoding of product symbolism-- is also worthy of attention by consumer researchers and other social scientists.

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Abstract

Marketing scholars interested in the effect of categorization on consumer information processing have focused almost exclusively on semantic categories (e.g. "low calorie" foods) and user categories (e.g. "baby food"). Research focused on the syntactic categories created by consumption rituals (e.g. "appetizer," "entree") can 1) illuminate an important aspect of the social meaning of consumption and 2) elucidate an important principle of cognitive economy. With respect to cognitive economy, shared consumption rituals create expectations about product syntax. That is, they create expectations about the arrangement of related products in use. Product syntax that meets these expectations frees attentional resources for the cognitive demands of a task. We report 2 studies showing that violations of normal usage syntax tax the cognitive economy by requiring deeper processing and make for better recall of product-related information.

Background

The anthropologist Mary Douglas begins her paper "Deciphering a Meal" by describing a consumption ritual in her own household:

"Sometimes at home, hoping to simplify the cooking, I ask 'Would you like to have just soup for supper tonight? I mean a good thick soup -- instead of supper. It's late and you must be hungry. It won't take a minute to serve.' Then an argument starts; 'Let's have soup now, and supper when you are ready.' 'No no, to serve two meals would be more work. But if you like, why not start with soup and fill up with pudding?' 'Good heavens! What sort of a meal is that? A beginning and an end and no middle.' 'Oh, all right then, have the soup as it's there, and I'll do a Welsh Rarebit as well.' When they have eaten soup, Welsh Rarebit, pudding, and cheese: 'What a lot of plates. Why do you make such elaborate suppers?' They proceed to argue that by taking thought I could satisfy the full requirements of a meal with a single, copious dish." (Douglas 1975)

Douglas concludes her story by saying that several rounds of this conversation have given her a practical interest in knowing what defines the category of a meal in her home. She concludes that her family's insistence that a meal has ordered parts allows members to differentiate it from other food consumption occasions like "drinks" or "tea": while food may be served on such occasions, no order governs the choice of solid foods.

Looking for the social purpose served by a distinction between food served on meal and non-meal occasions, Douglas suggests that such a distinction permits a host to differentiate between those persons who would be invited to drinks and those who would be invited to share a meal. Not that such a distinction is conscious: "Those who vehemently reject the possibility of a meal's being constituted by soup and pudding . . . are certainly not conscious that they are thereby sustaining a boundary between share-drinks and share-meals-too. They would be shocked at the very idea."

So the distinction between patterned and unpatterned food rituals corresponds to a social distinction. What about the distinctions between the courses of a meal itself? Since the courses themselves can evince different degrees of elaboration or patterning, the existence of courses permits the host/hostess to differentiate among

those invited to share meals by the number of differentiated courses served and the amount of within-course elaboration. For example, Douglas and Gross (1980) suggest that children's meals show low intricacy because of children's low social status.

The preceding analysis emphasizes the signifying value of STRUCTURAL or SYNTACTIC (as opposed to SEMANTIC) distinctions in consumption rituals. The courses in a meal constitute syntactic categories, while the particular foods served in a given course constitute its semantic content. Within structural categories, social distinctions can of course be conveyed by semantic distinctions -- i.e. by distinctions in the quantity or quality of items offered, and in the degree to which items offered reflect the self image or observe the preferences of particular participants.

Most of the research on product symbolism conducted by marketing scholars has focused on the interpretation of semantic distinctions between products (in particular distinctions between opposing attributes such as sweet/sour and hard/soft) rather than on the interpretation of the syntactic principles underlying rules for combining products in use (the temporal order of the courses in a meal is a syntactic principle). Levy's analysis of consumer mythology (Levy 1981) is an example of the semantic approach to understanding product symbolism: he maps the correspondence between social distinctions such as age and gender and putative preferences for more or less of a particular food attribute. For example, distinctions on the sweetness attribute correspond to distinctions on the human attribute of maturity, with "sweeter" connoting "younger/childish" and "less sweet" connoting "older/mature".

Levy also associates the status connotations of foods with distinctions on attributes. For example, the fact that a casserole is lower in status than the combination of roast or broiled whole meat with supporting vegetable courses is attributed to its semantic attributes and method of preparation. In fact, syntactic considerations are also relevant: the casserole owes its lower status in part to its use as a one-course (i.e. minimally elaborated) meal.

To be sure, if we see syntactic studies as concerned with analyzing the part-whole relationship, then there is a syntactic component implicit in all semantic studies: the product designer assembling bundles of attributes into a "product concept" is doing at a lower level what the consumer or system designer does at a higher level when he bundles a set of related products into a "system" or "package". We will continue to use the term syntax to refer to part-whole relationships at this higher level.

Both semantically-oriented and syntactically-oriented approaches have a contribution to make to understanding the symbolism of consumption behavior, and both are rooted in consumption rituals. A structure-oriented rule for combining foods into a menu would prescribe the qualities of foods that can serve as the centerpiece of a particular course (a chocolate éclair would not be appropriate for the appetizer course because an appetizer should be savory or piquant rather than sweet, and not too filling; the éclair would be appropriate for dessert, since a dessert should be rich and sweet), while a content-oriented rule for combining foods into a menu would regulate the consistency between courses by prescribing the qualities of foods that are appropriate for eaters of a particular age, gender and status (french fries would not be suitable with broiled meat because frying connotes a lower eater status than does broiling).

In other words, the content-oriented approach has led to the identification of different "dialects" within each consumption language (e.g. within the language of food, men and women speak different dialects of the language shared by members of their culture; the same is true within the language of clothing), and to the articulation of correspondence rules for translating one dialect into another (e.g. an adult meal can be "translated" into a children's meal by making the foods softer; an upper class meal can be translated into a lower class meal by sweetening the dishes).

The artifactual dialects identified using semantically-oriented analysis are of course defined in terms of differing attribute preferences. For example, a masculine food dialect could be recognized by observing that foods chosen had a more textured consistency than those typically chosen by females. If structure were taken into account, we would notice that a masculine food dialect could in fact be characterized not only by a preference for chunky peanut butter over homogenized -- i.e. by a preference for greater complexity in the SEMANTIC content of dishes, but by a preference for the kind of SYNTACTIC complexity reflected in a greater number of dishes/courses -- e.g. meat and potatoes separately, not combined in a casserole.

A series of studies by Kehret-Ward (1984) using the gender-neutral grooming products identified by Rook (1983) suggests that the gender attributions associated with syntactic length and complexity are activity-dependent: longer/more complex facial care rituals are attributed to females (even when the individual products are not sex typed), but longer/more complex shaving rituals are attributed to males. However, where the grooming activity itself is not sex-typed, longer/more complex rituals are attributed to females.

Introduction to the Studies

It is our purpose in this paper to describe two studies that complement the semantic attribute oriented approach (which compiles a dictionary of the correspondence between product attributes and person attributes) with a structure-oriented approach focusing on the rules for combining products in use.

At this point we need to be somewhat more explicit about the linguistic analogy we have been using. Syntactic rules prescribe an invariant organization of variable parts. In verbal language the variable parts are words, and in the languages of material culture they are artifacts. The explicit equation of the artifact with the word has been made by both linguists (Halliday 1961) and archeologists (Deetz 1967). Anthropologists have for more than a generation been using the structural linguistic model as a paramorph to study the messages conveyed by material culture.

The structural linguistic model is easy to describe: the rules for combining meaning-bearing components create syntactic categories, and within categories the semantic differences among category members form the basis for the conceptual distinctions we think of as the meaning of chosen components. The application of the model to material culture is straightforward: for example, the rules for combining foods in a meal create the syntactic categories appetizer, salad, entree, and dessert, and the differences in the sweetness and richness attributes of foods that would qualify for the particular syntactic category "dessert" form the basis for the interpretive conceptual categories "fattening foods" and "diet foods". These same semantic distinctions form the basis for identifying user dialects: for example, the richness attribute permits easy identification of "real man" and "wimp" desserts.

According to the structural linguistic model, a complete

description of a language requires analysis of both syntax and semantics. As we have observed, marketing scholars have focused their efforts almost exclusively on the semantic part of the model. This has been a very productive approach, and scholars using semantically-oriented approaches to product symbolism have identified many applications of correspondence rules to product design and advertising.

We believe there are also many applications of syntactic analysis of interest to marketers. These applications will come from studies of two kinds: one set of applications will come from studies designed to INTERPRET particular syntactic principles (i.e. to explain how it is that using a particular set of related products in a particular order facilitates the maintenance of social categories). The other set of applications will come from studies of the COGNITIVE DEMANDS involved in processing information about related products whose use observes socially prescribed syntactic principles. The two applications of interest to us in this paper require studies of the cognitive processing rather than the interpretive school, and are of particular relevance for advertising.

Product Syntax and Advertising Execution

The ability to recognize badly-formed strings and distinctive or non-standard dialects in the languages of material culture is one kind of evidence for the existence of syntactic rules of the kind we have been discussing. Advertising practitioners have long appealed to this kind of ability, attempting to create attention-getting advertising executions by violating the rules for combining products in use. Examples of such ads abound: an ad for Ruffini ties incorporates a badly formed clothing string: the tie is shown over an undershirt rather than over an outerwear shirt, and an ad for Charles Jourdan shoes shows a woman in an intimate embrace wearing nothing but her shoes (a violation of the order for undressing, which would have her remove her shoes first instead of leaving them for last).

What is the effect of such ads? Is there a tradeoff between attention and cognitive responding? Do such ads succeed in breaking through the advertising clutter but absorb so much attention in processing the anomalous string that the viewer has no cognitive resources left over for learning the message? Among the many studies of resource allocation in the processing of advertising messages, none has investigated the effect of rules governing product syntax.

Product Syntax and Product Repositioning Claims

Product claims themselves may involve violations of rules governing the ordering of products in use. Manufacturers looking for new markets may attempt to promote a product for use in a syntactic category other than that in which the product has traditionally been used. This repositioning may or may not be accompanied by changes in the product's semantic attributes. Pudding pops remove pudding from the dessert category in a main-meal string to a snack string, and signal the change with a change in form. Campbell's campaign to promote soup as a main-meal entree (as opposed to a first course or light meal) was not accompanied by changes in product form.

What is the effect of invitations to consider a familiar product in a new syntactic category? Does the novelty of the suggestion give the product a new lease on life? Or do readers/viewers counterargue with the repositioning proposal because advertising has traditionally emphasized attributes appropriate to the syntactic category in which the product was originally positioned? Again, syntagmatically oriented research is needed.

Study I

Syntactic rules facilitate information processing by creating expectations about the relationships among individual units of incoming information. Such expectations are part of a system of cognitive economy that allows rule-consistent input to be processed as it were automatically, leaving more attention free to attend to new or discrepant information and to plan an appropriate response.

Since the interpretation of information which departs from the expected syntactic pattern requires a greater allocation of attentional resources, it should be possible to use syntactic anomaly to advantage in contexts where it is desirable to coopt as much attention as possible.

Most advertisements must compete for attention with other advertising and non-advertising messages. This means that advertising must find ways not only to arrest attention, but to hold it long enough for the message to be comprehended and learned.

In study 1 we hypothesized that the learning of verbal content in ads for products that are normally used in conjunction with related products would be greater when the ad pictured those related products in syntactically anomalous patterns than when the ad pictured the products in syntactically correct patterns.

We expected greater learning in the syntactically anomalous condition for several reasons. First, the syntactically anomalous condition should recruit more attention than the syntactically anticipated one. It might also be expected to hold attention longer, as readers seek information to explain the anomaly. Second, by inviting attention to the syntax of product use, syntactically anomalous arrangements of related products may elicit rehearsal of the rituals/schemas in which consumption is embedded; in other words, such ads may increase depth of processing, with improved recall as a concomitant.

Since the recognition of visually-presented syntactic anomaly requires sensitivity to the syntactic aspect of a visual array, we should expect such anomaly to improve recall only for those individuals who are predisposed to do verbal-type (i.e. linear, analytic) processing. Since females do better than males in tests for comprehension of complex written texts and comprehension of logical relations expressed in verbal terms (Maccoby and Jacklin 1974), we expected pictorial anomaly to improve the recall of associated verbal strings for females but not for males.

Procedure

Participants. Subjects were upper-division undergraduate business majors at the University of California-Berkeley who volunteered to participate in the study as part of their marketing research requirement. Twenty-three women and sixteen men participated in the study.

Administration. Subjects were told that they were participating in a study of different modes for presenting product information, to include both advertisements and product labels. Subjects were presented with three ads -- the target ad and two distractor ads. The target ad pictured the upper torso of a male wearing a tie in either a semantically normal or a semantically anomalous position, and bore the name of the brand and a short slogan. The sequencing of the target ad was varied, and subjects were randomly assigned to treatments. Exposure to the ads was timed, and at the end of the exposure period, subjects were given a page of product labels to read -- ostensibly as part of the study but in fact to clear short-term

memory. Reading of the labels was also timed, and at the end of the label-reading period, the dependent measures were administered.

Independent Variables. The two independent variables were gender and treatment (visual presentation of product in a semantically normal or semantically anomalous string). In the semantically normal condition, the tie was shown worn over a dress shirt; in the semantically anomalous condition, it was being worn over an undershirt.

Dependent Measure. The dependent measures included two measures of learning for information in the target ad: recall for the associated verbal slogan, and recall for the visual portion of the ad (subjects were asked to provide as complete a description as they could recall).

Results

While recall for the slogan was greater in the ad with anomalous product syntax, the main effect of manipulating syntax was not statistically significant. Nor did the syntactic manipulation significantly alter males' recall for the advertising slogan. Females however had significantly greater recall for the advertising slogan, $P(Z \geq 1.8) = .03$, in the syntactically anomalous condition. That is, a one-tailed test of the difference between the proportions of females recalling the slogan in each condition allowed us to reject the null hypothesis that there is no connection between visual syntactic anomaly and recall. Moreover, while their recall for the slogan was not significantly different from males' in the syntactically normal condition, it was greater than males' in the syntactically anomalous condition.

TABLE 1

Percent Recalling Product Slogan

	Treatment condition	
	Standard Syntax	Anomalous Syntax
Females	18%(11)	54%(13)
Males	33%(09)	14%(07)

Note: Numbers in parentheses represent absolute numbers of subjects in a given cell -- e.g. there were 11 females in the standard syntax condition, of whom 18% were able to recall the slogan.

Discussion

Recognizing the anomaly in the visually odd clothing string requires the same kind of ability that allowed Douglas' family to complain that a food event consisting only of soup and pudding had "a beginning, an end, and no middle" and therefore was not a proper meal: this string properly contains an undershirt, an outerwear shirt, and an item of clothing designed to be tied around the collar of the outerwear shirt, but in the anomalous string the middle garment is missing. (Alternatively, the string could be seen as peculiar in that the wrong kind of tie -- a dress tie instead of a neckerchief -- is being worn in the neckwear category. The fact that the anomaly is perceived to be a missing item can be demonstrated by asking respondents to describe how they would correct the costume.) We reasoned that recognition of this kind of syntactic anomaly would require verbal-type (i.e. linear-analytic) processing of visual material, and hypothesized that for subjects especially sensitive to syntactic information the effect of recognizing the anomaly would be greater

recall for associated verbal material mediated by greater depth of processing.

We found that visual presentation of related products (the individual garments in a costume string) did in fact lead to greater verbal learning when the normal usage order was violated -- though as predicted, this was only true for females. Our finding is consistent with other studies in which females have demonstrated superior skill at tasks involving the processing of complex strings of verbal components.

We suggested above that inviting attention to the syntax of product use may also elicit rehearsal of the rituals in which consumption is embedded. Douglas has suggested that these ordered rituals serve to maintain relationships of social precedence. It may be that one reason syntactic information is especially salient to females is that traditional female roles have made females especially sensitive to a universal syntactic principle, namely order/precedence.

STUDY II

In study 1 females had better recall in the anomalous-stimulus condition. We believe this greater recall was mediated by greater depth of processing. The purpose of study 2 was to test the hypothesis that attending to syntax-based conceptual anomaly does in fact increase depth of processing. Since attentional resources are limited, evidence for greater depth of processing could be obtained by giving subjects a task involving the processing of information about a product whose use is regulated by temporal order categories (as for instance food products, whose consumption is regulated by the temporal categories appetizer, salad, and so on) and comparing the proportion of thoughts devoted to the task and to the product. We hypothesized that syntactic anomaly would have the following effects: 1) A greater proportion of subjects' cognitive responses will be product focused when the syntax is anomalous than when the product is presented in a syntactically normal context. 2) a smaller proportion of subjects' cognitive responses will be task-focused when the product is presented in a syntactically anomalous context than when it is presented in a syntactically normal context.

In order to make information about the syntax of product use equally salient to both sexes, we decided to encode that information verbally, by naming the relevant syntactic categories. Since the consumption ritual chosen was food, these are appetizer, entree, dessert. In study 1 syntactic information was presented visually, and the categories (undershirt, outerwear shirt) were not verbally labelled; i.e. the syntactic information, while available, may not have seemed noteworthy to men, while women, who are better at comprehending complex linear-analytic material, may owe their superiority to their attentiveness to syntactic information. Verbally coding the syntactic information should make the usage categories named -- and the rules that generate them -- equally available to males and females.

Procedure

Participants. Subjects were upper-division undergraduate business majors at the University of California-Berkeley who volunteered to participate in the study as part of their marketing research requirement. Twenty-one men and eighteen women participated in the study.

Administration. Subjects were ushered into a cubicle where a table was set up displaying samples of three different cheeses. Each cheese displayed (bacon-flavored cheddar, jack, and peach cream cheese) had been identified in pilot testing as a good choice

for one menu category and a bad choice for others (e.g. bacon-cheddar was perceived as a good appetizer cheese and a bad dessert cheese). Above the table and immediately behind the samples was a poster displaying a wide variety of cheeses with a slogan claiming that "Californians like cheese for appetizers/dessert." They were told that the purpose of the study was to help a local supermarket design a special point-of-purchase cheese promotion, and were instructed to inspect the poster and display, after which they would be asked some questions. After subjects had completed their inspection of the display, they were encouraged to sample the cheeses displayed. Finally, the dependent measures were administered in a verbal interview followed by a pencil-and paper survey.

Treatment Variable. There were two treatment conditions. In the semantically normal condition, subjects saw a poster that claimed that "Californians like cheese for appetizers", and in the semantically anomalous condition they saw a poster claiming that "Californians like cheese for dessert." The pictorial content of the poster was the same in both conditions, and did not portray a particular usage situation. Subjects were randomly assigned to treatments.

Dependent Measures. The dependent measures included a cognitive response measure (subjects were asked to write down all the thoughts the product and poster display brought to mind) and two manipulation checks designed to assess the salience of the syntactic (i.e. product use) information. The first was a verbal question put to subjects after they had finished inspecting the poster and display: "Which of the three cheeses shown should the supermarket feature?" If the cheese selected was the one subjects later identified as the best one for the order category named, they were counted as having attended to the syntactic information (if for example, in the "appetizer" condition, a subject said the market should feature bacon & cheddar cheese and later identified that as the best cheese to use as an appetizer). The second manipulation check was a self-report as to whether the subject had noticed the usage category mentioned in his/her initial inspection. We felt that since the task was to make helpful criticisms of the proposed display, subjects would attribute failure to notice the usage category to inadequacies in the display, and so answer honestly.

Results

The first manipulation check demonstrated that in both treatment conditions, verbal coding of the syntactic categories had made that information equally available to both sexes. In the anomalous-syntax condition, a chi square test, with 1 df $P(X^2 \geq .073) \leq .78$, offers no significant evidence against the null hypothesis that there is no connection between gender and passing the manipulation check--i.e. it offers no evidence against the null hypothesis that males and females are from a population whose probability of noticing anomalous syntactic information is the same. Nor was there evidence that gender was relevant in the normal syntax condition: $P(X^2 \geq 0)$. There was a 95% correlation between the first and second manipulation checks.

Subjects in each condition generated an average of 5.1 thoughts about the poster and display. Thoughts were coded in 3 categories: task-pertinent thoughts, thoughts addressed to the product-in-use, and other (e.g. idiosyncratic associations other than those relating to the place of cheese in a menu string). Task-pertinent thoughts included responses addressed to the execution of the poster and display (e.g. "The poster would be more effective if it were in color," and "The cream cheese looks messy smeared on a piece of waxed paper"). Scoring was done by two independent readers.

As predicted, a significantly larger proportion of thoughts was focused on the product-in-use in the semantically anomalous condition than in the semantically familiar one, $P(Z \geq 1.69) = .0455$, and a significantly larger proportion of thoughts was focused on the task in the semantically familiar condition. It is clear that the processing of semantic anomaly not only results in greater elaboration of the product address but reduces the amount of attention available for other tasks. There were no gender differences in either condition.

TABLE 2

	Treatment Condition	
	Standard Syntactic Category	Anomalous Syntactic Category
Product-focused	11.5%	33.5%
Task-focused	46%	20%

When cheese was suggested for dessert, a syntagmatic category in which it has not traditionally been used by Americans, subjects expended considerable cognitive effort examining the idea. Some subjects dealt with the anomalous suggestion by trying to correct the string: one respondent wrote "Californians DO NOT like cheese for dessert; it should be carrot cake." Others expended cognitive effort on the subcategorization rules necessary to incorporate cheese into the dessert category, pondering about complementary dessert items and method of serving. These latter thoughts are examples of deep processing in that their outcome is the creation of links between the product and other more traditional dessert items and between the product and dessert service items (e.g. plates, and flatware).

Discussion

In Study 1 we observed that for women, a syntactically anomalous visual stimulus increased recall for a short string of associated verbal information (the advertising slogan). The pattern of our findings in study 2 is consistent with those we would expect if such anomaly encourages the reader/viewer to engage in deeper processing.

If our depth-of-processing explanation is correct, it suggests something about the mechanism underlying the observed improvement in recall. It could be that a syntactically anomalous set of objects simply elicits a second and third inspection (thereby facilitating rote learning). Our finding that anomaly elicits cognitive elaboration (as readers/viewers attempt to make sense of an ungrammatical arrangement of products) makes it more likely that greater recall is a concomitant of greater depth of processing. This mechanism is consistent with the information processing model posited by Sternthal and Craig (1982, p.101) in which recall is facilitated by rehearsal of product-focused thoughts regardless of their valence.

Syntactic Research: Problems and Prospects

Semantic (i.e. content or attribute-based) product categories and use-related categories have co-existed in marketers' lexicons with syntactically-based categories. "Sweets" and "low-cal" are examples of semantic categories; "baby food" is an example of a product user category, while "dessert" and "lunch-box item" are examples of syntactic product categories. Marketers' predilection for thinking of products as bundles of attributes has favored categorization based on semantic attributes, although the idea of target marketing has increased the

practice of categorizing products in terms of user attributes.

As for syntactic categories, the fact that a syntactic principal underlies categories like appetizer and dessert is obscured by the category names themselves. If instead of "appetizer" we say "first course" the syntactic principal underlying the category -- i.e. order -- becomes more salient. Similarly, the use of semantic categories like "trench coat" obscure the syntactic category which becomes apparent in the use of category names such as "overcoat" and "topcoat" (the semantic principal is order from inside-out). And the semantic category "living room" obscures the syntactic category salient in the term "front room" (a house is a string of rooms, and the syntactic principal is spatial order, starting from the street entrance).

We believe that the study of consumption symbolism can be enriched by studying the syntactic rules which govern the association of products in use and the origin of syntagmatic categories in the rituals of social intercourse. In addition, the understanding of visual processing can be furthered by attending to the way in which the syntax of product usage organizes the visual field and regulates the disposition of attentional resources.

Why have we seen so few studies of artifactual syntax? Even studies of the effect of situation on product choice (Belk 1975) have approached the product semantically, looking for situation-specific consumption dialects in which product attributes differ between situations. We believe attempts to account for the influence of usage situation on choice have overlooked the syntactic component of consumption rituals because many human rituals do not distribute related products across space and time. For example, while there is an appropriate costume for a job interview, the same costume is worn at all stages of the interview ritual. Similarly, at a picnic or buffet, the serving of the courses is not separated in time, and items from each course will occupy the eater's plate simultaneously. While the dessert course will probably be eaten last (at least by adults), the salad and entree may be consumed in alternate bites, rather than eaten separately.

Such occasions however obscure the fact that there is for both the costume and the menu an underlying temporal or spatial order rooted in social rituals that do distribute related products across space/time. Clothing, for example, is not only donned in a particular order, it is removed in a certain order, and the removing of successive layers corresponds to succeeding levels of intimacy in rituals involving familiars: removing the coat signifies a change in formality appropriate to familiars, while removing undergarments signifies a change in formality appropriate to familiars who are also sexual intimates. The relationship between number of clothing layers and degree of social intimacy is grounded in the ritual governing sexual encounters.

Rules governing the order of food in meals, as noted above, also have their root in rituals (such as births and weddings) which distinguish among persons and occasions on the basis of kinship and intimacy. And rules governing admission to social intimacy recapitulate the syntax of domestic residential design: the stranger soliciting donations is admitted to the front hall and the parson to the front room, but unless either is also an intimate or a family member, he will not be entertained in any of the back rooms. (Note that the terms "kitchen cabinet" and "back-room politics" immediately conjure up a conjunction of familiars.)

The categories of a meal, the categories of dress, the categories of architecture: in every case they call up

human rituals that sort people into familiar and less familiar. It is to such rituals that the student of artifactual syntax must look turn in order to define the categories of his grammar and the rules it observes. The key to the meanings of these categories and rules is to be found in the social distinctions these rituals serve to maintain. Knowledge of these meanings and of the cognitive demands involved in recognizing and interpreting syntactically-associated products will be of no little value to the marketing practitioner.

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CONCRETENESS-ABSTRACTNESS AND THE FEATURE-DIMENSION DISTINCTION

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Abstract

This paper examines consumers' cognitive representations of products. Specifically, the paper attempts to provide insight into the representation of product attributes by focusing on two approaches for classifying these attributes--that of concreteness-abstractness and features-dimensions. The literature on both approaches is reviewed. The paper contends that the two approaches are related in that more concrete attributes may be associated with more dichotomous features, while more abstract attributes may be associated with more continuous dimensions. The implications of this view for future research is discussed.

Introduction

Understanding consumer judgment and choice processes naturally requires an understanding of the cognitive representation of products on which these processes are based. Among the distinctions made among attributes in these representations, two have received particular attention. One such distinction is concreteness-abstractness. Distinguishing among attributes with respect to concreteness-abstractness has proved fundamental to the study of choice strategies (Johnson 1984). Concreteness-abstractness has, in addition, been indirectly researched in studies that have investigated the effects of pictorial information on persuasive communications (e.g., Edell and Staelin, 1983; Hirschman and Solomon 1984; Kisielius and Sternthal 1984a; Mitchell and Olson 1981). The pictorial vs. verbal format of information as well as the concreteness-abstractness of information can both be viewed as operationalizations of imagery. However, concreteness has been the focus of investigation of only a few marketing studies dealing with persuasive communications (e.g., Dickson 1982; Rossiter and Percy 1978).

A second useful attribute distinction is that between features and dimensions (Johnson 1981). Either feature-based or dimensional representations are, for example, implicit in the use of different choice strategies (Garner 1978) and similarly scaling procedures (Pruzansky, Tversky, and Carroll 1982).

The purpose of this paper will be to integrate these two areas by suggesting that a relationship exists between the concreteness-abstractness and feature-dimension distinctions. First, a brief review will be undertaken on the concreteness-abstractness and the feature-dimension distinctions. Then, an attempt will be made to relate the concreteness-abstractness of products to the use of features or dimensions by consumers. Finally, the implications of this view for future research will be discussed.

Concreteness-Abstractness

Concreteness-abstractness has long been central to research in psychology and has recently emerged as an area of interest in marketing. Within the psychological literature, a large body of research in verbal learning has examined the effects of concreteness-abstractness as an indicator of imagery on different measures of learning. Research in this area has been influenced primarily by the work of Paivio and his associates (Paivio 1971). According to Paivio (1969), the

abstractness-concreteness of a stimulus is mediated by the stimulus' ability to arouse imagery, which in turn determines its ability to affect learning. Thus the higher the concreteness of a stimulus, the more likely it is to evoke imagery and to subsequently have an effect on learning. Consistent with this view, concreteness has been found to be correlated with free recall, recognition, paired-associate learning (see Paivio, Yuille, and Madigan 1968), memory for changes in meaning and wording (e.g., Moeser 1974), and comprehension (e.g., Klee and Eysenck 1973).

Within this framework, concreteness-abstractness has further been explained in terms of the subordination-superordination of categories (Paivio 1971). The abstractness of a word is assumed to be related to the degree that a word represents a superordinate category. The more abstract a word is, the more likely it is to belong to a superordinate category. Consistent with this view, Rosch (1975) in her work on human categorization uses levels of abstraction to indicate points at which basic category distinctions are made.

Concreteness and abstractness have also been used to explain human values and goals. Rokeach (1973) suggests that at least two different sets of values exist: instrumental values and terminal values. Instrumental values are considered to be relatively concrete and deal with values of "doing", whereas terminal values are more abstract and deal with values of "being".

The research in the psychological literature on the effect of concreteness-abstractness on persuasion is mixed. Concreteness has been found to both have an effect on judgments as well as to have no effect. A number of explanations have been offered for these results in reviews of this literature (e.g., Kisielius and Sternthal 1984b; Taylor and Thompson 1982). Since the focus of this paper is not to reconcile inconsistencies in the effects of concreteness on judgments, the interested reader should refer to the cited literature reviews for a more in depth discussion of this research.

In the field of marketing there is generally a renewed interest in attribute concreteness-abstractness. Holbrook and Hirschman (1982), for example, emphasize that tangible attributes of conventional goods, such as calories in a soft-drink or miles per gallon in an automobile, have been studied in consumer research to the exclusion of important experiential aspects of consumption, such as cheerfulness and sociability. The distinction between tangible and experiential aspects of consumption can be viewed as a difference in the abstraction of product attributes. Art works and ideologies have similarly been viewed as more abstract than other, more tangible products (Hirschman 1983). Empirical research on concreteness-abstractness in marketing can be divided into the areas of market segmentation, persuasive communications, and consumer choice. Each of these areas will now be reviewed.

Market Segmentation

Implicit in benefit segmentation is the notion that descriptive product factors are more concrete, while basic product benefits are more abstract. In his

seminal article, Haley (1968) urges managers to rely on the basic product "benefits" sought by consumers rather than descriptive product factors when segmenting consumer markets. This view of segmentation is consistent with Becker's (1976) economic approach to human behavior. Becker theorizes that consumers derive utility from the properties or "characteristics" which groups of products possess rather than from the goods themselves. One combines an automobile, gasoline, and one's own time, for example, to produce "transportation." It logically follows that segmentation should occur on these relatively abstract benefits or "characteristics" from which utility is more directly derived.

Persuasive Communications

The concreteness-abstractness of attributes also plays an important role in persuasive communications. Sales-force presentations often rely on concrete descriptions of a product's attributes. The concrete case history format for presenting product attribute information that describes one individual's experiences with a product is being used in current television ads as well as the more abstract base rate information that presents statistical information about a product's attributes.

A few studies have been undertaken in marketing that have experimentally manipulated concreteness (Dickson 1982; Kisielius 1982; Rossiter and Percy 1978; Wright 1979). Dickson (1982) manipulated concreteness through different reports on refrigerators that were presented to subjects with either concrete case-history information or abstract base-rate information. In the case history condition, actual quotes of five housewives were presented concerning the failure of their refrigerators. In the base rate condition, more abstract information was presented in the form of summary statistical reports of 500 housewives. Relative to the base rate information, the presentation of the case history information led to an increase in the recall of the information and to higher failure-frequency judgments.

Concreteness was also found to have an effect on the attitudes formed toward print advertisements. Rossiter and Percy (1978) found that an ad that was highly concrete in presenting superlative and explicit product claims was more persuasive than an ad which was superlative but presented vague product claims. In another study, Wright (1979) found that the reading of drug warnings was affected by concreteness. The combination of concrete information and a visual action demonstration resulted in a significant short term increase in the inspection of drug packages and in the likelihood of reading in-store warning signs. Finally, concreteness has been found to affect the degree of consistency between an individual's attitude and behavior toward a consumer product (Kisielius 1982). A number of explanations for these results can be offered (e.g., Dickson 1982; Edell and Staelin 1983; Rossiter and Percy 1978). A recent literature review by one of the authors has attempted to explain the judgment effects of vividness, concreteness being one of its operationalizations, by using the availability-valence hypothesis (Kisielius and Sternthal 1984b). As is noted in the review, future research is needed in this area.

Consumer Choice

The third area of marketing in which concreteness-abstractness has prefigured is that of consumer choice, which is the focus of this paper. Specifically, we are interested in how consumers cognitively represent products when making decisions. No literature currently exists in this area that directly relates products to both the concreteness-abstractness of product attributes

and to their feature-dimensionality. The literature that has been undertaken in the choice area that is relevant to our arguments concerns the relationship of concreteness-abstractness to choice. This literature will now be reviewed.

Consumer choice has often been viewed as a hierarchical process in which different levels of choice in a hierarchy are at different levels of abstraction (Bettman 1974; Howard 1977). Higher level product category choices, for example, involve more abstract alternatives than lower level, brand based choices. Howard hypothesizes that, first, an evaluative hierarchy of choice criteria exists that corresponds to the hierarchy of choices, and second, that criteria in the evaluative hierarchy are chosen which correspond to a level in the choice hierarchy. In other words, there is a direct relationship between the abstractness of the alternatives in a choice and the abstractness of the choice criteria. A study by Boote (1975) indirectly supports this hypothesis. Subjects in the study rated the relative importance of Rokeach's instrumental and terminal values to each of two levels of choice, product category and brand. The results showed the more abstract terminal values as more important to product category choice, while the more concrete instrumental values were more important to brand choice. No evidence is given concerning actual product attributes or choice criteria.

However, as Johnson (1984) points out, choice is not always hierarchical. Consumers often face specific alternatives from different product categories. To account for such choices, Johnson hypothesizes a continuum of product attributes ranging from the concrete to the abstract. An important property of this continuum is that increasingly abstract attributes describe an increasing number of products. Thus products that are relatively noncomparable, or described on different concrete attributes, such as a bicycle and a television, can be compared directly on more abstract attributes such as "use" or "entertainment" value. Support for this view was found in three experiments conducted by Johnson (1984). As the comparability of the alternatives decreased, there was a corresponding increase in the level of abstraction of product comparisons.

An important implication of attribute abstraction for our attempt to relate concreteness-abstractness to features-dimensions is that abstraction, by definition, implies a summarizing or concentration of a larger whole resulting in a decrease in detail. That is, as representations become more abstract, fewer relevant attributes are involved. Both the Boote and Johnson studies support this decrease in relevant attributes with abstraction in consumer choice contexts. In addition, this notion is consistent with the availability-valence hypothesis explanation for the processing of abstract information (Kisielius and Sternthal 1984a). According to the hypothesis, abstract information should be less available in memory than concrete information because it is less likely to be cognitively elaborated; that is, less associative pathways are likely to be formed. Thus, the fewer the associative pathways that are formed, the less likely a consumer will be to access the abstract information.

Features and Dimensions

Our understanding of concreteness-abstractness may benefit from the study of related distinctions. One of the aims of this paper is to show that concreteness-abstractness can be better understood by recognizing the distinction between features and dimensions. Specifically, while dimensions are continuous attributes on which objects differ as a matter of

degree, features are dichotomous attributes that an object either has or does not have (Restle 1959; Tversky 1977; Garner 1978). For example, while one consumer may think of a beer as "sweeter" than another, indicating the use of a dimension; another may view beers as either "sweet" or "not sweet," indicating the use of a feature.

Recognizing whether consumers use features or dimensions has important marketing implications. The appropriateness of different consumer choice strategies may depend on the use of features or dimensions in a representation. For example, while lexicographic choice models (Coombs 1964) are based on dimensions, elimination by aspects (Tversky 1972) is based on features. Recognizing the distinction between features and dimensions may also help determine the appropriateness of different similarity scaling procedures. Dimensions are, for example, implicit in product space analysis and underlie the use of multidimensional scaling procedures (Shocker and Srinivasan 1979). Features, in contrast, are implicit in many recent similarity scaling procedures such as hierarchical clustering, additive trees, and additive clustering (c.f. Tversky 1977). The ability of a scaling procedure to fit similarity data should depend on whether the consumer's representation of products when producing the judgments, using features or dimensions, is consistent with the representation implicit in the scaling procedure. Pruzansky, Tversky and Carroll (1982), for example, show that multidimensional scaling fits better data generated from a dimensional space representation, while an additive tree procedure fits better data generated from a feature tree representation.

The Relationship of Concreteness and Abstractness to Features and Dimensions

Important differences between features and dimensions suggest an integral relationship between this qualitative difference in associated product attributes and the concreteness-abstractness of attributes. First, as features either do or do not exist (i.e., there is but one non-zero level for such attributes), they are relatively simple compared to dimensions (Garner 1978). Given a limited information processing capacity and that features are very simple because they only have two levels, the use of a feature-based representation is one way to handle products associated with a large number of attributes. Recall that concrete representations generally involve more relevant attributes than abstract representations (Johnson 1984) and that concrete information is more likely to be available than abstract information because of its greater cognitive elaboration (Kisielius and Sternthal 1984a). Thus consumers may be more likely to use features the more concrete the representation in order to reduce a possible cognitive resource limitation in memory induced by concrete information. Second, as Green, Wind and Claycamp (1975) suggest, groups of features are themselves captured by more basic or abstract dimensions. The degree of "safety" in an automobile, for example, may capture the existence of seat belts, air bags and a particular type of construction. Essentially, a single abstract attribute captures or subsumes more than one concrete attribute. Similarly, a dimension may be viewed as a set of nested features (Tversky and Gati 1982). These arguments, taken together, suggest the main hypothesis of our paper that the more abstract the attribute, the more likely consumers represent the attribute as a dimension. Conversely, the more concrete the attribute, the more likely consumers represent the attribute as a feature.

We suggest that this hypothesis holds only in a general sense. Aspects of a stimulus, such as a product's concreteness-abstractness, do not completely determine the nature of the representation used in cognitive processing. Representations, for example, may be modified by the requirements of the task (Garner 1978). The dependence of stimulus representation on task variables was illustrated in a recent study by Johnson and Tversky (1984). Subjects were asked to make similarity judgments, conditional predictions, and dimensional evaluations among a set of risky alternatives. They found that both the similarity judgments and the conditional predictions were better explained by additive tree models, which are based on features, while the dimensional evaluations were better explained by multidimensional scaling and factor analysis, both of which are based on dimensions. The authors suggest that subjects may use more feature-based representations when making more holistic judgments such as similarity.

Future research should, therefore, study both the existence and nature of the general relationship between these two attribute distinctions and the effect of task or context specific factors on product representations. Other task or context factors that may affect the representations used in processing include the number of alternatives involved and the risk or error at stake in the task. Consider the attribute "safety" represented as both a feature and a dimension, such as a "safe" automobile versus an automobile with some degree of "safety." Using the attribute as a dimension allows for finer distinctions among the alternatives, in this case automobiles. Therefore, as the number of alternatives increases, so may the need for finer discrimination resulting in an increased use of dimensions. As dimensional representation of an attribute may provide superior discrimination, dimensions may also be used when the risk or error involved in the task is large. Consider choosing among expensive durable products, such as automobiles, as opposed to inexpensive nondurables, such as candy bars. As there is more at stake when choosing an automobile, one's ability to make even the smallest discriminations may become important, resulting in an increased use of dimensions.

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THE DEVELOPMENT OF KNOWLEDGE STRUCTURES
IN CHILDREN

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Abstract

Although schemas have been the subject of much interest in recent years, issues surrounding the development of these knowledge structures have received little attention. The purpose of this paper is to examine several conceptual frameworks which describe how schemas develop and provide a starting point for investigating schema development in empirical settings. These descriptions are then used as the basis for a preliminary study of schema development in children of different ages.

Introduction

The importance of prior knowledge in learning and problem-solving has been a central concern of researchers for over fifty years. Bartlett (1932) was the first of many investigators to demonstrate the importance of knowledge structures (schemata) in guiding the comprehension and interpretation of new information. Recent studies have provided further support for the notion that individuals utilize schemata in a wide variety of processing situations for a variety of purposes. Individuals appear to have schemata that govern our expectations regarding the appearance of objects and places (scene schemata), the order in which certain sequences of events will happen (event schemata or scripts), and the structure of actions occurring in stories (story schemata). These schemata in turn provide a framework for perceiving (Minsky 1975), comprehending (Bransford and Johnson 1973), and recalling new information (Bower, Black, and Turner 1979; Brewer and Treyns 1981; Goodman 1980; Mandler and Johnson 1977).

Little attention, however, has been directed toward understanding the development of schematic knowledge structures. Because schemas play such an important role in guiding many aspects of information processing, the question of how schemas develop and how they change over time would appear to be of key importance. Various researchers have suggested that new schemata are developed through experience and observation (Nelson and Gruendel 1981) or through transformations and modifications of existing schema (Rumelhart and Ortony 1977). As they develop, investigators believe that schemata become more complex and abstract in content (Schank and Abelson 1976; Taylor and Winkler 1980). Unfortunately, little empirical evidence has emerged to examine many of these contentions.

This paper addresses these questions by introducing and contrasting several views of schema development. These views provide the conceptual basis for further research by specifying changes in the content and utilization of schemas as they develop. This paper also presents some preliminary evidence for these developmental changes in a study with children of different ages. Children of different ages seemed to be a particularly appropriate sample for detecting developmental change due to wide variations in knowledge bases which occur in younger and older children. The implications of these findings for future research and suggestions for extending this line of inquiry are also discussed in a concluding section.

Conceptualizing Schema Development

Although schema development has not received much empirical attention, several researchers have developed hypotheses about the changes that occur in the course of schema development. Each of these frameworks characterizes schema development as progressing in a series of stages or levels with each stage qualitatively different from one another. Stages are usually described as differing in terms of the abstractness and complexity of the knowledge structure. Each framework is described in more detail below.

Taylor and Winkler

Taylor and Winkler (1980) describe schema development as occurring in four distinct stages: rudimentary (or episodic), stereotypic (or novice), relative expert, and automatic phase. At the earliest stage of development, knowledge may consist of a specific example which an individual has experienced or observed. In the next stage, the stereotypic or novice phase, individuals move from knowledge of specific examples to knowledge of stereotypic attributes which define a situation, person, or object. These attributes are likely to be based upon information which an individual encounters in initial or frequent contacts with the person, object, or situation. For example, firemen may be described in terms of stereotypic attributes such as fighting fires and saving cats in trees. During this phase, individuals are likely to overgeneralize on the basis of limited information and are not likely to be sensitive to information which is discrepant with their stereotypes. In the third phase, relative expertise, individuals become more sensitive to discrepant information and may use it to refine and qualify existing knowledge structures. As a result, schemas become more complex and may contain conditional statements which qualify simple generalizations ("if a plant's leaves begin to drop off, it may be overwatering . . . unless it has been very hot, in which case the plant could be scorched"). In the final stage, the automatic phase, the content of the schema remains unchanged but the access to and use of the schema becomes automatic or habitual.

Abelson

Abelson (1976) describes the development of event schemata or scripts as progressing through several stages. As individuals acquire new experiences, their representations of the sequences of events common to these experiences include more abstract statements and more complex series of events. Script development is viewed as progressing through three levels: episodic, categorical, and hypothetical. The episodic level is characterized by an emphasis on single incidents with little generalization or abstraction from incident to incident. Scripts at this level are often represented by details of a single experience. At the categorical level, scripts begin to include general statements which demonstrate abstraction from specific details of any one incident. However, specific examples are often mentioned along with simple generalizations at this stage. As scripts progress to the hypothetical level, they are characterized by even more abstraction and more complexity. Scripts at this level are usually void of any specific details and contain only

abstractions and general statements. This level is also characterized by more complex sequences of actions organized hierarchically and contained in conditional clauses (if . . . , then . . .).

Additional clarification regarding the qualitative differences between the episodic, categorical, and hypothetical levels has been recently provided by Martin and her colleagues (Martin, Harrod, and Siehl 1980). To facilitate the coding of protocols into one of these three levels, these investigators have proposed several additional characteristics which distinguish different levels of script development: number of words indicating frequency, type of nouns, verb tense, and types of logical connectors. Words indicating frequency, such as "sometimes" and "usually," are characteristic of only the categorical and hypothetical level. Because episodic scripts typically describe a single incident, there is little need for frequency indicators to summarize multiple incidents. The types of nouns used to describe event sequences also varies depending upon the level of script development. Mention of nouns at a concrete level ("me" or "Sharon, my friend") are characteristic of the episodic stage, whereas abstract nouns ("salesperson" or "individual") are more frequently used in categorical and hypothetical scripts. When describing events, verb tense also tends to be different according to developmental stage. Events in episodic scripts are described in the past tense ("I looked for the salesman") whereas events in categorical scripts are described in the "eternal" present tense ("A shopper looks around before selecting an item"). The hypothetical level is characterized by the use of "eternal" present tense or future tense. Finally, different types of logical connectors between events tend to be found in different stages of development. The episodic level is characterized by the use of simple connectors such as "and" and "while"; the categorical stage is characterized by connectors such as "or" or "for example"; and, the hypothetical level is characterized by connectors such as "if," "then," and "unless."

Gruendel

Gruendel (1980) distinguishes between two different levels of script development: simple sequences of acts or conditional sequences. At the lowest level of development, scripts are characterized by individual events listed in a temporal order. In contrast, more sophisticated scripts are characterized by conditional sequences. These sequences are defined as series of events embedded within other events and series of events connected with conditional "if-then" and "when" clauses.

Comparison of Approaches

These conceptualizations of schema development share several features in common. First, all three describe schema development as progressing in a series of stages or levels which are qualitatively different from one another. Second, there is considerable overlap between these approaches in the dimensions they use to distinguish different stages of development. The degree of abstraction is a key element in the developmental sequence described by Abelson and Taylor and Winkler. Both approaches describe the lowest level of development as one in which single experiences or instances form the basis for the knowledge structure. Generalizations based upon multiple experiences or examples are characteristic of more highly-developed scripts. All three approaches view the highest level of development as including complex

sequences of events often connected with conditional clauses. Sequences of events embedded within one another are described as occurring in Abelson's hypothetical stage and Gruendel's conditional sequence stage. Sequences of events connected by qualifiers and conditional phrases ("if-then") are described as characterizing Abelson's hypothetical stage, Taylor and Winkler's expert phase, and Gruendel's conditional stage.

Although the similarities are evident, these approaches also vary in several respects. First, each approach specifies a different number of stages in characterizing the developmental sequence. Taylor and Winkler describe four stages, Abelson specifies three stages, and Gruendel considers two stages. A more important distinction between approaches is the focus of developmental differences among stages. Both Abelson's and Gruendel's stage descriptions are based upon qualitative differences in the content and organization of schemas. Taylor and Winkler's stage descriptions are based upon differences in the content of schemas and differences in the way in which these schemas are utilized in everyday situations. In Taylor and Winkler's characterization, the difference between the relative expert and expert stage is largely attributed to the naive dependence on schematic knowledge structures exhibited by relative experts. The difference between the expert and automatic stage is based upon the degree of conscious effort which must be exerted to access and use schematic knowledge structures. Considering these differences, Abelson's and Gruendel's approach seems better suited for studying structural changes in development whereas Taylor and Winkler's approach seems better suited for studying process differences in schema development.

Preliminary Evidence

Preliminary evidence regarding schema development was collected in a study of script acquisition in children. Scripts for a familiar purchase situation, grocery shopping, were elicited from children in three age groups (ages 4-5, 6-7, and 9-11). The age range from four to eleven was selected to be broad enough to detect changes in script development. Fourteen children in each age group were asked to describe "what happens when you go grocery shopping" and were instructed to remember the events in the order in which they generally happen. As children provided their descriptions, interviewers provided necessary prompts to encourage children to remember as much as possible about grocery shopping events. This procedure was adopted based upon its successful use in previous studies of knowledge development in children (Nelson and Gruendel 1979a, 1979b). Children's responses were recorded on tape and transcribed after the completion of the experiment. Based upon Abelson's framework, children's protocols were classified into one of three levels of development: episodic, categorical, or hypothetical. Examples of children's scripts classified by category are provided in Table 1.

Children's scripts were expected to vary across age groups by virtue of the fact that older children should have more experience and information regarding grocery shopping. If experience and observation are the basis for script development as researchers believe, older children with more experience should exhibit more well-developed scripts than younger children. Episodic scripts should be more frequent in younger children whereas categorical or hypothetical scripts should be observed in older children.

TABLE 1

Examples of Grocery Shopping Scripts

Episodic Level

We buy toothpaste . . . soup, potato chips, milk (age 7)

My mom goes shopping today for groceries . . . gets some cereal, toast, noodles (age 5)

Get a shopping cart . . . go get some pop, milk, fruit for my dad's lunch, pizza, spaghetti (age 6)

We drive and I have to put on my seat belt and mom has to stop and then we get there and go in and get the food and we left and then we went home . . . then we were home and dad wasn't home and neither was Brandon and mom said that they must have gone in the jeep (age 5)

We drive the car, I sit by the window all the time and look out the window . . . take a cart, buy cereal and vegetable soup (age 5)

We get apples . . . once I was peeling it and made a mess all over the table (age 5)

We go home and then eat and then go back to the store . . . we get groceries, cherries, and my mom makes chocolate cookies (age 5)

We buy some coffee and then you go to another store . . . then we get apples and cheese . . . we go home (age 5)

Categorical Level

Well, my mom gets her coat and purse and then we get into the truck and we start going . . . then we are there and then we get out of the truck and then we go into the grocery store and then we get our money ready and then we get some kind of food like lettuce and then we go pay for it and then we get back into the truck and go home (age 7)

We go in the store, look around, find all the stuff you need . . . when you are all done shopping, come up to the counter and pay for it and then you can go home (age 10)

Well, when my mom gets there, I just go for the magazine department while she shops . . . when she gets ready to go, she comes to get me where the magazines are and then she will just pay for it and I will be out sitting in the car (age 10)

Drive with the car . . . then I get out of the car and go in the store, then I go shopping and buy all I need, then I get back in the car and drive home (age 7)

Well, we get into the car and we drive to Evansville, we go into the store, we buy what we need, pay for it, and then go back home (age 10)

I go along and walk around . . . pick some food and ask her (mother) if we need any of that . . . when we are done, we go pay for it . . . they will put it in the sacks, then we go out and sometimes we might go into the bank (age 10)

Get a shopping cart, we buy, we go to the clerk and pay for everything . . . this guy puts all the groceries in the bag and then we put them in the shopping cart and roll it out to the car and put it in the trunk (age 8)

Get a shopping cart, get some food, go pay for it with money, just go home (age 7)

Hypothetical Level

We get into the car . . . and then we stop and park the car and get out and walk to the door . . . we usually get a cart and go up practically every single

aisle and pick out anything that looks good and the things we need . . . we usually wait in line for about a year (age 11)

TABLE 2

Percentages of Episodic, Categorical,
and Hypothetical Scripts

	Episodic	Categorical	Hypothetical
Ages 4-5	86% (n=12)	14% (n=2)	0% (n=0)
Ages 6-7	21% (n=3)	79% (n=11)	0% (n=0)
Ages 9-11	0% (n=0)	93% (n=13)	7% (n=1)

The percentages of children in each age group classified as having episodic, categorical, or hypothetical scripts are presented in Table 2. An examination of this table reveals that most of the scripts elicited from children were categorized as either episodic or categorical. Only one script approached the hypothet-

ical phase in terms of abstraction, lack of specific details and examples, and use of qualifiers for general statements. Thus, the major differences in this case appear to be concentrated at the episodic and categorical stages of development.

Differences between age groups were examined by comparing the proportion of children in each group classified as episodic, the proportion of children in each age group classified as categorical, and the proportion of children in each age group classified as hypothetical. As expected, episodic scripts were most common among the youngest children in the sample. More children in the youngest age group exhibited episodic scripts than children in the middle age group ($Z=3.42, p<.01$) or the oldest age group ($Z=4.53, p<.01$).¹ Children in the middle age group also tended

¹The p-values reported here have been corrected for a rise in the error rate due to multiple comparisons.

to exhibit episodic scripts at a slightly higher rate than children in the oldest age group ($Z=1.75$, $p=.08$). As predicted, the youngest subjects produced fewer categorical scripts than children in the middle age group ($Z=3.42$, $p<.01$) and children in the oldest age group ($Z=4.16$, $p<.01$). Children in the middle age group and oldest age group did not differ with respect to the proportion of categorical scripts produced ($Z=1.08$, $p=.26$). And, finally, children in all three age groups did not differ from one another in the production of hypothetical scripts ($Z<1$ for all comparisons).

These results support the existence of different stages of script development and lend further credibility to the contention that scripts develop with increasing levels of experience. As expected, older children with more experience exhibited more sophisticated scripts than younger children with little or no experience. Episodic scripts were characteristic of the youngest children whereas categorical scripts were more characteristic of older children.

One result which was unexpected was the absence of hypothetical scripts in this sample of children. This finding might be due to the age range included in this sample or by the nature of the subject area (grocery shopping) used in this study. It may be that hypothetical scripts develop at a much slower rate and are exhibited by children who are older than those included in this sample. It is also possible that the particular situation studied here may not be complex enough to produce hypothetical scripts. The sequences of events involved in grocery shopping may not be complex enough to produce the type of embedded sequences of events and conditional clauses which are typical of hypothetical scripts.

Summary and Conclusions

Despite the recent interest in schemas as memory structures which influence and guide many aspects of information processing, issues surrounding the development of these knowledge structures have received little attention. Several conceptual frameworks were reviewed here as a basis for investigating the changes in content and usage that accompany schema development. Findings supportive of these changes were also reported as a preliminary step toward understanding the progression of schema development.

These findings, and the conceptual frameworks upon which they were based, need to be extended in several ways. In terms of conceptualization, the characterizations of different stages of development provided by various frameworks need to be expanded and clarified. Most of the stage descriptions are too general in nature to be used as a basis for measuring schema development in empirical settings. More detail is needed to identify stages of development in a more precise manner. Extensions of general stage descriptions, such as the one developed by Martin and her colleagues (1980), would offer additional guidance in studying different developmental phases.

The empirical findings reported here also need to be extended in at least three ways. First, schema development should be studied with a variety of subject populations and topics to provide a fuller view of developmental differences. Additional data would serve to modify and expand our ideas about the changes which occur in schemas as they develop. A second area in need of further research concerns the differences in schema utilization as a component of the developmental process. The evidence presented in this paper is limited to differences in the content of schemas at

varying levels of development. As Taylor and Winkler's (1980) framework suggests, it seems plausible that differences in utilization as well as content should be involved in the course of development. And, finally, the findings reported here need to be extended to look at the dynamic aspects of schema development. The approach used here examined existing differences in schema development among groups which were thought to vary in terms of their level of experience and information about a particular topic. In order to examine schema development in a more dynamic manner, future efforts should actively vary the amount of experience or information individuals possess to insure better control and provide a better opportunity to observe developmental changes.

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PRODUCT COUNTERFEITING:
CONSUMERS AND MANUFACTURERS BEWARE

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Abstract

Conservative estimates of the commercial counterfeiting of consumer and industrial products suggest that the activity is a world wide phenomena, amounting to hundreds of millions of dollars annually. This paper (1) identifies and briefly discusses the many factors in the world market that allow the practice of counterfeiting to thrive; (2) provides a framework to aid in the systematic research of counterfeiting activities; (3) presents findings from an exploratory study focusing on consumer experiences with and perceptions of product counterfeiting; and (4) suggests additional areas for research.

Introduction

If imitation is indeed the highest form of flattery, then hundreds of American firms representing a broad range of industries and products have much to be flattered about. Conservative estimates of the commercial counterfeiting of consumer and industrial products suggest that the activity is a world wide phenomenon. Hundreds of millions of dollars in sales revenues are diverted annually through the manufacturing and trafficking of counterfeit goods. In addition to the direct and immediate loss of sales revenues by manufacturers whose goods are counterfeited, firms also face the potential loss of goodwill due to consumer dissatisfaction from experiences with the almost always inferior quality of the counterfeited goods. The purposes of this paper are: (1) to identify and briefly discuss the many factors in the world market that allow the practice of counterfeiting to thrive; (2) to provide a framework to aid in the systematic research of counterfeiting activities; and (3) to present the findings from an exploratory study focusing on consumer experiences with and perceptions of product counterfeiting.

Describing and Defining Counterfeiting

In general terms, commercial counterfeiting can be described as the fraudulent practice of affixing a false trademark to a product. The false trademark then appears superficially indistinguishable from its legitimate counterpart. The purpose of this fraudulent activity is to dupe the consumer into purchasing the counterfeit under the mistaken belief that the product is the genuine article. For the consumer who unknowingly purchases a counterfeit, the result is typically dissatisfaction; for the firm whose goods are counterfeited, loss of revenue and goodwill are possible; for the counterfeiter, profits are reaped with little financial or legal risk and with minimal marketing effort.

The legal definition of commercial counterfeiting establishes the basis for legal redress for injured parties. It also sets out some distinctions regarding other "lesser" forms of potentially deceptive product copying. "Commercial counterfeiting is the counterfeiting of brand name, trademarked merchandise . . . A counterfeit is a spurious mark which is identical with or is substantially indistinguishable from a registered mark" (The Lanham Act, Section 1127).

Two other concepts delimit the activities considered to be counterfeiting. "Knockoffs" are items which are slightly different from the original products, and they are not sold as genuine articles. Trademark infringement does not occur when shipments of Cimega (Omega), Aseikon (Seiko), Hormilton (Hamilton), Longune (Longines), and

Bulovia (Bulova) watches cross national borders (Olenick, 1982). Traffickers in counterfeit goods can simply remove or change necessary letters to create a true counterfeit once the goods have cleared customs. Knockoffs are very marketable in foreign countries. For example, foreign purchasers of U.S. products who cannot tell the difference between a "loom" and a "moon" proudly sport knockoff "Fruit of the Moon," "Fruit of the Gum" and "Fruit on the Tee-Shirt" tee shirts (Hansen, 1978).

A second and related term is "imitation." In merchandising jargon, an imitation is a copy of an original that is not sufficiently similar to constitute a counterfeit. For example, a Mexican made champagne uses the same name and label used to identify a premier French champagne, but adds enough Spanish words so that it is only imitating the French label, not counterfeiting it. While the advertising and labeling of these "lesser forms" of misidentified products may present problems of deception and violate both the Lanham Act and the Federal Trade Commission Act, the marketing of knockoffs and imitations is not a crime under current trademark statutes.

The commercial importance of trademarks is so significant that trademarks receive specific legal protection in many countries. Nearly four million trademarks are in force throughout the world, and an estimated 100,000 new trademarks are granted protection each year (Patel, 1979). The world-wide importance of trademark registration is also evident: 70 percent of registered trademarks are registered in developed countries, 27 percent in developing countries, and three percent in socialist countries. Within the developing countries, over one-half of the trademarks registered are owned by foreigners (Wasserman, 1980).

The importance of trademarks is also reflected in a firm's financial statement. A trademark provides protection for the goodwill built through a corporation's long-term marketing efforts. The Coca-Cola Company, for example, spends hundreds of thousands of dollars annually to protect the trademarks "Coca-Cola" and "Coke." It values the intangible goodwill associated with the trademarks at three billion dollars (Lunsford, 1974).

Finally, trademarks are an important source of information. They provide a convenient summary or "chunk" of information to consumers. They communicate something about the quality of the product bearing the mark and the reputation and reliability of the firm manufacturing the product. The visual component of a trademark evokes identification and imparts meaning to potential customers who do not, or cannot read the more detailed label information. Trademarks also offer a means for consumers to communicate socially. Wearing garments with a "designer's" label may say something about the person inside.

The Scope of Counterfeiting and Why It Thrives

The two most outstanding characteristics of counterfeiting today are its overwhelming financial significance, and the international scope of the problem. The International Anti-Counterfeiting Coalition (I.A.C.C.), an organization whose corporate clients include industry leaders in consumer goods, high-tech products and industrial goods, conservatively estimates the loss in revenues to legitimate producers to exceed hundreds of millions of dollars annually (United States International Trade Commission, 1983).

A wide array of consumer goods including such products as replacement automobile parts, pharmaceuticals, personal computers and luxury goods (watches, liquor, high fashion clothing) are key targets for counterfeiters. Within the general category of consumer goods, the magnitude of the counterfeiting problem appears to vary across industries. The recording industry estimates annual losses due to pirating of records and tapes to be 20 percent of all sales, with sales of legitimate tapes running behind sales of counterfeit tapes in certain areas of Europe and Asia (Walker, 1981). Designer jeans are currently haute couture, and counterfeits comprise ten percent of the market (Nagy, 1981). Levi jeans and Cartier watches both estimate recent losses at 15 million dollars per year (Parish and Groskoph-Markley, 1979), while the French luxury goods industry estimates losses of 30 million dollars annually (Walker, 1981).

Counterfeiting is not just limited to consumer goods. Industrial goods counterfeiting is also big business, and sometimes has disastrous economic consequences. Ineffective counterfeit pesticides are estimated to have caused a 15 percent decrease in Kenya's coffee crop, their chief export crop for earning foreign exchange. The problem perpetuated itself when Kenyan farmers, afraid that the ineffective counterfeit pesticides were dangerous, became reluctant to use any pesticides (Kenyan Weekly Review, 1981). Other problems with industrial counterfeit goods have been identified in the airline industry (Harris, 1980), medical technology (Hansen, 1978), and pharmaceuticals (Lewis, 1979).

While the world wide demand for brand name products is no doubt one of the leading causes of the counterfeiting explosion, there are a number of other factors that also help to explain why counterfeiting is such a thriving activity. An assessment of world market factors suggests that the reasons are basically political and economic. Many developing countries simply do not have specific laws that address product counterfeiting. Those countries that do have anticounterfeiting statutes typically have nominal penalties for violations and very lax attitudes regarding enforcement. Even in the United States, prosecution of counterfeiters is a relatively futile exercise. Counterfeiting in the United States is a civil offense (as opposed to a criminal offense), and a corporate plaintiff must structure its case to prove either mail fraud or violation of other federal statutes. Otherwise, it must rely on unsatisfactory state unfair competition laws (McClure, 1979).

The diffusion of technology has made it easier for many foreign countries to produce credible counterfeits of U.S. products. Additionally, many third world countries have cheap and abundant labor, and the output from this particular manufacturing sector provides an important source of foreign exchange. It should also be noted that the market for counterfeit U.S. goods is not restricted to the U.S.A. The increasing international appeal of brand names allows foreign counterfeit manufacturers to exploit their home markets as well as export markets. In many developing nations, highly fragmented channels of distribution provide a structure that facilitates the distribution of counterfeit products.

The Need for Research

The impact of counterfeiting is both tangible and intangible; it affects both the individual firm and society; and injury befalls both the corporation whose goods are counterfeited and the consumer who unknowingly purchases the counterfeit products. Tangible impacts include the revenues lost by the trademark owner to the counterfeiting manufacturer. Intangible impacts include the loss of goodwill and consumer confidence. These micro-economic effects are magnified when lost revenues are translated into lost jobs and dissatisfaction is translated into negative attitudes towards business in general.

Indirectly consumers pay the costs of counterfeiting through higher prices necessitated by corporate expenditures on trademark protection. Directly they also pay in the form of dissatisfaction with counterfeit products, personal injury from faulty counterfeit products, and confusion regarding avenues for redress.

Currently it is difficult to estimate the extent of these impacts. Additionally, it is difficult for firms adversely affected by counterfeiting to develop strategies for effectively dealing with the problems since their exact nature and causes are not well understood. Unless and until effective legislation is enacted to stop counterfeiting, action by individual firms is likely to be aimed at preventing access to the marketplace for counterfeit goods, or recouping goodwill by effectively handling consumer problems with counterfeit products that do enter the market.

Past research on complaining behavior suggests that dissatisfied consumers are likely to take a variety of actions that may not be immediately known to manufacturers. For example, of those dissatisfied consumers who complain, most complain to the retailer from whom they purchased the product. Only about 20 percent complain to the manufacturer (Diamond, et.al. 1976). Even more importantly, a very high percentage of dissatisfied consumers does not complain, but instead stops purchasing the product, or worse, tells their friends about their disappointing experience. If this same pattern of reaction holds true for consumers' experiences with counterfeit products, the trademark owner may not become aware of the problem until sales revenues begin to suffer --either through diversion of sales to the counterfeit goods or as the result of abandonment by the consumer due to dissatisfaction. Thus, it is critical to investigate consumers' experiences with and reactions to counterfeit products.

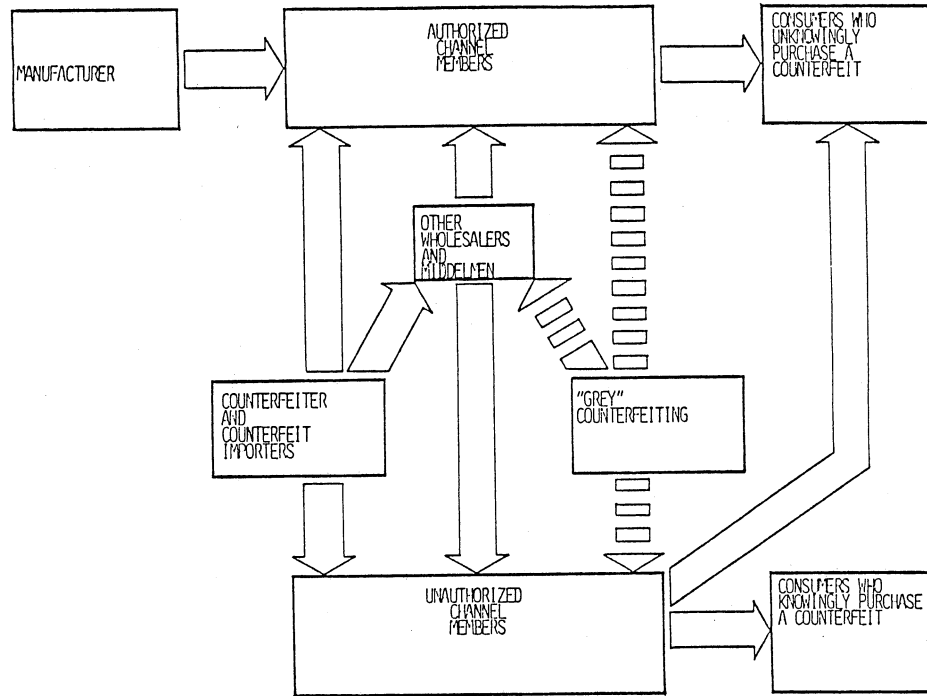
Another source of insight to the development of effective strategy for dealing with counterfeiting is an understanding of how counterfeit products get into the hands of consumers. There are a number of opportunities for counterfeiters to distribute their goods in the marketplace, and subsequently defraud consumers. Figure 1 provides a framework to describe the methods by which counterfeit goods enter the marketplace. This figure can also serve as a systematic framework for researching counterfeit activities.

"Authorized" channel numbers include wholesalers and retailers who would not intentionally deal in counterfeit goods, as well as channel members who would do so. There is, for example, evidence of channel members who seek out accounts with manufacturers and subsequently receive literature and other forms of promotional support from that manufacturer. Using these "signs of legitimacy," these channel members also buy and sell counterfeits of that manufacturer's products.

Depending on the product category, length of channels of distribution, and number of sources for obtaining counterfeit goods, reputable channel members can unknowingly receive counterfeit goods from a variety of suppliers. Figure 1 depicts a direct link from the counterfeiter, as well as an indirect route from the counterfeiter via other wholesalers. One additional source of illegal goods (although they are not technically counterfeit goods) comes from foreign manufacturers who have a manufacturing licensing agreement with a U.S. firm. In this "grey counterfeiting" situation, the licensing agreement is violated by the importation of these goods to the U.S.A. Presumably, these licensed products are of the same quality as the U.S. firm's and the injury to the trademark owner is in the form of lost sales (rather than lost goodwill due to inferior products). While most authorized channel members do not knowingly carry counterfeit goods, there is clearly the potential

for consumers to unknowingly purchase a counterfeit from a reputable channel member.

FIGURE 1



Apart from reputable channel members, there are also "unauthorized" channel members who intentionally buy, distribute, and sell counterfeit goods. Here, the channels are likely to be shorter, and less formal than authorized channels. There are consumers who will unknowingly purchase counterfeit goods from these channel members, and there are consumers who will knowingly purchase counterfeit goods.

Purpose of This Study

One of the key contentions of corporate clients of the I.A.C.C. is that public unawareness of counterfeiting, coupled with public indifference about counterfeiting, has resulted in a lack of effective legislation which could help control the problem. This climate provides a "natural refuge" in which counterfeiting can thrive (I.A.C.C., 1983). This study is a first attempt to describe consumers' experiences with counterfeit products, problems they perceive with counterfeiting, and their perceptions of the magnitude of the problem faced by different industries. In the tradition of past research on complaining behavior, this study attempts to identify the types of industries and the channels through which counterfeit products reach consumers, the types of problems encountered by consumers with counterfeit products, and the processes consumers go through to resolve those problems. Of particular interest are consumers' awareness (or lack thereof) of the problem of counterfeiting and their perceptions of available avenues of redress.

Methodology

In December 1983, Parade magazine (an insert in many of the country's Sunday newspapers) ran a feature article on product counterfeiting (Parade, December 18, 1983). The article was based on an interview with the president of the I.A.C.C., and concluded with an editor's note that if readers had "doubts about the legitimacy of a product," they could send inquiries to the I.A.C.C. In the eight weeks following the article, 114 letters were sent to the I.A.C.C. Fifty-six of these letters

were inquiries about how to deal with counterfeit products generally, while 58 were letters with complaints about an unsatisfactory purchase wherein the consumer either knew or suspected the product was counterfeit. These 58 letters, from all regions of the U.S., formed the basis of a sampling frame for a telephone survey. There were no refusals by those respondents who were contacted by phone. Interviewers were unable to contact twenty members of the sampling frame after a minimum of three callbacks over a nine-day period. The telephoning resulted in 38 respondents or a 64 percent response rate.

For purposes of comparison, the same questionnaire used in the telephone survey (with omission of five questions that were specific to a counterfeit purchase) was administered to a convenience sample of consumers. Data were collected from 48 consumers through shopping mall intercept interviews in a large metropolitan area in the Western U.S. The same three interviewers who conducted the telephone interviews also conducted the mall intercept interviews. The shopping mall sample did not differ in demographic characteristics from the telephone sample.

The questionnaire included questions similar to those used in studies of consumer dissatisfaction and complaining behavior (Andreasen, 1977; Westbrook, 1980). Both groups of respondents were asked to identify a product with which they were dissatisfied, the strength of their dissatisfaction, when they became dissatisfied with the product, the reason(s) for their dissatisfaction, and the nature of redress taken, if any. Respondents rated the relative importance of brand name, manufacturer and seller reputation and other product qualities as purchase criteria and they reported where the product had been purchased and the method of payment that had been used. In addition, respondents in the telephone survey were asked what steps they took, if any, to determine if the product was in fact counterfeit, the nature of redress attempted, if any, and whether their attitudes towards the seller, manufacturer, or business generally had changed as a result of their experience. Both groups answered questions regarding their perceptions of the

significance of counterfeiting problems across a variety of industries, as well as their opinions about the nature of penalties that should be imposed on manufacturers, sellers, and consumers of counterfeit goods. Respondents provided standard demographic information, including occupation, education level, age, gender, and region of country.¹

Results

Perceptions of the Problem

The I.A.C.C. contends that counterfeiting thrives not only because of lax legal attitudes and enforcement abroad and ineffective legislation in the U.S., but also because of a lack of consumer awareness and public indifference towards the problems resulting from product counterfeiting. While the sample results are not representative of the general population, results of this exploratory study do suggest that a lack of awareness of the extent of counterfeiting activity across a variety of industries is clearly an issue. Results from both groups of respondents suggest a considerable lack of awareness of the significance of counterfeiting problems across industries.

The results suggest a wide range of beliefs about the origins of counterfeit products, their distribution, and the potential consequences from having counterfeit products in the marketplace. Two-thirds of the total sample correctly responded that most counterfeit products are manufactured abroad and imported to the U.S., while the remaining one-third did not know if these goods were domestic or imported. Even of those who responded that counterfeit goods came primarily from abroad, 33 percent could not correctly name one country that is active in producing counterfeit goods. (Taiwan and Hong Kong account for roughly 60 percent of counterfeit goods in the U.S., and these countries were the two most often identified in the survey).

Consumers did seem to have clear ideas about the potential consequences of counterfeit goods in the marketplace. Manufacturers' loss of profits and goodwill seemed likely outcomes to 85 percent of the sample, while monetary loss to the consumer and lost jobs in the U.S. seemed likely outcomes to 72 percent. There were differences in the perceptions of the consequences between the two groups in the sample, with the mall intercept respondents less likely to view "loss of profits to the manufacturer" ($\chi^2 = 8.1, P < .05$), and "monetary loss to the consumer" ($\chi^2 = 8.1, P < .01$) as outcomes.

Both groups of consumers were much less certain about the magnitude of the problems that various industries face with regards to counterfeiting activity. Fifty percent of the respondents felt that counterfeiting was most serious in the consumer goods category, 17 percent felt the most serious problem was with industrial goods, while 33 percent did not have any idea of which category was most prone to counterfeiting.

Table 1 lists a variety of consumer and industrial goods industries, each with strong evidence that counterfeiting is a significant problem to the industry (U.S.I.T.C., 1983; I.A.C.C., 1983). While the respondents were correct in their perceptions of counterfeiting problems for some categories of consumer goods, their general level of awareness was fairly low (note the responses in the "Do Not Know" column, compared to the "Not a Problem" column). This is particularly true regarding levels of awareness for credit cards, replacement auto parts and prescription drugs. Counterfeiting of the latter

two products poses a potentially significant physical risk to consumers, while the fraudulent use of counterfeit credit cards represents losses of millions of dollars to retailers--a loss which is eventually absorbed by consumers.

TABLE 1
Perceptions of Counterfeiting Problems
Across Industries

Industry	Significant Problem*	Not A Problem	Do Not Know
Luxury Goods	81%	3%	17%
Fashion Clothes	80%	7%	13%
Records and Tapes	75%	7%	18%
Video Games	62%	8%	30%
Credit Cards	56%	11%	33%
Replacement Auto Parts	36%	9%	55%
Industrial Equipment	33%	11%	56%
Prescription Drugs	26%	26%	48%
Military Equipment	19%	12%	69%

*The proportion of the sample that believes counterfeiting is a significant problem for the industry (n = 84).

The Buying Process

Descriptive results from the study reinforce the wisdom of a product branding strategy. They also highlight the potential fraud and deception inherent to product counterfeiting. Eighty-five percent of the total sample responded that the reputation of the manufacturer was an important reason for selecting a product, while 81 percent of the products designated by respondents as dissatisfying or counterfeit were national brands. Forty percent of these products were purchased at a price that was "about the same" as prices seen elsewhere, while 30 percent of the purchases were "lower priced" than elsewhere (12 percent were "higher priced" and the remainder "did not know"). Independent retail stores and local department stores accounted for 50 percent of the purchases, while discount stores accounted for another 20 percent.

Sixty percent of the total sample believed that the seller of counterfeit goods is aware that the goods are counterfeit, while an additional 25 percent reported they were not certain if the seller would know the goods are counterfeit. Only 15 percent of the respondents believed that the retail seller was unaware the goods were counterfeit.

Dissatisfaction

For most of the purchases, dissatisfaction with the product was fairly immediate. Forty-two percent of the telephone respondents were disappointed after the first use, and an additional 34 percent were dissatisfied after only a few uses (clothing and household appliances were the most frequently mentioned as disappointing). Poor quality materials, poor performance, and manufacturing defects (all of which are "trademarks" of counterfeit goods) were the three top reasons given for dissatisfaction with the product.

The respondents from the telephone survey were clearly not indifferent to the problem of counterfeiting. Fifty percent of the telephone sample responded they were "mostly dissatisfied" with the product in question, while the other 50 percent responded that they felt "unhappy" or "terrible." Many of the telephone respondents went on to say that they had very strong feelings about the experience. They felt "incensed," "cheated," "very angry," or "sick about it." These strong emotional reactions are not unlike those described in the Belk

¹Space limitations preclude a detailed description of the questionnaire items and their scaling. The complete questionnaire is available upon request from the first author.

study of possessions (1983) in which respondents described their feelings following the loss of their possessions due to burglary. Respondents from the telephone survey went to great lengths to suggest antiquated methods of capital punishment for product counterfeiters, and some likened sellers of counterfeit goods to "dope sellers." While the researchers estimated 15 minutes for administering the telephone survey, the actual interviews averaged 26 minutes, primarily because of the respondents' need to express their frustrations.

Is It A Counterfeit?

The results clearly suggest that for most consumers, the possibility that the product in question may be counterfeit simply does not occur to them. Eighty-two percent of the telephone sample responded that their first thought was that they had just purchased a defective product from the legitimate manufacturer. Sixty-three percent of the respondents never determined if the product was in fact counterfeit. Thirty percent of the respondents in the telephone survey claimed that their product was in fact counterfeit, although only one-third of them could offer substantiation of their claim beyond merely insisting that the product was counterfeit.

Redress Pursued

Telephone respondents seemed unclear as to what steps to take regarding redress. Sixty-five percent of the sample did nothing to improve their situation, while 20 percent complained to the store, and 10 percent reported complaining to friends.

Respondents from the telephone survey also did little to improve their purchase outcome. While all of these people wrote to the I.A.C.C., only 30 percent complained to the store, and only four percent complained to the manufacturer. The remaining 66 percent did nothing.

Of those respondents who did complain to the store, 90 percent received some settlement, either an exchange or a refund. There were no reports of compensation from manufacturers. Many of the telephone respondents volunteered that settlement with the store was not a particularly easy matter. Further, with such a large portion of the sample receiving no settlement, it is not surprising that the respondents felt some resentment about the experience. In this case, 71 percent of the respondents felt less favorable about the store where the product was purchased, and 29 percent felt less favorable toward the manufacturer.

Appropriate Penalties

The respondents were strongly opinionated with regard to the penalties that they felt should be imposed on manufacturers and sellers of counterfeit goods. Seventy-five percent of the total sample felt that manufacturers of counterfeit goods should be subject to both fines and jail terms, while 20 percent felt fines alone were enough. Respondents were somewhat more lenient with sellers of counterfeit goods. Sixty percent felt they should be both fined and jailed, 34 percent said they should be fined only, and 6 percent had no opinion. Respondents expressed the most sympathy with consumers purchasing counterfeit products. Forty percent had no opinion about how to deal with purchasers or felt that nothing should be done to consumers, while 37 percent felt purchasers should be fined, 16 percent felt they should be jailed, and the remaining 7 percent felt the purchase of counterfeit goods should be legal.

Here again, there were differences between the two groups of respondents, with the "complainers" from the telephone survey favoring stiffer penalties for producers of counterfeit goods ($X^2 = 7.4$, $P < .05$). Once the questionnaire was completed, respondents were told that counterfeiting

in the U.S. is considered a civil offense, and violators are subject to fines only--a fact that was unknown to most, and a disclosure which greatly disappointed many of the respondents.

Limits of the Data

Two important caveats about the data reported here should be mentioned. First, although respondents were questioned about a product problem that had occurred sometime during the last year, it was apparent that a few of the respondents were not at the end of their efforts in seeking redress. In others, the telephone survey seemed to serve as a stimulus to renew their efforts for redress. Given this lack of resolution, it remains unclear what some of the respondents' attitudes towards the store or manufacturer may eventually be. Second, it is likely that there were some demand effects inherent in the administration of the questionnaire. The interviewers could sense in some of the interviews that respondents were getting on a "negative roll" regarding the activities of counterfeiting and its consequences for consumers and society. It seems likely that if respondents had been asked to identify some of the consequences of counterfeiting as opposed to responding to them, that the range of responses would be more narrow in scope.

Areas for Future Research

Reviewing the literature on product counterfeiting is a fairly tedious task. Apart from a very descriptive piece in the Harvard Business Review (Kaikati and LaGarce, 1980) and a number of journal articles that focus on the legal aspects of trademark and copyright infringement, the majority of publications are news reports from weekly periodicals and newspapers, or proceedings from testimony given to various government agencies such as the International Trade Commission as part of lobbying efforts by industries interested in tightening import controls.

There does not appear to be any systematic review and synthesis of the political, economic, legal, technological, and social factors that influence counterfeiting activities and allow them to thrive. At the macro level, an identification of the sources and flows of counterfeit goods both within the U.S. and internationally would be a useful first step. For example, the diffusion of technology over the past two decades allows counterfeiters not only to skillfully copy product labels and manufacture a wide variety of consumer goods, it also allows for the counterfeiting of high tech products such as personal computers and electronics. A systematic review of the factors that make an industry more or less prone to counterfeiting, including an identification of the characteristics of individual firms who are most and least injured by counterfeiting should provide a number of findings with strategic and managerial implications.

Figure 1 provides a framework for a variety of research projects related to product counterfeiting. An investigation of the nature of the linkages between the legitimate manufacturer and channel members who carry the product may provide insights into how counterfeit products enter the marketplace. For example, one hypothesis is that the longer the channel of distribution, the more opportunity for counterfeit goods to enter the marketplace. Researchers interested in the nature of interdependence between manufacturers and channel members may investigate the methods by which manufacturers become aware of and attempt to monitor counterfeiting problems. Are there perceived areas of conflict between manufacturers and channel members regarding the policing and resolution of counterfeiting problems? If so, how are firms and trade associations dealing with these issues?

Efforts to research consumer behavior within the context of counterfeit products should improve our understanding of consumption behavior generally, as well as improve

our understanding of consumers' reactions to fraudulent business activity. Figure 1 depicts two separate outcomes involving consumers: one in which the consumer unknowingly purchases a counterfeit good, the other one in which the consumer knowingly purchases a counterfeit. In spite of whether the channel member is authorized (i.e., a licensed dealer, or a major department store) or not (i.e., some discount stores, mail order retailers or flea markets), consumers who believe they are dealing with reputable dealers can still be defrauded by counterfeit goods. Within this context, research into the risks perceived and the motivations underlying retailer selection by consumers may identify purchasing situations in which counterfeiting is more likely to be expected, and provide a different perspective into consumers' decision processes. A number of testable hypotheses could focus on whether consumer expectations of redress or compensation are influenced by the nature of the product category, sales conditions, or type of retailer involved.

While most consumers unknowingly purchase counterfeit goods, there is evidence in the fashion industry of consumers who intentionally seek out and knowingly purchase counterfeit goods (Hansen, 1978). In this situation, it seems unlikely that the consumer would think of himself as a customer of the legitimate manufacturer, and may therefore have a different set of expectations regarding product performance and redress should the product fail. Research into this "fraudulent status signaling" may improve our understanding of status symbols, symbolic consumption, product images, and self-concept.

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DISCONFIRMATION OF EQUITY EXPECTATIONS: EFFECTS ON
CONSUMER SATISFACTION WITH SERVICES¹

by

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Abstract

The research reported in this paper seeks to develop a conceptual synthesis between equity and satisfaction that is particularly relevant for consumer services, founded upon theoretical and empirical research in consumer satisfaction/dissatisfaction and equity. Disconfirmation of equity expectations was experimentally manipulated as a means of creating consumer dissatisfaction.

Expectations for waiting time and price for an airline's services were disconfirmed or confirmed in a 4 X 4 Factorial design. Results supported the hypotheses that inequity results in dissatisfaction and reduced intentions for future use of the service. Hypotheses about the relationship of inequity and expectations about subsequent service, however, were not supported.

Introduction

Issues of satisfaction and equity permeate the study of interactions between marketers and consumers. Consumer satisfaction is rapidly becoming a substantial subfield of consumer behavior. Several conferences on consumer satisfaction/dissatisfaction and complaining behavior have been held demonstrating the importance of this area of research. The satisfaction evaluation is commonly considered to follow most consumption behaviors and to be a major influence on future consumption behaviors (c.f. Day 1979). The common rationale for studying consumer satisfaction among marketing academicians revolves around the "marketing concept." Satisfaction researchers argue that the goal of the marketing concept is to satisfy consumer needs and that satisfaction research provides the basis for identifying those needs.

Concern about the equity or fairness of consumer exchanges is also common. Indeed, equity issues are sufficiently commonplace that a substantial body of federal, state, and local legislation concerns fair treatment of consumers. The concept of equity has two common meanings. The first is that of legal equity -- i.e., fair treatment under the law. The second, and more commonplace, meaning is that of social equity which concerns individual perceptions of fairness irrespective of legal issues. Major theories concerning social equity have been presented by Homans (1961) and Adams (1963).

Given the importance of equity and satisfaction in consumer research, a synthesis of these constructs appears warranted. The research reported in this paper attempts to present a synthesis, founded upon theoretical and empirical research in consumer satisfaction/dissatisfaction and equity, that is particularly relevant for consumer services. An experiment is then set up to test these theoretical ideas within the context of airline services.

Background

Satisfaction

Expectations have become the central construct in consumer satisfaction research. Indeed, consumer satisfaction is typically defined as confirmation of expectations about product performance (Oliver 1980a; Swan, Trawick, and Carroll 1982). From the first consumer satisfaction study (Cardozo 1965) to the present, expectations have been studied for their connection to consumer satisfaction.

Initial research in expectations and satisfaction by Cardozo (1965) and Anderson (1973) provided evidence that increasing expectations prior to product use resulted in increased negative perceptions about the product if the performance of the product did not measure up to the expectations. Such an effect has been referred to in the literature as the contrast effect.

Other research by Olshavsky and Miller (1972), and Olson and Dover (1976, 1979) provided evidence that raising the expectations prior to use resulted in increased perceptions about the performance of the product even though the product actually performed poorly. This apparently contradictory effect has been referred to as the dissonance or assimilation effect.

Oliver (1977) proposed that expectation and disconfirmation effects occur independently of one another. His research (Oliver 1977, 1980a) found evidence that expectations were related to disconfirmation as was found in previous studies, but that disconfirmations provided significant additional effects on postexposure affect and intentions.

Direct comparison of the results of these studies is difficult at best. The authors used different products, employed different methodological procedures, and made unique assumptions about the operationalization of the satisfaction construct. The value of these studies is, however, evident in the development of an "expectation-confirmation" paradigm of satisfaction. Although some dissatisfaction has been expressed about this paradigm (LaTour and Peat 1979), it is conceptually well explicated and appears to be sufficiently robust to apply to a broad range of human expectations. In connection with the overall paradigm, Oliver (1980b) proposed a model of satisfaction determinants of the form:

$$\text{Satisfaction} = f(\text{Expectation, Disconfirmation})$$

He argued that the determinants, expectation and disconfirmation, are uncorrelated, and should be additive.

Miller (1977) proposed that there are several types of consumer expectations: ideal, expected, minimum tolerable, and deserved. Summers and Granbois (1977) developed a conceptual distinction between two major kinds of expectations: predictive or expected frequency of occurrence of shopping problems, and normative or what should occur. Others (Swan and Trawick 1979; Swan, Trawick, and Carroll 1982) developed similar categories of expectations called predictive and desired. From this stream of research, categories of predictive and normative expectations appear to dominate.

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Equity

Major theoretical work concerning social equity has been performed by Homans (1961) using a distributive justice approach, and Adams (1963) using an equity theory approach. Of these two theoretical approaches, equity theory appears to have strong potential applications to issues of consumer satisfaction and has been previously used in marketing. In particular, because equity theory was first developed to explain the results of inequitable employer-employee relations it has always had greater relevance to business activities and greater face validity in a marketing context than many theories borrowed from social psychology literature.

The basic propositions of equity theory (Walster, Walster, & Bersheid 1978, p. 15) are:

1. Individuals in an exchange seek to maximize their outcomes relative to their inputs.
2. Individuals perceive that they can maximize their outcomes by behaving equitably.

The first proposition says, basically, that humans are selfish. The second proposition recognizes that "we soon learn that the most profitable way to be selfish is to be 'fair.'" (p. 15).

Equity occurs whenever one person who is a party to an exchange perceives that the ratio of his or her outcomes to inputs and the ratio of the other party's outcomes to inputs are equal (Walster, Walster & Bersheid 1978). A variety of elaborate formulas have been developed to represent these ratios; however, the current state of formula development is considered to be badly muddled (Alessio 1980).

Equity theory is dependent on each party's perceptions of the exchange. When a person perceives that he or she is a participant in an inequitable relationship, the person becomes distressed. Equity theory predicts that a person experiencing inequity distress will seek its elimination in various ways. The "harmdoer" or person gaining from the inequity attempts to eliminate distress by restoration of actual equity by such actions as derogation of the victim, minimization of the victim's suffering, and denial responsibility for the inequity. The "victim" or person losing from the inequity attempts to eliminate distress through demands for compensation, retaliation, and justification of the inequity. Thus, both parties in an inequitable exchange experience inequity distress and seek its elimination. Note that equity theory is both an interpersonal theory explaining interactions between individuals, and an intrapersonal theory by explaining internal psychological processes.

Equity theory assumes that individuals have the opportunity to compare their outcome/input ratios to someone else's with whom they are in a relationship. Research on this issue indicates that the range of possible comparisons is quite broad and that the propensity to make comparisons is quite high (Walster, Walster, & Bersheid 1978).

Differentiation of equity theory from cognitive dissonance theory is essential to its applications in this research. Some authors obscure the differences between these two theories (e.g., Huppertz, Arenson, & Evans 1978). Cognitive dissonance developed out of Festinger's work in social comparison processes. Equity theory developed in part from cognitive dissonance, but it was also strongly influenced by Homans' (1961) theory of distributive justice.

In addition to having different backgrounds, Wicklund and Brehm (1976) pointed out two major distinctions

between cognitive dissonance and equity theory. First, equity theory does not require free choice. A person can still experience inequity distress in the absence of free choice. By contrast, dissonance is not aroused if the individual can blame someone else for the inconsistent cognitions. Second, equity theory assumes that the cognition of "equity" is resistant to change and the individual is motivated to change some other cognition. By contrast, dissonance theory would assume that the equity cognition was susceptible to change.

In the first application of equity theory to consumer behavior (Huppertz, Arenson, and Evans 1978), two sources of inequity, price and service, were manipulated in a role-playing experiment using student subjects. As predicted, both sources of inequity were perceived as being less fair than when appropriate levels were offered. For most subjects, the preferred mode of inequity reduction was leaving the store. But when shopping frequency was high, complaining about the price or service was more common.

Huppertz (1979) also conducted two quasi-experimental investigations to assess the relationship between satisfaction/dissatisfaction and perceived outcome/input ratios. Results of the first experiment, a field test of shopping-mall patrons, were only partially in accordance with equity theory.

The second study, a laboratory setting with undergraduate students, was modified by using more detailed instructions, giving subjects more time to respond, eliminating potentially ambiguous parts of the questionnaire, and asking the subjects to assess an overall measure of consumer and merchant outcomes and inputs. The results of this experiment confirmed the prediction. In addition, the ratios computed with the subject's overall judgments of outcomes and inputs proved to be a better measure of inequity than did the previous method of summing outcomes and inputs. In sum, the value of having consumers assess inputs and outcomes from exchanges is undetermined.

Synthesis of Consumer Satisfaction and Equity

The research reported in this paper builds upon a synthesis of consumer satisfaction and equity developed earlier (Fisk and Coney 1982). The synthesis requires establishment of the form of consumer expectations appropriate to equity processes, appropriate marketer offerings, relevant equity variables in consumer satisfaction, and an appropriate stage in the consumption/evaluation process.

Earlier it was noted that several types of consumer expectations had been described with the two most common categories being predictive and normative expectations. It can be argued that equity processes constitute normative expectations about how people should behave. Hence, we say that this research focuses on "equity" expectations.

Liechty and Churchill (1979) examined the applicability of Miller's typology of expectations to goods and services. After discounting ideal and expected expectations as being appropriate for services, they considered the minimum tolerable expectation as probably important to both goods and services in that it may well form the boundary between complaint behavior and nonaction as the result of consumer dissatisfaction. Finally, Liechty and Churchill commented on the fourth type of consumer expectation, the deserved, saying:

This introduces an equity dimension in that it involves the individual's evaluation of the reward and costs associated with the purchase and the justice involved in their weighting. (p. 513).

Liechty and Churchill suggested that this type of expectation is probably more applicable to services "due to the personal commitment and participation in the production process from the consumer." Thus, using Liechty and Churchill's thinking, we argue that equity considerations can form the basis for developing expectations and that, more importantly, services are an excellent setting for studying equity expectations.

Having selected services as an appropriate market offering, the next task involves selecting appropriate variables that are relevant to the equity theory framework that compares two outcome-input ratios. Jacoby (1976), commenting on the applicability of equity theory to consumer behavior stated, "Cost, effort, and time expended may be conceived of as the common consumer inputs for products received," (p.1053). Of the inputs listed above, the two most easily quantified are time and money. Waiting time (time expended) and price (money) can be described as costs charged to the consumer by the marketer. As a consumer's waiting time increases, the time cost of consumption increases. For the consumer, holding all other outcomes and inputs constant, an increase in price or waiting time will increase the consumer's inputs and cause the perception of inequity.

Decreases in waiting time or price will also cause perceptions of inequity. However, equity theory predicts that inequity distress would be less severe. Moreover, in the consumer marketplace, consumer dissatisfaction arises more commonly from inequity that unfairly raises the consumer's inputs. It is inequitable exchanges such as these that most often cause negative publicity for a firm.

An important question to consider is the stage of consumer decision making that equity expectations and evaluations are most salient to the consumer. Fisk (1981) developed a model of the consumption/evaluation process for services and argued that equity processes are most salient immediately following choice processes but before use processes. This is in contrast to the bulk of consumer satisfaction research which focuses on postuse satisfaction.

In subsequent research, Fisk and Coney (1982) developed an experimental design that tested the effects of inequitable waiting time and price upon consumer satisfaction/dissatisfaction within the context of airline services. Subjects were graduate students in business. Both inequitable waiting time and inequitable price were predicted to sharply increase consumer dissatisfaction with the airline. Waiting time and price were also predicted to reduce expectations of future service quality on the airline flight. Results supported the hypotheses that inequitable waiting time and inequitable price lead to consumer dissatisfaction. However, it was not clear if the price manipulation caused perceptions of price inequity as predicted. "Familiarity with airline services" was significant as a covariate with the dependent measure of service quality expectations.

Methodology

Experimental Design

This research sought to build upon the understanding of equity processes developed by Fisk and Coney (1982), and included several modifications to the previous methodology. Four levels of manipulation were tested instead of three to allow for wider ranges of inequity. An additional dependent variable, intentions, was also included. And subjects were chosen from business people as well as undergraduate college students.

A laboratory experiment using an after-only, 4 X 4

factorial design was used. Waiting time and price, the two independent variables, were each established at four levels. The basic framework involved creation of equity expectations with these two variables for all subjects followed by disconfirmation of these expectations (at varying levels) for all but one cell of the design.

Role-playing was a necessary technique for this research. The use of role-playing, like all methodologies, has its strengths and weaknesses. Its biggest weakness is that it is considered more artificial than a more naturalistic and deceptive experimental design. However, practical and ethical considerations about deception (Zaltman and Burger 1975) resulted in its choice. In defense of role-playing, Hansen (1972) argues that it may be effective in studying expensive products, in controlling for past events, and in preventing bias caused by deception.

Independent Variables

Waiting Time was operationalized at four levels (no wait, 10 minutes, 30 minutes, and 2 hours). Waiting time was presented to each subject as the amount of waiting time until boarding the flight beyond what they expected. Price was also operationalized at four levels (same, \$10 More, \$25 More, and \$75 More). For each price level, the subjects were told the price they paid for their airline ticket was higher than a friend's. Thus, the critical dimension of price, in equity theory terms, is the difference between the two ticket prices.

Dependent Variables

Three dependent variables were measured. Consumer satisfaction was operationalized as an evaluation of satisfaction with the subject's choice of airlines. Expectations were measured as expectations of future service quality on the hypothetical flight. Intentions were measured as intentions to purchase the airline's services again. Both expectations and intentions are believed to result from postchoice satisfaction and to form critical elements of postuse satisfaction.

Hypotheses

Nine hypotheses were developed for this research. A set of three hypotheses focuses on each dependent variable, and each set includes main effects predictions for waiting time and price and an interaction prediction:

- Set 1. Inequitable waiting time will significantly influence consumer satisfaction with the choice of a service, the consumer's expectations of service quality, and the consumer's intentions to purchase the service in the future.
- Set 2. Inequitable price changes will significantly influence consumer satisfaction with the choice of a service, the consumer's expectations of service quality, and the consumer's intentions to purchase the service in the future.
- Set 3. Inequitable waiting time and inequitable price changes will significantly interact in influencing consumer satisfaction with the choice of a service, the consumer's expectations of service quality, and the consumer's intentions to purchase the service in the future.

Subjects

Subjects were recruited from civic groups in a Southwestern state and selected to be demographically representative of the typical airline traveler. Successful

use of this role-playing methodology required that all subjects be familiar with the service they were to role-play. Any subject that had never flown was screened out. The net sample size of this group was 165.

A second group of subjects was selected as relatively nonrepresentative of the typical airline traveler. Students in introductory marketing classes were recruited. Subjects who had never flown were screened out, hence, all had at least experienced airline travel. The net sample size of this group was 190.

Procedures

Subjects were given test booklets containing a series of role-playing exercises for the postchoice evaluation of airline services. The basic scenario was that the subject had chosen an airline for a flight out of town for a vacation and was waiting to board the flight. Respondents' expectations were reinforced by showing the subjects an advertising mock-up for their fictitious airline. The advertisement stressed the airline's low prices and on-time scheduling.

Within the role-playing, a chance meeting with a friend was employed to introduce the independent variable manipulations. The price inequity manipulation was created by having the friend tell the subject that he or she should have gotten a better price from their airline. This was reinforced by showing the subject an ad in the daily paper that prominently displayed the better price. For those in the price equity condition there was no difference in prices. The inequitable waiting time condition was created by telling the subjects they were having to wait 10 minutes, 30 minutes or 2 hours for their flight. This waiting time was contrasted with no waiting time experienced by their friend. In all 16 conditions the subject's friend served as a "comparison other" who was treated equitably.

Following these manipulations, the subjects were then told that they had boarded the airplane and that the flight attendant was giving them a questionnaire. The questionnaire assessed their satisfaction with their choice of airlines, measured their expectations of the quality of the service they received and measured their intentions to purchase airline services from this airline in the future. The questionnaire also contained manipulation checks and measures of each subject's past experiences with airlines.

Results

Four variables were measured and examined as potential covariates. Each of these variables represented a different form of "experience" with airlines. Because this research attempted to create and disconfirm "equity" expectations it was imperative that these experience variables be monitored as possible indicators of the interplay of predictive expectations. As Swan, Trawick, and Carroll, (1982) note, predictive expectations result from experience. The variables were: the subject's perceived familiarity with airline services, number of times he or she flew during the past twelve months, number of times that the flights were paid for personally, and the number of weeks since the subject last flew.

For business subjects, only one covariate was significantly related to any of the dependent variables. Number of weeks since the subjects last flew was related ($p < .03$) to expectations. There were no significant covariates for the student subjects. All other prospective covariates were eliminated and the data were reanalyzed.

The central findings of this research concern the analysis of hypothesized effects of waiting time and price on the dependent variables of satisfaction, expectations, and intentions. Because of unbalanced cells, all analyses used a general linear models procedure.

Table 1 presents the results of analysis on the dependent variable satisfaction. The main effects hypotheses were supported for the two subject groupings ($p < .01$). The interaction hypothesis, however, was not supported for either subject group.

TABLE 1

GENERAL LINEAR MODELS PROCEDURE ON DEPENDENT VARIABLE OF SATISFACTION

Subjects: Business				
Source of Variance	d.f.	SS	F	F Prob.
Waiting Time (A)	3	96.42	14.46	.0001
Price (B)	3	47.52	7.12	.0002
A X B	9	21.72	1.09	.3770
Error	149			

Subjects: Students				
Source of Variance	d.f.	SS	F	F Prob.
Waiting Time (A)	3	70.55	13.34	.0001
Price (B)	3	31.75	6.01	.0007
A X B	9	15.06	.95	.4841
Error	174			

The results of the analysis of the dependent variable of expectations are shown in Table 2. Neither main effects nor interaction effects were significant for the business subjects, though the weeks since they flew was a significant covariate. For the student subjects waiting time effects were statistically significant ($p < .01$).

TABLE 2

GENERAL LINEAR MODELS PROCEDURE ON DEPENDENT VARIABLE OF EXPECTATIONS

Subjects: Business				
Source of Variance	d.f.	SS	F	F Prob.
Waiting Time (A)	3	18.96	1.85	.1384
Price (B)	3	6.62	.65	.5901
A X B	9	30.04	.98	.4608
Weeks Since Last Flown	1	17.96	5.26	.0232
Error	148			

Subjects: Students				
Source of Variance	d.f.	SS	F	F Prob.
Waiting Time (A)	3	35.28	5.41	.0015
Price (B)	3	5.05	.77	.5128
A X B	9	22.35	1.14	.3351
Error	189			

Analysis of the dependent measure of intentions was more positive. Table 3 shows that the waiting time and price main effects were significant for the business subjects ($p < .01$). For the student subjects only the waiting time main effect was significant ($p < .01$). There were no significant interaction effects for either subject groups.

A final analysis of variance concerned a manipulation check on the equity/inequity manipulations. Subjects were asked if they were treated fairly by the airline. Table 4 shows some curious results. For the business subjects neither the main effects nor the interaction

TABLE 3

GENERAL LINEAR MODELS PROCEDURE ON DEPENDENT
VARIABLE OF INTENTIONS

Subjects: Business				
Source of Variance	d.f.	SS	F	F Prob.
Waiting Time (A)	3	45.25	6.49	.0004
Price (B)	3	49.68	7.12	.0002
A X B	9	29.45	1.41	.1891
Error	149			

Subjects: Students				
Source of Variance	d.f.	SS	F	F Prob.
Waiting Time (A)	3	63.46	10.67	.0001
Price (B)	3	11.82	1.99	.1161
A X B	9	17.31	.97	.4672
Error	189			

TABLE 4

GENERAL LINEAR MODELS PROCEDURE ON
MANIPULATION CHECK - HOW TREATED

Subjects: Business				
Source of Variance	d.f.	SS	F	F Prob.
Waiting Time (A)	3	14.23	1.11	.3467
Price (B)	3	25.1	1.96	.1206
A X B	9	37.5	.98	.4622
Error	149			

Subjects: Students				
Source of Variance	d.f.	SS	F	F Prob.
Waiting Time (A)	3	39.33	4.45	.0050
Price (B)	3	49.88	5.65	.0011
A X B	9	6.47	.24	.9865
Error	174			

were statistically significant. However, for the the student subjects both the main effects for waiting time and for price were statistically significant ($p < .01$). Hence, the equity theory manipulation appears to have failed for the business subjects.

Discussion

Inequitable waiting time led to consumer dissatisfaction for both the business group and the student group. It also led to reduced intentions to repurchase for both groups. However, waiting time does not significantly affect the expectations of the business group but does alter the expectations of the students. One speculation on this result is appealing. We would expect the business people, having flown more frequently, to have strongly held expectations based on experience. These "predictive" expectations seem to be independent of the equity effect imposed by the experimental manipulation for the business subjects.

Fisk and Coney's (1982) research found support for the effect of waiting time on expectations. However, their subjects were younger and were not flying as frequently as the business subjects. Also, the fact the manipulation check on inequity failed for the business subjects may be attributable to the subject's strong "predictive" expectations.

Inequitable pricing clearly led to consumer dissatisfaction for both the business and student group. However, it was not significantly related to expectations for either group and related to intentions only for the business group. Failure of the inequity manipulation

check for the business subjects muddles interpretation of these results. However, price appears to be definitely independent of expectations about future service.

The difficulty of successfully operationalizing a "fair price" points out the inherent complexity of the price variable. Price is commonly seen as a surrogate for a variety of product attributes. But the question of "fair price" is difficult. Kamen and Toman (1979) believe that consumers hold preconceived ideas about what constitutes a "fair price." The assumption of this research has been that such preconceived fairness ideas can be analyzed by equity theory.

However, Hunt and Nevin (1981) have recently argued that "...the most important factor determining the fair price of a product is the recent historical price of that product." (p. 51). If Hunt and Nevin are correct, the recent volatility in airline industry pricing may be negating the possibility that the consumer would hold clear-cut "fair price" expectations. The fact that the most experienced subjects (i.e. most aware of pricing volatility) were not perceiving pricing unfairness seems supportive of this possibility.

Overall, the results of this research and the earlier study by Fisk and Coney (1982) suggest a pattern of consumer expectations. Those with less experience appear to operate with rather clear-cut equity expectations and those with greater experience appear to operate with "predictive" expectations. Dissatisfaction arises nonetheless. However, the cognitive processes leading to dissatisfaction are quite different.

Of particular managerial importance is the fact that price does affect future purchase intentions even though it appears to be unrelated to service quality expectations. Thus, inequity on just a single dimension of the set of service attributes is sufficient to cause both satisfaction and a change in intentions.

Conclusions

The results of this study are, in general, similar to the earlier results by Fisk and Coney (1982). In the context of airline services, waiting time and pricing overcharges both caused high levels of consumer dissatisfaction. However, the issue of equity or fairness was only significant for the less experienced student subjects. It appears that disconfirmation of equity expectations results in a change in other expectations for less experienced subjects. More experienced subjects, however, appear to temper equity expectations with predictive expectations.

Caution is urged in accepting the conclusion that equity expectations hold sway only when a consumer is less experienced in the consumption situation. It is quite possible that this result is a function of airline services and might not be true for other services. Many findings in marketing are goods or services specific. Alternatively, it is possible, as suggested earlier, that the recent competitive turmoil in the airline industry has led to substantial cognitive turmoil in the minds of more experienced passengers. History may be confounding the data. The relationship between equity expectations and predictive expectations is worthy of further investigation.

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A CONSUMER COMPLAINT STRATEGY MODEL: ANTECEDENTS AND OUTCOMES

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Abstract

This paper presents a conceptualization of the complaining process that focuses on factors influencing consumers' complaint strategies, and the impact of complaint strategy on complaint response. Elements of both the dissatisfaction experience and situational factors are hypothesized to influence the manner in which a complaint is presented. In turn, complaint presentation is hypothesized as a predictor of complaint success.

Introduction

The major thrust of behaviorally oriented research in the consumer complaint area has been on the identification of factors predictive of propensity to complain (Richins 1982). At the same time, legal scholars have focused on institutional alternatives available for resolution of consumer disputes (Ray 1983). Very recently, attention has been drawn to the complaint process by investigations of complaint letters (Resnik and Harmon 1983) and consumer interaction styles (Richins 1983). These latter efforts signal a need to broaden the perspective on complaining by focusing on responses to complaints (outcomes) and the effects of complaint process variables on these outcomes. It is necessary to develop a better understanding, not only of factors that motivate consumer complaining initially, but also of those factors that determine how consumers will complain, and with what result. The paper first reviews the literature on propensity to complain and then proposes a broader, complaint strategy model of complaining. Finally the research and public policy implications of the model are discussed.

Propensity to Complain

There is no mystery in the basic motivation for consumer complaining, and numerous descriptive studies have catalogued the types and relative frequencies of various problems that give rise to complaints. Best and Andreasan (1977), Day and Ash (1979), Grainer, McEvoy and King (1979), and Ladinsky and Susmilch (1983) are examples. Furthermore, it is generally accepted that consumers fall into three broad categories in terms of response to dissatisfaction; some do nothing, some take private action (curtail purchase/patronage), while some take public action - negative word of mouth communications or complaining (Richins 1983b). Identification and elaboration of correlates of complaining, and other post-dissatisfaction behaviors, remains a topic of interest. Specifically, factors thought to be predictive of propensity to complain have received particular attention and are briefly summarized below.

Viewing dissatisfaction as an emotion of variable intensity, Woodruff, Cadotte and Jenkins (1983) suggest a monotonic relationship between expectation disconfirmation and dissatisfaction. Reasoning by analogy, greater dissatisfaction intensity should lead to greater likelihood of complaint, and in fact, Richins (1983b) found greater likelihood of complaint with greater problem severity. In addition, it is thought that consumers will complain only if they have the necessary resources to expend in the complaint effort and have expectations of net positive outcomes. Gronhaug and Zaltman (1981) described three models of complaining, namely the resource, learning and personality models. The resource model focuses on access to time, money and power as determinants of complaining, the learning model suggests

that experienced, better trained consumers will complain more since they are more aware of their rights, and finally the personality model argues that complainers tend to be more self-confident and aggressive than non-complainers.

Coates and Penrod (1980-81) and Krishnan and Valle (1979) have focused on attribution of blame as a causal factor. External attributions, i.e. the manufacturer or reseller at fault, were found to be necessary for complaining to occur. Bearden and colleagues (1979, 1980) examined attitude toward complaining, social and personal moral norms, self-confidence, perceived risk, self-monitoring and past satisfaction with purchases in the product class. All but social norms and self-monitoring were found to be correlates of complaint behavior. In a follow-up study (Bearden and Crockett 1981), attitudes toward complaining and personal moral norms were found to be the best predictors of complaining.

Finally, Richins (1982) investigated the role of complaint costs, perceived business responsiveness to complaints, expectation of societal benefits, personal moral norms, and affective reaction to the act of complaining. Personal moral norms and positive benefit/cost ratio were both found to be correlates of propensity to complain. The results of this series of studies is summarized in Table 1, Influences on Propensity to Complain.

Table 1

Summary of Influences on Propensity to Complain

Year	Author		Relationship
1980	Gronhaug	Consumer Role Involvement	Positive
1979	Krishnan	Internal Responsibility	
	"	Attributions	Negative
	"	External Responsibility	
	"	Attribution	Positive
1980	Bearden	Self-Monitoring	None
	"	Social Norms	None
	"	Personal Norms	Positive
	"	Positive Attitude Toward Complaining	Positive
	"	Perceived Risk	Negative
	"	Past Satisfaction With Product Class	Negative
1982	Richins	Perceived Net Benefits From Complaint	Positive
	"	Personal Norms	Positive
	"	Perceived Societal Benefits From Complaint	Positive

There exists at this point neither an overall integrative framework that encompasses all, or even a significant portion, of these factors, nor have any of the competing models emerged as generally, or even situationally, better in explanatory power. A common thread running through several of them is that complaining is an act designed to obtain economic redress for the individual and to a lesser extent, improve marketing system performance. This perspective is also common among legal scholars and consumer advocates who have studied complaining e.g. Best (1983). Viewing marketplace exchanges in economic terms motivates a focus on redress in complaining that fails to capture the richness of the dissatisfaction/complaint experience. Even when

abetted by concerns for societal benefits, the economic redress perspective is somewhat sterile.

An Alternate View

Marketplace encounters involve both economic value exchanges and social interaction. Going into the marketplace, consumers have two sets of expectations, relating to both aspects of the encounter. The first set revolves around dimensions of product/service performance. In addition to dissatisfaction, performance failures can give rise to emotions of frustration, hurt and anger. Consumers may feel that they have been cheated in some way, or taken advantage of. The second set of expectations are social in nature. These same feelings of frustration, hurt and anger may arise from the treatment the consumer receives from marketing representatives, for example, in a retail store. In their dealings with these representatives, consumers receive both verbal and non-verbal cues that have the potential to either bolster or diminish their sense of self-worth. Consumers not only expect products to work, they expect to be treated fairly, and with a modicum of respect. When consumers feel they have been wronged, either by a product failure or by a marketing representative's treatment, their dominant response to that perceived injury may be driven by hurt and anger, even moreso than by the desire to be made economically whole. The belief that "I'm just as good as the next person" produces in those perceiving an insult the desire to recover self-esteem. For some, perhaps many, complaining serves dual functions. It is a vehicle to recover economic loss and also a means to rebuild self-image. For those consumers who do not complain, factors discussed earlier, such as lack of resources or self-confidence, perceived cost, risk of embarrassment, and so on, override the desire to complain. However, consumers' desire to restore self-esteem is likely to be no less strong. What differs is the instrumentality by which this is achieved. Consumers have the option of private actions, e.g. the withholding of patronage. Hirschman's (1970) cogent discussion of exit and voice suggests that threat of exit may be more beneficial to the consumer than actual exit in obtaining economic redress, nevertheless the "I'll show them" decision not to patronize is still a form of meting out punishment that can rebuild self-image. More directly, the consumer can engage in negative word of mouth communication whose clear objective is to denigrate the manufacturer or retailer, but which also serves to mitigate the psychological impact of the dissatisfaction experience.

Models of propensity to complain proposed thus far have not adequately considered the role of emotions and the desire to restore self-image. In addition, exclusive focus on propensity to complain as the dependent variable can be considered short sighted. Consumers complain to achieve objectives. Attention must be given to complaint outcomes, and the dimensions of the complaint process that determine them.

A Consumer Complaint Strategy Model

Economic redress is now viewed as the primary complaint objective. Adding restoration of self-esteem as a second major objective not only enhances understanding of propensity to complain, but suggests insight into the issues of complaint strategies, appeals, styles and outcomes. Before proceeding further it is important to define what is meant by complaint strategy, appeal, style and outcome. Complaint strategy may be described as the consumer's action plan in response to a dissatisfaction experience. The strategy may involve taking no action, taking private action, negative word of mouth, or complaining. If a decision to complain is made, the complaint strategy will also embody a choice of who to complain to, what appeal(s) to use, and what style to

employ. It should be noted that while the term strategy connotes a cognitive, pre-meditated view of complaining behavior, it is recognized that often the decision to complain is instantaneous and fundamentally emotional.

Appeal refers to the message content of the complaint. It is the consumer's rationale for why the marketer should comply with the complaint request, and perhaps, what the consumer thinks the marketer should do about it. Much of the information contained in the appeal is designed to enhance perceived legitimacy, which was the focus of the Resnik and Harmon study (1983). Proof of purchase, warranty coverage, evidence of defect, etc. may all be supplied in support of the complaint. An interesting facet of many complaint appeals is that they may be categorized in terms of the French and Raven (1959) bases of social power. That is, an appeal that embodies a threat to go to a third party to resolve a dispute is an appeal that rests on coercion. An appeal that promises continued patronage, or threatens its withholding, depends on reward power. A request for compliance based on terms of a warranty is fundamentally an appeal based on legitimate power, i.e. the legal contract.

On the other hand, complaint style refers to how the complaint is presented. Assertiveness and aggressiveness have been used as complaint style descriptors (Richins 1983a), but complaint style more accurately involves an underlying dimension of forcefulness or intensity. That is, non-assertiveness, assertiveness and aggressiveness are labels that serve to make discrete and tangible an underlying continuum of affective intensity that is reflected in observable behavior. Thus, behaviors are described as relatively passive, timid or apologetic at one end of the scale, while physical assault anchors the other end. Variables such as eye contact, vocal loudness, vocal fluency, and message intensity have been employed to operationalize behavioral intensity in studies of assertiveness and attitude change in persuasive communication (Burgoon and Stewart 1975, Hull and Schroeder 1979 and Norton-Ford and Hogan 1980).

Finally, for the purposes of this discussion, complaint response or outcome is viewed from the consumer's point of view. The response dimension that is of greatest immediate interest is relative favorableness. That is, the degree of compliance with the complaint request.

Overall, the complaint strategy model proposes that the degree of favorableness of outcome (COMPLIANCE) is a function of the APPEAL and STYLE employed by the complainant, which in turn, are a function of the STRATEGY. More specifically, an individual's complaint strategy is likely to be a function of the relative dominance of desire for economic redress or self-esteem restoration. A dominant desire to obtain economic redress should motivate a complaint appeal that is factual, reasonable and forthright if perceived legitimacy is thought to be a major determinant of success. This appeal may be accompanied by any of several complaint styles, however consumers have been urged to be assertive, i.e. moderately intense, but not aggressive.

In contrast, when the principal objective is to restore self-image because one's feelings or pride has been hurt, it is more likely that more threatening appeals and aggressive complaint styles will be employed, since the objective of the complaint will be accomplished through the act itself, even if redress is not obtained. (Yelling at somebody makes me feel better.) Greater message intensity, vocal loudness and verbal hostility can be expected because the dissatisfaction experience has escalated from one of economic loss only to one involving loss of self-esteem as well. It should be noted that this view of complaint style is somewhat at variance

with that presented by Richins (1983a). Instead of viewing assertiveness solely as a relatively stable, personality linked, behavior pattern, the view being advocated is that complaint style is also situationally determined. While it is likely that most persons do have a modal pattern of interaction, as Richins suggests, it is also plausible that this pattern embodies a range of emotional and behavioral intensity, narrower in some and broader in others, and that intensity of complaint within that range is situationally triggered. Richins notes that a prevalent complaint style is one that starts out as assertive, but then moves to aggressive if the assertive approach does not succeed. This behavioral sequence is also consistent with a situation focused view. That is, a consumer whose principal objective is economic redress may initiate the complaint in a factual, calm manner. However, if the initial request is refused, this rejection may be internalized. If so, the rejection itself stimulates an affective response and an escalation to a more aggressive complaint style. Thus, aggressiveness is a situationally evoked response, reflecting a shift in the relative importance of complaint objectives, i.e. from economic redress to self-esteem restoration. This shift may be quite temporary, for if the complaint receiver then acts to soothe the complaint sender, the remainder of the complaint episode may de-escalate to a less hostile interaction level.

It is probable that the particular combinations of appeals and styles used by consumers are in part a reflection of a complaint strategy formulated prior to presenting the complaint, and in part due to strategy changes resulting from affective responses to situational cues. Consumer complaining antecedents and process descriptor constructs may be modeled as follows:

$$\text{STRATEGY} = f(\text{OBJECTIVES}, \text{CONSTRAINTS}, \text{CUES}) \quad (1)$$

$$\text{APPEAL}, \text{STYLE} = f(\text{STRATEGY}) \quad (2)$$

where STRATEGY captures the consumer's action plan in response to the dissatisfaction experience, OBJECTIVES are the two major complaint objectives, i.e., economic redress and self-esteem restoration, CONSTRAINTS are objective or perceived limitations on the consumer's ability to achieve objectives, CUES are situational stimuli that may modify objectives, APPEAL is the message content of the complaint request, and STYLE is the behavioral intensity with which the complaint is pressed.

Assuming a decision is made to complain, the type of complaint that will be made is a function of relative dominance of complaint objectives, which may change due to situational cues. The consumer's complaint strategy is then operationalized through the particular appeal(s) and styles(s) chosen. Note that the proposed mechanism of action for situational cues is one of cue-induced change in objectives, rather than a direct linkage between cues and either style or appeal.

In turn, complaint appeal and style should influence complaint response. While the influence of message characteristics on attitude and behavior change has received widespread attention (Fishbein and Ajzen 1975), space does not permit discussion of the influence of appeal type on compliance. Resnik and Harmon (1983) discussed perceived legitimacy of appeal but did not explicitly test for relationships between perceived legitimacy and favorableness of marketer response. They did note a tendency towards compliance by marketing representatives, even when the complainant's suggested remedy was obviously unreasonable, speculating that this may have been the result of a desire to avoid a confrontation. The impact of the power base from which the appeal derives, e.g. legitimate vs. coercive, on response to consumer complaints has not been investigated at all, and may prove fruitful ground for future exploration.

Holding appeal factors constant, the impact of complaint style on response can be assessed. Recalling that complaint style descriptors embody an underlying continuum of behavioral intensity, two alternative formulations are appealing. The first suggests that favorableness of response is a monotonically increasing function of intensity. This hypothesis is consonant with the view, noted in Resnik and Harmon (1983), that marketing representatives may wish to avoid or quickly defuse confrontations with consumers through compliance. The more confrontational and aggressive the consumer's complaint style is, the greater the likelihood of compliance. The outcomes portion of the model is given by:

$$\text{COMPLIANCE} = f(\text{STYLE} \uparrow \text{APPEAL}) \quad (3)$$

where COMPLIANCE is the degree of favorableness in the marketing representative's response to the complaint, and STYLE and APPEAL are defined as before. One variety of monotonically increasing function is the linear model, given by:

$$\text{COMPLIANCE} = b_0 + b_1 (\text{STYLE}) \uparrow \text{APPEAL} \quad (4)$$

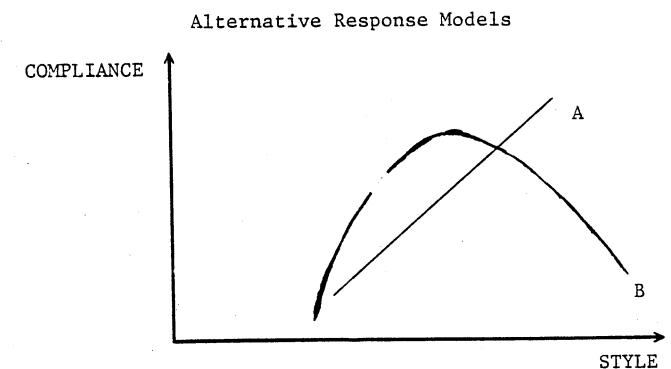
where b_0 and b_1 are empirically derived parameters.

An alternative hypothesis is that the response function is curvilinear, specifically taking on an inverted U-shape. The argument favoring this version is that very weak or timid complaint styles invite rejection, whereas excessively aggressive complaint styles stimulate a defensive reaction instead of compliance on the part of the marketing representative. This of course would be dysfunctional from the consumer's point of view. Such curvilinear response functions have been observed in other situations involving persuasive communication and attitude change, most notably with fear appeals (McGuire 1968, 1969). McGuire posited a two-factor explanation for the U-curve, in which facilitating and inhibiting dimensions of fear interacted to produce the shape of the response curve. Support for this view and an application to segmentation were provided by Ray and Wilkie (1970). The curvilinear form of the model, derived from McGuire's model, is given by:

$$\text{COMPLIANCE} = b_0 + b_1 (\text{STYLE}_f)(\text{STYLE}_i) \uparrow \text{APPEAL} \quad (5)$$

where COMPLIANCE is as defined before, STYLE_f represents the facilitating effects of behavioral intensity, STYLE_i represents the inhibiting effects of behavioral intensity, and APPEAL is also as before. Figure 1, Alternative Response Models, depicts the differing response curves corresponding to the two competing hypotheses.

Figure 1



Model "A" is that of equation (4), that is,
 $\text{COMPLIANCE} = b_0 + b_1 (\text{STYLE}) \uparrow \text{APPEAL}$

Model "B" is that of equation (5), that is,
 $\text{COMPLIANCE} = b_0 + b_1 (\text{STYLE}_f)(\text{STYLE}_i) \uparrow \text{APPEAL}$

Discussion

The model presented in this paper serves two functions. First, it provides an organizing framework for the propensity to complain literature. Instead of considering a collection of correlates with propensity to complain individually, the complaint strategy model suggests that any perceived injury in the marketplace that produces sufficient dissatisfaction will yield a desire to obtain redress. This desire may be one, or both, of two types; the desire for economic redress and desire for restoration of self-esteem. Certain factors may facilitate a complaint strategy that involves complaining, including past success with complaining in similar situations. Other factors, such as lack of resources or perception of low benefit/cost ratio may constrain complaining behavior when economic redress is the primary objective. However, marketing representatives' behavior may provoke complaints, even when the expected probability of obtaining economic redress is low.

Second, the model suggests several empirically testable hypotheses, which have both theoretical and public policy implications. For example, the following alternative hypotheses derive from the input side of the model:

- H1: Consumers whose primary response to a dissatisfaction experience is a stated desire to obtain economic redress will be more likely to express an intention to use appeals high in perceived legitimacy than those whose stated objective is self-esteem restoration.
- H2: Consumers whose primary response to a dissatisfaction experience is a stated desire to restore self-esteem will be more likely to express an intention to use a more intense complaint style than those whose stated objective is economic redress.

From the output side of the model the following may be tested:

- H3: Complaint response compliance is a monotonically increasing function of perceived complaint style.
- H4: Complaint response compliance is an inverted U-shape function of perceived complaint style.

Relaxing the constraint that appeal type is held constant permits investigation of a series of possible interactions between complaint style and appeal, including the perceived legitimacy and power base category of the appeal. Two of the many possible testable hypotheses are:

- H5: Complaint response is most favorable when very aggressive complaint styles are coupled with complaint appeals low in perceived legitimacy.
- H6: Complaint response is most favorable when non-assertive complaint styles are coupled with appeals based on legitimate power.

While the corresponding null hypotheses have not been stated, and issues such as possible research designs, construct operationalization, and measure validation have not been considered, the preceding does give some guidance as to potential research directions. Furthermore, other factors are also likely to have an impact on complaint outcomes, and these may be incorporated in a broadened version of the model. The formal complaint resolution policies of the marketing organization may be formulated to give the customer the benefit of the doubt, or vice versa. The informal reward structure in the organization, regardless of formal policy, may punish those marketing and customer service representatives who appear to take the complainant's side against

the organization. Finally, especially in face to face complaint situations, the perceived similarity-attraction paradigms suggest that the marketing representative's response to the complaint may be more favorable when perceived similarity with, and attraction to, the complainant is high.

If validated, the model poses some interesting questions to consumer advocates and public policy makers. Many who have written advising consumers how to complain, for example Calistro (1984), Federal Trade Commission (1983), and Knauer (1982) have focused almost exclusively on the informational content (appeal) of complaint letters. Implicit in their instructions is an untested assumption of a positive causal relationship between an appeal's perceived legitimacy and response favorableness. Complaint style issues have been skirted in many of the instructional pieces, although some writers have explicitly urged moderately intense (assertive) complaint styles in preference to styles either very low (timid) or very high (aggressive) in intensity (Mooney 1984). None of the instructional articles cited acknowledge the possibility that different situations may call for differing combinations of appeals and styles, e.g. face to face complaints in retail stores vs. complaint letters to manufacturers. Contingent upon the actual results achieved in validating empirical work, those who wish to advise consumers how to complain should consider a broader range of factors that likely contribute to the relative success of a complaint.

Summary

This paper has presented a model of consumer complaint strategy that focuses on factors that determine both whether and how a complaint will be made. The model also considers the impact of the behavioral manifestations of complaint strategy on favorableness of response to complaints. It is argued that the previous focus on propensity to complain has produced an overly narrow perspective on complaining and that greater attention should be given to the motivating role of the affective dimensions of the dissatisfaction experience. Finally, suggestions are made for testing of hypotheses derived from the model, and consideration given to the public policy implications of the possible results of that testing.

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VIEWER PROCESSING OF COMMERCIAL MESSAGES: CONTEXT AND INVOLVEMENT

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Abstract

This paper explores the theoretical relevance of several major factors which have not received much attention in advertising research. It is our contention that the interaction among viewer's level and type of involvement, program context, and the nature of the advertisement influences the effectiveness of commercial messages in conveying the desired concept and influencing brand attitude formation.

Introduction

The major intent of advertising is to influence brand-attitude formation and choice by conveying to the consumer a specific concept regarding the market offering. For example, BMW has been conveying a concept of the ultimate driving machine. The extent to which the consumer's brand-attitude and choice will be influenced is dependent upon the individual's learning and retrieval of the message contents. It is readily apparent that each commercial message is in competition with other stimulus for the target individual's attention and dedication of processing capacity. Competing stimuli for a television advertisement, for example, includes both other ads aired during the allocated time slot and the program itself.

For the marketer who is interested in communicating with an identifiable group of consumers it is very important to be able to effectively convey his/her message. Effectiveness in this case being defined as the viewers incorporation of the concept into his/her cognitive structure, e.g., the brand becoming recognizable, becoming a member of the evoked set, or possibly becoming the brand of preference. Learning as referenced throughout this discussion is not a single mental activity but rather any modification of the individual's knowledge base (Rumelhart and Norman 1978). Learning includes both the restructuring and adjusting of schema, as well as the traditional concept of accretion by matching and adding to existing schemata. Consequently, if the advertiser wants to effectively communicate his/her message it is important to come to an understanding of how a particular concept is learned in a television viewing situation.

At issue is a fundamental question of how to best allocate limited resources to achieve the advertising objectives of the organization. Strategically marketers have traditionally relied upon Nielson ratings and viewer demographic profiles for the determination of where to place their advertisement. This traditional approach, however, obfuscates the issue and can lead to erroneous ad placement. Nielson ratings of television tuning reflect an on-off switching phenomenon. In terms of viewer involvement Nielson ratings reflect a specific program's capability to exceed a minimal level of involvement intensity, a threshold point below which the individual is defined as being non-involved, e.g., non-viewing. This approach, however, overlooks the fact that beyond this threshold the individual's involvement with the program can vary along a continuum from a very low level to a maximum or high level of involvement. To the advertiser Nielson ratings suggest that programs which are below some threshold level of viewer involvement will be tuned out, or not viewed. Consequently, the more interesting, and perhaps more relevant viewing behavior for the advertiser, focuses on the stages of involvement intensity beyond this simple on-off switching phenomenon.

Of particular interest to the advertiser is how specific contextual aspects and the viewer's involvement with the television program facilitate or hinder the integration of a commercial message. Several authors have focused on contextual effects (Anderson and Ortony 1975; Barclay et al. 1974; and Tulving and Thompson 1973), illustrating the degree to which human memory and language understanding are sensitive to the context within which exposure to a message occurs. Rumelhart (1977) states that "even when an input is thoroughly processed and the information is carefully stored it will not be retrievable unless the context of retrieval matches that of storage in certain important ways." Individuals rely upon contextual guides in order to find sought after information (Roediger 1983; Smith et al. 1983). Those aspects that are believed relevant at the time of storage serve as efficient guides back into one's memory. In his work on visual perception Liebowitz (1965) found that the surrounding context, even though one may not be aware of it, is nevertheless critical. Balota and Rayner (1983) and Palmer (1975) further demonstrated in a series of experiments the importance of context for our processing of visual scenes. As argued by Neisser (1967) the perceiver uses his/her knowledge of what should be happening in conjunction with the few features he/she finds to construct a representation of what must be happening and what he must be seeing.

Rumelhart and Ortony (1976) argue that the particular schema which will be activated at the time of comprehension depends not only on the input but also on the context. Different contexts may give rise to different patterns of schemata available for comprehension even though the input be the same. The essence of these findings is that the context within which learning occurs has an effect upon the individual's ability to recall the information at some future point in time. The contextual aspect, in the case of learning of a commercial message is the program within which the commercial is aired.

Prior research efforts in advertising have been directed at a diverse array of areas, including viewer involvement with the product (Petty et al. 1983), the inducement of low involvement with advertising (Gardner et al. 1982), the moderating role of attitude towards the ad (Mitchell and Olson 1983; Mitchell 1982), the effects of TV clutter (Webb and Ray 1979), viewer perceptions of ads (Aaker and Brugzone 1981), and programming effects upon advertising (Kennedy 1971; Soldow and Principe 1981). Kennedy (1971) raised the issue of how the program environment may affect the individuals processing of information conveyed in TV commercials. The conclusion drawn by Kennedy was that the program environment does affect the commercial message. Soldow and Principe (1981) investigated viewer response to commercials as a function of program context by explicitly addressing viewer involvement with the program. The significance of their work, and of Kennedy's, was the recognition of the need to study contextual effects of programming on the viewer's response to commercial messages.

Prior work on the effects of viewer involvement with a program has failed to distinguish between the type of involvement, cognitive or affective, with both the program and the advertisement. The interaction between viewer's level and type of involvement, program context, and the nature of the advertisement have not been

studied in the past. These three factors are interconnected and influence the effectiveness of commercial messages in conveying the desired concept and influencing brand attitude formation. It is our contention that the interaction of a viewer's type and level of involvement with the program will have an effect upon advertisement effectiveness. The viewer's ability and willingness to process a commercial message is a function of his/her involvement with the program within which commercial message exposure occurs.

This has important implications for both brand and advertising managers. Research regarding this phenomenon will provide managerial insights concerning such issues as the appropriate type of ad for a given program to maximize ad effectiveness.

Initially, we present a general model of program-commercial interactions. Subsequent to this discussion we direct our attention to the task of providing supporting research for our contention of television program effects.

Program-Commercial Interaction

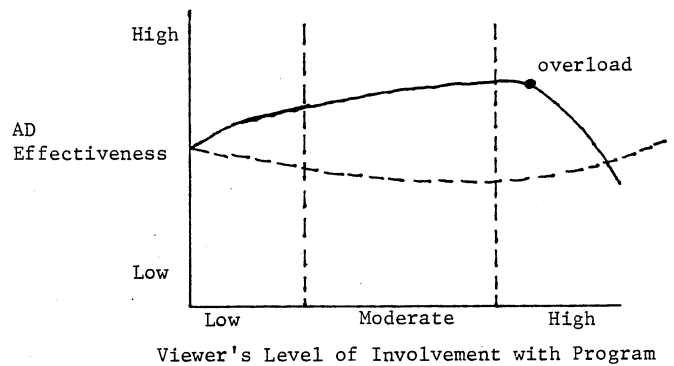
The interaction of television programs and commercial messages aired within the program is illustrated in Figures 1 and 2. Two general conditions of viewer involvement with the television program, cognitively or affectively based, and two types of commercial message, cognitive or affective, are examined. For an extensive discussion of the theoretical foundation and recent research on two types of involvement see Park and Mittal (1983). The advertisement referenced in each figure is assumed to be relatively effective. The functions are illustrative of the interactive effects of viewer involvement with a program given a specific commercial message that is either cognitively or affectively based. It is recognized that most commercials are not clearly cognitive or affective and the discussion is based upon an assumption of dominant rather than exclusive commercial message characteristic. The variables which serve as a bases for the formulation of the hypothesized impact upon ad effectiveness are priming, and overloading.

Viewer Involvement With The Program

When the underlying motive or reason for involvement with the television program is cognitive the emphasis is upon the individual's information processing of feature, or attribute based information, and is analytical (Brooks 1978) in nature. In contrast, when the underlying reason for viewer involvement with the program is affective, the emphasis is upon projection and matching of individual's self image with the external stimulus and is analogical (Brooks 1978) in nature. Horowitz and Kaye (1975) and Holbrook and Hirschman (1982) have supported the contention that one's self-image plays a significant role in influencing brand choice.

One important implication of the differences in processing information which is attributable to the viewer's type of involvement with the program was demonstrated by Park and Young (1983). They found that individuals in a cognitive state tend to focus on the cognitive aspects of a commercial message and individuals in an affective state tend to focus on affective aspects of a commercial message. With regard to the context in which a commercial message is embedded one would expect a higher degree of learning and recall in the case where the program, through priming of the individual, creates a mind set that is congruent with the content of the commercial message (Seamon, Brody and Kauff 1983). To the extent that there exists a state of incongruence one would expect learning and recall to be inhibited. The manifes-

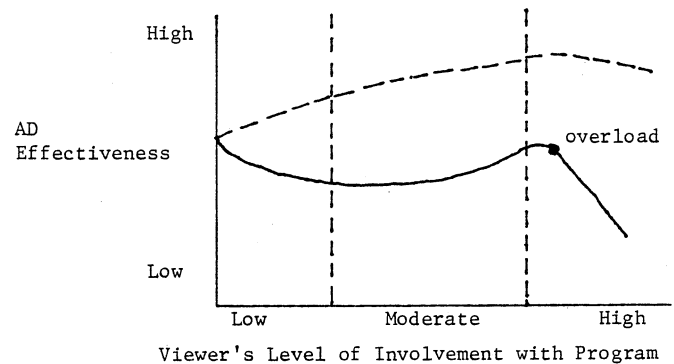
FIGURE 1
Program and Commercial Interaction:
Cognitively Based Advertisement



Viewer's Type of Involvement:

— Cognitive program involvement--individual viewing
---- Affective program involvement--individual viewing

FIGURE 2
Program and Commercial Interaction:
Affectively Based Advertisement



Viewer's Type of Involvement:

— Cognitive program involvement--individual viewing
---- Affective program involvement--individual viewing

tation of the congruency effect is contingent upon the viewer's level of involvement.

Priming

The congruency effect is illustrated in Figures 1 and 2. In Figure 1 the cognitively based ad is more effective when the viewer is cognitively involved with the television program. Figure 2 illustrates that an affectively based ad is more effective when the viewer is affectively involved with the television program. Initially the lowly involved consumer experiences only incidental learning (Krugman 1965) and mere exposure effects (Zajonc 1968; Batra and Ray 1981; Zajonc, Markus and Wilson 1974) from a passive exposure to a cognitively or affectively based commercial message irrespective of whether they are affectively or cognitively involved with the program (see the Low Involvement Level of Figures 1 and 2). As the level of viewer involvement with the television program increases from low to moderate the congruency effect becomes more pronounced. The difference in the effectiveness of the commercial message under conditions of congruent and incongruent advertisements becomes more evident. This is illustrated in Figures 1 and 2 where the greatest difference in ad effectiveness between conditions of cognitive or affective involvement with the program occurs at the moderate

level of involvement intensity. If the viewer is moderately involved with the program then they will be actively engaged in processing of program content either affectively or cognitively. If they are cognitively involved with the program and exposed to a cognitive commercial message the ad will be more effective than if the viewer had been affectively involved (Figure 1--moderate level). If the viewer is affectively involved with the program and exposed to an affective commercial message the ad will be more effective than if the viewer were cognitively involved with the program (Figure 2--moderate level). This difference in ad effectiveness is attributable to the provision of either appropriate or inappropriate priming (Anderson and Ortony 1975; Tulving and Thompson 1973).

Overloading

As the viewer's level of involvement increases to a high level the limiting aspects of viewer's ability to process information come into play. Human information processing is limited in capacity (approximately seven chunks, Miller 1956), and the time required for integration of information into memory (five seconds per chunk, Greg and Simon 1967; Simon 1982).

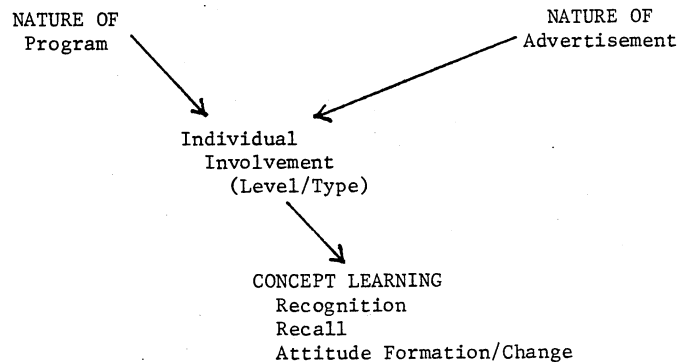
If we accept the argument that individuals are constrained in the amount of information that can be processed during a given time interval, the question of interest to the advertiser is how the viewer formulates chunks of information from their commercial message. We have already stated that when a viewer is engaged in analytical processing of information they are dealing with feature based information. Such information equates to a large number of relatively small chunks that could potentially be extracted from the program and commercial message. As the viewer's level of involvement with the program increases they will attempt to process increasing amounts of information approaching the limit of their cognitive capacity. As the viewer approaches the limit of their processing capacity they will pursue strategies which will alleviate cognitive strain. In the situation of television programming and commercial breaks, one strategy may be to block out commercial messages which are presented during program breaks. This condition is illustrated in Figure 1 where the viewer who is cognitively involved with the program reaches an overload condition and starts blocking out the cognitively based advertisement. Another strategy may be to switch from the analytical mode to an analogical mode during the commercial break. This effect is illustrated in Figure 2 where the viewer that is cognitively involved with the program starts switching modes, e.g., increasing the affectively based ads effectiveness, at a moderate level of involvement. Once the viewer hits the overload condition at a high level of cognitive involvement with a program they will block out the affectively based communication.

In the case where the viewer is affectively involved with a program they will be engaged in analogical processing. Analogical processing does not require as extensive of a cognitive effort as that associated with analytical processing. The chunks of information represent larger units of informational content which are interpretable as feeling states for integration. In a condition of increasing viewer affective involvement the point of overload exceeds the overload point associated with cognitive involvement. The viewer is able to process additional information since program content has been structured into larger chunks. The crossover of viewers who are affectively involved with the program and those that are cognitively involved in Figure 1 illustrates the condition where the cognitively involved group is blocking the commercial message information. It is not necessary for the affectively involved group to block out the commercial even though they are highly

involved with the program. In Figure 2 it is evident that the affectively involved viewer does not hit an overload condition though they are highly involved. As such, the effectiveness of the affectively based message is not impaired.

Concluding Remarks

Several issues of importance to the practitioner and the researcher have been raised within this paper. After developing the theoretical justification for the consideration of involvement our attention turned to the impact of the program context on commercial messages. Several important aspects of programming context were presented, including priming, and overloading. Much of the discussion of program context is directly relevant to the consideration of ad context. The following illustrates the relationships which have been discussed.



We can summarize several general propositions which have arisen from our discussion of the viewer's level and type of involvement with the program, program context, and the nature of the advertisement.

- P1: There is a priming effect of the program on commercial message processing. Cognitively involved consumers will focus on and process the cognitive aspects of a commercial message. Conversely, viewers who are affectively involved with a program will process the affective aspects of a commercial message more than the cognitive aspects of a commercial message.
- P2: The priming effect is subject to the type and the level of involvement:
 - (a) High levels of cognitive involvement with the program will be detrimental to viewer processing of cognitive commercial message. Ad effectiveness will be highest at a moderate level of cognitive involvement with the program.
 - (b) High levels of affective involvement with the program will not affect the processing effectiveness of affective commercial message.

Several important implications for brand and advertising managers are evident. The viewer's level and type of involvement with the program, the program context, and the nature of the advertisement are interconnected and influence the effectiveness of a commercial message in conveying the desired concept and influencing brand attitude formation. At issue is the question of the appropriate type of ad for a given program to maximize ad effectiveness. This issue cannot be adequately addressed by utilizing program ratings and audience demographics since an essential aspect of program-commercial message matching relates to the type and intensity of viewer involvement with the program and advertisement. To address this issue the advertiser must carefully examine the intensity of viewer's involvement with the program within which an advertisement will be aired. In addition, the advertiser will need to come to some

understanding of the dominant type of viewer involvement with a program to effectively match the ad with the program.

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INVOLVEMENT, FAMILIARITY, COGNITIVE DIFFERENTIATION, AND ADVERTISING RECALL:
A TEST OF CONVERGENT AND DISCRIMINANT VALIDITY

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ABSTRACT

Involvement, familiarity, and cognitive differentiation are three measures of individual difference which have been hypothesized to be related to consumers' ability to recall advertising messages. Here, these three relationships are examined, and an attempt is made to establish a purified measurement procedure for operationalizing each of these constructs. With this last purpose in mind, tests of convergent and discriminant validity are reported; and a group of indicators is tentatively proposed for measuring each construct in our hypothesized model.

Introduction

Semantic confusion about the concept of "involvement" and involvement-related concepts has been going on in the consumer behavior literature for some time now. A lot has been written since Krugman's (1965) introduction of the low-involvement concept. One would expect that both empiricists and academicians interested in involvement would have a clear conceptualization of this construct. One would further expect an understanding of the relationships between "involvement" and other concepts used to explain it. While a great deal of interest exists, there is not a methodological consensus to study involvement. A number of different definitions and conceptualizations as well as distinct methodological approaches have been used. But these have led to further semantic confusion instead of contributing to a clear understanding of what involvement is, what it is not, what its causes and effects are. There are basically two reasons for this semantic confusion. First, the construct of involvement is extremely difficult to define and subsequently operationalize. This is especially so in light of the second reason which is the lack of a nomological network of relationships that help explain the construct of involvement. In 1955, Cronbach and Meehl stated that "to make clear what something is means to set forth the laws in which it occurs: a nomological network." To understand the relationship between involvement and other hypothetical constructs (i.e., to set forth laws in which involvement occurs), we need clearer conceptualizations of involvement and the constructs related to it. Thus, the purpose of this paper is to make an attempt to start building a nomological network of involvement. To better understand the nature of involvement and to begin developing the theoretical structure in which it is embedded, we generated testable propositions from four interrelated constructs. These constructs are involvement, familiarity, cognitive differentiation and their relationship to recall. Involvement and related concepts have most frequently been used in a communication/advertising context. Thus with the model in Figure 1, we intend to show how similar -- and at times, synonymously used -- concepts of involvement, familiarity and cognitive differentiation influence recall in a persuasive communication setting.

Involvement

It is plausible to conceptualize that each one of the concepts has a positive direct effect on recall of advertising messages. That is, the higher a person's involvement and familiarity with a product and the higher

the ability to cognitively differentiate between features of that product, the higher the recall of the contents/characteristics of an advertisement for that product.

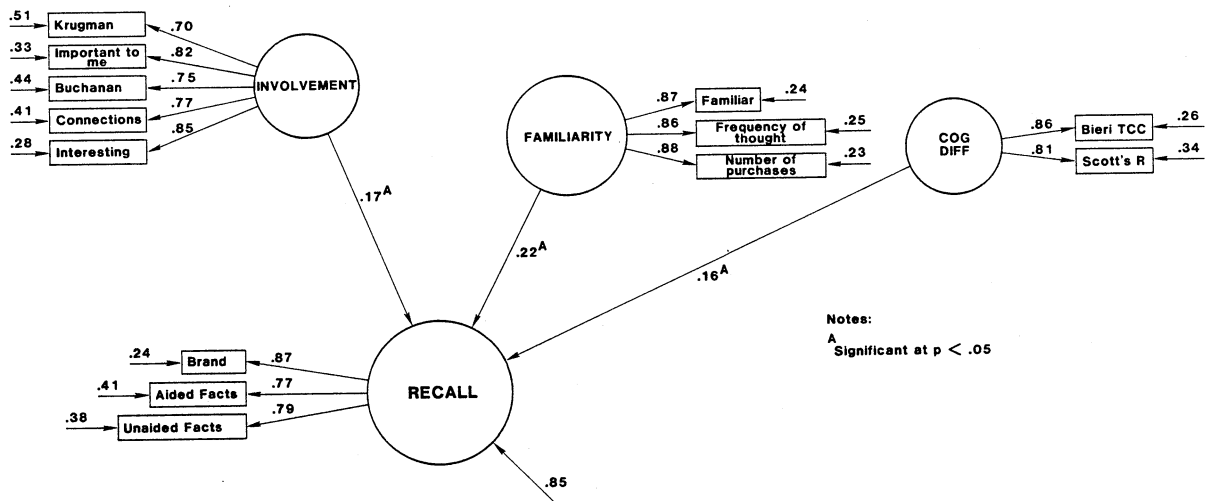
Among the many definitions of involvement is one that views it as a psychological/internal state of commitment (Mitchell 1979, 1981) that is activated by a certain stimulus in a given situation (Cohen 1983). If activation of this internal state is potentially high, caused possibly by a greater degree of attention to that particular stimulus, then subsequent memory performance and recall should also be high.

This perspective is also analogous to Greenwald and Leavitt's (1984) description of involvement at four levels: preattention, focal attention, comprehension and elaboration. As antecedents to these four levels of involvement, a distinguishing characteristic observed by the person may be made salient in his/her mind. Stimuli will not be very salient at the preattention and focal attention level. From a processing point of view, stimuli may be processed at a shallow level, leading to a lower degree of commitment to the stimulus object in the cognitive domain. On the other hand, comprehension and elaboration require not only more cognitive capacity (Greenwald and Leavitt 1984), but will result in "deeper" processing leading to a higher activation potential for the stimulus and thus more commitment and involvement. High involvement due to comprehension and elaboration should also lead to better recall of message characteristics.

Familiarity

Familiarity with the product and/or brand is an important factor in the study of consumer behavior. Familiarity is a variable that describes the nature of the cognitive structure a person has towards a product. As such it should be seen as an intervening variable between the hypothetical construct of involvement and, say, an importance scale at the measurement level. Familiarity has been operationalized in the past as frequency of use (Raju and Reilly 1979), knowledge about the product class (Lastovicka 1979) and previous experience (Russo and Johnson 1980). But Marks and Olson (1981) disagree with these definitions and suggest that familiarity is the "cognitive representation of the (past) experiences that are stored in memory... These representations can be considered to be organized in a memory as a product-related cognitive structure or schema." This information processing approach to product familiarity is appropriate in light of the above conceptualization of the involvement construct. When an individual is exposed to an external stimulus, this information is going to be encoded and represented either isomorphically or in a form different to its external existence. By encoding we mean an individual will create mental associations between the features of the stimuli and cues or pieces of knowledge that already exist in his/her memory. Repeated exposure-encoding-representations will lead the individual to form more elaborate and possibly more complex memory structures about the stimulus object. Thus it is these well- or less-developed memory structures that

Figure 1
Estimated Model



define the amount of familiarity an individual has with an object. If an individual receives a persuasive message about a product/brand for which the individual has a well-developed memory structure, then that individual will be able to activate more concepts from memory to use in interpreting the attended stimuli. This may also mean that the individual may present a higher activation potential (à la Cohen 1981) to process the external information. This high level of activation may explain the level of involvement of a person more familiar with that product and/or brand. Because this individual has more knowledge and concepts in memory to use in judging the external stimuli, the possibility of the features of stimuli being associated with already existing cues is larger. This will lead the individual to have better memory performances and subsequent recall. On the other hand, an individual who is not very familiar with a product will have less-developed memory structures. This will cause the individual to link the features of the external stimuli with a fewer number of existing cues in memory, ending with not so elaborate an encoding and thus with poorer recall of the product and/or message features.

This view of familiarity is based on some basic, widely-in-use principles of the information processing paradigm, and is also useful in explaining the involvement construct. The probability that a person is more involved with a stimulus object is greater when that individual is more familiar with that object and thus has a better developed memory structure about it. As such, familiarity should be seen as an intervening variable for involvement. If involvement is a psychological and internal state whose activation is triggered by a particular stimulus, then the more an individual knows (i.e., more familiar s/he is) the higher will be his/her involvement.

Cognitive Differentiation

One important feature of a memory structure is that it enables an individual to perceive differences in the features of a stimulus object and to make fine distinctions between that object and others. This is cognitive differentiation, and researchers suggest it is a key characteristic of cognitive complexity or simplicity. A person who can perceive these fine distinctions in the stimulus object will do so because of the extensive

knowledge the person has about that stimulus and the detailed/intricate way these knowledge cues are interconnected with one another. The more well-developed a memory structure is (the more familiar a person is with a stimulus) the higher the probability of being able to make fine distinctions between that stimulus object and others. Krugman (1965) describes high involvement as having more personal connections and bridging experiences. The more there are of these, the higher the ability of the individual to make finer distinctions. These connections and bridging experiences should be considered as cognitive traces, i.e., pieces of knowledge stored in memory. The more involved a person is, the more elaborate these knowledge cues will be. These cues may then be used to make cognitive differentiations. This state of more interconnectedness between knowledge cues in a memory will lead people to have better memory performances and recall. Even though we suggest that involvement, familiarity and cognitive differentiation will have similar effects on recall, they are not identical constructs. Familiarity may be an antecedent and cognitive differentiation can both be an antecedent and consequence of involvement.

Purpose of this Study

As is apparent from the above discussion, familiarity, involvement, and cognitive differentiation are expected to be related to advertising recall. In addition, it can be seen that these three predictors are very similar from a theoretical perspective. They also are very similar from a measurement perspective; and these two facts (conceptual and operational similarity) have led to some confusion in the consumer behavior literature. For example, the following item: "I am familiar with this product category," has sometimes been proposed as a measure of involvement. In this manner, lack of conceptual clarity among these three constructs may have led to measurement confusion, and vice versa. The purpose of this paper is twofold:

- 1) To clear up some of this confusion of measurement by attempting to isolate a group of indicators that will measure involvement, as distinct from familiarity and cognitive differentiation. Of course the same goal of measurement purity exists

with respect to familiarity and cognitive differentiation.

2. To investigate the relationships of involvement, familiarity, and cognitive differentiation to ad recall.

To accomplish the first objective, tests of convergent and discriminant validity are reported. To accomplish the second goal, a causal model with multiple measures is estimated.

The Study

Stimulus Objects

Constructs such as cognitive differentiation seem most relevant for describing consumers' perceptions of complex products (products with many salient attributes) as opposed to simpler products. For this reason, relatively complex products were chosen for study -- automobiles and stereo systems. Both products are comprised of a potentially wide range of attributes, and both may involve a relatively complex decision process on the part of the target audience. For each product category, a one-minute radio commercial was professionally produced for a fictitious, new brand in that category. Fictitious brands were used to minimize the impact of previous promotional efforts. These radio spots were embedded in regular programming material, consisting of an international news broadcast, in order to simulate a natural listening environment.

Subjects

The total sample size is 90. One-half of the subjects were exposed to the stereo advertisement. The remaining 45 subjects were exposed to the automobile ad. All of the subjects held full-time jobs, while attending graduate school part-time, and all were prescreened to establish that they were in the target audience for the advertised product and fully expected to make a purchase in that product category sometime within the next year.

Measurement

Subjects participated in three sessions. During the first session measures of cognitive differentiation, familiarity, and involvement were administered. These measures were randomly rotated in order to minimize any ordering effect. The first group of subjects completed these measures for the domains of world events and stereo systems. The second group was tested in the domains of world events and automobiles. During the second session, subjects were exposed to a radio broadcast consisting of a news program (international news and events), along with the target ad. In the third session, day-after recall measures were administered.

Measures

One of the main purposes of this study is to isolate one group of indicators to measure involvement, such that involvement alone is measured, as opposed to familiarity or cognitive differentiation. The same goal exists with respect to familiarity and cognitive differentiation -- to isolate purified indicators. With this goal of discriminant validity in mind, groups of measures were compiled for each construct. An attempt was made to put together a list of all measures which had appeared in the literature and which made sense from a theoretical perspective. After a series of pretests, the measurement instruments were refined and reduced in number. Table 1 presents a description of those which were finally selected for inclusion in this study. Note that some measures employ a Likert-type scale, while others require that subjects complete an objective task. Com-

plete descriptions and definitions of the measurement procedures are provided in Table 1.

Analysis Procedure

Our purpose, then, is to investigate the validity of the proposed measurement procedures while, at the same time, testing the strength of the causal relations between the three predictors and ad recall. When faced with this type of analysis problem there are two main choices: LISREL or Partial Least Squares (Fornell and Bookstein 1982; Fornell and Zinkhan 1982).

Recently, some problems associated with LISREL modeling have begun to surface (see, for example, Fornell and Larcker 1981). In particular, it seems as if data gathered in the course of consumer behavior research may not often satisfy some of the assumptions required by maximum likelihood estimation under LISREL, such as multinormality, interval scaling, or relatively large sample size. In addition there is the rather disturbing problem of improper solutions (e.g., negative error variance). Because of these problems there has been increasing interest in alternative modeling procedures such as Partial Least Squares (PLS). Unfortunately, some of these PLS applications have been a bit difficult to follow. For example, Jagpal (1981, 1982) has applied PLS estimation to the problem of evaluating hierarchy-of-effects models in advertising. In this application, advertising expenditure was measured and sales was measured, but no intervening constructs (such as awareness or preference) were explicitly measured. This leads to a rather odd model representation wherein advertising expenditure is represented as an indicator (rather than a cause) of awareness. Likewise, sales is represented as a measure, rather than as an outcome, of preference. Here an attempt is made to show a clearer application of PLS modeling in order to demonstrate its potential usefulness for consumer behavior research.

An advantage offered by so-called causal modeling techniques is the ability to separate empirical measures from underlying theoretical constructs and, in this way, assess construct validity. In this context, construct validity refers to the extent to which an observed measure reflects the underlying theoretical construct that the investigator has intended to measure (Andrews 1984; Cronbach and Meehl 1955). One step associated with testing construct validity involves an examination of the empirical relationship between measures and their underlying constructs (Zeller and Carmines 1980). One way to accomplish this is through consideration of convergent and discriminant validity where convergent validity refers to the degree to which multiple measures of the same underlying construct are in agreement, and discriminant validity refers to the degree to which two hypothetical constructs can be shown to be different (Campbell and Fiske 1959). In this sense, construct validity is a bit different from the notion of reliability and is different from other types of validity, such as ecological, content, or predictive validity (Zeller and Carmines 1980).

One common, though not universal, practice is to study a measure's validity by examining the correlation between a measure and its underlying construct. In the context of PLS modeling, this is represented by a loadings coefficient. By squaring this coefficient it is possible to get an idea of the proportion of valid variance in an indicator (Andrews 1984). Thus, if an indicator correlates .7 with its underlying construct, then that indicator contains 49 percent valid variance. Also note that the measure shares more variance in common with error than with its theoretical construct. Hence, a rule of thumb has developed that an indicator should correlate above .71 with its underlying construct and should share more variance in common with the construct than with

error. If this condition is satisfied for an indicator, this is taken as evidence of convergent validity (Fornell et al. 1979).

Andrews (1984), in a study of six different surveys involving a total of 7706 respondents, apportioned total variance into three components: 1) valid variance; 2) correlated error variance; and 3) random error variance. That is, following classic measurement theory, a respondent's recorded answer to a particular survey item is assumed to reflect three types of influences: 1) the way the respondent really feels about the concept of interest (e.g., how involved the subject is with automobiles); 2) the way the respondent reacts to the data collection method (e.g., systematic error caused by the measurement instrument itself); and 3) everything else that might affect a recorded response (such as misunderstanding, fatigue, lapses of memory, etc.). Andrews (1984) found that, on average, a typical survey measure consisted of 66 percent valid variance, 3 percent method variance, and 28 percent error variance. These findings are encouraging in that an average survey item can be expected to share more in common with its theoretical construct than with error, and these findings can serve, along with others, as a benchmark against which subsequent measurement procedures can be compared. Also of note is the fact that the major component of survey error appears to be random rather than systematic.

In accordance with Andrews' results, we set out to determine the relative amount of residual variance as compared to the amount of valid variance in the constructs of interest: involvement, familiarity, and cognitive differentiation. It is, of course, possible to study systematic (or method) variance through an application of causal modeling (see Bagozzi 1978; Fornell et al. 1982); but, since the methods used here are not radically different from one another and since Andrews (1984) has found that systematic variance is a relatively small portion of total error variance, only residual variance is considered here in relation to valid variance.

Results

The relationships of the indicators to their constructs, along with the causal relationships among the constructs themselves, are summarized by the model shown in Figure 1. Following the procedure developed by Fornell, et al. (1982), this hypothesized model is examined with respect to convergent and discriminant validity.

Convergent Validity

As mentioned above, one way to assess convergent validity is to examine the loadings coefficients. As shown in Figure 1, all indicators save one share more variance in common with their underlying construct than with random error. The breakdown occurs for the Krugman task as an indicator of Involvement, where error variance (.51) exceeds shared variance with the latent variable (.49). Note, however, that this indicator just barely fails the test.

Another method for examining convergent validity has been developed by Fornell et al. (1982) where the variance shared by a construct is estimated by calculating the average of the squared loadings coefficient (ρ_{VC}) for a construct (see Fornell and Zinkhan 1984). Thus, ρ_{VC} provides a measure of the average amount of valid variance that an indicator shares with a latent variable.

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 (Fornell and Larcker 1981). As summarized in Figure 1, all four constructs, on average, share more variance in common with their indicators than with error.

For example, all values for ρ_{VC} are greater than .5, with the lowest ρ_{VC} value being observed for Involvement ($\rho_{VC} = .608$) and highest value being observed for Familiarity ($\rho_{VC} = .757$).

In summary, the estimated model shown in Figure 1 seems to be acceptable in terms of convergent validity. The indicators load highly on the constructs which they are designed to measure.

Discriminant Validity

Fornell et al. (1982) demonstrates 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 variance shared between a construct and its measures (Fornell and Zinkhan 1984).

All four constructs share more variance in common with their indicators than with other constructs in the model. This can be clearly seen in Table 2 which summarizes the ρ_{VC} values for each latent variable and displays the correlations among the latent variables themselves. In the PLS estimation procedure, the constructs are allowed to correlate among themselves; there is no assumption of independent factors.

As can be seen in Table 2, the largest squared correlation coefficient between constructs is .096 ($r = .31$ between Familiarity and Recall). Therefore, the smallest ρ_{VC} value is more than six times greater than the largest squared correlation between constructs. In short, the relationships among the constructs themselves are never greater than the relationships between a construct and its indicators. Discriminant validity is achieved for all four constructs.

Examination of Construct Relationships

Using PLS, it is possible to test the significance of a path coefficient through a jackknifing procedure. As shown in Figure 1, all three hypothesized paths between Recall and its predictors are significant at the .05 level; and all three paths are positive, as expected. Together Involvement, Familiarity, and Cognitive Differentiation explain 15% of the variance in Recall scores.

Thus, the hypothesized model is moderately successful in explaining the phenomenon of advertising recall. It is also revealing to examine the relationships among the three predictors, as shown in Table 2. Involvement, Familiarity, and Cognitive Differentiation correlate positively with one another, with the smallest relationship being observed between Involvement and Cognitive Differentiation ($r = .17$) and the largest relationship observed between Familiarity and Cognitive Differentiation ($r = .30$). In general, the relationships among the predictors are about equal in strength to the relationships observed between the predictors and ad recall.

Limitations

Before discussing the implications of these findings, some limitations should be re-emphasized. First, only one medium (radio) and two product categories were investigated. Second, subjects experienced forced exposure to one advertising message, and, in this sense, natural listening conditions were not fully simulated. Third, graduate students were used as subjects. However, somewhat ameliorating this problem is the fact that all graduate students held full-time jobs and all qualified as members of the target audience for the advertised products. Finally, our design did not allow us to investigate possible causal ordering among the

Table 1
Description of Indicators

Indicators are numbered and followed by a brief description.

Familiarity	
1. I am familiar with this product.	A 7-point Likert-Type scale.
2. Subjects are asked to indicate how frequently they think about this product category.	An open-ended estimate of frequency of thought.
3. Subjects are asked to indicate how many purchases they have made in this product class within the last five years.	An open-ended estimate of number of purchases.
Involvement	
1. This is a product that interests me.	A 7-point Likert-Type scale.
2. I can make many connections or associations between experiences in my life and this product.	A 7-point Likert-Type scale.
3. I rate this product as being of the highest importance to me personally.	A 7-point Likert-Type scale.
4. Subjects are asked to list any thoughts or feelings which come to mind when they think about this product category.	A task designed to operationalize Krugman's (1965) definition of involvement (number of personal connections per minute).
5. Subjects are shown the names of nine products arranged in twelve groups of three each, and asked to indicate which of the three categories they would most like to hear a message about and which they would least prefer to hear a message about.	The output from Buchanan's (1964) relative measure of involvement allows the nine product categories to be rank-ordered from most involving to least involving.
Cognitive Differentiation	
1. Subjects complete a repertory grid in which they rate positive and negative stimulus objects (products) along eight bipolar construct continua.	Bieri et al.'s (1966) Total Cognitive Complexity (TCC) score reflects subjects' ability to use the eight bipolar construct continua as independent dimensions when rating positive or negative stimulus objects.
2. Subjects are asked to write down all of the brands which they can think of in a product category and then put those brands into groups which make sense to them.	Scott's (1962) R is derived from information theory, is a relative measure of entropy, and identifies the number of independent dimensions present within an individual's cognitive domain.
Advertising Recall	
1. Subjects are asked to write down the brand which they have heard advertised out of a given product category.	An Unaided Brand Name Recall.
2. Subjects are asked to write down their thoughts about the target advertisements. Brand name is given as a prompt. These thoughts are then coded and the number of product-related thoughts or facts counted up.	An Unaided Recall of Facts.
3. Subjects answer a series of true/false questions about facts contained in the ads, and the number of correct answers is counted up.	An Aided Recall of Facts from the Ad.

predictors themselves. This final point is further discussed in the following section.

Discussion

The main contribution of this paper is in terms of measurement procedures. Specifically, five indicators have been proposed for Involvement, three indicators for Familiarity, and two for Cognitive Differentiation (see

Table 2
Correlation Between Constructs

	ρ_{VC}			
A. Involvement	.608	1.00		
B. Familiarity	.757	.25	1.00	
C. Cognitive Differentiation	.698	.17	.30	1.00
D. Recall	.658	.25	.31	.25
		A	B	C
				D

Table 1). With one minor exception for one of the Involvement indicators (the Krugman task), these proposed indicators seem adequate to the task of operationalizing the three predictor constructs. In particular, rather stringent tests of convergent and discriminant validity are passed within the context of PLS modeling. Also, the three indicators of ad recall appear to be acceptable as these too pass the validity tests.

Within the proposed model, however, rather weak relationships are reported between the three predictors and ad recall. Together, the predictors explain only 15% of the variance in recall scores. Although the hypothesized relationships are statistically significant, they are rather weak in nature. However, it must be pointed out that this level of explained variance is rather typical for consumer behavior research when measures of individual differences are used.

It is also interesting, within the context of the PLS model, to examine the relationships among the three predictors themselves. As can be expected, the predictors do correlate significantly among themselves; but again, none of the relationships is particularly large. For example, none of the predictor-to-predictor relationships is larger than any of the predictor-to-criterion relationships. As expected, Involvement, Familiarity, and Cognitive Differentiation are interrelated. Unfortunately, we haven't made much empirical progress toward disentangling these interrelationships; only correlation coefficients are examined.

We have, however, made some progress in isolating purified measures of each construct which can pass certain validity checks. In addition, within the context of the proposed model, we are able to examine the relationships of the three predictors to ad recall and, given these relationships, are able to examine the resulting correlations among the predictors themselves. What remains for future researchers is the task of elaborating upon the specific circumstances or situations necessary for establishing some causal ordering among the predictors. Little progress towards this end has been made to date; but, perhaps, an investigation employing some of the methodological advances suggested here may prove more fruitful.

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UNDERSTANDING THE LIKABILITY/INVOLVEMENT INTERACTION:
THE "OVERRIDE" MODEL¹

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Abstract

Recent research indicates that source likability creates attitude change through a "route" that is more influential in "low (motivational) involvement" situations than in "high involvement" ones. An "override" model of this process is suggested. It argues that high levels of support and counter argumentation--enhanced by the motivation, ability and opportunity to so respond to message arguments--reduce both the production frequency of "affective responses" evoked by likable messages, and their covariance with dependent attitudes, thus leading to the observed interaction. An empirical test of the model is reported.

Introduction

There has been much interest in recent years in the interaction between "two alternative routes" of attitude change and the level of (motivational) "involvement" of the recipient. Various researchers have shown that source (ad execution) likability can also lead to attitude change, in addition to the traditionally-studied "message argumentation" route of attitude change; such source likability, however, appears to be the major "route" of attitude change only when the message recipient is (motivationally) "less involved" in the issue (Chaiken 1980; Gorn 1982).

While this interaction itself is by now commonly accepted, the process mechanism by which it occurs has not received much research attention. This paper suggests a process model of the referenced interaction, called the "override" model, and presents data from a test of the model.

The Model

Stated briefly, the "override" model suggested contains the following propositions:

1. Messages (e.g., advertising executions) which are "likable" generate "affective responses" in message recipients, in much the same way that message argumentation evokes the "cognitive responses" commonly studied (Wright 1973; Greenwald 1968).
2. The production frequency of the "cognitive responses" usually studied--in particular, support and counter arguments--is the interactive outcome of the message recipient's "motivation," "ability," and "opportunity" to respond to the message in an attribute (i.e., argument) based fashion.
3. When the levels of such "antecedent" motivation, ability and opportunity (to respond to the message in an attribute-based fashion) are at high levels, the number of support and counter arguments produced is high. Such high production

of support and counter arguments has two effects on the "affective responses" generated by likable message executions:

- a. first, the production frequency of such "affective responses" is itself reduced.
 - b. second, the effect of the affective responses produced, on dependent attitudes, is reduced--these "affective responses" are "overridden" by support and counter arguments in their influence on dependent measures of preference.
4. As a consequence, likable message executions influence brand attitudes far more when the antecedents of cognitive response production (e.g., motivational "involvement") are at low levels.

Because of space restrictions, this paper confines itself to presenting evidence pertinent to the third proposition. The first two propositions are discussed briefly below.

Evidence on the existence and role of "affective responses" has been recently presented by Batra and Ray (1984). Such responses consist of reports of moods and feelings evoked by the ad in the respondent, and are in addition to evaluations of the ad execution itself (such as source derogation or bolstering thoughts). Batra and Ray consider three such "affective response" categories: feelings of upbeat surgency, elation, vigor and activation (acronym "SEVA"); feelings of touching, heartwarming, tender, "social affection;" and feelings of quiet, relaxed, pleasant "deactivation." They show that such "affective responses" are produced by elements of the ad execution which make it more "likable" and "affective." They also show that such responses have a statistically significant effect on brand attitudes and purchase intentions, especially in "low involvement" situations. In doing so, they extend the "heuristic" route of attitude change (Chaiken 1980) from the likability of the message execution to the (affective) "mediating responses" evoked by such executions.

The second proposition, on the antecedent factors for the production frequency of support and counter arguments, is supported by evidence from various sources. Evidence on the linkage between "motivational involvement" and the production of these cognitive responses has been provided by Chaiken 1980, Wright 1973, and others. That on the "ability" antecedent is reviewed by Roberts and Maccoby 1973, who show that increased respondent knowledge about the issue leads to increased cognitive response production on message exposure. The effects of response "opportunity" are available in the distraction literature (e.g., Petty, Wells and Brock 1976) and in the effects of the number of arguments in the message (Calder, Insko and Yandell 1974; Chaiken 1980). (The "opportunity" effects of the number of message arguments are assumed to be linear in the range studied here, though they could conceivably be curvilinear, in that too few or too many arguments may inhibit

¹The data used in the empirical tests reported here are taken from a study sponsored by the Marketing Science Institute; the Institute's support is gratefully acknowledged.

attribute argumentation and instead promote reliance on "heuristic" execution cues.) For a review, see Wright 1981.

We turn now to the third proposition. In this proposition, we state that high production frequencies of support and counter argumentation--caused by high levels of antecedent motivation, ability and opportunity--lead to a suppression both of the production levels of affective responses and, in addition, of their effects on dependent attitudes.

It should be pointed out that Petty and Cacioppo 1979 have already shown that a source credibility x motivational involvement interaction similar to Chaiken's likability interaction is in fact, mediated by the differential production of cognitive responses under the two involvement conditions. They show (their Study 2) that the interaction occurs because subjects under high involvement generated more favorable thoughts and fewer counterarguments to strong than to the weak arguments; under low involvement, neither favorable thoughts nor counterarguments were affected by the argument quality manipulation (1979 p. 1922). They do not, however, examine the role of likability, "affective responses," or of respondent ability and message opportunity.

This paper thus suggests the extension of the results of Chaiken 1980 in the following ways. First, it argues that the effects of the "motivational involvement" antecedent of cognitive response production also apply to the "ability" and "opportunity" antecedents. Second, and more importantly, it suggests that such enhanced cognitive response production serves to (a) reduce the production frequency of "affective responses" evoked by likable message executions and (b) reduce the effects of ("overrides") such affective responses in terms of their influence on (their covariance with) dependent attitudes.

It should be noted that a similar model has recently been suggested by Greenwald and Leavitt 1984, called the "principle of higher level dominance." We turn now to the results of a study attempting to test the suggested model.

The Study

The objective of the study summarized below was to vary the level of support and counter argument production by a tactical manipulation of the antecedent "motivation," "ability," and "opportunity" to produce such responses, and then to investigate the effects of such antecedent levels on the relationships between cognitive responses, affective responses, and dependent attitudes. Two hypotheses were tested: one, that high levels of these antecedents would increase the production of support and counter argumentation but decrease that of the affective responses, and two, that these affective responses would have a reduced effect on (decreased covariance with) attitudes when cognitive response production was high.

Stimuli and Design

Forty thirty-second TV ads were selected to create five replications of eight factorial combinations: the motivational incentive to generate support and counter arguments, through the product category featured (high, low); differential knowledge-based ability to generate such responses, through the usage share of the particular brand featured (high, low); and differential opportunities for attribute-based viewer response, through the amount of attribute argumentation in the specific execution (high, low). The stimuli thus covered ten product categories, two brands each, two executions per brand.

The eight factorial combination were used to create

two four-ad "blocks" using a half-factorial design. Since there were five replications of each of the eight factorial combinations, five replications were created of each of the two four-ad blocks. None of these within-subject "blocks" repeated a product category (hence also a brand or an execution). Through this design, then, the maximum tactical variance was created within each block on the three antecedent factors (motivation, ability, and opportunity) believed to influence cognitive response production: two of the four ads in each block were "high product category motivation," two were "high usage share" (ability) and two were "high attribute intensity" (opportunity).

It should be noted that the measures actually used in analysis for these antecedent factors were individual-specific and that the design was used for tactical purposes only (see Measures). This was done because while the classification of ads into the factor levels used the researchers' best judgments, the levels of these variables actually operative for individual respondents could conceivably have been very different from those assumed (e.g. levels of motivational involvement). It should also be noted that by varying the attribute-intensity of the particular ad execution, opportunity was also created for differential production of the "affective responses" of interest, since half the ads used were "rational" (attribute intensive) while the other half were "affective" (likable, emotional).

Procedure

A total of 120 respondents were used, 12 per replicated block. These were housewives and working women, age 20 through 60, from the Palo Alto and nearby areas. While probably more educated and affluent than the average, their assignment to blocks was randomized. Each block was shown to the 12 respondents in four sessions of three respondents each.

Data collection for this study occurred in four phases. First, the ads were rated by judges on various dimensions (see Measures). Second, the women were contacted by telephone approximately one week before their experimental session and were asked embedded pre-exposure questions. The third phase was the experimental session itself. Here, after a first screening of the ad to more nearly equalize prior ad familiarity, the test ads were shown again (in a randomized and rotated fashion). Retrospective verbal protocols were administered to collect cognitive and affective responses (following the Batra and Ray 1984 procedure) and measures were taken of the motivational cognitive response antecedent ("product category involvement"), the ability (knowledge) antecedent, various dependent measures (brand familiarity, attitudes, intentions), and prior brand usage. In the fourth phase of data collection, delayed measures of brand attitudes were taken by telephone a week later. Only some of the data collected were used in the analyses reported in this paper. The measures of interest are detailed below.

Measures

The individual-specific "motivational" antecedent of cognitive response production was assessed by asking each respondent how important it was to her, when buying any brand in each of the ten (test and filler) product categories listed, that she bought exactly the brand she did. The response was coded on a 7-point "most important" to "least important" scale. Multiple measures were used for the "ability" and "opportunity" antecedent constructs. For the "ability" construct, the first was a measure of the number of brands the respondent was aware of (unaided) in the product category, collected during the

pre-exposure call. The second was an individual-specific measure on category knowledgeability, which asked the respondent for a self-rating of her knowledge about which features one might look at, in choosing among different brands, with such knowledge coming not only from usage but also from magazines, ads, and friends (5-point "very knowledgeable" to "very unknowledgeable" scale). The third was a measure of the total number of brands ever used by the respondent in that category from the many listed.

The individual-specific measure for the "opportunity" construct was the respondent's rating of the ad being informative or not (7-point scale, "had no information" to "had a lot"). In addition, three judges rated each ad on the number of attributes mentioned in the ad (second measure of "opportunity") and assigned a score on how "rational" the ad execution was (third "opportunity" measure). This last "R-score" was based on a checklist of items such as the demonstration of attributes, the use of a high expertise spokesperson, a "comparative" visual execution, statements regarding component attributes, etc. Two-judge correlations among pairs of the three judges ranged between 70-90% for these scores, and mean ratings across the three judges were therefore used.

While the analysis using antecedent levels (above and below the mean) reported below uses all of these multiple measures, further analysis was conducted to assess convergent validity and measure reliability for these antecedent constructs. This is not reported here, for reasons of space, and may be obtained from the author.

The production frequency of cognitive and affective responses was based, for every individual observation, on the thoughts and feelings reported in the retrospective verbal protocols. The reported thoughts and feelings were classified into support arguments, counter arguments, execution discounting/derogation, execution bolstering, S.E.V.A. (urgency, elation, vigor, activation) feelings, "social affection" (heart-warming, tender) feelings, "deactivation" (relaxing, soothing) feelings, and distraction/irrelevant thoughts. Descriptions and reliability estimates for these categories are available in Batra and Ray 1984, from which this coding scheme was adopted.

Dependent (immediate) brand attitudes were assessed through semantic differential items of "useful-useless," "important-unimportant," "pleasant-unpleasant," and "nice-awful." The mean of these four items was used in analysis.

Results and Analysis

The analysis reported below examines two issues. First, we look at the relationship between the antecedents of cognitive response (support and counter argument) production--the motivation, ability and opportunity factors--and the production frequency of those cognitive responses and of the "affective responses" studied by Batra and Ray 1984. Here, it is hypothesized that high levels of these antecedents will tend to increase the production frequency of support and counter arguments and suppress that of the three affective responses studied. We then turn to examining the reasons for the relative influence of affective responses on brand attitudes in situations where the cognitive response antecedent factors are at high and low levels. Here, we hypothesize that their reduced effect in "high antecedent" levels is their reduced covariance with brand attitudes in situations where support and counter argument production is high.

The effects of the antecedent "motivation," "ability"

and "opportunity" variables on the production frequency of cognitive and affective responses are apparent through the bivariate correlations presented in Table 1.

It can be seen from the table, first, that the motivation measure increases the production of support arguments (and of distractor thoughts), leaving affective response production unchanged. When significant, some of the ability measures increase the production of counter arguments, while decreasing the production of SEVA and social affection feelings. The opportunity measures increase support and counter argument production (with one exception) and decrease the frequency of SEVA, deactivation, and social affection feelings--the one exception is the number of attribute arguments in the ad, which increases counter argument production but suppresses support argument production.

It should be noted that while the different antecedent measures all increase the production of either support or counter arguments, they do differ in which of these two response categories they influence. No theoretical explanation is available for such differential effects on support and counter arguments, and the inconsistency in these effects clearly weakens the support for the relationships hypothesized. In general, however, these bivariate correlations offer some support for the hypothesis that increased levels of the antecedent measures manifest themselves in increased support and counter argument production and in decreased affective response production. (Supplementary multivariate analysis, not reported here because of space limitations, yielded the same conclusions.)

As mentioned, Batra and Ray 1984 have shown that the three affective responses studied here are evoked by likable ad executions, and that these responses have the strength to influence brand attitudes and purchase intentions. We now have data suggesting that in those situations when the motivation, ability and opportunity to produce support and counter argumentation are high, the number of such attribute-based responses rises selectively but significantly, while the production frequency of these affective responses is (usually) suppressed.

The "override" model now hypothesizes that the effect of such affective responses, on brand attitudes, is reduced when the (enhanced) number of support and counter arguments is high: these cognitive responses then "override" the influence of the affective responses generated.

This hypothesis was tested, first, through OLS multiple regression analyses summarized in Table 2, which reports the beta coefficients of the net valence of four groups of mediating responses in predicting post-exposure attitudes. Each regression run is conducted within two subsamples of each antecedent operationalization: cases with antecedent values less than or equal to the mean ("low") and those above the mean ("high"). Use of these "post-hoc" samples obviously makes impossible the causality inferences allowed by use of the experimental cells, but was felt to be appropriate given the individual-specific levels of the antecedent variables, as mentioned earlier in the 'Design' section.

The mediating responses are clustered, yielding net positive valence per cluster, in the four groups of (a) support arguments minus counter arguments (b) source bolstering minus source discounting (c) SEVA plus deactivation plus social affection responses (all positively valenced) and (d) distractor thoughts.

While particular runs differ, it can be seen that for most motivation and ability operationalizations (major exceptions: the opportunity variables) the net valence

TABLE 1

CORRELATIONS BETWEEN INDIVIDUAL ANTECEDENTS AND INDIVIDUAL MEDIATING RESPONSES

(n = 480; two-tailed p's in parentheses)

	Motivational Product Category Involvement	Ability			Opportunity		
		Knowledge- based Ability	Number of Brands Used in Category	Number of Brands Aware in Category	R-score of Ad	Number of Attributes in Ad	Rating of Ad Informat.
Support Arguments	.097 (.034)	.068 (.857)	-.072 (.117)	-.034 (.459)	-.037 (.422)	-.097 (.034)	.135 (.003)
Counter Arguments	.004 (.937)	.022 (.631)	.016 (.726)	.122 (.008)	.235 (.000)	.166 (.000)	.046 (.320)
Source Discounting	-.047 (.301)	-.051 (.268)	.039 (.400)	.055 (.226)	.107 (.020)	.009 (.840)	-.105 (.022)
Source Bolstering	-.016 (.723)	.023 (.614)	.000 (.998)	.050 (.277)	-.014 (.760)	.022 (.632)	.093 (.042)
SEVA Feelings	-.003 (.940)	-.045 (.323)	-.110 (.016)	-.089 (.050)	-.070 (.127)	-.132 (.004)	.032 (.491)
Deactivation Feelings	.015 (.742)	.069 (.134)	.074 (.107)	.045 (.328)	-.127 (.005)	.012 (.798)	-.049 (.286)
Social Affection Feelings	.061 (.184)	.036 (.433)	-.039 (.391)	-.087 (.056)	-.398 (.000)	-.161 (.000)	-.101 (.026)
Distractor Thoughts	.107 (.019)	.062 (.174)	.047 (.307)	.071 (.121)	-.057 (.209)	.029 (.524)	.039 (.399)

TABLE 2

MEDIATORS OF ATTITUDES

	(Beta coefficients)							
	"High" Sub-Sample				"Low" Sub-Sample			
	SA-CA	SB-SD	SEVA + Deact. + Soc. Aff.	Distr.	SA-CA	SB-SD	SEVA + Deact. + Soc. Aff.	Distr.
Mot. Caty. Inv.	.131*	.212*	.051	.102	.123	.005	.251*	.140*
<u>Ability</u> Knowledge-based ability	.185*	.129*	.089	.083	.053	.055	.229*	.211*
No. of brands used in category	.144*	.115	.033	.137*	.127	.123	.255*	.117
No. of brands aware in category	.195*	.086	-.032	.149	.010	.116*	.207*	.128*
<u>Opportunity</u> No. of attributes in ad	.095	.037	.098	.141*	.176*	.175*	.147*	.116
R-score of ad	.144*	.085	.123*	.215*	.168*	.123	.157*	.038
Resp. rating of ad infmtness.	.126*	.138*	.145*	.205*	.164*	.059	.155*	.076

*Significant at $p \leq .05$

of support and counter argumentation is much more frequently a significant attitudinal predictor (at $p < .05$) in the "high" sub-samples than in the "low." Conversely, the sum of the three affective responses (all positively valenced) are significant predictors far more often in the "low" sub-samples than in the "high." (Similar, but slightly weaker, results hold for a purchase intentions criterion measure.)

Note that no statement is being made here about the statistical significance of the difference in coefficient values; we are noting merely the obvious difference in the number of times a particular cluster is significant or not. Note also that the difference in results for the "opportunity" measures is theoretically unexplainable, and qualifies the empirical support for the hypothesis.

Given that the "affective responses" appear to significantly influence brand attitudes less frequently in high "antecedent" conditions, it now becomes crucial to determine whether this occurs because affective responses simply have reduced variance in the "high" sub-samples, or because (despite adequately high variance) the covariance between them and attitudes goes down in such "high" antecedent sub-samples.

Table 3 reveals that, for these motivation and ability operationalizations, the diminished effects of the three affective responses on attitudes in the high sub-samples are not, in most cases, the consequence of reduced variance, though mean levels are sometimes lower than in the "low" sub-samples (cf. Table 1 results earlier). F-tests for equality of sample variances show that in only two of seven cases (R-score of ad, and ratings of ad informativeness) are the variances significantly unequal at a .05 level of significance. Clearly, therefore, while variances usually remain about the same, the covariances between these affective responses and dependent brand attitudes or purchase

goes down. (Since this analysis did not use experimental randomization, however, rival hypotheses of self-selection biases cannot be entirely ruled out.)

Hence qualified support is found for a process model of the likability/"involvement" interaction which states that high production of support and counter arguments "override," through their net valence, the effect of affective responses on brand attitudes. (The support is qualified by the inconsistency of effects between support and counter arguments in Table 1, and by the "deviant" results for the "opportunity" operationalizations in Table 2.) Such affective responses reflect, and are induced by, ad execution likability (Batra and Ray 1984); the high production of support and counter argumentation arises because the antecedent conditions have high levels (Tables 1 and 3). This "override" model thus helps us understand the results reported earlier, where high levels of the motivational antecedent nullify the attitudinal effects of likable sources (ad executions) observed in low motivational involvement conditions (Chaiken 1980; Gorn 1982), and extend them to the ability antecedent as well.

Discussion

The results of the tests reported are hardly unequivocal, but they do suggest a mechanism for an important contingency in the recent work on "two alternative routes" of attitude change. While Petty and Cacioppo 1979 showed that the moderating effects of "motivational involvement" occur through the differential production of support and counter arguments, we now see that the effect is more general, in that such differential production can also arise from other antecedents. More importantly, we see that the mechanism at work extends to the production of the affective responses studied by Batra and Ray 1984, and there is some evidence that enhanced cognitive

TABLE 3

	SUB-SAMPLE DIFFERENCES IN AFFECTIVE RESPONSE MEANS/VARIANCES			
	SEVA + Soc. Aff. + Deactivation			
	Means		Variances	
	"High"	"Low"	"High"	"Low"
Motivational Product Category Involvement	.321	.308	.444	.362
<u>Ability</u>				
Knowledge-based ability	.305	.331	.409	.396
Number of brands used in category	.291	.344	.432	.370
Number of brands aware	.227	.365	.382	.412
<u>Opportunity</u>				
Number of attributes in ad	.259	.365	.352	.448
R-score of ad	.167	.495	.185	.615
Ratings of ad informativeness	.245	.381	.315	.480

intentions reduce dramatically in the high sub-samples, compared to the low. In other words, when the total production of support and counter arguments goes up, because of high levels of the motivation and ability antecedents, the covariances between the sum total of three affective responses, and dependent attitudes,

response production may "override" the generation and use, by the message recipient, of the affective responses to message likability. This suggests that message recipients may use such "likability cues" (Chaiken 1980) to form attitudes only when attribute response does not or cannot occur.

Importantly, however, the results presented do not support this "override" model uniformly, in that they differ across the "ability" and "opportunity" antecedent constructs and for different measures within them. Further work is clearly needed to develop measures of these constructs which are more reliable and more valid than those used here, and to then provide a test of this model that is less subject to biases from measurement error. Future research in this area might also examine the possibly non-linear relationship of the opportunity antecedent to cognitive response production, as well as the differences between support and counter arguments in such relationships.

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CONSIDERATIONS FOR SITUATIONAL RESEARCH

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Abstract

The amount of situational research in the consumer behavior literature is most impressive. See Leigh and Martin (1981). This paper extracts a number of focal issues from this literature and discusses their implications for future situational research. It is felt that proper attention to the issues raised herein prior to one's research design should alert the researcher to both potential pitfalls in the planned research and potential contributions in the study of situation.

Introduction

The intent of this paper is to address certain problem areas which the aspiring researcher should review prior to undertaking situational research. Due to space limitations, this discussion is not meant to be all inclusive. Most notably, it will not address the definition of situation, the development of situational taxonomies or the delineation of situation types. See Leigh (1981) or Bonner (1983) for expanded discussions of these topics. This paper will consider (1) the study setting, (2) the mode of presentation, (3) the data collection methodology, (4) the objective criterion specification, (5) the situation specification/measurement, (6) control for demand characteristics and (7) interaction in situational research. The importance of each of these considerations to the current review will be developed within the discussion of each topic.

The Study Setting and Mode of Presentation

The study setting, which for purposes of this review will be dichotomized as laboratory¹ or field, is important in that it may affect what we measure. Brunswik (1956) strongly suggests that we study variables (situations) as closely as possible to the actual conditions in which the individual will come into contact with them. Lowenthal and Riel (1972) present findings which support Brunswik's contention. They compared responses of walkers through an environment (apprehended) with responses to a verbally described (semantic) environment (in which the respondent had knowledge of the environment but was asked to imagine it, not walk through it), and found the perceived linkages to be confined within the mode of perception; that is, perceived or imagined. Lowenthal and Riel (1972, p. 205) conclude, "What we think we like or should like (or dislike) about certain kinds of environments is often not what we do like (or dislike) when we actually experience them."

The mode of presentation refers to the nature of the engagement between the subject and the variable of interest. It will be reviewed in tandem with the study setting due to the influence and restrictions the study setting places on the mode of presentation. Pervin (1978) views various modes of presentation as falling on a continuum from direct engagement to imagined engagement. Note that direct engagement is not synonymous with observation in the natural

setting. For example, a stimulus object can be presented in the laboratory setting. The relationship between the study setting and the mode of presentation is important in that the nature of situation precludes a direct contact presentation in the laboratory except, of course, when the situation under study is a "laboratory" situation. The following matrix illustrates the possibilities of a mode of presentation/study setting classification. Pervin identifies four stages along the mode of presentation continuum but all are not necessary to the current topic development and the two end points, direct contact and written, imagined phenomena, are employed here.

Cell 1 has not been utilized in situational research because the very construction of a direct contact situation in the laboratory imputes an artificiality to the situation which immediately renders its study inaccurate.

Mode of Presentation

		Direct Contact	Written, Imagined
<u>Study</u>	Laboratory	Cell 1 (none)	Cell 2 Sandell (1968) Belk (1974b) and others
	Field	Cell 3 Barker (1968) Belk (1979) and others	Cell 4 Belk (1974a, 1975a) Miller and Ginter (1979) and others

However, as noted above, cell 1 is widely used when the variable of interest is a simple stimulus object. Similarly, when one or two situational attributes are the study focus; for example, shelf facings and aisle layout, cell 1 may be a viable approach to uncovering causal effects since it allows for experimental manipulation. Cell 2, which contains Sandell (1968), Bishop and Witt (1970), Belk (1974b), Kakkar and Lutz (1975), Lutz and Kakkar (1975), Reingen (1976), Srivastava, Shocker and Day (1978), Becherer, Morgan and Richard (1979), and Dickson (1982), and cell 4, which contains Belk (1974a, 1975a), Bearden and Woodside (1976, 1977), Miller and Ginter (1979), Srivastava (1980), and Srivastava, Leone and Shocker (1981), contain much of the situational research and have advantages and disadvantages in that "as one moves from direct contact to written description one gains in ability to sample an array of phenomena but loses in certainty of relationship of responses to the actual variables of interest." (Pervin, 1978, p. 88). Written descriptions (imaginary) of situations allow one to measure reports of behavior across numerous situations and; therefore, an assessment of person-situation interaction is possible. Cell 3, of which Barker's (1968) work on behavioral settings may be the best known, has the advantage of studying the variables of interest more directly. Belk (1979) is the only consumer researcher prior to Stanton and Bonner (1980) to utilize direct contact. Brunswik's (1956) work and the findings of Lowenthal and Riel (1972) discussed above highlight the limitations of situational research carried out in cells 2 and 4.

1. Laboratory is broadly defined to include the classroom; that is, a study setting which utilizes students in a classroom setting will be considered a laboratory setting.

Implications of these limitations will be discussed below in the situation specification review.

Data Collection Methodology

Sandell (1968), Bishop and Witt (1970), Belk (1974b, 1979), Kakkar and Lutz (1975), Lutz and Kakkar (1975), Reingen (1976), Srivastava, Shocker and Day (1978), Becherer, Morgan and Richard (1979), and Dickson (1982) utilized undergraduate or graduate students in their research. In addition to the normal questions of generalizability this respondent group engenders, the particular focus of much of this research on the possible person-situation interaction effect as well as person and situation main effects may well be overly optimistic since the homogeneity of the respondent group may lead to understatement of the person main effect and consequently, inflate the interaction effect. Belk (1974a, 1974b, 1975a) also utilized adult respondents drawn from business and social groups. Again, the respondent homogeneity may be expected to be greater than that existing in the population. Bearden and Woodside (1976, 1977), Miller (1975), Miller and Ginter (1979), Srivastava (1980), and Srivastava, Leone and Shocker (1981) draw their samples from existing mail panels or from mail panels generated from telephone books. One would expect their results to be more universally applicable.

All but one of the consumer behavior researchers noted above employed a questionnaire which required the respondent to complete the questionnaire from recall or hypothetical encounter with the situation. Belk (1979) used a diary method in which respondents used a free-response approach to situational description. Information is not provided on the time lapse between the situational experience and the recording so no real estimate as to the extent recall was utilized by the respondents can be made. In all cases, self-reports of behavior (or hypothesized behavior) were collected. Since behavior of the responding organism is one of the variables of interest, response contingent (Pervin, 1978) measures must be employed. However, researchers still have a choice to employ either reactive or nonreactive (i.e. unobtrusive) measures of behavior. Self-reports are reactive and suffer the associated disadvantages of this type of measurement. Since self-reports involve subject cooperation, error and bias in measurement may result. This point is further explored in the consideration of demand characteristics below. Measurement of the non-objective aspects of the accompanying situation must be reactive due to the necessity of respondent knowledge of participation in the research.

Objective Criterion Specification

In its assessment of situational effect, the consumer research literature looks at the relationship between situation or situation attributes and another variable. Since much of the literature at least implicitly posits a causal relationship or explanatory significance to situation, the "other" variable will be referred to as the objective criterion. The level² of specification of this criterion measure is important since its specification constrains the generalizability and theoretical implications of the results. The concept of level of criterion specification will be illustrated by use of the following contrived example. Suppose one studies two choice situations in which mode of transportation is the criterion. The two situations involve (1) travel

from Philadelphia to Boston and (2) travel from 6413 second street to 6515 second street (about 500 feet). Further the criterion specifications are air travel and walking. Prediction is at the product class level but are the results really meaningful? The Philadelphia to Boston decision could be more profitably studied at the form level (air, automobile, bus or train) or the brand level (US Air or Delta) or some combination thereof. The second situation may be studied at the form level (automobile, walk, bicycle). While this example is trivial, the implications for situational research are important.

Bearden and Woodside (1976) specify the criterion measure at the brand level and employ Coke, Pepsi, Seven-Up, Diet Pepsi, and Tab as the criterion products. In discussing their results, Bearden and Woodside (1976, p. 768) theorize, "...Intentions for Coke may be formed more on the basis of product attributes or attitudinal measures as opposed to situational influences. However, for Diet Pepsi, the situational component was more influential in forming individual intentions...The formation of behavioral intentions for the low-calorie soft drinks were (sic) more influenced by situational factors than by the attitudes held toward the choice objects." I have no disagreement with these findings; in fact, they are beneficial in stressing the importance of the criterion measure specification. Bearden and Woodside are left to speculation in examining the link between situation and soft drink choice and offer some potentially important insights. However, a weakness in their criterion measure specification leaves them powerless to glean much more from their analysis. Their five brands do not represent strictly a brand choice, but, as their own quote above suggests, variety differences (low calorie) play an important role in situational effect. Furthermore, all brands are not even colas so that different types (cola and non-cola) exist in the study. In addition, no consideration to form (canned or bottled) is given. The functioning of situational effect may well operate differentially in the variety choice as opposed to the brand choice. Again, Bearden and Woodside suggest this possibility in their discussion. However, without multiple categories per specification level these differential effects can not be studied and theory development is limited.

Product class and brand have, by far, been the dominant criterion specifications utilized. Becherer, Morgan and Richard (1979), Belk (1974a, 1974b), Kakkar and Lutz (1975), Lutz and Kakkar (1975, 1976), Reingen (1976), and Sandell (1968) all used product class as the criterion specification. Bearden and Woodside (1976, 1977), Belk (1975a), Berkowitz, Ginter and Talarzyk (1977), Miller (1975) and Miller and Ginter (1979) used brand as the criterion specification. Bishop and Witt (1970) utilized leisure activities as the criterion and, as such, their research was even broader than product class. Belk (1979) was more concerned with developing situational taxonomies and did not utilize his product class (clothes) as a criterion variable. However, he did collect brand, variety, and type information and used the resulting clothes ensembles as observations in a factor analysis. Srivastava (1980), Srivastava, Leone and Shocker (1981), and Dickson (1982) employ variety as the criterion measure. Srivastava, Shocker and Day (1978) utilize an iterative procedure to develop appropriate criterion specification. They begin with the "bresh freshener" market as an end-use market and work backwards through situations and products. Consequently, the authors product list included many brands, products (generic), forms and varieties. However, not enough detail is presented to explain situational effect at various criterion level

2. The notion of "level" comes from the concept of a product hierarchy. See Lunn (1972).

specifications and; in fact, their factor loading map (p. 36) appears to cluster primarily on product class as one would expect based on the situational descriptions employed.

The impact of specifying the criterion variable at only one level; that is, looking at only one dimension of the choice outcome, is twofold. Consumer behavior researchers have not studied situational influence on various components of choice within the same study; therefore, no assessment of differential influence relative to the various possible criterion measures can be made. Second, no development of theory in the area of situational influence on the choice process has been possible since a unidimensional measurement of choice allows little in the way of process variance (relative to different aspects of choice).

Situation Specification

Specification of the situation is extremely difficult. Wicker (1975) comments on the almost impossible task faced by the researcher who attempts to symbolically communicate the situation. Pervin (1978) states most situational research has employed imagined situations as a mode of presentation. Endler and Hunt (1968) utilize one-sentence descriptions of situations. Sandell (1968) employs short sentences or phrases. This is significant since Endler and Hunt (1966, 1968, 1969) and Sandell (1968) appear to be the "seeds" from which most situational research in consumer behavior has grown. Pervin (1978, p. 88) sums up his feelings on this issue when he states, "...imagined modes of presentation allow for responses to a wide variety of stimuli, situations, and environments but one is left wondering about relationships to the actual variables of interest." Returning to our trivial example of the previous section, how does one state the various situations arising in one's travel from Philadelphia to Boston? Obviously, one might include time pressure, vacation/business, companions, financial considerations and numerous other dimensions of importance. However, and this is the crux of the issue, can one ever be sure that he has included all salient dimensions for the respondent?

The prior discussion leads logically to the question of who should specify the situation or situational attributes and how should this specification be made. Except for Belk (1979) and Stanton and Bonner (1980), all other consumer behavior researchers have utilized researcher initiated³ situational descriptions and an imagined mode of presentation. For example, Belk (1975a) presented subjects with the following situation: You are planning a picnic with your friends. The choice behavior concerned patronage of fast food and take-out restaurants. The lack of specificity in the situation allows subjects to respond to different imagined "picnic" situations. Variable unspecified attributes might be number of friends, back yard or park, weather forecast, cooking facilities, and so forth.

The problem of properly addressing the salient situational characteristics is explored in depth in Belk (1979) and Bonner (1983). One approach is to employ respondent generated situational descriptions through the use of a free-response approach. Frederiksen (1972) addressed the primary difficulty in developing situational taxonomies in stating, "There is no prescription that can be given to the would-be

3. Srivastava, Shocker and Day (1978) employed researcher initiated situational descriptions but these were developed with subject input.

developer of a taxonomy of attributes of situations with regard to how to proceed." A researcher can never be sure if a researcher-generated list of situational attributes is inclusive of the full range of attributes necessary for each subject individual to adequately define the differentiating characteristics that make two distinct situations operationally similar or disparate. Obvious as this problem is to the laboratory researcher who must communicate situations symbolically to his subjects, the field researcher must address the same issue in measuring the focal situation.

Control for Demand Characteristics

Lutz and Kakkar (1975, p. 444), in a partial replication of Belk's (1974a) work, report that considerably less variance is explained by the interaction of situation and products than Belk reported. The authors suggest that "the most plausible interpretation of the discrepancy in results may be that demand characteristics were operating in Belk's (1974a) experiment, causing subjects to exaggerate supposed shifts in consumption behavior across situations." Lutz and Kakkar did not present multiple situations to the subjects while Belk did. Since products were being held constant and situations were changed, it is not difficult to imagine that many subjects could figure out that hypothesized behaviors in varying situations were being measured and respond accordingly. Reingen (1976, p. 130) states, "When a within-subjects design is employed, this may provide the subjects with the cue that they are "supposed to" shift in their buying choices across the situations." Reingen (1976) went on to test for the existence of demand bias by manipulating both demand awareness and subject roles. Results indicated that the within-subjects design often employed in situational research is particularly demand prone. Reingen (1976, p. 132) calls for "a greater reliance on between-subjects design in future research." Lutz and Kakkar (1975, p. 444) provided approximately the same advice is stating, "Careful attention should be focused on this point (demand characteristics)⁴ in future development of methods for studying situational influence."

The implications of this prescription to control for demand characteristics are far ranging. They impact, at least, on the mode of presentation utilized, the data collection methodology employed, and the situation specification used. For example, to study a person in multiple situation scenarios necessitates respondent cooperation. The task of hiding the intent of the research from the respondent to preclude either compliant or non-compliant performance seems impossible.

It is important to note that it is the demand characteristics of the study design that cause concern and generally not the demand characteristics of the situations being studied. However, if one were to describe the situation in such detail that the situational specificity necessitated all rational beings behaving in the same way, then the "demand" characteristics of the situation being studied may be so strong as to preclude any generalization beyond the study. As stated, this is not our concern here.

Interaction in Situational Research

Belk (1974a, p. 158) takes a strong stand in favor of the explanatory power of interactions when he reports:

4. Parenthesis are mine.

"the results in Table 2 confirm the dominance of interactions over primary source effects in contributions to variance. For snack products, the persons by product interaction is the most important component....The effect commonly implied when referring to situational influence is reflected in the products by situations interaction term. This is the second most important effect in the snack products results, and demonstrates that choice among snack products is dependent upon the consumption and purchase situations examined."

Bearden and Woodside (1976, p. 764-768) similarly attach importance to interaction in hypothesizing and reporting:

Person X Situation interaction may offer greater explanation of consumer behavior....use of a multiplicative interaction term to represent the Situation X Attitude Toward the Object interaction will further improve prediction is partially supported."

Finally, Lutz (1980, p. 660) drives this point home when, in an otherwise favorable review of Stanton and Bonner (1980), he bemoans the lack of an assessment of person-situation interaction in view of the fact that:

"The literature on situational effects has consistently shown that the interaction of situational and personal factors accounts for the bulk of explained variance, as compared to 'main effects' for either factor alone."

This apparently agreed upon consistency is somewhat a myth, which stems at least in part from varying contextual uses of the term "interaction." Lutz (1980) is obviously referring to the Sandell-Belk findings in his statement above. However, a closer examination of Belk (1974a) and Sandell (1968) show that PXS (Person X Situation) is relatively low in both studies, and it is SXP (Situation X Product) interaction which is dominant. It is important, therefore, to see just what this interaction means.

The variance explained in the analysis of variance models used in situational research is that which varies from "not at all likely" to "extremely likely" on a five point scale. (Sandell used a seven point willingness scale.) Subjects respond as to their hypothesized likelihood of choosing each of a battery of pre-grouped products within each of a number of described situations. This approach to explaining behavioral variance is taken from Endler and Hunt (1966, 1968, 1969), and it is instructive to review this work.

Endler and Hunt (1966) attempt to measure the contribution to the total variance in reports of behavior from persons and situations for various indicator responses of the trait of anxiousness. The indicator responses, logically, are all designed to be indicative of "anxiety." For example, Endler and Hunt use indicator responses such as "Heart beats faster," "Get an uneasy feeling," "Perspire" and so forth. This information is collected from different subjects for each of many differently described situations. Scales are directionalized so that (5) indicates a high level of anxiety and (1) indicates a low level of anxiety. The total variance in these anxiety scales is partitioned using 3-way analysis of variance in which the main effects are person, situations and response indicators. The authors report the main effects of persons and situations to be small (around 6%), while that of response indicators to be quite

large (about 24%). This is to be expected since not all of the response indicators of anxiety can be expected to be equally common throughout the population. (For example, people may often "get an uneasy feeling" but very infrequently experience "having loose bowels.") The three simple interactions account for about another third of the variance. This, then, is the methodology of Sandell and Belk.

Returning to the question of the variance explained in the Belk studies, it is inconsistent with the methodology to expect situation "main effects" to be important. For Belk's snack product inventory, and following Endler and Hunt (1966), the indicator responses (snack products) are designed to be indicators of choosing snack products. The situations are designed to be "snack" situations. It would seem a high "main effect" for situation, which means it contributes significantly to the generalized "not at all likely" - "extremely likely" scale variance, would indicate only that it did not belong in the "situation set" employed. Since one's intention is not to look at an underlying trait (anxiety) in consumer behavior situation research but to look at choice among snack products (and not a measure of snack-product proneness), the situation-response indicator interaction (that is, situation by product) is an "interaction" in analysis of variance terminology only. It is really a main effect of situation if the object of the research is to determine what drives the specific product choice and Belk notes it is this "interaction" term which is the effect which is commonly implied by situational influence. A different methodology, for example discriminant analysis, may find a strong "main" effect for situation which corresponds to the "interaction" effect in the analysis of variance methodology. Consumer behavior research should concentrate on approaches where the choice object is the dependent variable when the portent of the research is to explain choice variance. Bearden and Woodside (1976), quoted above, follow this prescription in defining their dependent variable. However, the question of interaction remains.

The interactionist approach in psychology views interaction as that occurring between the person and the situation. Endler (1975, p. 17) summarizes the interactionist position as "...that examines how situations and persons interact in evoking behavior....we are referring to the interaction of two independent variables (person and situation) in effecting behavior (the dependent variable) and not to the interaction between independent and dependent variables." However, Overton and Reese (1973) distinguish between reactive (mechanistic) and active (organismic) models of man. Here, two types of interaction are operative. The first is between independent variables⁵ (as above) that determine behavior and is termed mechanistic interaction. In the organismic model, interaction refers to reciprocal causation between environment and behavior; that is, causation is bidirectional in that behavior also influences persons and situations, and it is termed dynamic interaction.

In situational research, another type of interaction may be identified. When situations are not defined in total, but situational attributes are measured and analyzed, one may assess interaction between situational attributes and the effect of this interaction on behavior. Following Magnusson and Endler (1977), this is termed within-situation

5. For example, person and situation.

interaction.⁶ The prescription for situational research is to clearly define the interaction under discussion, while paying close attention to the appropriate methodology used to assess interaction.

SUMMARY

The problem areas identified provide opportunities for further research. A comparison of a direct contact study which utilized respondent-generated (free response) situation descriptions with a written imagined study which utilized researcher-generated situational descriptions would be of particular interest in determining the effect of the methodology employed. Obviously, no clear-cut prescriptions exist to eliminate all the problems encountered. For example, it taxes one's imagination to devise a study that would utilize observation of behavior, sample across numerous situations for each respondent, and be free of demand characteristics. However, a full consideration of these potential problems prior to the research design should aid in furthering research and theory development in the study of situational effect.

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6. Although Magnusson and Endler point to within-situation interaction as being dynamic in that the person, in responding to situational cues, is himself a situational cue for others, within-situation interaction may also be viewed as mechanistic in that behavior may be studied as the dependent variable and the independent variables are not "whole" situations but situational cues and their interactions.

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THE EFFECTS OF TIME AND SITUATIONAL VARIABLES
ON INTENTION-BEHAVIOR CONSISTENCY

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Abstract

Numerous studies have shown that the longer the time interval between measures of intention and behavior, the greater the inconsistency in behavior. Empirical evidence is presented to support the theory that this time effect on behavior inconsistency is partially a function of unexpected situational variables. Unexpected situational variables were also shown to affect changes in intentions over time.

Introduction

In the past several years, there has been a revival of interest among social psychologists and consumer behavioralists in the attitude-intention-behavior relationship (Cialdini, Petty and Cacioppo 1981; Zanna, Higgins and Herman 1982; Bagozzi 1981; Bentler and Speckart 1979 and 1981; Tate and Ball 1983; Roedder, Sternthal and Calder 1983; Davidson and Jaccard 1979; Snyder and Tanke 1976; Fazio and Zanna 1979; Ajzen and Fishbein 1980).

Empirical evidence indicates that measures of attitudes and intentions have little value for the prediction of behavior. However, most researchers agree that the effect of attitude and intention are moderated by the presence of intervening variables. Many have attempted to specify both the personal and situational variables that could have affected a person's attitude-intention-behavior consistency. Various competing discussions on the effects of moderating variables during the past several years included the degree of selfmonitoring (Snyder 1979); attitudinal qualities (Norman 1975; Schwartz 1978; Fazio and Zanna 1978); situational variables (Ajzen and Fishbein 1973; Schofield 1975; Belk 1975; Sheth 1974); direct behavioral experience with attitude object (Fazio and Zanna 1981); Attitude accessibility (Snyder and Swann 1976); degree of self-consciousness (Wicklund 1979); normative variables (Ajzen and Fishbein 1980) and scripted situation (Abelson 1976).

Many of these studies have used cross-sectional designs. Only a few were longitudinal designs which examined the effect of time interval between measured attitude or intention and behavior (Davidson and Jaccard 1979; Norman 1975; and Schwartz 1978). Longitudinal research has indicated that the greater the time period separating the two measures, the greater the likelihood that intention will change in the interval, thus reducing the predictive power of intention measures (Katona and Mueller 1955; Juster 1964; Morgan 1978; Davidson and Jaccard 1979; Schwartz 1978; Fishbein and Jaccard 1973).

Most researchers feel that the discrepancy between intention and behavior is caused by attitude change rather than the passage of time per se. Fishbein and Jaccard (1973) argue that the subject is exposed to new information after the measurement of intention. This exposure to new information may lead to attitude change. The longer the time interval between the measurement of intention and behavior, the higher the probability of exposure to new information and attitude change. Studies by Katona and Mueller (1955), Pratt (1965), and Schuman and Johnson (1976) support this position. In addition to attitude change, Davidson and Jaccard (1979) have suggested that the discrepancy between intention and behavior may result

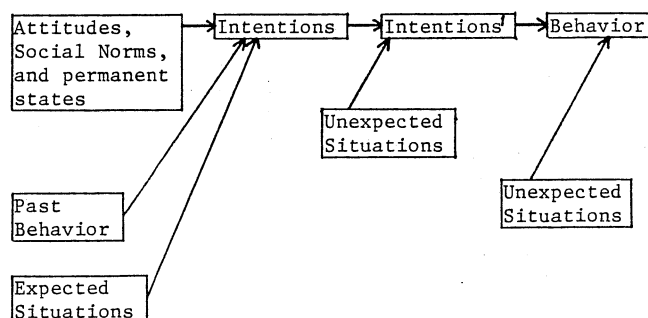
when events in the behavioral sequence not under the volitional control of the actor.

Another important factor that may interfere with intention is unexpected events (Various researchers have used the terms extraneous event, situational factor or just situation). These unexpected events refer to the antecedent and continuous stimuli, not expected when intention is stated, that may impinge on the individual at the time of the behavioral act. When stating attitudes and intentions, a person probably pictures an anticipated situation and assumes it will not change in the future. Unexpected situational changes can lead to a change in attitude and thus create a discrepancy between measured intention and behavior. Sheth(1974) has suggested that the occurrence of unexpected events at the time of consumption can either enhance or inhibit the conversion of affect and behavior intention into actual behavior. These unexpected events may have changed what otherwise would have been an act based upon prior planning and affect.

Wicker (1971) provides empirical support of the effects of unexpected events on the consistency between intention and behavior. He found that the occurrence of extraneous event factors alone explained 36 percent of the variation in behavior. Brislin and Olmstead (1973) compared the Wicker (1971) and Fishbein models and found that the Wicker model would predict behavior more effectively than the Fishbein model, with extraneous events being the best predictor (R=.38). Wong (1982) compared the effects of several intervening variables on intention-behavior consistency and found that unexpected events explained most of the inconsistency. However, these studies relied on subjects' expectations of unexpected situations occurring. Cote (1983; Cote, McCullough and Reilly 1984) used the difference between expected and actual situations, and found that unexpected situations explained up to 40% of the variance in behavior.

The present study deals with the time interval effects and the influence of situational variables on intention-behavior consistency. A theoretical model, based on Sheth's (1974) theory is presented in Figure One.

FIGURE 1
Model of Situational Influences



According to the model, anticipated situations would affect originally formed behavioral intention. However, as time passes, expectations about the consumption situation may change causing a person to adjust his/her behavioral intention. This is especially true if the time gap between the measurement of behavioral intention and the observation of overt behavior is large. On the other hand, if the anticipated situation occurred, there would be less discrepancy between the behavioral intention and future overt behavior. Therefore, the effect of attitude, social norms, past behavior, belief and behavioral intention are mediated by changes in expectations about the consumption situation.

The purpose of this study is to provide empirical support for a model of the attitude-intention-behavior relationship which include the dynamic effects of situations on shifts of behavioral intention and behavior.

Method

Subjects

Data was collected on the intentions and actual attendance of 61 students to a social function sponsored by the instructor. Measures of past attendance to social functions sponsored by instructors, attitudes toward social functions sponsored by instructors, intentions to attend the social function, the likelihood of various situations occurring, and the expected influence of the situation were collected at three different times over a two month period. The first questionnaire was administered six weeks before the social function, the second was administered three weeks before the social function, and the third questionnaire was administered one day before the social function. Finally, a fourth questionnaire measured actual occurrence of the situations two days after the social function occurred.

Measures

The measures of intention, attitudes, and past behavior were patterned after scales commonly seen in the literature. The expected occurrence and influence of the situations were measured in the following manner. Subjects were first asked the effect of a given situation on attendance if it occurred. The questions on the expected effects followed the following format, "The function is scheduled just before a big examination or class paper. This would." The answers were marked on a continuous scale ranging from, "Insure that I would come," to "Insure that I would not come." This was followed by a question asking the student to state the likelihood of the situation occurring. These two questions were repeated for each of the situations studied. The actual attendance and the actual occurrence of the situations were measured using a simple yes/no format.

Situations

A list of relevant situations was generated using focus group interviews. Students were asked to describe any situations they thought would affect their attendance to the function. The researchers then reduced this list by combining similar situations and dropping variables that did not fit Belk's (1974) objective definition of situations. The following list of situations was used in the study.

- 1)Function is scheduled just before a big examination or class paper.
- 2)Function is scheduled just after a big examination or class paper.

- 3)Other functions or activities scheduled (not scheduled) at the same time as this one.
- 4)Student forgets about the function.
- 5)Directions are poor.
- 6)There are not many people at the function.
- 7)Ability to get transportation to the function.
- 8)Student gets involved in other things.
- 9)Bad weather (Social function occurred in the winter).
- 10)Friends or spouse want to do something else that night.
- 11)Any other situations.

Several of the situations were manipulated by the researcher. After the second questionnaire, students knew that the social event would take place after a major project was due in the class. After the third questionnaire, the students were given a detailed map showing directions to the social event. Students were also cautioned about the problems of drinking and driving. The third questionnaire was administered the day before the social function.

Analysis

The first step in the analysis was to recode the situational variables. It is hypothesized that changes in intentions are attributable to changes in the expected effects of situations or the likelihood of the situation occurring. So only changes in the expected effects or likelihood of occurrence were used in the analysis. The situational variables were constructed in the following manner. 1) The expected effect of the situation was multiplied times the likelihood of the situation occurring. This will be referred to as the expected situational effect. The expected situational effect was calculated for each of the situations during each of the time periods. 2) The expected situational effect for the previous time period was subtracted from the expected situational effect for the time period being studied. For example, when predicting intention in period three, the expected situational effect for period two was subtracted from the expected situational effect for period three. This was done for each of the situations separately. For simplicity, these differences will be referred to as situational variables for the rest of the paper.

Regression analysis was used to predict intentions for the second and third time periods. First, intentions were regressed as a function of past behavior, attitudes, and previous intentions. Then the situational variables (differences in expected situational effects) were added to the model and backward regression was performed. The difference in the adjusted R squared between the second and the first model indicated the amount of variance in intentions attributable to changes in situational influences.

Discriminant analysis was used to predict attendance. First attendance was predicted using intentions in period three, past behavior, and attitudes. The situational variables were added and a second model was then fit. The improvement in the ability of the model to classify subjects indicated the importance of the situational variables in predicting attendance.

Results and Discussion

The change in adjusted R squares indicated that situational variables were a major cause of changes in intentions from one time period to the next. The results of the regression analysis are presented in Table 1.

TABLE 1
 ABILITY OF PAST BEHAVIOR, ATTITUDES, PREVIOUS INTENTIONS,
 AND CHANGES IN EXPECTED SITUATIONAL EFFECTS TO
 EXPLAIN PRESENT INTENTIONS AND BEHAVIOR

Dependent Variable	Independent Variables (reduced model)	adj R ² for the model	Independent Variables (full model)	adj R ² for the model
BI2	PB,ATT,BI1	0.0356	PB,ATT,BI1, SIT(2-1)	0.3869*
BI3	PB,ATT,BI1	0.0754	PB,ATT,BI1, SIT(3-1)	0.4046*
BI3	PB,ATT,BI2	0.3315	PB,ATT,BI2, SIT(3-2)	0.6710*

Dependent Variable	Independent Variables (reduced model)	Percent correctly classified	Independent Variables (full model)	Percent correctly classified
B	PB,ATT,BI1	73.8%	PB,ATT,BI1, SIT(4-1)	90.2%**
B	PB,ATT,BI2	78.7%	PB,ATT,BI2, SIT(4-2)	91.8%**
B	PB,ATT,BI3	80.3%	PB,ATT,BI3, SIT(4-3)	90.2%**

B = Attendance
 PB = Past Behavior
 ATT = Attitudes
 BI(i) = Intentions in period i
 SIT(j-i) = Changes in expected situational influences from period i to period j.

* Change in adjusted R² significant at P < 0.001.
 ** All situational variables in full model significant at P < 0.001.

Past behavior, attitudes, and behavior intentions at time period one did not explain much of the variation in intentions in time period two (adj.R² = 0.0356). This may be caused by the lack of information about the social function presented at time period one. Since intentions at time two included more specific information about the function, intentions would be expected to be very different for the two time periods. In addition, perceptions about the situations that could affect attendance would also be different.

This is supported by the ability of changes in expected situational effects to predict intention in time period two. When the situational variables were added to the model, the adjusted R square jumped to 0.3869. It is interesting to note that the standardized regression coefficients indicated that intention in time period one and the difference in the expected situational effect of forgetting about the event were the most important variables affecting intention in period two. Other situations affecting intention in period two were no other parties occurring at the same time, ability to get transportation, exam occurring after the social event, and no people expected to attend.

Similar results occurred when intention in period three were examined. Past behavior, attitudes, and intention in period two only explained 33.15% of the

variance in intention at period three. Very little new information was presented at time period three. The only new information presented was the problem of drinking and driving, and that smoking would not be allowed in the house. Given that no new information was presented, the expected situational influences should be more stable and previous intentions should predict better than for period two. As expected, previous intentions were a better predictor of intention in period three.

When the situational variables were added, the adjusted R square jumped to 0.6710. The directions, possibility of forgetting about the event, having an exam or project after the event, and no other parties occurring all affected intention. Similar results were found when information from period one was used to predict intention in period three.

Since the third questionnaire was administered the day before the social function, intention should predict behavior fairly well. This was in fact the case. Intentions in period three, attitudes, and past behavior was able to correctly classify 80.3% of the students. When the situational variables were added, 90.2% of the students could be correctly classified. Changes in expectations about the directions, other situations and social functions, and work loads before the social function affected the prediction of attendance. Similar results were found when the information from periods one and two were used to predict behavior (see Table 1).

Conclusion

Numerous studies have indicated that intentions change over time and that intention-behavior correlations decrease as the time interval between them increases. This inconsistency in intentions has been attributed to changing attitudes. However, it is known that situational variables can affect intentions and behavior. Several researchers have hypothesized that inconsistencies in intentions over time can also be attributed to changes in situational variables. This study is a longitudinal examination of the effects of situations on intentions and behavior.

The results support the claim that the effects of time on intention and behavior consistency are caused by changes in situational variables. When changes in the expected situational effects are not accounted for, intentions are less able to predict new intentions or behavior. When changes in expected situational effects are included, the models predict new intentions or behavior much better.

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EXPLAINING INTENTION-BEHAVIOR DISCREPANCY--A PARADIGM

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Abstract

Theoretical researchers have been arguing that intention should predict behavior. Empirical researchers who have been following the theoretical development of the two constructs found mixed results. This paper reviews the intention-behavior discrepancy issues and proposes a paradigm that focuses on the explanation of intention-behavior discrepancy.

Theoretical researchers have been arguing that behavioral intentions should predict subsequent behaviors (Fishbein and Ajzen 1975, McGuire 1969, Oskamp 1977). One of the popular models is the Fishbein and Ajzen's theory of reasons action, which uses the behavior intention as the intervening construct between attitude and behavior (Fishbein and Ajzen 1975). Their theory views a person's intention to perform or not to perform a behavior as the immediate determinant of the action. Thus, in order to predict whether an individual will act in a certain way, the simplest and probably most efficient approach is to ask that person whether he/she intends to do so.

On the other hand, researchers have found mixed results in empirical studies (Bonfield 1974, Ryan and Bonfield 1975, Katona 1960, Juster 1964, Pratt 1966, Sheth 1974, Howard and Sheth 1966, Sheth, Raju, Bhagat 1979, Fishbein and Ajzen 1977). They have found that behavioral intention may not necessarily be an accurate and consistent measure of behavior.

The purposes of this paper are:

1. to review relevant literature in various disciplines on the intention-behavior discrepancy issue and highlight some of the current developments in this stream of research.
2. to propose a paradigm that focuses on the explanation of intention-behavior discrepancy.
3. to explore further research implications based on this paradigm.

Research in Intention-Behavior Consistency

Most of the studies in the 1960s and 1970s that attempted to predict behavior from behavioral intention measures have been reviewed by Wicker (1969) and Ajzen and Fishbein (1977). Most of these studies have revealed rather low and nonsignificant intention-behavior relationship.

Another major review of literature on intention-behavior relationship is from Cialdini et al. (1981). They have suggested that the recent research in the consistency issue has turned to the task of identifying additional variables that moderate the intention-behavior relationship.

The third significant pursuit for exploring the intention-behavior relationship has been the organization of the Ontario Symposium on Personality and Social Psychology (1979) that focused on the theoretical and empirical works on variability and consistency in social behavior (Zanna, Higgins and Herman 1982).

In summary, the past two decades of research in intention-behavior consistency has been focused on the introduction of additional moderating variables between intention and behavior. This research can be grouped under the headings of intention-behavior discrepancy

due to specificity or the correspondence principle, to individual differences, and to situational factors (Figure 1).

Specificity of Measurement

The specificity of measurement, or the correspondence principle, has been argued by Fishbein and Ajzen (1977). From their extensive review of literature (Fishbein and Ajzen 1977), they concluded that intention should be a good predictor of behavior only when the intention and behavior measures show a high degree of correspondence. Intention and behavior measures are said to correspond when they match on the action involved, the target at which the action is directed, the context in which it occurs, and the time of its occurrence. Therefore, global behavior intentions involve no specific action, context or time elements. They may represent responses to the target irrespective of particular contexts or time elements.

Fishbein and Ajzen attribute the failure of some studies to find significant intention-behavior relationships to the lack of corresponding levels of specificity in the measures.

However, a lack of correspondence does not guarantee that intentions will be unrelated to behaviors (McGuinness, Jones and Cole 1977, Schriesheim 1978, Hammer and Smith 1978, Mirvis and Lawler 1977, Seligman et al. 1979, Smith 1977). It seems that general behavioral intentions may relate to specific behaviors in some instances which cannot be explained with the correspondence principle or specificity of measurement.

Individual Differences

The failure of general behavioral intention to predict specific or single acts has led researchers to introduce various personality or individual difference factors as moderating variables to explain the intention-behavior discrepancy issue.

Fishbein and Ajzen's (1975, 1980) theory of reasoned action used the normative concept. The subjective norm is the individual's positive or negative evaluation of performing the behavior. It is the extent to which the person feels significant others want that he/she should perform the behavior.

Past behavior or habit has also been used as a moderating variable to explain the discrepancy issue (Howard and Sheth 1969, Bentler and Speckart 1979, Bearden and Woodside 1977, Triandis 1977, 1980). According to those findings, the more a person has engaged in a behavior previously, the less important is intention in predicting future behavior, and the more important is habit in accounting for a significant degree of variability in present behavior.

Direct experience with the behavioral object is a better predictor than are intentions formed without such experience (Regan and Fazio 1978a, Songer-Nocks 1976, Fazio, Zanna and Cooper 1978, Fazio and Zanna 1978a, 1978b, 1982). Researchers have found that behavioral intention formed by direct experience with the behavioral object can increase the intention-behavior relationship more than for people who have no direct experience. This is due to the fact that direct

experience or contact with the behavioral object may generate confidence, certainty and clarity with the already formed behavioral intention. Also direct experience or contact with behavioral object is more salient in memory.

Zuckerman, Siegelbaum and Williams (1977) found that people with high ascription of responsibility would be more likely to act on their behavioral intentions than those who were low in the ascription of responsibility. The ascription of responsibility concept was suggested by Schwartz (1973) to measure the degree of an individual's tendency to assign responsibility to him- or herself.

Snyder (1972, 1974, 1979a, 1979b) has proposed the self-monitoring concept which could moderate behavioral intention and behavior. According to the self-monitoring formulation an individual can actively use situational cues or information about inner states to construct a pattern of behavior appropriate to that particular context. Therefore, high self-monitoring individuals can monitor or guide their behavioral choices on the situational information. These individuals demonstrate considerable situation-to-situation specificity in their behavior. Moreover, for these high self-monitoring individuals, correspondence between their intention and behavior is minimal.

By contrast, for persons who monitor or guide their behavior on the basis of information from relevant inner states, personal dispositions ought to be less responsive to situational specifications of behavioral appropriateness. These low self-monitoring individuals' behavior manifests substantial cross-situational consistency and temporal stability. Furthermore, the covariation between behavioral intention and behavior ought to be quite substantial for the low self-monitoring individuals.

Empirical evidence has provided support for Snyder's theoretical propositions (Snyder 1979a, 1979b, Snyder and Swann 1976, Ajzen, Timko and White 1982, Becherer and Richard, 1978; Lutsky, Woodworth and Clayton, 1980; Zanna; Olsen, and Fazio; Zuckerman and Reis 1978). It has been empirically demonstrated that the self-monitoring concept is an important moderating variable between intention and behavior.

Wicklund (1982) reviews research indicating that individuals high in private self-consciousness tend to display greater intention-behavior consistency than individuals low in self-consciousness.

Fazio and Zanna (1981) have demonstrated that a person's prior intention-behavior link moderates the present intention-behavior relation.

Abelson (1982) proposes that the presence of individuating conditions, i.e., which increase one's awareness of one's essential self-orientations, is necessary to increase the correlation between intention and behavior. People scoring high on the private self-consciousness scale have shown higher intention-behavior relationships than people scoring low on the scale (Buss 1980).

Abelson (1981) has also suggested a script theory that could moderate measured intention and behavior. Scripts are cognitive schema with certain kinds of knowledge structure which govern perceptual and cognitive processes. An individual's commitment to a particular scripted behavior is contingent upon an action rule which the individual has developed and attached to a particular script representation. An action rule consists of a set of criteria which, if

affirmed, will lead the person to enter the script, but if negated will lead the person not to enter the script. A scripted person will behave in socially determined, stereotyped behavioral structures and expectations, even though he may not have positive behavioral intentions otherwise.

Sivacek and Coano (1982) have suggested that a person's vested interests may be a moderating variable for intention-behavior consistency. The vested interest hypothesis suggests that intention-behavior consistency will be maximized when the behavior suggested by specific behavioral intentions has clear and hedonic relevance for the individual. That is, if the logical consequence of an individual's behavioral intention actually affects that person's life, then consistency between intention and behavior should be maximized.

Situational factors

In consumer research, Howard and Sheth (1969) suggested the inhibitor concept that could intervene between behavioral intention and behavior. These noninternalized constraints emanated from the buyer's environment or carried over from past environments and are contained in his exogenous variables, such as importance of purchase, time pressure and financial status. Some of the common inhibitors are price levels and availability of brand.

Sheth (1974) has hypothesized that behavioral intention is a function of (1) one's evaluative beliefs, (2) the social environment, and (3) the anticipated situation. Furthermore, he suggested that behavior is a function of one's affection toward the behavioral object, the individual's behavioral intention and the unexpected events experienced by the individual at the time of behavior. This conceptual theory has formulated the function of situational factors. The anticipated situations or events may enhance or inhibit the behavioral intention as determined by affect or social environment, or both. The unexpected events are the antecedent and contiguous stimuli that impinge on the individual at the time of the behavior.

Bhagat, Raju and Sheth (1979) compared this behavioral model with the Fishbein model and found that Sheth's model has higher predictive validity in explaining intention-behavior consistency. Bearden and Woodside (1977) have included unexpected events as a source of explanation in their discussion on the situational influences on consumer purchase intentions.

Belk (1974, 1975a, 1975b, 1979) has demonstrated the notion that consumer behavior depends upon the situation and the person, and that situational variables should account for most of the behavioral variance in consumer research. However, Belk's conceptual development and empirical studies have utilized the anticipated situational variables. The individual changes certain behavior patterns according to certain anticipated circumstances. For example, purchasing an expensive and prestigious brand of beer to entertain a guest instead of serving the regular ones normally consumed at home.

One of the most comprehensive literature reviews on situational studies in the consumer research area is by Leigh and Martin (1981).

Triandis (1977, 1980), in his model of interpersonal behavior, suggested that for any level of habit or intention, the absence or presence of "facilitating conditions" will affect the likelihood of a behavior. Some of these facilitating conditions could be a person's ability to perform, and the total situation in which an individual meets with others.

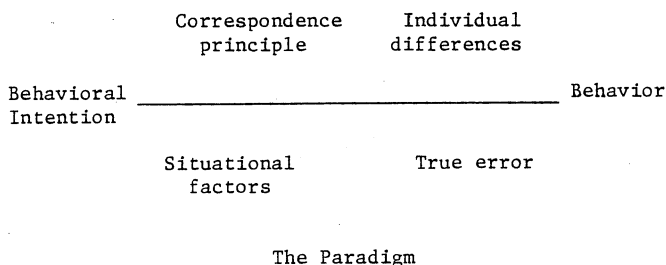
Wicker (1969, 1971) concluded that intention may not be a stable reflection for behavior. He used three verbal measures, namely, perceived consequence of behavior, evaluation of behavior and judged influence of extraneous events in measuring behavior. He found that the best single predictor of the behavior was judged influence of extraneous events with mean $r=0.36$.

Katona (1960, 1963), Juster (1964) and Van Raaij (1981) have also hypothesized the inconsistency between intention and behavior. A person's perceptions and evaluations of the economic reality and the optimistic or pessimistic expectations regarding personal finances and economic developments determine spending and saving of a household. Consumers may learn and adjust their behavior to changing circumstances. Unexpected events (potential surprises) do influence rational behavior. Thus, one can easily observe that many people who have said that they do not expect to buy a car during the next twelve months actually purchase a car during that period. The change in behavioral intentions of the individuals can be explained by the occurrence of certain events after the formation of intentions. These events can readily change the expectations of the individual and help the individual to form new intentions.

Van Raaij (1981), in particular, included the "situational factor" in his model of consumer behavior. These factors are the conditions and circumstances that normally constrain economic decisions within certain boundaries. They act as stimulators or inhibitors for economic decisions. For example, disposable income, family size, and certain anticipated or unanticipated situations may change one's intentions.

The review of the issue of intention-behavior discrepancy has demonstrated that this discrepancy is not a random error. It is clearly a systematic intervention of different forces that takes place between intention and behavior. Furthermore, this discrepancy of intention-behavior cannot be solved by the rule of correspondence suggested by Fishbein and Ajzen; or by relying on the explanations of individual differences; or even be claimed as a measurement error alone.

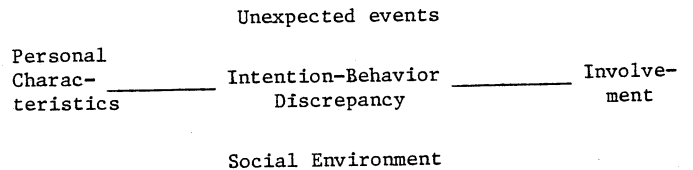
Figure 1. Systematic forces which intervene between behavioral intention and behavior



In order to improve the prediction of behavior from behavior intention measures, it is important to take a look at factors which might influence and explain the intention-behavior discrepancy. The following paradigm focuses on the explanation of intention-behavior discrepancy (Figure 2). It is not another behavioral prediction model. It gathers some of the important systematic forces that affect overt behavior.

These factors are explained as follows:

Figure 2. Factors that explain the intention-behavior discrepancy



(1) Unexpected events

According to Sheth (1974), the unexpected events factor refers to the antecedent and contiguous stimuli that impinge on the individual at the time of the behavior under investigation. It represents the situational environment surrounding the specific act of behavior. In buyer behavior, the unexpected events factor can be exemplified by the blue-light special feature in a K-mart store. Buyers may be attracted to the special purchase offers while in the store. The shoppers do not form prior buying intentions for the product. Their behavior is explained by the occurrence of unexpected events. This type of behavior cannot be explained by measurement of attitude or a behavior intention instrument.

Other examples of unexpected events that interrupt intentions are price fluctuation of displayed brands, availability of brands or products, crowding factors in the store, weather conditions, layoffs from work and time pressures, etc.

(2) Personal characteristics

Personal differences also contribute to the explanation of intention-behavior discrepancy. Snyder (1974) suggests that the degree of self-monitoring within the individual will affect his/her effort of carrying out certain behavioral intentions. According to Snyder, a low self-monitoring person has less ability to use situational cues to guide his/her behavior, and will correlate highly with the measured behavioral intention.

On the other hand, a high self-monitoring person has greater ability to manage the situational cues. He/she will be able to behave according to the demand of the situation. Therefore, his/her behavioral intention, or even attitude may not be a stable one; or at least, not even necessarily a reflection of his/her attitude or behavioral intention. One of the reasons for the popularity of Snyder's proposal is the availability of operation of the self-monitoring concept through a 25-item scale. Various empirical studies have demonstrated the validity of the scale.

(3) Social environment

The social environment factor includes the normative beliefs and the anticipated situations as perceived by the individual when expressing his/her intention to behave. Normative beliefs refer to the person's subjective norm. It is the person's perception that important others desire the performance or nonperformance of the specific behavior. The person's demographic background, socioeconomic status and past experience contribute to the formation of these normative beliefs.

Anticipated situations are those activities or situations which the individual is likely to engage in the future as he/she perceives them now when expressing his/her intention to behave. Belk (1974, 1975) and others (Woodside, Lutz and Kakker 1975) have explored the anticipated situational effect on consumer behavior. They have constructed various typologies to classify the influence of these anticipated situations on buyer behavior. For example, if you anticipate a guest for dinner, you purchase a special brand of wine that is

socially acceptable to treat your guest. Most probably, this may not be the brand you normally consume yourself. Another example of social influence is that the intention of purchasing a gift (compared with an intent for personal use) may affect the brand choice behavior. The reflection on behavior is that a private behavioral intention may not be manifested due to the influence of normative beliefs or anticipated situation. Thus, this kind of pseudo-behavior or pseudo-behavioral intention may explain a large amount of the variation in behavior.

(4) Involvement

Involvement factor in this paradigm refers to the consumer's involvement with the brand or product. A high-value or high-involvement brand or product is treated by the consumer as more important. It involves some form of financial, social or psychological risk associated with the purchase. In such a case, it is worth the consumer's time and energy to consider brand or product alternatives more carefully. Therefore, a more complex process of decision making is likely for the high-value, high-involvement brand or product.

The low-value, low-involvement product represents less importance to the consumer. Financial, social, and psychological risks are not nearly as great. In such cases, it may not be worth the consumer's time and effort to search for information and to consider a wide range of alternatives. Therefore, a limited process of decision making is more likely for the low-value, low-involvement brand or product.

Behavioral intentions formed on high-involvement products are more stable than those formed on low-involvement products. Lastovicka and Gardner (1978) suggested that a low-involvement product class is one in which most consumers perceive little linkage to their important value, and is a product class where there is little consumer commitment to the brands. A low-involvement purchase is one where the consumer does not strongly identify with the product or brand. A high degree of discrepancy will be noticed in a low-involvement purchase.

On the other hand, a high-involvement purchase is one where the consumer strongly identifies himself with the brand or product. Less behavior discrepancy will be explained in a high involvement purchase.

Discussion

Marketing researchers have been studying consumer behavior for a long time and in various ways. The investigation of intention-behavior discrepancy receives the most attention. Various results and hypotheses have been posited for the explanation of the discrepancy. It is important for the understanding of consumer behavior and on how to transform this knowledge for the use of marketing practitioners. Of course, the operation of this knowledge can be observed in strategic formulation of the marketing mix. Looking back on the utilization of this knowledge on buyer behavior, marketing practitioners had been using various techniques to change the attitudes of buyers. Many promotional campaigns were designed to give such a result.

Marketing practitioners have also been using another set of knowledge from buyer behavior research. They have been using various behavioral change techniques in purchase situations to attract brand-switching and impulse purchases. Some of these techniques include couponing, point-of-sale display, price dealing, unit pricing, in-store advertising, in-store layout and design and stocking techniques. These behavioral

change techniques have demonstrated that they may work better than conventional promotional campaigns for changing attitudes.

On the other hand, the results of this behavior change strategy should demonstrate the point that intention and behavior discrepancy is not a random error. Also, the discrepancy cannot just be explained by stochastic models alone. It is a systematic intervention of forces that take place between intention and behavior. The proposed paradigm in this paper should be considered as a foundation or springboard into the next generation of research in this area. It combines the research focus on how and when intention-behavior discrepancy can occur.

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ARE AMERICANS BECOMING MORE MATERIALISTIC?
A LOOK AT CHANGES IN EXPRESSIONS OF MATERIALISM
IN THE POPULAR LITERATURE OF THE POST-WORLD WAR II ERA¹

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Abstract

Are Americans becoming more materialistic? A review of three content analyses of popular American literature in the postwar era revealed that the answer may depend on how materialism is defined. Two types of materialism were distinguished (commercial and non-commercial) and summary results were reported which suggest increasing emphasis on one (commercial materialism) but not the other (non-commercial materialism).

Introduction

A preoccupation on the part of ordinary Americans with materialistic values and lifestyles has been noted and discussed by scholars and intellectuals for many years. Indeed, in 1605, the British playwrights George Chapman and John Marston had one of the characters in their theatrical comedy, *Eastward Ho*, refer to life in the colony of Virginia as follows:

I tell thee, gold is more plentiful there than copper is with us... Why, man, all their dripping pans are pure gold; and all their chains with which they chain up their streets are massy gold...and for rubies and diamonds they go forth on holidays and gather 'em by the seashore to hang on their children's coats (Potter 1954, p. 78).

Although exaggerated to make a point this excerpt reflects an underlying materialistic theme which has been sounded over the years in such classics as de Tocqueville's *Democracy in America*, Veblen's *Theory of the Leisure Class*, Potter's *People of Plenty* and Gorer's *The American People*. To illustrate, Gorer, writing almost four centuries later than Chapman and Marston, emphasized the importance of material things in the lives of Americans as follows:

To improve the design and increase the supply of things adapted to man's use and enjoyment is the most important object of life. This object is pursued with a fervor and a sense of dedication which in other societies and other times have been devoted to the search for holiness and wisdom, or to warfare (1964, p. 158).

Similar quotations could be cited throughout American history including the present decade of the 1980's. In their contemporary versions terms such as materialism have been replaced by consumptionism and consumerism (e.g., Ewen 1976) to denote what some observers have seen as an American preoccupation with the acquisition and use of consumer goods and services.

Recently scholarly attention to materialistic values in American life has been exhibited at the level of the individual and the level of society. At the individual level, psychologists Csikszentmihalyi and Rochberg-Halton (1981) have distinguished between "terminal materialism" (consumption for the sake of consumption)

and "instrumental materialism" (acquisition or consumption as a means for discovering or furthering non-materialistic goals). At the societal level, historians have dealt with materialistic values by attempting to understand the cultural structures which have spawned them. For example, Boorstin (1973) has coined the term "consumption communities" to refer to communities based on communalities in consumption patterns (e.g., brands acquired and used) rather than residential location. Moreover, Fox and Lears (1983) and their colleagues have recently addressed the task of defining the consumer culture of twentieth century America and tracing its historical roots.

A primary question of concern to this paper is the nature of such concepts as materialism, consumptionism and consumer culture, and how they relate to American life in the post-World War II era. Of particular interest is whether Americans have exhibited increasing concern with the commercial manifestations of materialism, i.e., consumer goods and services, over the course of the postwar era.

In an effort to address these questions this paper reports summary findings for three content analyses of brand name and generic name usage in popular American cultural productions. The first study looked at the texts of 31 bestselling novels, the second examined the scripts of 28 long-run Broadway plays and the third focused on the lyrics of 256 hit songs. In each of the three studies objective data were used to document popularity and the samples selected drew upon works published at various times throughout the postwar period.

Due to space limitations the background and methodology of only one study are detailed herein (the study of bestselling novels). Since the origins and procedures for all three studies were similar this is not seen as a serious limitation. Following this section of the paper, summary findings for the three studies are presented and discussed.

Background and Methodology

In recent years critics have expressed concern about what they perceive as the deleterious effects of advertising and other commercial practices on language and culture. Typically, however, the quality of evidence cited by these critics to support their charges has fallen short of customary scholarly standards, consisting largely of anecdotes and unconfirmed subjective impressions.

The bestselling novel study was the first in a series of objective research efforts aimed at generating an historical data base which might permit a more meaningful discussion of the commercialization question. The study sought to understand the impact of commercial practices on popular language in the United States by examining the usage made since World War II of brand names in the texts of popular novels.

The major hypothesis of the study is of special interest since it served as a basis for formulating the major hypotheses of the two remaining studies in the series of research efforts. Since a primary objective of most consumer-oriented advertising is the identifi-

¹The author wishes to thank the many student assistants who helped with the data collection and analysis for this study over the past few years. Additional thanks is due to Eastern Michigan University and the University of Tilburg (The Netherlands) for their support of this research.

cation and subsequent purchase by consumers of a particular brand-name product ("Don't say beer, say Bud"), it seemed reasonable to hypothesize that success in reaching this objective for thousands of business firms over the years had been accompanied by an elevation of the level of consumer familiarity with and usage of brand names in everyday language. In light of the unavailability of a representative sample of transcripts of telephone conversations or records of written correspondence between friends or relatives over a substantial period of time, it was decided to explore this hypothesis by examining a surrogate. Bestselling novels were selected as the surrogate since they were available over the 30-year period of interest to the study and their popular success with the American public (McElroy 1968, Sharon 1973) strongly suggested that the language used in these books was appropriate for the times in which they were published.

The study sample consisted of 31 fictional bestsellers (defined as a million or more copies sold) published between 1946 and 1975. They were selected using several criteria. To assure that each book in the sample reflected the events and circumstances of its time of publication, it was decided that all 31 books selected for the study would be set (at least in part) in contemporary America. It was also decided that each of the books selected would be the product of an American author writing at an early stage of his or her career as a novelist; and indeed, almost all of the books selected were first novels. (The later criterion was employed to exclude the products of "formula writers" such as Erle Stanley Gardner who, over a series of decades, penned dozens of bestselling Perry Mason mysteries each of which was deliberately designed to avoid being tied to a particular time period.) Finally, books were excluded from the sample if they were set in institutional environments (e.g., mental hospitals, army bases, or homes for the aged) outside of the mainstream of American life. Application of the above-mentioned criteria to the total population of several hundred bestselling American novels published in the 1946-75 period led to the 31 eligible entries which constituted the study sample.

Study Findings

A content analysis of the contemporary American segments of each of the 31 books (the whole book in most instances) uncovered strong support for the major hypothesis of the study in that the total number and variety of brand names (per 10,000 words of text) had each undergone a striking exponential rise over the 30-year period study. In particular, the books published in the 1970's were more than 500% higher than the books published in the 1940's on each of the two measures of brand name usage (total number and variety) employed in the study.

Additional data were secured and analyzed to test the generalizability of the study findings from brand names to their generic counterparts, and from usage in popular literature to usage in popular language (as reported by American college students). With regard to the first question, these data revealed that the generic counterparts of the brand names (e.g., car instead of Chevrolet) had not experienced parallel increases in usage over the 30-year period of study. With regard to the second question, a survey of college students found that their reports of the relative frequencies with which they used the individual brand names found in the study in their everyday conversations were in substantial agreement with the relative frequencies with which the 31 authors used these same brand names in their bestselling books. These data are a source of validative encouragement for the study findings since they suggest that the use of brand names in written

language by popular authors may not be markedly different from their use by more typical individuals in the natural context of conversation.

Finally, a finding emerged from the data which was not hypothesized and this was a tendency for brand names associated with consumer products high in value expressiveness, such as automobiles and magazines (Lessig and Park 1978, Munson and Spivey 1981), to appear far more frequently than those low on this dimension.

When the results of the bestselling novel study were examined alongside those uncovered by the studies of popular plays and song hits, several findings emerged which offer support for the following empirical generalizations:

1. Since World War II, marked increases have occurred in the number and variety of brand names appearing in popular American literature.
2. Since World War II, parallel increases have not occurred for generic name usage in the popular literature of America.
3. The brands most frequently mentioned in the texts of popular American literature in the postwar era represent products high on the psychological dimension of value expressiveness.

As evidence in support of the first generalization we note that for each of the three studies statistical analysis revealed that the correlations between copyright date (for each published work in a sample) and each of the two measures of brand name usage employed in the studies (number and variety of brand names per 10,000 words of text for each published work in a sample) were positive and significantly greater than zero. As evidence in support of the second generalization we note that for each of the three studies statistical analysis revealed that the correlations between copyright date (for each published work in a sample) and the measure of generic name usage employed in the study (number of generic names per 10,000 words of text for each published work in a sample) were not significantly greater than zero. As evidence in support of the third generalization we note that in each of the three studies the product whose brands were most frequently mentioned was either automobiles or magazines, and as we have indicated earlier, both have been found to rank very high on the dimension of value expressiveness.

Discussion

It will be recalled that the primary goal of this paper is to advance understanding of materialism as it relates to American life in the postwar era. Of special concern is whether Americans since World War II have shown increasing interest in the physical manifestations of materialism, i.e., consumer goods and services.

Before addressing these questions it is necessary to point out the limitations of the studies whose findings were discussed above. Perhaps most significant in this regard is our choice of a surrogate for linguistic behavior. As indicated earlier, three genres of popular American literature were selected to serve as surrogates for the linguistic behavior of ordinary Americans since World War II; although the findings of a survey of the linguistic behavior of college students were encouraging with regard to the appropriateness of this approach, we are by no means certain of its validity.

With this caveat in mind, we turn next to the task of answering the earlier posed question relating to whether materialism has increased in America since World War II. As we have seen, the answer to this question may depend on how one conceives of materialism. If one defines it in terms of the brand names associated with consumer products and services (commercial materialism), the

study findings suggest that the answer may well be yes. All three studies, it will be recalled, found significant increases in brand name usage in the popular American literature since World War II. On the other hand, if one defines materialism in terms of the generic or ordinary names of consumer products and services (non-commercial materialism), the study findings suggest that the answer may well be no. For all three studies reported no significant increases in generic name usage in the popular literature of America since World War II.

While it is not altogether clear why the two types of materialism behaved so differently, it seems likely that the increasing signs of commercial materialism in the popular literature were due, at least in part, to two developments which emerged in the postwar era for the purpose of raising consumer consciousness of brand names. We refer to the dramatic increases in advertising expenditures which occurred during this period and the advent of commercial television as a leading carrier of advertising messages. What does seem clear, however, in light of the findings of the series of studies, is that social scientific and humanistic conceptualizations of materialism in American life may have to be broadened to acknowledge the distinction between its commercial and non-commercial manifestations.

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MATERIALISM IN THE HOME: THE IMPACT OF ARTIFACTS ON DYADIC COMMUNICATION

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Abstract

This paper examines the issue of materialism as it affects communication in dyadic relationships. Couples engaged in significant relationships were researched to determine what types of domestic artifacts were important to their relationship. These artifacts were identified according to four criteria and classified as historical, ancestral, fraternal, or developmental. Conclusions were then drawn regarding the nature of dyadic communication.

Introduction

In the field of communication, little research has been done on the nonverbal elements of the home environment. Dorritories, offices and public places are all environments which have been analyzed from a communication perspective (e.g., Festinger, Schacter, & Back, 1950; Ruesch & Kees, 1956; Mehrabian, 1976). However, communication in the home, with regard to the environmental effects on relationships has remained untouched by scholars in communication.

The intent of this research is to study artifacts in the home and their effect on relational communication. It will identify patterns of communication of permanent and semi-permanent male/female relationships. The study will seek to determine what implications nonverbal artifacts have in defining and maintaining relationships. Based on a descriptive approach, the study will attempt to answer the question, "How do artifacts in the home reflect relationships?"

Individuals perceive their physical setting as filled with personal meaning. Holahan (1978, p. 127) refers to the process of shaping, reconstructing and organizing the environment into constructs of personal meaning as environmental schematization. This process corresponds to social communication. Every physical environment is embedded in and inextricably related to a social system. Physical settings define and structure characteristic patterns of human behavior. An important way in which physical settings can influence the behaviors which take place in them is through the symbolic meanings which communicators have for them. In its most obvious sense, an environment has symbolic meaning because the purposes and the activities that go on in it have been socially defined (Ittleson, Proshansky, Rivlin, & Winkel, 1974, p. 9). Human experiences are so complex that people are forced to summarize them. One way of producing these summaries is by means of symbols, which often take the form of a visual representation (Wohl & Strauss, 1958).

This study will focus on symbolic objects within the home environment called artifacts. To begin, artifacts will be defined as inanimate objects which represent human experience and which have special significance to an individual or individuals in a relationship.

One place to begin looking for artifacts is in the home. Certainly the home depicts the uniqueness and individuality of its occupants, their personal identity as individuals and as a family. People often decorate their homes to make themselves distinct from others (Altman & Gauvain, 1981). Cooper recognizes this identity factor in homes, "The furniture we install, the way we arrange it, the pictures we hang, the plants we buy and tend, all are messages about ourselves that we want to convey back to ourselves, and to the few intimates that we invite into our house, (1976, p. 135)." Identity is

achieved through artifacts. The images people try to create in their homes are accomplished by the use of artifacts.

The majority of research done has centered on the ways the individuals relate to artifacts. This research provides an important foundation for research of a specific nature. The present study will explore artifacts of the environment as they relate to individuals who are members of permanent or semi-permanent relationships.

Two studies have considered the influence of artifacts on the individual. An early study by Hansen and Altman (1976) measured the decorating of personal places and devised a content analysis system of seven categories of personalization: personal relationships, values, abstract, reference, entertainment, personal interest, and gross/total space. The early study was done in dormitory rooms, as was a refined study by Vinsel, Brown, Altman, & Foss (1980) who divided artifacts of decoration into forty-five categories. A content analysis was then done on these categories to determine success in school are regulation of privacy. These categories provide the framework of artifacts this study seeks to define relationally. This study will not conform to the limitations of these categories, but will instead try to expand the concept of artifact as it relates to communication. Once artifacts have been defined, this study will seek to determine the nature of publicly displayed artifacts in the homes of young married, older married, and unmarried couples with respect to ownership. Finally, this study will analyze the communication which occurs as a result of the artifacts.

This study proposes to answer three questions: (1) What objects publicly displayed in the home can be identified as artifacts? (2) Are these artifacts of an individual or relational nature? (3) To what extent do these artifacts reflect the communication in the relationship?

Method

Six male/female pairs were interviewed in order to study the development of relationships as reflected by artifacts, and to determine the effect of the contractual marriage agreement on the process. Interviewed were two couples married for over thirty-five years, two couples married less than five years, and two unmarried couples living together. Research participants were selected on the basis of availability and willingness to be interviewed. Each couple owned or rented a single-family dwelling on generally large lots.

Data were collected in unstructured personal interviews with the couples in their homes. To gain more information about their relationship, the interviewer asked couples what they talked about while they were together in each room. Couples were allowed to direct the tour and give any information they thought relevant about their home. All interviews were recorded on cassette tape and transcribed. Transcriptions were then analyzed to determine what objects were referred to, and what properties or characteristics these objects had in common. These characteristics were then used to formulate a detailed definition of an artifact. Objects defined as artifacts were then classified according to devised types of artifacts. The data were then analyzed according to the classification system and conclusions drawn.

Young Married Couples

Young married couples tend to display and identify objects which typically meet the initial definition of artifacts. The majority of the objects identified were small, personal items which reflected the past experiences of the couple as a married unit. Photographs and albums were common artifacts. Both couples remarked that they have a lot of pictures around and that they spend time reminiscing with their albums. Individual pictures were also displayed throughout the homes, usually depicting an important occasion in the relationship of the couple, such as their first picture taken together.

Another type of artifact in this class were the gifts which they had received from each other. Artifacts which were gifts were often the first artifacts which had been acquired together, such as wedding gifts. These artifacts indirectly validated the couple as an official unit and were displayed to strengthen the stability of the relationship. Few artifacts were from the time before the couple was married.

A second class of artifacts identified by young married couples represented other people in their lives, such as family and friends. Objects which had sentimental meaning were also important.

The artifacts which the young married couples described individually were usually personal or gender-related items, such as toilet articles or gifts which had been given to just one member of the couple, often by the other. Collections were another type of artifact that was described as having individual ownership.

The young married couples discussed artifacts which aid in planning or which are future oriented. Planning most frequently occurs in the kitchen and bedroom. In the kitchen one couple agreed, "This is probably where we talk the most." Another remarked, "When we have breakfast in here, we talk about what we're going to do during the day, and sit and figure out what we're going to do the rest of the day." The bedroom is also used as a setting for planning, either in reviewing the day's activities or by planning the activities of the following day: "We talk about what we did during the day, 'How was work, school?' 'How was your day?'" Much of the verbal communication that occurs between young married couples is future oriented, as they share dreams and plan together for the future.

In general, most of the artifacts identified by the young married couples had relational significance, pertinent to their married lives. Couples identified photographs, gifts, and hand made artifacts as being especially meaningful artifacts in their homes.

Older Married Couples

Couples who have been married for long periods of time took genuine pride in the fact that they owned a home. The information surrounding the building and/or purchase of the home and how long they had owned it were facts the couples were anxious to share. When asked to describe each room, the first objects older married couples would mention would be the major, functional things in the home, not paying attention to detail. In the kitchen one man remarked, "I think the most important thing is the refrigerator number one, and then the range, the sink, and our clock." In the bedroom he said, "I guess the most important thing here would be the beds." When asked to describe the basement he listed the major items like the washer, dryer, freezer and fruit room, ignoring other artifacts there might have been. Minimal description was given of any of these artifacts.

Each item the older married couple mentioned had a story surrounding its acquisition. Even the smaller articles, such as decorations and knick-knacks, had some story behind them, usually reflecting a common experience.

Several of their artifacts reminded them of someone, usually a family member or friend. These older couples also displayed a great number of pictures of children and grandchildren. The couples were eager to talk about their children and mentioned artifacts given to them by or reminding them of their children or grandchildren. These older married people admitted that a great deal of their conversations were about the lives of their children and grandchildren, rather than about their own lives.

In one home nearly all of the artifacts were concentrated in the living room. The memories of the people and events in their lives were so important to them that the wife remarked, "We just keep memories in here, really." That couple designated an entire room to display artifacts in order to remember important people and events in their lives.

Older married couples adopted stereotypical sex roles. One woman said, "I'm in the house most of the time," and her husband replied, "I'm in the yard most of the time." This caused the couples to admit that they talked infrequently: "Very seldom do we talk about anything," or "We don't talk, he sleeps." Both older married couples were retired. Even though they had much time during the day to converse, they rarely spoke to each other. One woman noted that talking to others was more important for her husband, "He talks to the men in the neighborhood more. He's out there, all the men around here are retired, they get together and he talks." This comment may reflect a decreased need for verbal communication between the couple.

For these older married couples, outside noise sources, such as television, radio and the stereo, were very important. In the living room they noted, "We spend lots of hours in this room, we have our television, our stereo. If we don't like what's on TV, we just turn on the stereo. The continual use of outside noise sources in all major rooms further indicates the decreased need for verbal communication with these couples.

Unmarried couples

Unmarried couples who live together tend to identify the functional objects in a room before any sentimental or personal items. As they went through the house, they pointed out the bed in the bedroom; the stereo, couches, and tables in the living room; the refrigerator and stove in the kitchen, etc. The largest number of objects in their homes were separate artifacts, belonging specifically to one member of the relationship and identified as such, "Our books are kind of vaguely separated both by ownership and subject. His are on this side, and mine are on that side." This separation of artifacts may indicate the relative level of stability in the relationship.

Each member of the couple also had a separate room in different parts of the house, filled with their own individual artifacts. Personal artifacts, such as pictures of families, toys, and other memorabilia were kept separate in these individual rooms. These personal artifacts had meaning solely for the individual and were displayed where only a single member of the relationship would typically see them. Clothing was also kept separated, in separate closets and even in separate rooms. This division of personal belongings reflects an individual nature about the relationship.

Discussion

These six couples had several things in common, things which span both time and contractual agreement. The first things the couples would describe in a room would be the superlatives: "The oldest thing in the room is the wicker couch;" "The frog is probably the oldest thing here;" "This is the first picture we took together the first time we went to Lagoon. . . ." All couples used a primacy pattern of organization in describing objects in a room.

These couples also shared a common interest in their lawns and gardens. In that sense, their conversations are specific to their environment. However, few other rooms in the house were topic specific.

Many differences could be recorded about the artifacts that each set of couples had. Young married couples had the most items which they identified as artifacts. Older married couples either have fewer artifacts or have them concentrated in a single room or area. Most of the objects in the homes of unmarried couples are functional in nature and don't reflect common experiences of the relationship.

Definition of an Artifact

Initially, this study was formulated to discover what constituted an artifact in a relationship. Findings from this research suggest that different objects can be artifacts for different sets of people, and all objects publicly displayed in the home are not necessarily artifacts. Specifically, people create the meaning of an artifact; for without meaning attached to it an object symbolizes little beyond its intended function. An artifact is characterized as such by the individual or couple and not by the observer. Therefore, an outside observer could not enter a home and merely code objects as artifacts without gathering relevant communication from the occupants of the home about the objects and their particular significance. Thus, communication about an object is necessary to determine its identity as an artifact.

Based on this research, four qualities appear to characterize an artifact. The first quality which distinguishes an artifact from a mere object is its origin. An object must have personal significance for an individual or couple. Some important issues to consider when looking at an artifact's origin are from where the artifact came, when it was acquired, how it was acquired, and from whom it was acquired. The stories included in the descriptions of objects generally revealed one or more of these details and made the object significant to the couple. It was not necessarily the object which was important, but the fact that it symbolically represented a significant occasion.

The second important quality to consider is the present function of the object. It is important to determine the purpose of the object as it is displayed or used in the home. In order to be artifactual in nature, the object must have some symbolic representation beyond its functional nature.

The third quality of artifacts relates to their non-routine nature of experience. Initially, artifacts were defined as representing human experience. However, this study has shown that not all objects which represent human experience are necessarily artifacts. The non-routine or special nature of experiencing an object, such as the birth of a child or a first communion, represented by a plaque or certificate, is more likely to result in characterizing it as an artifact.

The final quality which characterized an object as an artifact is its being centered outside the couple. Artifacts may represent an extra-couple relationship, that is, a social system outside the couple's relationship. These artifacts represent people who are related to the couple or friends important to the couple. For example, photographs can be such artifacts because they represent relationships outside the couple. Older married couples often display pictures of their children and grandchildren. Part of the significance of the object, then, is represented by the relationship which the object signifies.

Classification of Artifacts

This study was able to classify artifacts into four types: historical, ancestral, fraternal, and developmental. Historical artifacts are those which represent a particular time or event in the lives of people, individually or as a couple. Ancestral artifacts represent specific family members, such as a picture or some other object given as a remembrance. Fraternal artifacts are those which people display to represent friends and other acquaintances who are not related to the occupants of the home. Developmental artifacts are those which symbolize important stages in the development of the couple's relationship. Historical, ancestral and fraternal artifacts can be either individual or relational in nature. But developmental artifacts can characterize only the relationship.

Table 1 delineates the total number of artifacts and their proportional contribution to the representative classes, identified by each type of couple. The total number of artifacts is given with proportional relations to the total number of artifacts identified by the couples.

TABLE 1
Types of Artifacts

	Young Married	Older Married	Unmarried	Overall
Historical	35(59%)	9(15%)	15(37%)	59(33%)
Ancestral	26(39%)	34(51%)	7(10%)	67(37%)
Fraternal	9(39%)	2(9%)	12(52%)	23(13%)
Developmental	8(27%)	15(50%)	7(23%)	30(17%)
Total	78(44%)	60(34%)	41(23%)	179(100%)

Historical artifacts are those which are most common for young married couples. This could demonstrate their need to artificially create a mutual history by displaying artifacts which represent important historical events. In essence, they are a shortcut to relational development. While these objects may be of little practical significance, their importance is elevated by the couple to represent great events in the couple's history. Older married couples have the fewest historical artifacts because they have spent so much of their lives together and an actual history of their relationship already exists. Those historical artifacts displayed tend to reflect later experiences in their relationship. This may be partially due to the durability of the articles. Thus, only those artifacts which represent the most important events in the history of their relationship are displayed. Unmarried couples have a proportionally high number of historical artifacts, but not nearly as many as young married couples. The fact that there is no contractual agreement between the members of the unmarried couples is reflected in their artifacts.

The historical artifacts these couple display do not represent significant events in the history of the relationship, but reflect events significant to the individual. Since these couples are young, they have no great history behind them, and still have the need to create some history.

Family values are extremely important to married couples. This is represented by the significant proportion of ancestral artifacts in the homes of both the young and older married couples. Older married couples have more ancestral artifacts because their artifacts represent both forebearers and descendants. Younger married couples have fewer ancestral artifacts because they only have forebearers. For these young married couples, the marital union represents family, and they try to establish and maintain family values through their artifacts. Extremely few ancestral artifacts were displayed in the homes of unmarried couples. Since the marital contract is the bond which creates families and because these couples don't have this bond, it would be expected that they would not hold family values in such high esteem.

However, unmarried couples display the largest proportion of fraternal artifacts. In fact, over half of the fraternal artifacts displayed by the six couples belonged to these couples. Since these couples have few family connections and no descendants as a result of the relationship, those relationships most important to them are of their friends, and the artifacts they display reflect this value. Young married couples also displayed a significant proportion of fraternal artifacts, though not as many as the unmarried couples. Because their relationship is a new one, they still maintain important extra-couple relationships, which are reflected by their fraternal artifacts. Older married couples displayed relatively few fraternal artifacts. Because family values and artifacts are so important to these couples, it would seem that the importance of fraternal artifacts dwindles over time and as the family grows.

Older married couples displayed half of the developmental artifacts. These artifacts become, in essence, extensions and products of the relationship. Over time, these couples have collected things which are relationally significant. The development of their relationship has many milestones, represented by their developmental artifacts. Young married and unmarried couples had approximately the same proportion of developmental artifacts, reflecting the fact that their relationships have developed for approximately the same amount of time.

Overall, the young married couples had the most artifacts, followed by the older married couples. The unmarried couples had the fewest total number of artifacts of any of the types of couples. These facts suggest that the contractual agreement indicates a greater need for the public display of artifacts, to create a measure of stability and permanence in the relationship. It is important to realize that the four artifact classes determined by this study can overlap, and that artifacts may represent more than one category.

Individual versus Relational

The manner in which a couple describes an object signifies whether it hold individual or relational significance. Table 2 shows the frequency of individual versus relational descriptions of objects among the couples.

TABLE 2
References of Object Ownership

	Young Married	Older Married	Unmarried
Relational	67(65%)	35(63%)	23(30%)
Individual	36(35%)	21(37%)	53(70%)

Artifacts can reflect the nature of relationships. The total number of individual artifacts displayed by unmarried couples is greater than the number of relational artifacts displayed by either the young married or older married couples. Ownership is an important characteristic to these couples. They referred to their artifacts using the singular pronouns "me" and "my," which indicates a need to make a personal statement about the identity of the relationship suggesting a sense of individuality within the confines of commitment.

The proportions of relational and individual objects are almost identical in both young and older married couples. Nearly two-thirds of all objects mentioned were relational, described using plural pronouns such as "we" and "our." Very few individual artifacts of prominence remained from the days when the couple was single, and these must hold great significance in order to be displayed.

While the historical artifacts of unmarried coupled reflected an individual's history, the historical artifacts of young and older married coupled reflected their relational history. The marriage contract constrains or subjugates the individual, and the individual is inhibited by the relational nature of the artifacts displayed. This cycle continues for the duration of the marriage and is reflected by all four classes of artifacts.

Artifacts and Communication

Artifacts serve two functions in the communication in dyadic relationships. Artifacts create a setting for communication, and they serve to reflect the relational communication which occurs between the couples.

One way artifacts create a setting for communication is by defining behavior and dictating the type and location of interaction, such as when planning functions are carried out where facilities direct. Frequently, interaction is determined by the placement of particular artifacts, usually functional in nature. Eating is one such behavior determined by the location of certain artifacts. Both young married couples spent meal time in the living room in front of the television set in order to watch M*A*S*H. One older married couple admitted that they talked about "old times, where we worked, different things," in their living room. For them, this was the room which contained most of their artifacts. These artifacts, representing the past, reflected the general topic of conversation while in that room.

The second function artifacts serve is to reflect the relational communication which occurs between the couple. This communication can be both verbal and nonverbal. In one sense, the placement of artifacts may serve as a reflection or judgment about the relationship. Young married couples placed relational artifacts in places of honor, while individual artifacts occupied these same places in the homes of unmarried couples.

Artifacts provide a definition of relationship for the couple as well as for others entering their home by symbolizing important elements of the relationship. Artifacts communicate intended and unintended messages to the individuals and outsiders, depending on how it is perceived.

In another sense, artifacts may substitute for verbal communication between the couple. For example, older married couples communicate much more infrequently than either the young married or unmarried couples. After maintaining a relationship for thirty-five years, perhaps there is not as much need to exchange information with one another since most of their lifetime experiences happened while they were together.

Conclusions

From the data gathered, I propose the following six conclusions about the nature of artifacts:

- (1) Artifacts of young married couples reflect a future-directed orientation.

Even though the young married couples displayed the greatest proportion of historical artifacts, their communication was very future oriented. As would be expected for couples who have most of their lives ahead of them, much of their communication reflected future plans and goals, while many of their artifacts reflected their brief past history together.

- (2) Artifacts of older married couples reflect a past-directed orientation.

Couples married for over thirty-five years are generally nearing the end of their lives. This would cause them to tend to romanticize the lives that they have lead and might make them attempt to relive the past. Much of the communication of older couples centers on their past experiences, and their artifacts predominantly reflect these past experiences. Couples have children and grandchildren as extensions of themselves, so they have the lives of several people to discuss and reflect upon.

Conversation which deals with the day-to-day maintenance of the relationship is sufficient, and the need for that is minimal since couples are so familiar with the characteristics of each other. Hence, older married couples seldom communicate about the present. Future-oriented conversation is also limited since the couples assume the future will be similar to the present. Goals and dreams have already been reached or dismissed as impossible, so speculation about the future has little relevance in their communication. Older married couples don't have the need to display as many artifacts as young married couples because they have created their own history by sharing a lifetime of experiences together. This history can be understood by examining the objects they display.

- (3) Artifacts of unmarried couples living together reflect a present-directed orientation.

The homes of unmarried couples primarily display individual artifacts. These artifacts create an environment in which couples tend to discuss themselves as individuals, as opposed to partners, in a relationship. Because of the nature of their relationship, they have little to say about past common experiences and presumably, would each have individual goals for the future. These couples, then, communicate mainly about the present. The responsibilities for housekeeping duties are carefully separated, and most of their energies are spend on short-term interests.

- (4) Young married couples display artifacts projecting values they seek to acquire.

Many of the artifacts displayed by young married couples are from their parents and grandparents. It can be tentatively proposed that one of the reasons these artifacts are displayed is to represent elements of either that person or a relationship which the couple wishes to emulate. The reason the artifact is displayed, then, is to remind the couple of values they wish to acquire.

- (5) Older married couples use artifacts as a substitute for communication and maintain their relationships with a minimum of verbal communication.

Admittedly, older married couples communicated less with each other than either of the other two types of couples.

Outside noise sources, radio, television, stereo, some of which are artifacts, occupied much of their waking time and could be a substitute for verbal communication between them. Because these couples have been communicating for a number of years, there is little new information to share with each other without becoming repetitive. They have established familiar patterns of behavior which require minimal verbal communication to maintain. Since the outlook for the future of the relationship is the same as the present, there is little new in the relationship to discuss.

- (6) Artifacts displayed by unmarried couples living together represent a statement of individual independence within the relationship.

Table 2, indicating references of objects' ownership, demonstrated that the bulk of artifacts in the homes of the unmarried couples living together were of an individual nature. The mere fact that these individual artifacts were displayed without major significance to the other member of the couple implies a tone of independence within the context of the relationship. Furthermore, the first thing both unmarried couples did upon reaching the bedroom was to acknowledge the bed, as if to validate their relationship sexually. This mix of individual and relationship artifacts indicates that the relationship is more than a relationship of convenience, but one which allows the couple to maintain a dual identity while enjoying an intimate relationship. These artifacts show that the couple is more than just a relational unit, that they are individuals leading individual lives within a relational unit.

Obviously, there are many limitations to any preliminary study, and even the conclusions which are drawn are tentative. The number of subjects used in this study was limited, as was the geographical areas from which the data were collected. Certain cultural areas hold different values and beliefs which should be identified and recognized.

Though the current study suffers many limitations, it has served to clarify a number of issues with respect to the relationship between artifacts and communication. By allowing couples to control the interview, the interviewer was more likely to maximize the possible types of artifacts identified and probe their relevance to relationships. A workable definition of artifacts was formulated and a preliminary classification system was developed. Now that the term artifact has been more accurately defined and classified, future research should be able to recognize, categorize, and analyze artifacts and their potential effects on a number of variables to further the understanding of the environment.

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MATERIALISM AND MAGAZINE ADVERTISING
DURING THE TWENTIETH CENTURY¹

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Abstract

Based on content analyses of U.S. magazine advertising it was found that the use of materialistic themes has increased while utilitarian appeals have decreased during the first eight decades of this century. While the type of materialism emphasized has generally been a more benign "instrumental materialism," there is some evidence of recent increases in "terminal materialism."

Having, Doing, and Being

Advertising has been described by Berger (1972) as an attempt to make us envious of the selves we might become if only we acquire the product or service advertised. This explanation may not apply to some institutional advertising, but it is a useful way to view the vast majority of advertising in which benefits are promoted as contingent upon acquiring the offering and as accruing to the buyer rather than to some third party. Even appeals to help or give to others, often imply that we will be better people for doing so.

The important thing to note in Berger's (1972) explanation, is that advertising attempts to link a sense of self to what we have or what we do. Since self concept is abstract, having and doing provide tangible evidences of who we are. In a small scale self-sufficient society, such evidences might be viewed as the natural emergence of an inner self (Belk 1984). But in a large scale consumer society, purchased products and services may actually create self. This is reflected in Sartre's (1956) belief that there is no inner core of self--only a completely malleable nothingness that becomes whatever our possessions and experiences are thought to imply. There is feedback from others, but it is feedback based on our actions and possessions rather than on inner character. This view is also supported by Goffman's (1959) ideas about self-presentation and Bem's (1967) ideas about self-perception. In each perspective we use or examine the tangible evidences of our having and doing to shape inferences about the nature of our being.

Materialism

Even though having and doing may both involve products and services, they reflect different types of materialism. As a general trait, materialism is the tendency to view worldly possessions as important sources of satisfaction in life (Belk 1984b). Where the satisfaction or self-definition is thought to be derived from doing some activity enabled by the possession, the materialism involved is a relatively benign form termed "instrumental materialism" (Csikszentmihalyi and Rochberg-Halton 1980). However, when having the possession is the end in itself, the materialism involved is a potentially more destructive form that Csikszentmihalyi and Rochberg-Halton (1981) labeled "terminal materialism."

Terminal materialism is potentially the more destructive

type because it is the most likely to result in such specific materialistic traits as envy, possessiveness, non-generosity, miserliness, greed, jealousy (of one's possessions), and perhaps the tendency to treat people as possessions. Instrumental materialism may also lead to negative specific traits including prodigality, gluttony, and the acquisitive pursuit of experiences. But even though these traits may be equally selfish, they are less likely than the terminal materialistic traits to negatively affect others. There is also some thought that the doing focus of instrumental materialism is more intimately related to sense of being (Allard 1976) and is more rewarding and less burdensome than the having focus of terminal materialism (Hirschman 1982, Linden 1979, MacDougal 1983).

It is more difficult to develop arguments in favor of terminal materialism, but some of its seemingly negative traits have been defended. For instance, envy has been defended as a natural mechanism allowing us to identify our wants (Smith and Whitfield 1983) and as promoting achievement motivation to fulfill these wants (Foster 1972, Lyman 1978, Sabini and Silver 1982). And since possessiveness involves a tendency to retain one's possessions, an absence of possessiveness might be thought of as careless, wasteful, or irrationally ascetic.

In general, however, materialism (both types) has been treated as a negative value (see Belk 1983). In addition, America has traditionally been characterized as being more materialistic than any other part of the world (DuBois 1955). There is also a popular view that Americans have become more materialistic since 1970 (Wolfe 1976, Jones 1980, Yankelovich 1981). However, rather than increasing the terminal materialism of our culture, there is some speculation that the terminal materialistic desire to have has decreased while the instrumental materialistic desire to do has increased (Campbell 1981, Seguela 1982, Rose 1984). These speculations are based either on the assumption that the marginal utility of having decreases in a society of abundance (Scitovsky 1976), or on the self-definitional argument that having failed to find who we are through possessions, we are turning to consumption in seeking an identity.

Advertising and Materialism

A major determinant of changes in American materialism may well be advertising. Lears (1983) contends that between 1880 and 1930, consumer advertising succeeded in bringing about a culture of consumption (or more accurately, a culture of **possessions**) in which having things replaced religion as a way of finding meaning in life. Lasch (1979) and Handlin (1979) note that a part of this alleged macro effect of advertising was to convince people that buying things like clothing, foods, and soap was superior to making these items. Another macro effect of advertising in twentieth century America may have been to shift any remaining interest in finding self through **doing** from a locus in the world of work to a locus in the world of leisure. In attempting to market an expanding array of leisure goods and activities, it has been suggested that advertising helped to undermine the Protestant Ethic of virtue through hard work and savings (Albee 1977, 1978). Besides leisure, extraordinary comfort and luxury are thought to have been increasingly promoted and increasingly accepted during the late nineteenth and early twentieth century as replacements for the traditional Protestant Ethic (Williams 1982).

¹The authors are grateful to the History of Advertising Archives housed at the University of British Columbia for access to the advertisements studied. The research collections of the Archives are funded by the Social Science and Humanities Council of Canada.

In addition to such appeals to individual hedonism, advertising may evoke awareness of social status and suggest status associations with having and doing. Status symbols are normally thought to be tangible products (Goffman 1951), but may also include such experiences as travel (MacCannell 1976, Nicosia and Mayer 1976, Greenwood 1977) and museum visits (Kelly forthcoming). Because status symbols must not be freely available if they are to be effective in differentiating one's status from that of others (Douglas and Sherwood 1979), the items regarded as status symbols change (Brooks 1981) and may become less conspicuous with rising affluence (Mason 1981, Steiner and Weiss 1951). The role of advertising in the creation of new status symbols is to attempt to infuse a would-be status object with the symbolic image desired. A common way to do this is to associate the object with other objects or people recognized as already having high status. In this way it is hoped that the advertising audience may be made envious of the higher status product user and enticed to emulate that person in use of the advertised item.

Advertising then may promote an advertised item through terminally materialistic appeals to luxury and status or through instrumentally materialistic appeals to buy products and services that allow one to do new things or do old things more easily or quickly. In addition to the advertising copy about the product or service advertised, background illustrations of other products and related activities can also support these two types of materialism. However, not all advertising themes use either type of materialistic appeal. Appeals to nutrition, practicality, and friendship are among the alternatives. Generally, direct appeals to be a better person are also non-materialistic. Furthermore, what constitutes a status or luxury appeal at an early point in time when a product or service is scarce, expensive, or new, may be a non-materialistic appeal to practicality later when the product has come to be widely adopted and regarded as more of a necessity. This means that an assessment of the materialistic values of an advertisement must also consider the historical context in which the ad appeared.

The present study does not attempt to distinguish between advertising's possible roles as cause and effect of changes in U.S. materialism. This is necessary because it is not possible to distinguish these roles in retrospective historical research. But even if advertising only reflects current material values, its materialistic themes would still be of interest since they would help to legitimize and reinforce the values reflected. Since advertising is not value-neutral, if it does not change cultural values then it tends to perpetuate them. The interpretation of advertising value changes would then be in terms of contemporaneous cultural value changes rather than as determinants of future cultural values. Nevertheless, while we cannot demonstrate the contention it seems an inescapable conclusion that advertising, especially in its cumulative, macro, and largely unintended effects, both molds and reflects consumer material values.

Hypotheses

Based on advertising criticisms such as those by Lasch (1979) and Lears (1983), the general expectation was that advertisements would be found to have become increasingly materialistic over the period studied. Specifically, we expected the use of appeals to luxury and status to increase over the first eight decades of the twentieth century, and utilitarian appeals to practicality and efficiency to decrease.

The second concern was to examine whether instrumental (doing) or terminal (having) materialism were most emphasized over this period. Based on the arguments of Campbell (1981) and Seguela (1982), it was expected that doing themes would replace having themes as a dominant emphasis

in advertising of the nineteen-seventies. It also seemed consistent with these arguments to expect the less materialistic themes directly emphasizing being to increase at the same time.

Methods

Sample

The study undertaken is a content analysis of advertising in popular American magazines during the first three-quarters of the twentieth century. The ads studied were drawn from a population of 2000 magazine ads in the History of Advertising Archives. This parent sample is a random sampling of ads appearing in the ten largest circulation magazines during the five middle years of each of the first eight decades of this century (see Pollay 1983a for details). From this population, we selected for analysis the 411 ads portraying the interior or exterior of a home. The 411 ads showing the home were not evenly distributed across the eight decades, as shown in Table 1.

TABLE 1

Frequency of Ads Featuring Home

Decade (midpoint)	Number of Ads
1905	24
1915	47
1925	57
1935	63
1945	100
1955	59
1965	32
1975	29
Total	411

Since we wished to examine the illustrations as well as the copy themes of these ads, advertisements showing no setting were not of interest. While we could have examined other settings such as work and travel scenes, the home was the single most ubiquitous setting and provided a constant frame of reference in which to investigate changes in materialism in advertising over an 80 year period.

Coding

The analyses of these ads focused on objective visual counts (e.g., number of upholstered chairs shown) as well as more subjective judgments of themes and values (e.g., whether or not status appeals were used). Three graduate students performed both types of coding. After familiarizing themselves with coding instructions and training with a sample ad set, interjudge agreement averaged .85 for the objective codes and .95 for the subjective codes. Disagreements were broken by majority rule or (for objective codes) by re-examination of the ads.

The relevant coding definitions for the materialistic and non-materialistic themes of interest here were as follows:

Having theme -- Either a person is displaying or referring to owned object(s) or a house or room is shown from eye level into which the viewer seems to be invited.

Doing theme -- Shows or discusses a reader activity that is aided or provided by the product or service.

Being theme -- Shows or discusses what the reader can become or how people will treat the reader with help of the product or service.

Luxury appeal -- Explicitly mentions luxury (or related terms such as leisure, pleasure, regal, or pampered) or else depicts such pleasures visually (depictions should be judged to be clearly more comfortable, lavish, or opulent than most middle class homes of the same period).

Status appeal -- Shows or discusses prestige or social standing relative to others or uses high prestige source or association (e.g., a testimonial by a socially prominent spokesperson or the depiction of household help or a grand home).

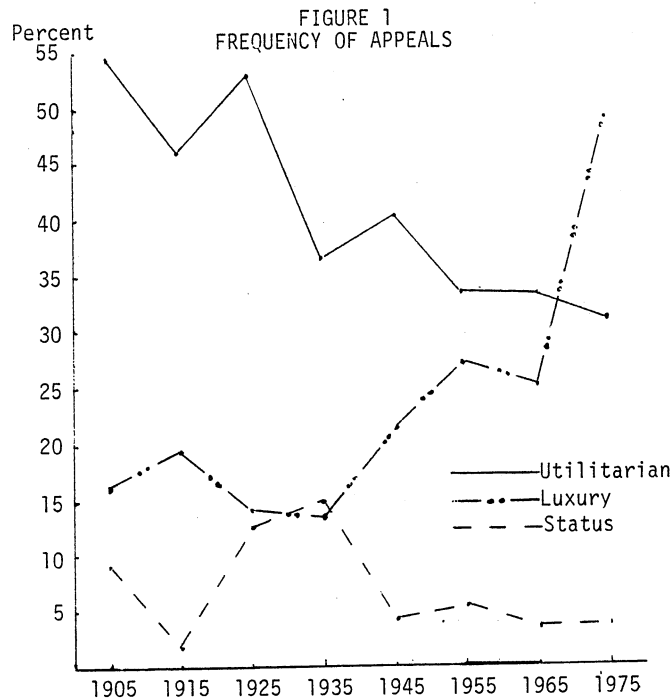
Utilitarian appeal -- Shows or discusses pragmatic product or service benefits such as practicality, efficiency, cleanliness, or hygiene.

Each of these codes were binary yes/no judgments. Codes were based on the entire ad including copy illustrations, foreground, and background.

Results

Materialistic Versus Nonmaterialistic Appeals

Figure 1 shows the frequency with which materialistic luxury and status appeals and non-materialistic utilitarian appeals occurred over the eight decades. The non-materialistic utilitarian appeal is illustrated by slogans such as, "Easy washing in six minutes" (washing machine)



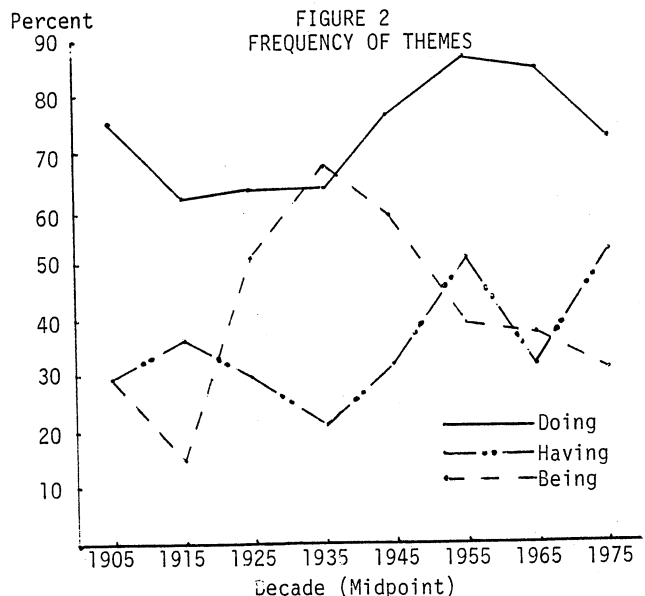
and "If Everyone in This Family Used Pepsodent Antiseptic There Should be 50% Fewer Colds!" Such appeals were most common during the first decade (when a number of new products were promoted to replace doing household work by hand) and during the 1930's (when the aftermath of the Great Depression may have made luxury appeals less palatable). It is interesting that during the first decade the introduction of products recently regarded as luxuries was based on utilitarian appeals. By the 1970's such utilitarian appeals were at their lowest

point. In their place, the more materialistic appeal involving luxury has risen to prominence since its ebb in the 1930's. This appeal is illustrated by slogans such as, "Life's so bright when the air's just right" (air conditioning) and "your most luxurious evening wrap" (Orlon blankets). Such appeals were also somewhat prominent in advertising of the first two decades of the century when the depiction of household servants and references to luxury were reasonably common. Status appeals are illustrated by slogans such as "Mrs. Nicholas Longworth on keeping one's appearance up to the mark" (cold cream) and "We Peeked into the Kitchens of Fashionable Park Avenue and 389 out of 400 we found ROYAL" (Baking Powder). Such appeals were common only during the Twenties and Thirties. This finding parallels findings of Pollay (1983b) using other coding and the full 2000 ad sample. It may seem paradoxical that status appeals were at their height during the Depression, but as Hearn (1977) notes, portraits of success during this era were also conducive to fantasizing and hoping for a better tomorrow.

Except for a resurgence during the 1920's and during World War II, these findings suggest a general decline in non-materialistic appeals during the period studied, while material appeals increased in frequency. The types of materialistic appeals varied however. Status appeals were only common during the twenties and thirties, while luxury appeals followed an opposite pattern, increasing in all decades except these and the 1960's. In one or another of these forms though, the materialism in U.S. print advertising appeals appears to have increased as hypothesized during the twentieth century.

Having, Being, and Doing

In order to examine whether this materialism tends to be of the healthier instrumental variety or the more destructive terminal variety, it is necessary to look at the thematic codes of having, being, and doing, as shown in Figure 2. Direct themes involving being were



most common during the nineteen thirties and, to a lesser degree, the adjacent decades. Education, beauty, or self-improvement were typically involved. Perhaps self-concepts needed such direct (i.e., non-symbolic) boosting during the successive value changes, depression, and war of these decades. With the exception of the thirties, themes involving the instrumental materialistic doing state of existence dominated the period studied. Leisure,

housework, and cooking were the activities most often aided in these advertisements. However, such themes appear to have peaked in the nineteen fifties, while the terminally materialistic having theme has generally increased in frequency except during the thirties and turbulent sixties. Housing and furnishings were the most frequently shown products using these themes.

Thus, while the general answer to the question of the type of materialism promoted by these ads is that the more benign instrumental materialism is most common, there is some hint that, contrary to Campbell (1981) and Seguela (1982), it is now decreasing while terminal materialism is increasing. This may also be in evidence in the increased frequency with which ads show the product in isolation from settings and people. For the entire 2000 ad sample this percentage more than tripled from fifteen percent in the nineteen fifties to over forty-five percent in the nineteen seventies. To show the products without people and activities emphasizes the product for its own sake, and this is the spirit of terminal materialism.

Discussion

There are certain obvious limitations to the present research. Besides excluding ads showing non-home settings, we have examined only print media, which have captured a decreasing portion of advertising budgets (J. Walter Thompson 1981). The specific types of materialistic themes examined here also ignore the cumulative impact of an increasing amount of advertising, an increasing array of products and services for sale, and an increasing variety of consumer goods already inventoried in our households. It is also apparent that non-advertising mass media as well as personal observations contribute to our material expectation.

There is, however, evidence in these findings to suggest an increased advertising emphasis on materialism. It is also evident that this materialistic emphasis has been more involved with instrumental themes of using the advertised items than with terminally materialistic themes of having the product for its own sake. If we have become a culture of consumption, it does not yet appear that this consumption is an end rather than a means to other ends. But it may be telling that during the allegedly narcissistic seventies terminal materialism in advertising themes increased while instrumental materialistic themes decreased.

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THE EFFECTS OF MOOD ON RETRIEVING CONSUMER PRODUCT INFORMATION¹

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Abstract

The effects of mood at retrieval on memory and judgment were investigated in an experiment in which college students were presented with reports about consumer products. It was found that mood was associated with better recall for mood-consistent than for mood-inconsistent information, but that this effect was not observed in recognition memory. Also, happy mood-induced subjects gave higher desirability ratings than did sad subjects. These mood effects were not affected by whether retrieval took place immediately after presentation or two days later. Implications of mood effects for the consumer are discussed.

Introduction

The nature of the psychological interplay between emotion and cognition has been a popular topic in recent years. One way in which this issue is being explored is in studies which have looked at people's memory and judgment performance while they have been operating under the influence of a particular, experimentally-induced mood. From these studies, which are reviewed below, it is safe to conclude that mood can indeed affect cognitive performance. The importance of understanding the relationship between mood and cognition in consumer psychology is self-evident. Two general questions that are addressed in this paper are: (1) Does the nature of consumers' moods influence the type of information they remember about products? (2) How will their overall attitude toward the product be influenced by mood?

The Effects of Mood at the Time of Encoding

Studies in personality, cognitive and social psychology have analyzed the effects of mood according to whether the mood is manipulated at encoding or at retrieval. Experiments by Bower and his colleagues (Bower 1981; Bower, Gilligan and Monteiro 1981; Bower and Cohen 1982) have demonstrated the mood-congruency effect, in which the mood state at encoding has a differential effect on the type of material that is remembered best. For example, Bower, et. al. (1981) used post-hypnotic suggestion to induce either a happy or sad mood in subjects who read a brief story about two characters, one of which was happy and the other sad. The next day, when they were in a neutral mood, the sad subjects mostly recalled facts about the sad character, and the happy subjects mostly recalled information about the happy character. Srull (1983a; Experiments 2 and 3) found a mood-congruency effect on judgment. Mood was induced by a procedure of having subjects recall the details of either a happy or sad life event. They then read either a positive ad or a negative ad. It was found that desirability ratings were higher when subjects were put in a happy mood at encoding.

In addition to mood congruency effects, which focus on the compatibility between one's mood state and the nature of the to-be-learned material, there is some evidence which demonstrates a mood-valency effect. In particular, this effect occurs when learning and memory that is associated with a positive mood is better than that associated with a negative mood. For example, it is well-known that clinically depressed patients have

poor memories, but this fact alone says little about the relationship between temporary mood state and memory. Leight and Ellis (1981) induced mood at encoding by having their subjects read a series of self-referent statements, and then gave them a learning task which required active organizational processing for maximum performance. They found that the depressed mood group performed more poorly during training than did either neutral or elated subjects, and that the encoding-depressed subjects did not benefit from being put in a neutral or elated mood at transfer two days later. Leight and Ellis discuss their findings in terms of the lack of cognitive effort that is associated with depressed moods.

The Effects of Mood at the Time of Retrieval

A number of studies have explored the effects of induced mood at the time of retrieval. One notion is that of the "cognitive loop" hypothesis (Ibsen, Shalcker, Clark and Karp 1978), in which a person's mood acts as a cue for retrieving information from memory that is consistent with the mood state. Isen, et. al. induced good moods by having subjects win a computer game, and, in another experiment, by giving subjects a free gift. They found that the positive mood-induced subjects were better able to recall positive than negative information and gave better evaluations of products they owned. Teasdale and Fogarty (1979) found that the reaction time to retrieve pleasant memories was longer for depressed subjects than for happy subjects, while there was no difference between the mood conditions in the speed of retrieval of unpleasant memories.

Other studies focusing on mood at retrieval have found effects on various judgment ratings. Isen and Shalcker (1982) had subjects rate the pleasantness of slides of local scenes, and found that the better the mood the higher the rating. Bower and Cohen (1982) reported studies in which subjects in a good mood gave higher estimated probabilities of future positive events, and observed more positive behaviors of themselves and their interview partners than did subjects in a bad mood. Together, these studies support the idea that a person's mood can act as a retrieval cue which primes mood-consistent information in memory and influences the person to interpret events in a mood consistent manner.

State-Dependent Memory

If mood at retrieval supplies a cue for remembering information, and if it is assumed that mood is stored during initial learning, then it is reasonable to suppose that memory will be better for information when the moods at encoding and at retrieval match, rather than mismatch. This is the state-dependent memory effect, and there have been several studies demonstrating it. Bower, Monteiro and Gilligan (1978; Experiment 3) found it in a retroactive interference paradigm. Bartlett, Burlinson and Santrock (1982) induced mood in kindergartners and third-graders with the result of finding the state-dependent effect. Leight and Ellis (1981) found the effect in a recognition memory test and Clark, Milberg and Ross (1983) observed it in a recall paradigm.

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Conflicting Evidence and Boundary Conditions

Although considerable evidence has accumulated supporting the various mood effects described above, there have been some notable and interesting failures. In their study with children, Bartlett, et. al. (1982; Study 1) were not able to find the state-dependent effect when a relaxation technique was used prior to mood induction. Clark, et. al. (1983) found enhancement of state-dependency when subjects were highly aroused in addition to being in a particular mood, and suggested that lack of arousal may have been a reason why Bartlett, et. al. failed to find the effect. Bower, Monteiro and Gilligan (1978; Experiments 1 and 2) found no state-dependent effects in a recall paradigm with their hypnotised subjects. Eich (1980) and Bower and Cohen (1982) failed to find the effect in recognition memory studies. Taken as a whole the evidence suggests that the effectiveness of mood state as an aid to memory depends on the extent to which no other cues are available, as well as on the intensity and arousal-producing nature of the mood. All other factors being equal, mood at retrieval should be more effective in a difficult free recall situation than in a recognition memory task, because mood may be the only salient cue available in the former situation.

One previous study found results that were directly opposed to these mood retrieval effects. Srull (1983a), in his study on positive and negative information in ads, found that being in a happy mood at retrieval was associated with a tendency to have accessible in memory more negative information and a tendency to rate products less desirable, whereas being in a sad mood was associated with the opposite tendencies. These findings are difficult to reconcile with the rest of the literature. Srull attempts to explain his results by citing Watkins' (e.g., 1979) cue overload theory, which implies that a particular mood will cue a multitude of life events associated with that mood, and thereby overwhelm the target information, thus favoring the recall of information that is different from that implied by the mood.

Because the results of Srull's study are at odds with the literature concerning the effects of mood at retrieval, the present experiment was designed to further explore the issue of mood effects in the context of consumer information processing. The specific issues addressed were: (1) whether mood induced at retrieval facilitated or depressed memory for mood-congruent information, (2) whether increasing the retention interval resulted in enhancing mood effects, (3) whether recognition and recall tests gave similar patterns of results, and (4) what effects mood would have on product desirability ratings.

Method

Subjects and Design

Subjects were 44 college students recruited from the introductory psychology course. They participated in return for course credit. The subjects were randomly assigned, with the restriction that there be 11 subjects per group, to one of four conditions in a 2 x 2 factorial design. The two factors were Mood (Sad and Happy) and Retention Interval (Immediate and Delayed).

Materials

Subjects were presented with six brief objective reports, each of which described eight attributes of a product. The product brands chosen were names of actual products, but were judged to be ones with which the average college student would have little experience. The product categories were children's book-

packs, electric bug killers, electric citrus juicers, interior wall paint, gas barbecue grills, and bathroom scales. The product attributes were taken from Consumer Report articles and were integrated into the reports. Two of the reports presented two negative and six positive attributes (Favorable), two presented an equal number of negative and positive qualities (Balanced), and two presented six negative and two positive attributes (Unfavorable). Thus, across the six reports, 48 target pieces of information were presented, half of them negative and half of them positive.

There were three kinds of testing material: (1) a 20-point product desirability scale, (2) a recall test, in which the names of the six products were typed on paper as cues for written recall, and (3) a 48-item recognition memory test, which was structured so that half the items were "old" and the new items were negations of the other 24 pieces of information. There were an equal number of positive and negative attributes in both "old" and "new" categories. Subjects were required to rate their confidence in the correctness of their responses on a six-point scale.

Procedure

All subjects went through the following sequence of events. First, they were instructed to process the reports for the purpose of comprehending them. Then they listened to a tape recording of the reports while they read along, after which they reread them silently for an additional three minutes. Following that, they evaluated their mood during presentation by filling out a mood adjective checklist, and they completed the desirability ratings. The mood adjective checklist, which consisted of 21 negative mood adjectives and 11 positive mood adjectives, was a modified version of Lubin's (1965) List A. At this point, subjects in the Delay groups were dismissed and returned approximately 48 hours later, while the other subjects continued in the same session.

Mood was then induced by having subjects think of the details of either a happy or sad life event for a duration of six minutes. Subjects were reminded to continue remembering details two or three times during that interval. This mood induction procedure was intended to duplicate that of Srull (1983a). Following mood induction, the subjects were immediately read some instructions, and then given the desirability rating task (for the second time) and the recall task. This was followed by more instructions, then the recognition memory task, and finally the mood adjective checklist (for the second time) with the instructions that it should apply to the time of the memory tests. Before they were dismissed, the subjects were debriefed and the experimenter assured himself that the "sad" subjects were not inordinately depressed.

Results

Mood Manipulation Checks

The adjective checklists were scored by giving one point for every negative mood adjective checked and for every positive mood adjective not checked. Thus, the higher the score, the worse the mood. The maximum score was 32, and a score of 11 indicated a neutral mood. The checklist revealed that there were no systematic differences among the four groups before mood induction; they all seemed to be in a moderately good mood with group mean scores ranging from 8.18 to 9.27. Following mood induction, the Immediate-Happy (IH) and Delayed-Happy (DH) groups scored 6.73 and 5.27, respectively, while the Immediate-Sad (IS) and Delayed-Sad (DS) groups had scores of 15.64 and 15.55, respectively. According to this measure, the procedure was

successful in bringing about the intended error.

Memory Data

The recall task was scored on a generous, meaning-based criterion according to the number of target attributes recalled. The mean number recalled (out of 24) of the positive and negative attributes for each of the four groups is given in Table 1. Overall, immediate recall is better than delayed recall ($F(1,40) = 19.86, p < .01$), and subjects recall more negative than positive information ($F(1,40) = 15.56, p < .01$). Most importantly, a mood retrieval effect was revealed in the mood x information type interaction ($F(1,40) = 14.57, p < .01$). Here the sad subjects recalled more negative than positive information, while the happy subjects recalled about the same levels of negative and positive items. Retention interval, however, did not significantly interact with the type of information presented ($F(1,40) = 3.64$). This reflected a tendency for the mood-congruency effect to occur at both delay intervals.

TABLE 1

MEAN NUMBER OF TARGET ITEMS RECALLED

Mood	Immediate		Delayed	
	Pos	Neg	Pos	Neg
Happy	13.18	13.55	10.82	10.55
Sad	12.00	15.82	8.18	9.91

When the recall data were organized according to report type, the mean number of items recalled (out of 16) was 8.9 for the Unfavorable reports, 7.4 for the Balanced reports and 7.2 for the Favorable reports. This pattern was not affected by mood state. In other words, there was no tendency for happy subjects to recall more information from Favorable reports and for sad subjects to recall more information from Unfavorable reports.

Compared to the recall data the recognition memory data are less clear-cut. Table 2 shows the mean number of sentences correctly classified as True or False for each of the four groups. The only significant effect is that of Retention Interval, with performance being better for the Immediate groups than for the Delayed groups ($F(1,40) = 4.15, p < .05$). The tendency for the Happy groups to recognize more positive than negative information relative to the Sad groups was not reliable ($F(1,40) = 2.58$). Thus, an informal comparison of subjects' performance on the recall and recognition tasks suggests that the recall task is more sensitive to showing the mood retrieval effect than is the recognition test.

TABLE 2

MEAN NUMBER OF SENTENCES CORRECTLY RECOGNIZED

Mood	Immediate		Delayed	
	Pos	Neg	Pos	Neg
Happy	22.36	20.18	20.73	20.18
Sad	21.18	21.36	19.91	19.82

Following the data analysis reported by Srull (1983a), in an effort to obtain an indication of memory accessibility, retrieval ratios were calculated. Essentially, this measure shows the relative frequency with which an attribute is recalled, given that it is recognized with high confidence. Thus, the higher the retrieval ratio, the greater the accessibility of the information. Retrieval ratios were calculated for positive and negative attributes for each of the four groups, and are presented in Table 3. Only true recognition items which were correctly indicated with confidence ratings of 4, 5 or 6 were included. The result of interest is the interaction between information type and mood. Higher retrieval ratios are associated with congruent as opposed to incongruent mood states. For example, when averaged over retrieval interval, a sad mood state is more likely to lead to recall of negative than positive information, given that that information was already available in memory. This result parallels the finding based on the number correctly recalled data.

TABLE 3

RETRIEVAL RATIOS FOR INFORMATION CONFIDENTLY RECOGNIZED

Mood	Immediate		Delayed	
	Pos	Neg	Pos	Neg
Happy	.65	.61	.60	.49
Sad	.58	.77	.50	.48

Desirability Ratings

Subjects gave product desirability ratings twice during the experiment, once before they were mood-induced and once after. Overall, they rated the products in a manner consistent with the numbers of positive and negative attributes described. The mean ratings were 14.89 for the Favorable reports, 10.43 for the Balanced reports, and 4.55 for the Unfavorable reports. When summed across all six product reports the mean desirability ratings before mood induction ranged from 10.20 to 10.76 for the four groups, indicating that they did not give systematically different ratings at that time. However, after mood induction, the mean ratings were IH = 10.74, DH = 10.45, IS = 8.58, and DS = 8.14 ($F(1,40) = 8.50, p < .01$). This indicates that mood at retrieval did color subjects' overall evaluations of the products in the direction that is consistent with their mood. This is especially true with the saddened subjects, and this effect did not depend on the retention interval.

Discussion

The results of this experiment are generally consistent with the well-established effects of mood state on judgement and memory, and represent a demonstration that mood can be studied in a consumer behavior situation. The major finding that mood at retrieval is associated with congruent effects of recall and evaluation is consistent with Isen's et. al. (1978) cognitive loop hypothesis, which contends that a person's mood at retrieval can prime mood-congruent information in memory, thus leading to higher levels of recall and accessibility of such information, and to producing mood-congruent evaluations. People in sad moods at the time of retrieval tend to recall relatively more negative information and produce relatively lower desirability ratings than do people in happy moods.

It is interesting to note that the failure to find mood retrieval effects with recognition memory is consistent with Bower's (1981) associative network theory. He states that such mood effects should occur most clearly in situations in which there are no other available cues to use in searching for the target information. Therefore one should not expect mood effects to surface in a recognition task because the test item itself functions as a powerful cue. However, according to the same reasoning, we should have observed an intensification of the mood effect with the Delay groups because memory fades over time. Instead we found no significant effect of delay interval on any dependent measure. Thus it does not appear that mood functions as a more salient retrieval cue as the retention interval increases.

The results of the present experiment appear to be in conflict with Srull's (1983a, Experiments 3 and 4) findings of retrieval mood-incongruent effects for evaluative judgments and for accessibility as measured by retrieval ratios. The reason for the discrepancies in the results between these two studies is not obvious but probably lies somewhere in the differences in the procedural details. For example, Srull induced mood both at encoding and at retrieval, did not employ a mood verification procedure, and presented different product information. Because of these and other differences, the two studies are not directly comparable. Nonetheless the conflicting findings indicate that extreme caution is called for in arriving at general conclusions concerning the effects of mood at retrieval.

Another source of caution about interpreting the results of this study is shared by all studies involving experimentally induced mood states. It lies in the double danger of, first of all, failing to create the target mood in the subject, and, secondly, of inadvertently creating a demand artifact. The present procedure, that of having subjects recall the details of an emotionally charged event from their past, has apparently been successful in eliciting the emotional state (Srull, 1983a, 1983b, 1984). This effectiveness was verified in the present study by use of the mood adjective checklist. However, regardless of the moods actually created, the inherent demand characteristic possibility of the situation remains. Subjects realize that they are expected to achieve a certain mood state. This observation applies not only to the present procedure, but to other methods of reading self-referent statements and of hypnotism that have been used as well. (See Gardner and Vandersteel, 1984, for a methodological discussion.) Whether or not this possibility of a demand artifact actually occurs is another question whose answer depends on the complexities of the situation.

In the present study, it is doubtful that demand characteristics influenced the memory results for the following reasons: (1) There was no mood effect on recognition, whereas there was one on recall. (2) The mood-congruency effect on the recall data was observed on two fairly independent measures; number of attributes recalled and retrieval ratios. (3) The retrieval ratio itself is a very obscure measure from the subject's viewpoint. (4) Debriefing sessions with the subjects revealed that they were unaware of the purpose of the study. However, the desirability ratings, which were transparent and did not call for maximum performance, may indeed have been artifactual. Neither the procedure used here nor any of the procedures reported in the literature are guaranteed to be immune from the demand artifact. This methodological problem will continue to be a major consideration in any study which manipulates mood.

While the literature has focused on the effects of mood on judgment and memory, there is little information

which bears on the practical importance of this variable as it relates to actual consumer behavior. For example, should marketers be concerned with consumers' moods at encoding and at retrieval, and if so, how can they influence mood? There is little to indicate, in this study or in others, that mood is a crucial variable. In general, the effects, when they occur, are modest. If a consumer is in a happy mood at encoding, that is no guarantee that he or she will eventually recall positive as opposed to negative information about the product, although the literature suggests a trend in that direction. As for the consumer's mood at the time of retrieval, the effects are even more subtle, insofar as the literature presents conflicting results.

Perhaps a more fruitful way to approach mood effects is to look at the specific situations in which mood might be an important variable. For example, Srull (1983b) found that mood at encoding had congruent effects on product judgments with subjects who were not familiar with the product, but no effect with high familiarity subjects. In another study, Srull (1984) found congruent mood-at-encoding effects on judgment only when subjects were instructed to form an impression of the product as the information was being presented, as opposed to being asked for that judgment afterwards, at the time of retrieval. In focusing on mood at encoding, Srull (1984) concludes that mood state will be incorporated into the judgment only when a person's opinion is not yet formed; such as when the consumer is confronted with information about a product of which he or she knows little, and has the specific goal in mind of forming an impression while the information is being presented. The mood-congruent retrieval effects found in the present study can be understood in this framework if it is assumed that the judgment is not made until retrieval, at which point the mood not only colors the type of attribute that will be recalled but also is incorporated into the product evaluation.

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MEMORY FOR SCRIPTS IN ADVERTISEMENTS

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Abstract

Scripts are proposed as an effective method for improving consumers' memories for advertising messages. Research on scripts is reviewed and then related to potential applications for advertisements. The results of a pilot study are given. The pilot study replicated previous findings in psychology regarding memory for scripts but found no effects on measures of beliefs, attitudes, or behavioral intentions. Reasons for these findings are discussed, and suggestions for additional research are given.

INTRODUCTION

Research in human memory has been a topic of interest for psychologists throughout this century, and the literature in the field bears witness to the multitude of approaches used to study it. Advertising researchers are also very much interested in memory because it is a widely accepted belief among many advertising practitioners that memory for an advertising message is an essential element governing the effectiveness of the advertisement. This paper proposes a relatively new approach to memory research—script theory (Schank and Abelson 1977)—as a potential method for improving consumers' memories for material presented in advertisements.

The first portion of the paper consists of a description and a brief review of script theory. The second section presents the development of a series of hypotheses relating script theory to memory for advertising messages. Finally, the results of a pilot study are presented and discussed, followed by a summary outlining the areas and issues open to additional research.

SCRIPT THEORY

Background

The early research in human memory was primarily concerned with measuring and understanding individuals' memory processes through the use of verbatim recalls for lists of individual words or, in some cases, letter strings forming groups of nonsense syllables (Ebbinghaus 1885).

Much of what is currently known about human memory processes has come from research studying this facet of memory, termed "simple-event" memory by Wood (1972). Memory for connected discourse as a subject of interest to psychologists is generally credited to pioneering work by Bartlett (1932), who proposed the concept of the schema as an organizing framework for the memory of material such as stories and general knowledge. Interest in such concepts as schemas has increased considerably in recent times due to work in the development of artificial intelligence (AI) systems.

The development of artificial intelligence devices capable of comprehending narratives has long been a goal for researchers working in the AI field, and one of the major problem areas inhibiting progress has been the elliptical nature of everyday language. Typically, much of the detail associated with a communication is omitted

by the sender of the message and supplied by the receiver in the form of mental elaborations to the verbal text. Thus, few readers would have difficulty understanding this brief passage:

John came inside, shook the snow from his coat, and sat down by the fire.

While most readers would be able to infer from this one sentence that: (1) it was snowing outside, (2) it was the winter season, and (3) John was cold, most AI systems would not be able to generate these inferences. If, however, it could be shown that much of normal human knowledge regarding everyday events and activities could be reduced to a reasonable set of basic schemas or stereotypical situations, then these schemas could be programmed into the system's memory, thus facilitating its inferential capabilities.

Scripts Defined

Schank and Abelson (1977) developed script theory as one method for accomplishing this. They have extended the schema concept to include the ability to understand behaviors associated with typically encountered, routine situation/action sequences such as going to a restaurant, traveling in an airplane, going to a store, and so forth, which they call scripts. Schank and Abelson refer to a script as the memory structure an individual has for encoding each of these stereotypical activities along with any idiosyncratic variations peculiar to his or her own experiences. Abelson (1976) defines a script as ". . . a coherent sequence of events expected by the individual, involving him either as a participant or as an observer (p. 33)."

Thus, a script is a sequentially ordered schema specifying the events that can normally be expected to occur given a set of specific situational cues. Scripts are quite closely related to the concept of episodic memory (Tulving 1972), and they can be thought of as conceptual mechanisms for facilitating the encoding and retrieval of episodic memory events (Abelson 1981; 1976).

Scripts as Perceptual Aids

Scripts would appear to be ideal mechanisms for aiding individuals in the monitoring and perceiving of multiple incoming stimuli without having to devote full attentional capacity to each incoming stimulus. In his discussion of perceptual readiness, Bruner states that ". . . perception is a process of categorization in which organisms move inferentially from cues to categorical identity and that in many cases . . . the process is a silent one (1957, p. 129)."

It is reasonable for some scripts to be of such a well-learned, routine nature that an individual can engage in (or observe) much script-dictated behavior without necessarily engaging in active cognitive processing at every point in the script. This is conceptually similar to the oft-cited cocktail party situation (Cherry 1957; Kahneman 1973) in which a person attending to one conversation is able to monitor other nearby conversations for such items as the mention of his/her own name. Thus, people are hypothesized to possess scripts for routine behaviors, and furthermore, engaging in or

observing routine scripted behavior does not require extensive cognitive processing.

Memory for Scripts

In an important contribution to script research, Bower, Black and Turner (1979) empirically investigated the existence of scripts, and they concluded that people do have general agreement on the content and sequence of events for such activities as eating in a restaurant or visiting a doctor, just to name two of the several activities explored in their research. Similar results were reported by John and Whitney (1982a) for visiting a McDonald's fast food restaurant.

In addition to collecting script norms, Bower, et al. (1979) conducted several experiments investigating people's memories for scripts and for script related activities. In their first memory related experiment (1979, Experiment 3), they had subjects read nine basic scripts, and after twenty minutes of distractor tasks, the subjects' correct recall of eight specific items from the test scripts ranged from 28% to 38%. Intrusion, e.g., false recall of normal script actions which had been deliberately excluded from the test scripts, ranged from 7% to 11%.

In another script memory experiment, Bower, et al. (1979, Experiment 7) explored the effect deviations from scripts (e.g., interruptions and/or irrelevancies) have on memory for a passage describing scripted behavior. Interruptions can be further subdivided into obstacles, errors, and distractions (Bower, et al. 1979). Obstacles occur when some enabling condition for an imminent action is missing (e.g., you are in a fast food restaurant, and you can't see well enough to read the menu board); so a corrective action is taken (e.g., you ask the counterperson to tell you what they have). An error occurs when a script action leads to an unexpected or inappropriate outcome (e.g., you order a large chocolate milkshake, and you are served a medium soft drink instead). A distraction is an unexpected event or state which sets up new goals for the script perceiver, taking him or her temporarily or permanently outside of the script (e.g., instead of asking for your order, the counterperson may inform you that you have "ring-around-the-collar," necessitating that you change your original action plan and come up with an appropriate rejoinder). The other form of nonscript item is an irrelevancy, which is defined as "... something that can occur in parallel with essential actions without impeding the flow of events (Bower, et al. 1979, p. 210)."

In the experiment testing the memory for script deviations, subjects read six script-based stories, engaged in a ten minute distractor task, and then responded to a surprise recall test of the six stories, using the story title as the only recall cue. The results were as follows: interruptions were recalled at 53% correct; script actions were recalled at 38% correct; and irrelevancies were recalled at 32% correct. The interruption scores were further broken down into obstacles (60% correct), distractions (56% correct), and errors (42% correct).

It is unfortunate that examples of the stimulus scripts for this particular experiment were not given because the results as presented do not enable the reader to discern the extent of the memory for the content of the interruption. For example, if an interruption involved a conversation, it is important to know whether the memory trace only indicated that a conversation took place, or whether it also included the specific content of the conversation. The significance of this for the use of scripts in advertising is discussed below.

RELEVANCE OF SCRIPTS FOR ADVERTISING

Memory for Advertisements

An advertising message is a persuasive communication containing information about a company, product, or service, together with the benefits or reasons why the consumer should purchase the advertised product or service. While the memory for an advertising message is only one element in the overall consumer decision making process, it can nonetheless have an effect on the buying decision. For example, decision factors such as the degree to which a consumer engages in external information search, the number and identities of the brands comprising the consumer's evoked set, and the salience and valence of the product attributes are all subject to influence by advertising. Thus, a realistic set of advertising goals might include the goals of (1) increasing consumers' memories for the factors which differentiate the advertised brand from its competitors and (2) having consumers retain a favorable evaluation and purchase disposition toward the brand.

The research reviewed in the preceding section suggests that scripts may be instrumental in enabling advertisers to achieve these objectives. For example, one way to enhance consumers' memories for a message is to invoke a script and then interrupt it with the particular information that the advertiser wishes the consumer to remember.

In their discussion of script interactions, Schank and Abelson (1977) suggest that deviations from the standard script require an individual to decide whether the script has ended and a new script has begun, or whether he or she has only encountered a deviation from the standard script which can then be resumed. This requirement for a decision heightens the individual's attention level and increases his or her perceptual awareness until the issue of the appropriate script has been satisfactorily resolved. The increased attention and perceptual awareness will result in better memory for the events that occur during that time. It follows from this that advertisements containing a script interruption will produce higher recall levels for the information presented in the interruption than for the related script material.

Another question concerns the strength of the interruption and the effect it will have on recall. The preceding discussion suggests that the more intense the interruption, the more attention it will command, and hence, strong interruptions should produce stronger recall effects than moderate interruptions. Strong interruptions are represented by behaviors which obviously have no place in the script (e.g., walking into a restaurant and having the head waiter announce that people with dandruff are not permitted to eat in that establishment). Moderate interruptions take the form of conversational asides between the participants in the script.

A third issue which the current theory does not specifically address concerns whether it is more effective to invoke a script which is typically associated with the given product class and then interrupt that script with the message about the advertised brand, or to instead invoke an entirely unrelated script and then interrupt it with the message about the advertised brand. An example should clarify this point.

One way to advertise a fast food restaurant is to begin the ad with a script set in a fast food restaurant and then interrupt that (typical) script with the counter-

person singing a song about the quality of the food or some other issue of perceived importance to the fast food customer. An example of the second approach would be to begin the ad with a script not at all related to fast food, such as flying in an airplane, and then interrupt that (atypical) script with the message about the food quality, etc., at the fast food restaurant. Since script theory is mute with respect to the application of these two types of scripts, a hypothesis of no difference will be tested.

Scripts and Attitudes

A final question concerns the effect of scripts on consumers' attitudes toward the advertised brand. In script theory, Abelson approaches the issue by defining an attitude toward an object as an ". . . ensemble of scripts concerning that object (1976, p. 41)." He interprets this to mean that an individual's attitude toward an object is the result of a series of episodic scripts relating that person's experience either in actual or vicarious terms with the attitude object. When prompted for an attitudinal response, the individual recalls these episodic scripts and responds according to the positive or negative nature of the memories evoked. A series of slice-of-life commercials in a television advertising campaign would be one way that consumers' attitudes could be influenced by scripts. Each different slice-of-life commercial could represent a favorable, vicarious experience with the advertised brand. Testing this longitudinal approach is, however, beyond the scope of this brief study.

John and Whitney (1982b) have taken a slightly different approach to the role of scripts in attitude formation. They hypothesized that plausible script actions placed out of their normal sequence would tend to be remembered as having occurred twice, once where they were actually placed in the stimulus script and again in the form of an intrusion into their proper place in the normal script during recall. Based on an availability-valence interpretation, the increased frequency of these recalled actions would give them more influence in the attitude determination process, and the positive or negative valence would determine the direction of the attitude shift.

One of their tests of this hypothesis involved the script action of waiting in line at McDonald's. The standard script calls for people to wait in line to place their order. John and Whitney moved the position of this action in their test script so that it was presented as waiting in line after returning for condiments. When subjects recalled the script, they recalled waiting in line for condiments, and they inserted another waiting in line at its normal place in the script. As expected, the negative valence of the action combined with its higher frequency to produce less favorable attitudes toward McDonald's.

While the above reasoning is theoretically sound, it is unlikely that an advertiser would ever use scripts in the manner employed by John and Whitney (1982b), and they in fact make no inferences or claims regarding such usage in their presentation. However, their results suggest the hypothesis that, in conjunction with the hypothesized effect of greater memory for script interruptions, increasing the recall of a positively valued attribute by including it in a script interruption will result in an increased belief that the advertised brand possesses that attribute. This should produce a more favorable attitude toward the brand (cf. Fishbein and Azjen 1975).

Summary of Hypotheses

Stated in research form, the hypotheses for applying script theory to advertisements are as follows:

- H1: The content of interruptions to scripts describing a typical product usage situation will be recalled at a higher rate than will the standard elements of the scripts.
- H2: Recall for the content of strong script interruptions will be higher than recall for the content of moderate script interruptions.
- H3: Recall for product attributes presented in interruptions to scripts typically associated with a product will be the same as recall for product attributes given in interruptions to scripts in which the product does not typically belong.
- H4: Script interruptions featuring a positive attribute will produce favorable attitude scores for the brand.

A PILOT STUDY

Design

The basic design of the pilot study was a two (script type) by two (interruption) factorial. The goal of the test scripts was to promote a new fast food restaurant. Script type refers to the setting used in the script, which was either typical (e.g., a script about going to a fast food restaurant) or atypical (e.g., a script about attending a course lecture). The interruption was either strong or moderate and was balanced across the two script conditions. The dependent variables were the percentage of script actions and interruptions correctly recalled and responses to three belief, attitude, and behavioral intention measures.

Stimulus Materials

Because this was a pilot study, it was not deemed feasible to develop representative advertisements for each experimental condition. Rather, four written scripts were developed and presented in a story format similar to the way one might be expected to retell a slice-of-life television commercial to a friend who had not seen it. The four stimulus scripts are given in table 1.

The scripts were developed in the following manner. Using the same instructions given in Bower, et al. (1979) and John and Whitney (1982a), a convenience sample of twelve undergraduate psychology students generated scripts for visiting a fast food restaurant. A basic script was then developed using the script items that achieved 30% or greater agreement across the 12 subjects. The content of the script items and the relative frequencies of the items across subjects were remarkably similar to those reported by John and Whitney (1982a), and in the interest of conserving space, they are not reported here. A fast food restaurant was selected for the product class because it represents a product category and consumption behavior familiar to a majority of the members of the pilot study subject pool.

TABLE 1
Examples of Stimulus Scripts

Script 1-A
Fast Food Restaurant
(Strong Interruption)

Two friends were driving along at lunchtime when they decided to eat at a new fast food restaurant called WUV's Hamburgers. They parked the car and went inside. They stood in line and read the menu board. They were discussing what to order when without warning both the people in front of them and the people in back of them simultaneously interrupted the two friends' conversation and told them that all the food--even the french fries--was fresh, not frozen like in other fast food chains. They took their food into the dining room and sat down at an empty table. After they finished eating, they left the restaurant and drove back to the campus.

Script 1-B
Fast Food Restaurant
(Moderate Interruption)

Two friends were driving along at lunchtime when they decided to eat at a new fast food restaurant called WUV'S Hamburgers. They parked the car and went inside. They stood in line and read the menu board. They were discussing what to order when they overheard one of the other customers remark to her companion that all the food--even the french fries--was fresh, not frozen like in other fast food chains. Soon it was their turn, and they placed their order. When it was ready, they took their food into the dining room and sat down at an empty table. After they finished eating, they left the restaurant and drove back to the campus.

Script 2-A
Attending a Course Lecture
(Strong Interruption)

Two friends arrived at the classroom just in time for their 12:20 class. They went into the room, found two empty seats, sat down, took out their notebooks, and got ready to start taking notes. Just as the lecture was beginning, another student came in hurriedly and sat down next to them. Instead of getting out her notebook, she took out her lunch and started eating it. She told them that it came from a new fast food restaurant called WUV'S Hamburgers, and that all the food--even the french fries--was fresh, not frozen like in other fast food chains. When the lecture was finished, they gathered up their things and went to their next class.

Script 2-B
Attending a Course Lecture
(Moderate Interruption)

Two friends arrived at the classroom just in time for their 12:20 class. They went into the room, found two empty seats, sat down, took out their notebooks, and got ready to start taking notes. When the lecture was finished, they closed their notebooks and began gathering up their things. While they were in the process of doing this, they overheard one of the other students remark to her companion that she had lunch at a new fast food restaurant called WUV'S Hamburgers, and that all the food--even the french fries--was fresh, not frozen like in other fast food chains. The two friends finished gathering up their things and went to their next class.

Script 1-A represents the typical fast food restaurant script with a strong interruption containing a message about the advertised brand. Script 1-B represents the same script with a moderate interruption. Script 2-A represents a nonproduct-related script (attending a course lecture) with a strong interruption containing a message about the advertised brand, and script 2-B represents the same script with a moderate interruption. The items comprising the course lecture script were adapted directly from those collected by Bower, et al. (1979, p. 182).

Method

Subjects were 83 students in an introductory psychology course who were participating in partial fulfillment of a course requirement. The subjects were tested all at one time. They were informed that the purpose of the research was to collect script norms for future research in understanding television commercials. The experiment consisted of two phases.

In the first phase, each subject was given a booklet containing a brief description of what the experimenter meant by a script, together with the following stimulus materials: (1) one of the four experimental scripts described in table 1; (2) a "visiting a doctor" script (exactly as given in Bower, et al. 1979, p. 182); (3) a set of instructions to develop two scripts of their own (one for a typical beer commercial and one for a typical instant coffee commercial); and (4) a 25-item self-monitor scale (Snyder 1979). This last item was included primarily as a distraction task. They were instructed to work at their own pace and to use the "visiting a doctor" script as a prototype in developing their own two scripts. This first phase lasted approximately 45 minutes.

As soon as the booklets were collected, the second phase began. It consisted of a surprise recall test in which the subjects were instructed to reproduce verbatim, if possible, the first script they read at the beginning of the session. The only cue given was the title of the script, either "Fast Food Restaurant" or "Attending a Course Lecture," corresponding to the title of their test stimulus. Where they could not remember the exact words, the subjects were advised that it was permissible to supply the gist of the material.

After the recall protocols were completed, the subjects' final task was to complete a brief questionnaire consisting of a series of 7-point belief and attitude items and one 7-point behavioral intention measure. The three measures used in this analysis are (1) subjects' beliefs that the food at WUV'S is fresh (anchored by "Very Fresh" and "Very Stale"); (2) Subjects' attitudes toward WUV'S as a place to eat (anchored by "Very Good" and "Very Bad"); and (3) subjects' intentions to eat at WUV'S (anchored by "Definitely Will" and "Definitely Will Not").

Results

Although each of the scripts contained exactly 116 words, they varied somewhat in the number of propositions (basically clauses). In order to maintain consistency of measurement, the number of propositions was tabulated for each category of interest in the research (e.g., script actions and interruptions) within each script. The recall protocols were then scored for the presence of each proposition, and the raw scores were converted to percentages of each category correctly recalled within each script.

The results of a multivariate analysis of variance are reported in Table 2. The percentages of correctly recalled script actions and correctly recalled interruptions are the dependent variables, and type of script and type of interruption are the treatment variables. There were no significant differences for the main effects (largest $F = .13, P > .80$), and the interaction was also nonsignificant ($F = .30, P > .70$). The absence of a main effect for type of interruption provides no empirical support for H2, i.e., strong interruptions are not better recalled in this study than are moderate interruptions. Recall that H3 was, in effect, a null hypothesis, and the absence of a main effect for script type supports the hypothesized prediction of no difference between recall of interruptions for typical and atypical scripts.

TABLE 2

Percent of Script Actions and Interruptions Recalled According to Script Type

Variable	Script Type (Interruption)			
	Fast Food (Strong)	Fast Food (Moderate)	Lecture (Strong)	Lecture (Moderate)
Script Actions	55.1%	52.7%	55.0%	56.8%
Interruptions	69.1%	73.8%	71.5%	71.4%

Within-subject test of difference for recall of script actions vs. interruptions:

t =	2.41	3.11	3.55	2.34
df =	20	20	19	20
P (1-tail) <	.015	.003	.001	.015

The within-subject differences between recall for script actions and script interruptions were tested separately for each of the four cells using a paired t-test. For clarity of presentation, the data in Table 2 are the raw percentages of the propositions correctly recalled for the script actions and the script interruptions. Significance tests were conducted using the arc sine transformed percentages, and the results are virtually identical to those reported in the table. In each cell, the interruptions were recalled better than the normal script actions. Moreover, the pattern is repeated across each of the four cells, thus adding a degree of robustness to the support for H1.

The responses to the belief, attitude, and behavioral intention measures are given in Table 3. Three separate analyses of variance were computed (one for each dependent variable), and they revealed no significant effects (largest $F = 0.65; P > .59$). Thus, there is no empirical support for H4. The means for each condition (adjusted for differences in cell size) are presented in the table to provide the reader with an indication of the directionality, which differs for each of the three variables examined.

TABLE 3

Mean Scores for Belief, Attitude, and Behavioral Intention Measures

Variable	Script Type (Interruption)			
	Fast Food (Strong)	Fast Food (Moderate)	Lecture (Strong)	Lecture (Moderate)
Belief in WUV'S freshness	6.48	6.57	6.40	6.76
Attitude toward WUV'S	6.10	5.76	5.70	5.86
Intention to eat at WUV'S	5.24	5.57	5.05	5.19

Scale: 1 = lowest; 7 = highest

DISCUSSION

The major finding in this pilot study was that script interruptions are recalled better than standard script actions. This replicates the earlier results of Bower, et al. (1979). However, since the protocols in the present study were coded for content, these results also indicate that the content of the interruptions is better remembered than the standard script actions. This suggests that advertisers can improve consumers' memories for key points in advertisements by inserting them as interruptions in typical scripts.

The lack of a difference between the moderate and the strong interruptions should be treated with extreme caution because the pilot study involved the reading of written scripts and used subjects with high verbal skills. "Real" consumers may process real advertisements differently than these subjects processed the experimental scripts. Additionally, in the absence of a manipulation check, these findings may be due to the lack of a true difference in "strength" for the two categories of interruptions as operationalized in this pilot study.

The finding of no memory difference between typical and atypical scripts should meet with agreement among advertising practitioners because this reflects the current state of many advertising campaigns. Some commercials are based on typical scripts (e.g., McDonald's), and others are based on atypical scripts (e.g., Wisk). These findings suggest that memorability should be comparable for both types.

The lack of significant findings for the belief, attitude, and behavioral intention measures is most likely due to the informal design of the pilot study and to the inadequacy of the measures themselves and should not be given much weight. For example, the study did not take premeasures on these variables, nor did it include a control group. Also, there was no effort made to balance the attitude manipulation with negatively directed stimuli. Rather, these findings point to the need for additional research to identify the relationship between the memory for key points in advertisements and the corresponding effect, if any, on attitudes toward the advertised brand.

One approach for doing this would be to content analyze existing advertisements for script related elements such as standard script actions and interruptions. These could then be used as "treatment" or predictor variables, with recall and attitude change measures as the criterion variables. Similar research investigating other forms of distraction, e.g., obstacles and errors, also represents an opportunity for increasing our understanding of the role of scripts in the marketing communications process.

CONCLUSION

Research was reviewed which suggested that script theory might be a worthwhile approach to examining advertising effectiveness. The results of the pilot study suggest that the memorability of key points in an advertisement can be enhanced by presenting the points as interruptions to scripts. The absence of positive results for the attitude and behavioral intention measures indicates the need for further research on this aspect of scripts, but the script concept still offers much potential for researchers seeking to understand and improve the effectiveness of marketing communications.

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THE EFFECTS OF PART-LIST CUING ON ATTRIBUTE RECALL:
PROBLEM FRAMING AT THE POINT OF RETRIEVAL

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Abstract

Previous research has demonstrated that advertising may frame a decision at the time of product learning by forcing the consumer to focus on particular product attributes to the exclusion of others. The present research demonstrates that problem framing may also occur at the time of retrieval. In two experiments it was shown that information provided at the time of retrieval can inhibit recall, and therefore consideration, of well-known attributes of a familiar product.

Introduction

It is widely known that an advertiser's goal may range from the prosaic (e.g., creating brand familiarity) to the ambitious (e.g., altering behavior). If, as some have suggested, a primary goal is to influence a consumer's attitudinal structure, then a variety of strategies are available for attaining it (Boyd, Ray, and Strong 1972). One common strategy is to change the beliefs consumers hold about a product's and/or its competitors' attributes. A second strategy is to add attributes to the product and then convince consumers that these new attributes should be considered during the decision process. Finally, an advertiser may attempt to change the salience of particular attributes, and thereby effectively change the importance weights consumers assign to them. These latter two strategies are examples of what has become known as problem framing.

It has long been believed that although advertising may fall short of outright persuasion, it may subtly alter perception of a product by increasing the salience of particular attributes (Krugman 1965). Wright and Rip (1980) have noted, however, that advertisers may be subtle or overt in the methods they use to alter the attributes consumers consider and/or the weights they assign to them. For example, by frequently and consistently describing attributes of a product class in a particular manner, advertisers may lead consumers to consider primarily those attributes during evaluation. On the other hand, an advertiser may overtly tell the consumer to "frame it my way" by explicitly stating that certain attributes are more important than others. Evidence exists to show that attribute recall and brand attitude can each be influenced by the amount of emphasis placed on a product's attributes (Gardner 1983; Wright and Rip 1980).

Not surprisingly, the research on problem framing has focused directly on the influence that the message has on the attributes that are described or emphasized. Consequently, when framing effects are found, one explanation advanced to account for them is that emphasized attributes receive more attention, thereby making them more salient (important) and/or more memorable to the decision maker. The important point is that problem framing, as previously studied, affects the amount of attention the consumer pays to certain attributes during the encoding, or learning, of product information.

A complementary way of looking at problem framing is to focus on processes that occur during retrieval. That is, a decision may be framed after all relevant information has been learned. If so, framing can occur independently of attentional factors operating during encoding.

One way in which a problem may be framed during retrieval is through the use of part-list cuing (cf. Lynch and Srull 1982). Research has amply demonstrated that cues presented at time of retrieval may enhance recall, especially if they provide access to categories of information not previously recalled (Tulving and Pearlstone 1966; Tulving and Postol 1971). However, if the set of to-be-remembered items is relatively homogenous (i.e., do not come from different categories), a subset of those items presented as cues may actually inhibit recall of the remaining items (Roediger 1974). Although this phenomenon has been studied almost exclusively within psychology using very neutral stimuli, the implications for consumer behavior are obvious. For example, if a product possesses several attributes, presentation of a subset of them at the point of attitude formation may inhibit recall, and therefore consideration, of the remaining attributes. This situation arises quite frequently in the case of advertising. An advertisement typically contains information only about attributes that reflect favorably on the brand. Similarly, packages and displays emphasize only favorable information. Although this serves to increase the salience of favorable attributes, it may also inadvertently inhibit recall of the brand's unattractive attributes. In so doing, it frames the problem.

Note that this method of problem framing represents a subtle shift in perspective. Part-list cuing works not by directly persuading the consumer to place higher weights on the attributes emphasized at the time of learning, but by actively inhibiting consideration of familiar attributes not cued at the time of recall (cf. Gardner 1983).

The most popular explanation of part-list cuing inhibition is provided by Rundus (1973). The aspects of his model that are important for present purposes can be described briefly. First, it is assumed that recall of a category of information is guided by a superordinate cue, usually the category name. Search proceeds from the category name to the individual category items connected to it. For example, the product name "automobile" could be used as a cue to retrieve all attributes associated with the product. It is further assumed that retrieval of items from memory is characterized by sampling with replacement. Thus, once an item (attribute) from a category is recalled, it may be sampled again during subsequent retrieval attempts. Consequently, the more items from the pool that are recalled, the lower is the probability that a recall attempt will produce a previously unrecalled item. As recall proceeds, production of new items becomes more difficult. In the case of part-list cuing, the cues provided at the time of retrieval are analogous to items previously recalled in a free recall situation. Statistically, it becomes more difficult to sample a noncued item as

more cues are provided. Combined with the fact that cuing also makes the cued items more salient and therefore more likely to be sampled, cuing may inhibit recall of noncued items.

One additional and critical aspect of this model is called the cessation rule. It states that attempts to recall new items may cease once a criterion number of consecutive samples produces no new items. It follows that the speed with which the criterion is reached varies directly with the number of cues provided. Thus, as an advertisement describes a larger proportion of a product's attributes, the longer it may take a consumer to recall an unmentioned one and the sooner s/he will stop trying.

The purpose of this research is to determine the degree to which the principle of part-list cuing applies to attribute recall. Attribute information differs from other categorical information in that recall could be guided by the prototype object of which the attributes are a part. For example, instead of sampling memory for automobile attributes in an unstructured, unplanned way, a consumer might image a prototypical car and use it as a very effective recall cue. This strategy could conceivably eliminate the effects of part-list cuing since recall would not involve a simple sampling-with-replacement process. In both experiments reported here, an automobile is used as the stimulus object because consumers are likely to possess prototypes and/or exemplars of it in memory, and because automobiles possess numerous, describable attributes.

Experiment 1

Three factors were manipulated in the first experiment: number of cues provided at recall, sex, and cue organization. The rationale for the first factor was described above, that is, recall should become more difficult as the number of retrieval cues is increased. In this experiment, the number of cues provided was either 0, 5, or 15. Sex was included as a factor because it was thought that this product class was one with which males and females might be differentially familiar. The part-list cuing effect should be most robust for subjects whose attribute knowledge is relatively unstructured in memory. For subjects who are more knowledgeable, and therefore possess well-organized, categorical memory structures, cues may actually enhance recall if the cues help the consumer access unrecalled categories of information (cf. Tulving and Psotka 1971).

Finally, since part-list cuing seems most effective when the cues and the target recall items are from the same category or subcategory, a third factor was added: across- versus within-category cuing. The stimuli in this experiment described several automobile dimensions (e.g., comfort, performance, safety). The part-list cues presented at recall were sampled from all of the dimensions (across-category) or from only a subset of them (within-category). It was predicted that inhibition would be significant in the across-category condition since no category would be immune from the effect. Less inhibition was expected in the within-category condition since cues from one category should not inhibit recall from other categories, especially when only a small number of categories are present.

Method

Materials. A list of 30 automobile attributes was compiled. The only criteria used were that the attribute descriptions be short enough to fit on

slides and that they each be closely associated with a particular higher-order dimension. The target items consisted of 5 attributes relating to each of the following dimensions: safety, comfort, performance, appearance, and economy. The sixth dimension, construction quality, was used to provide buffer items at the beginning and end of the critical list in order to control for primacy and recency effects, and was not counted in the scoring of the data.

At the time of recall each subject was provided with a sheet of paper containing, 0, 5, or 15 list cues. The cues were all of the items contained in 1 or 3 of the categories (within-category condition) or were 1 or 3 items sampled from each of the categories (across-category condition). To control for the differential saliences of the cues, a total of 20 lists were constructed by creating 5 versions for each of the list type (across vs. within) X cue number (5 or 15) conditions. In the 5-within condition, all 5 items from a single category served as the cues. Each of the 5 versions consisted of a different category. In the 5-across condition, one cue was selected from each of the categories. Across the 5 versions, each cue was unique. That is, each category contributed a different item to each list version. In the 15-within condition, 3 categories were randomly sampled from the set of 5, 5 different times. Finally, in the 15-across condition, 3 cues were randomly sampled from each of the categories, 5 different times. In the two latter conditions, the orders in which the categories appeared on the lists were also randomized.

Procedure. Subjects were run in small groups. With the exception of the construction quality dimension, the slides were presented in a blocked fashion, i.e., all items from the same subcategory appeared consecutively. This was done in order to maximize the salience of the categorical nature of the attribute list. The order in which the categories were presented was randomized for each group of subjects. The attributes were projected onto a blank screen at a 3-second rate. Following presentation, subjects were asked to solve a difficult but unrelated problem for one minute. This was done in order to eliminate further the possibility of a recency effect. Afterwards, subjects were presented with 0, 5, or 15 of the stimulus attributes and were asked to recall the remaining ones. Six minutes were allowed for recall.

Subjects. All subjects in this and in the following experiment were volunteer undergraduate students enrolled in marketing courses. In the present experiment a total of 180 subjects participated, with an equal number serving in each of the 3 (cue number) X 2 (sex) X 2 (cue category) cells.

Results and Discussion

Since the provision of list cues reduces the set of remaining items that can be recalled, the dependent variable was the proportion of noncued, non-buffer items recalled by each subject. If the part-list cuing effect occurs, then the proportion of noncued items recalled should vary inversely with the number of cues provided.

The means are presented in Table 1. The data were analyzed using planned contrasts. The results revealed a significant effect of sex ($F=4.60, p<.05$). Neither the main effect of cue type ($F=1.67, p>.10$) nor any of the interactions approached significance (all p 's $>.15$). As for the variable of primary interest, a significant linear effect of cue number was obtained ($F=7.64, p<.01$), and it was in the

predicted direction. That is, recall became more difficult as the number of cues increased.

TABLE 1

	MALE			FEMALE		
	0	5	15	0	5	15
ACROSS	0.56	0.43	0.37	0.40	0.42	0.37
WITHIN	0.52	0.44	0.49	0.46	0.49	0.40

The main conclusion to be drawn is that attribute recall can be inhibited through cuing. The failure to find an effect of cue category or a cue X sex interaction could be attributable to a lack of category definition, that is, the cues may not have been perceived as categorical as intended. In an extreme case, a subject would not perceive any category boundaries and would instead process the stimulus information as a set of unrelated items. If so, no effect of cue category would be expected. Although nonsignificant, the results were in the predicted direction. A smaller proportion of items was recalled in the across- than in the within-category condition -- .43 versus .46, respectively. A lack of category definition may have attenuated this effect.

The main effect of sex suggests greater familiarity with the stimuli on the part of males. Since sex did not interact with cue number, however, either the difference in familiarity did not reflect a difference in cognitive structure, or the stimuli used were not precise enough to show one. An analysis of the data showed that males and females recalled a nearly identical number of experimenter-defined categories -- 4.63 vs. 4.57, respectively. Thus, if subjects perceived the category boundaries to the degree intended, they did so equally across sexes.

Experiment 2

The first experiment demonstrated the general phenomenon of part-list cuing inhibition in terms of overall recall as a function of cue size. In the second experiment, a paradigm that more closely resembles an advertising situation was studied. That is, the effects of cuing on the recall of a single specific attribute was investigated.

Method

Materials. Twenty automobile attributes served as the stimulus set. Of these, four were the object of investigation; they were: (a) 6-cylinder engine, (b) leather dashboard, (c) smooth ride, and (d) low maintenance cost. The four were chosen based on their free recall rate (no-cue condition) in the previous experiment. The first two were among the most frequently recalled; the latter two were recalled infrequently. Note that the frequently recalled items are concrete, physical attributes whereas the other two are not.

Procedure. Subjects were run in small groups. As in the first experiment, the attributes were projected onto a blank screen at a 3-second rate. The order of the attributes was random with the exception that the four critical items appeared in the middle of the list, again in order to control for primacy and recency effects. Also, the attribute presentation was again followed by a one-minute distractor task.

Immediately following the distractor task, the recall test was presented. Subjects in the no-cue (free recall) condition were asked to recall as many of the stimulus attributes as possible. Subjects in the cued condition were presented with a sheet containing 19 of the attributes and were asked to recall the missing one. The missing item was always one of the four described previously. All subjects were given 3½ minutes to complete the task.

Each of the four cue conditions was matched against its own control. For each condition, 12 subjects were cued and 12 were not. Hence, a total of 96 subjects participated.

Results

The number of subjects out of 12 that recalled the critical attribute in each of the four conditions, along with the corresponding χ^2 and significance-level values are presented in Table 2. In each case, the critical item was recalled more frequently in the noncued than in the cued condition. In three out of four cases, the difference was significant.

TABLE 2

Critical Attribute	Cued	Control	χ^2	sig. level
6-cylinder engine	6	11	5.04	<.025
leather dashboard	3	11	13.66	<.005
smooth ride	2	3	.25	n.s.
low maintenance cost	3	8	4.19	<.05

In the one case that failed to reach significance, "smooth ride," it is apparent that there is a floor effect; only 3 subjects in the control condition were able to recall the item. Consequently, it is not meaningful to make an overall comparison of the concrete and abstract attribute conditions. Nonetheless, it is safe to conclude that cuing at the time of recall or attitude formation may inhibit recall of a specific attribute, and that the effect is not limited to physical attributes.

General Discussion

Previous studies have demonstrated that a problem may be framed by the manner in which attribute information is presented in advertisements. In those studies, problem framing was accomplished by focusing consumers' attention on specific attributes at the time of initial learning. This was made possible by using subjects that were novices with respect to the product class (Wright and Rip 1980) or by using attributes with which the decision makers were unfamiliar (Gardner 1983). The present research has shown that a problem also may be framed at the time of recall, independently of attentional factors, and with products and attributes that are highly familiar. Further, these studies also demonstrate that low involvement is not a necessary condition for problem framing to occur through advertising (cf. Krugman 1965). Even under high involvement, consideration of particular attributes may be inhibited. The result is an incomplete evaluation of a product and a relative increase in the importance assigned to attributes that are retrieved -- effects that previous studies have demonstrated by manipulating learning and attention.

This is not to say that involvement plays no role in the part-list cuing paradigm. It was noted previously that according to the cessation rule of the Rundus

Model, sampling from memory may cease once a criterion number of samples produces no new information. It may be the case that the value at which the criterion is set is influenced by the consumer's involvement in the decision. That is, the criterion value may vary directly with involvement level. Under low involvement, consumers may cease trying to recall new information after a relatively few unsuccessful recall attempts. A highly involved consumer may remain undeterred until an exhaustive search has been attempted.

It was also noted at the outset that part-list cuing is a case of a more general recall phenomenon in which retrieval becomes more difficult as more items are recalled. This general phenomenon is known as output interference (Roediger 1974). In most cases of attribute recall, this phenomenon should not pose a serious problem since consumers should first recall the attributes they consider to be most important. Since the attributes that would experience the greatest amount of interference would be recalled last, the decision process may not be adversely affected to any great extent. Nonetheless, the decision may not be a totally informed one. Consider, for example, the use of decision plan nets (Park 1982). If a consumer is asked to free recall all dimensions of importance in their order of importance, those that are least important may not be retrieved. At the margin, this could affect predictions about the decision the consumer will make. Similarly, if the consumer is provided with a list of important dimensions and told to add any others s/he would consider, then the typical part-list cuing paradigm obtains. Therefore, regardless of methodology, some dimensions may not be considered due to recall inhibition.

It should be noted that the part-list cuing or output interference effects may also apply to attribute alternatives as well as attribute dimensions. That is, if a particular dimension such as style has many possible alternatives, recall of a particular alternative may be inhibited through the mechanisms discussed above.

Finally, Gardner (1983) has correctly argued that the use of problem-framing strategies by advertisers has policy implications. Regardless of the locus of the effect (i.e., at encoding or retrieval), problem framing may result in suboptimal decision-making. It would seem that intentional use of such strategies to distort the decision process could be remedied by a policy of full disclosure.

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MEMORY ACCESSIBILITY AND TASK INVOLVEMENT AS FACTORS IN CHOICE

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Abstract

This paper extends the current body of research on the importance of memory in consumer choice tasks. Subjects' ability to use prior information and their willingness to do so were manipulated by varying the accessibility of memory information and task involvement, respectively. Accessibility had a consistent impact on measures of memory use and choice outcomes. Involvement interacted with accessibility to affect memory use and time taken to make a choice but not choice outcomes. These findings were interpreted as reflecting subjects' differential attention to retrieval and choice processing caused by varying involvement.

Introduction

Recent studies have shown the importance of memory phenomena in consumer decision making (Bettman and Park 1980a, Johnson and Russo 1984, Biehal and Chakravarti 1982). One common aspect of this work has been assessing the impact of different memory representations on consumers' ability to retrieve and process product information in a choice-related task. For example, the levels of processing notion (Craik and Lockhart 1972) suggests that information processed to a greater depth, perhaps in a more elaborated manner, will be more easily retrieved. Hence it should be more likely to figure in subsequent choice processing. However, actual use of memory information in decision making is likely to be a function not only of a consumer's ability to retrieve and use it but also of the consumer's willingness or motivation to use it. Thus both ability and motivation-related factors should affect a consumer's use of memory information in choice tasks.

This paper presents the results of a preliminary investigation of this issue. The "ability" aspect it examined was degree of accessibility of memory information (Tulving and Pearlstone 1966, Tulving and Psotka 1972, Biehal and Chakravarti 1983). Memory information may differ in accessibility due to the way it was initially encoded. As a result, less accessible information should be harder to retrieve from memory to employ in a consumer choice task. However, a consumer's attempts to overcome memory retrieval difficulties may vary according to his/her motivation to perform the task. Even information which is relatively difficult to retrieve might be accessed during choice if the consumer is sufficiently motivated. The motivation-related factor used in this study, consumer task involvement, provided a useful theoretical foundation in this context. In summary, the purpose of the study was to examine the impact of memory accessibility (two levels) and consumer task involvement (two levels) on consumer choice processing.

Conceptual Background

Most memory models postulate that concepts, represented as nodes, are joined by associational links into a network (Collins and Loftus 1975). Learning or encoding information involves establishing links between the material to be learned and the existing conceptual network in memory. Retrieval of information from memory requires determination of an "entry point", or retrieval cue, into the network. The retrieval cue used to enter the network may be generated internally by the consumer or taken from the external environment. To the extent that retrieval cues have been previously encoded with

the to-be-remembered information, memory retrieval should be facilitated. Otherwise, information stored in memory may be less accessible (Tulving and Thomson 1973). Thus information availability in memory is a necessary but not a sufficient condition for its successful retrieval and subsequent use (Tulving and Pearlstone 1966).

Differences in memory accessibility may be caused by the way information was originally learned. A variety of learning tasks may be performed in a consumer context. One possibility is directed learning, i.e., learning product information is the primary focus of processing (Bettman 1979). Information so acquired may be subsequently recalled and combined with external information to make a choice. Such information should be highly accessible: a large number of potential retrieval cues strongly linked with existing memory structures may be created. Consequently the likelihood that some cues are available at retrieval is enhanced. Other consumer tasks may not have learning as their primary focus. Instead information may be acquired incidentally (Eagle and Leiter 1964). For example, consumers may classify brands based on a comparison of their performance to a known reference level, perhaps their most preferred brand. During classification several processes may occur. e.g., forming overall evaluations or making pairwise comparisons. While the end result is a brand classification, a by-product may be the retention and availability in memory of product information. However, two differences from directed learning are likely to exist. First, incidentally generated links are likely to be weaker. Second, there may be fewer retrieval cues encoded with the information used in classification. Thus information encoded incidentally is less accessible than information encoded by directed learning.

In a subsequent choice task that requires combining memory and external information on a set of brands lower accessibility may result in less memory information being retrieved and an associated reduction in the time spent making a choice (latency). Choice outcomes could also be affected: they would be based to a greater extent on the external information when memory accessibility is low, whereas when accessibility is high choice should be based on both memory and external information. Depending on the brand-attribute values of information from the two sources, choice outcomes may differ.

What is the impact of differences in task involvement on these processes? It is widely accepted that higher involvement is positively associated with increased cognitive processing. For example, involvement's impact on connections (Krugman 1966) and cognitive responses (Petty, Ostrum and Brock 1981) has been established. Both processes relate directly to the accessibility discussion because they are founded on the accessibility of existing associations available in memory. Thus it seems likely that higher involvement would be associated with more attempts to retrieve memory information (Mitchell 1981). Because more information will be used, making a choice

1. Defined as the number of occasions the message recipient relates the message content to his/her own personal experiences. In this study the definition was extended to include relating stimulus information to the needs of a "friend" (see Involvement Manipulation).

should take longer. However, the extent to which higher involvement enhances choice processing is likely to depend on the accessibility of memory information. When accessibility is high memory information should be retrieved with little effort and differences in involvement should not cause significant choice processing differences. However, when accessibility is lower more effort will be needed to retrieve memory information. In this case differences in involvement are likely to have an impact, with higher involvement leading to increased retrieval and choice processing. Thus in a low accessibility situation highly involved consumers should make significantly more attempts to retrieve and use memory information during choice: their choices should be based on both memory and external information. In contrast, low involved consumers will be less inclined to use low accessible memory information: their choices should be based on external information to a greater degree. Thus choice outcomes should depend on the interaction between memory accessibility and task involvement.

This discussion is summarized in the following hypotheses:

- H1: The use of memory information (a) increases with memory accessibility; (b) increases with higher task involvement only when memory accessibility is low.
- H2: Choice outcomes are determined by the interaction of memory accessibility and task involvement.
- H3: The time taken to make a choice (latency) (a) increases when memory accessibility is higher (2) increases with higher task involvement only when accessibility is low.

Method

Overview

Subjects were given information on five brands described on three attributes. Some subjects learned the information (high memory accessibility), while others performed a structured brand classification task (low accessibility). Both groups were then given information on four new attributes for the same five brands. Using experimenter specified attribute importance weights, they chose the best brand based on all the information they had encountered. Some subjects were asked to imagine they were choosing a brand for a valued friend. They were also told they would receive feedback on their choice "quality" (high involvement condition). Other subjects were just told to use the importance weights as a guide (low involvement).

Stimulus Design

The stimulus information is shown in Figure 1. Thirty-

FIGURE 1

STIMULUS USED IN CHOICE TASK

Attribute	Importance ^a Weight	Brand				
		A	B	C	D	E
Durability ^b	10	25	45	25	40	30
Convenience	9	Moderate	Moderate	Moderate	Extremely	Moderately Inconvenient
Additional lenses available (#)	8	20	5	50	40	15
Picture clarity	10	Fair	Excellent	Fair	Excellent	Poor
Weight (oz.)	2	45	24	32	28	40
Exposure Control	3	Manual	Manual	Automatic	Manual	Automatic
Amount of Accessories ^c	2	Extensive	Above Average	Below Average	Average	Above Average

- a. 10 = important, 0 = not important.
 b. Defined as average time (in months) between repairs.
 c. Four levels: extensive, above average, average, below average.

five millimeter cameras were chosen as the product of interest for two reasons. First, the product needed to be sufficiently complex to warrant a fairly extensive information processing task. Second, a pretest indicated that students were reasonably familiar with the product category and had some knowledge of the attributes relevant to choosing a 35mm camera.

The attributes and their values came from two sources: (1) the 1980 Consumer Reports Buyers' Guide article on 35mm cameras, and (2) a free elicitation which asked students what characteristics they would consider if they were purchasing a 35mm camera. The seven attributes selected included four Consumer Reports attributes listed with high frequency in the free elicitation (exposure control, weight, picture clarity and convenience rating) and three attributes not mentioned in Consumer Reports but which the students listed with high frequency (number of additional lenses, durability and the amount of accessory equipment). Brands were labelled A through E to avoid confusion with actual products. The meaning of the attributes and possible values on each attribute were carefully described to subjects during the experimental procedure.

For the study the stimulus matrix was divided into two parts. The first part ("prior information", contained in the dotted lines of Figure 1) contained five brands described on three attributes. Prior information was used to create memory representations that differed in accessibility. The second part ("new information") used the same five brands described on four additional attributes, and a list of importance weights for each of the seven attributes.

Brand attribute values and importance weights were set to maximize the likelihood that the processing phenomena hypothesized to exist would affect choice outcomes. Thus if only new information was used to make a choice, brand B would be the likely choice: it equalled brand D on two attributes and performed better on the remaining two. For prior information the attribute weights and brand-attribute values were set so that: (1) the three attributes all rated high in importance, thus prompting subjects to use them; (2) the attribute importance weights defined a hierarchy, with durability first (score 10), followed by convenience (9) and number of extra lenses (8); and (3) the further the subject processed "down the hierarchy", the greater the likelihood that brand D (defined as the target brand) would be chosen instead of brand B.

Memory Accessibility Manipulation

High accessibility subjects were given the prior information matrix and learned it in anticipation of a recall test (directed learning). To discourage evaluative processing during learning (1) subjects were not given the attribute importance weights, and (2) brand-attribute values were assigned so that no clearly superior brand existed.

In contrast low accessibility subjects performed a classification task using the prior information. Along with attribute values on the five alternative brands, each was given a "prototype brand" which was rated on the same three attributes as the alternatives. The task required subjects to compare each brand in the matrix with the prototype brand and to classify it into one of three groups depending on the number of values it received which were "greater than" the prototype's values. This task was constructed with four considerations in mind. First, the classification rules were such that they required the subject to examine every brand-attribute value in the matrix to perform the task correctly. Thus any difference in the subsequent use of prior information could not be attributed to non-

exposure to the information. Second, the groups were labelled 1,2, and 3 to minimize any connotation that one group was superior to another and to eliminate premature evaluations and retrieval cues which might have resulted from groups labelled "satisfactory" and "unsatisfactory". Third, based on a pre-test it was determined that by repeating the classification task (with different prototypes but the same stimulus matrix), the percentage of recall of information for low accessibility groups would be (1) markedly less than for high accessible groups but (2) at a level above zero recall such that meaningful use of prior information could be expected. Two classifications were judged sufficient to achieve this discrimination.² Finally, to lessen the chance that these classifications yielded overall evaluations that could be used as retrieval cues in the subsequent choice task, the prototypes were defined so that brands were assigned to different groups in the two classifications.

Task Involvement Manipulation

The involvement manipulation occurred just prior to the brand choice task. It was designed to increase the degree to which subjects made connections during choice. High involvement subjects were told to think of a good friend or very important person in their lives and to choose a 35mm camera for that person. They were instructed to imagine that this person had provided them with the importance weights on all seven attributes, so that they would be able to choose a best brand based on their friend's importance weights or preferences.

Subjects were asked not to consider their own personal importance weights or preferences, but to try to choose the best brand for their "friends". Also, they were informed that after they had arrived at a decision, they would receive feedback on their "choice quality", i.e., whether they had actually chosen the brand which best fit their friend's preferences. Low involvement subjects were given neither of these instructions. They were simply told to make a brand choice based on the given importance weights. No mention of feedback was made.

These procedures were followed for two reasons. First, the suggestions of a best friend or important person was intended to help subjects visualize the choice task in terms of personal importance or connections (Leavitt et al. 1981). It was hoped that this would personally involve or interest the subject more so than (1) a choice with no recipient in mind, and (2) importance weights which were given no additional justification or relevance beyond their function as a decision "guide." Second, the feedback manipulation was added after a pre-test found greater involvement for subjects who knew that they would be getting immediate feedback about the "quality" of their decision compared to those who did not.

Experimental Procedure

At each stage of the experimental procedure subjects were given written instructions, and any questions or problems were handled immediately by the experimenter.

Subjects first read and signed an informed consent form. Then they were given a warm-up for the concurrent verbal protocol procedure required during choice. To do this subjects talked into a taperecorder about the last time they made a housing choice. When subjects appeared comfortable verbalizing, they were given a sheet of

2. In pretests the average percent recall accuracy after two classifications was 36.6%, compared to 87.5% for directed learning.

paper introducing them to the product category used in the study. This sheet described the three attributes contained in the prior information, together with possible brand values on each attribute.

After reading this material, the encoding manipulation followed. High accessibility subjects were given the prior information and asked to learn it, whereas low accessibility subjects performed the classification task. There was no time limit for either encoding task. After completing the encoding all materials were removed.

Subjects then received additional material that described the four new attributes and possible values. After reading this information subjects were given a sheet containing the full matrix (Figure 1), except that prior information values were missing. They were then asked to use all the information they had encountered, together with the importance weights, to choose a best brand. At this point they were given the involvement manipulation. Then they were instructed "to describe out loud your thoughts and reactions, much like you did before with the housing decision."

After making their choice, subjects completed a recall task. The questionnaire asked them to recall all five brand scores on the seven attributes. A five minute time limit was set for this task. The recall test was followed by a true-false recognition test. For the 35 brand attribute values, 17 were true and the remainder false. All subjects received the same recognition task, which was scored for the percentage of correct responses. Finally, subjects completed a debriefing questionnaire. On average, the experimental procedure took about 40 minutes to complete.

Measures

The concurrent verbal protocols were first transcribed, then phrases were coded³ for two types of processing: (1) connections, and (2) use of prior (memory) information. To measure connections three codes were defined, based on Krugman's (1966) original guidelines: (1) attempts to visualize how stimulus information related to a third party's⁴ or the subject's lifestyle, attitudes, occupation or other personal characteristics; (2) attempts to visualize ownership, use, acquisition or knowledge of the products by a third party or the subject; (3) statements that identified a specific third party and/or a situation for product use. Each subject's three scores were then summed into a measure of total connections, which was used as a manipulation check.

To measure memory use two measures were developed. The first contained four codes, taken from Bettman and Park's (1980b) coding scheme, that measured the extent to which each of the three memory attributes were used during choice: (1) statements of original brand-attributes values for a single brand, e.g., "Brand C had 50 additional lenses", (2) "recoded" statements of original brand-attribute values for a single brand, e.g., "Brand C had a lot of lenses", (3) general statements about how selected brands performed on an attribute, e.g., "Brands C and D were best in additional lenses", and (4) statements about the range of values on an attribute across

3. Coding was done by only one of the authors (GB). Studies using more complex tasks and protocol coding schemes (e.g., Bettman and Park 1980a, Biehal and Chakravarti 1982) report intercoder reliability scores of 78-90%.

4. High involvement subjects made a choice for a "friend". Low involvement subjects were given no context.

the set of brands, e.g., "The additional lenses ranged from 5 to 50." Subjects' counts on the four codes were summed for each of the three memory attributes. In addition a count was made of the number of brands out of the five available for which some memory information was used to make a choice, and the number of memory attributes that were retrieved and used.

The second memory use measure was a more general categorization of retrieval behavior in choice. After coding for memory use, the protocols were re-examined for one of the following types of behavior: (1) subject tried and succeeded in retrieving information on a specific attribute; (2) subject tried but did not succeed in retrieving prior information on a specific attribute; (3) subject tried but did not succeed in retrieving prior information in general⁵; (4) subject made no attempt based on the protocol to retrieve prior information or there was no mention of memory information. Responses were scored as 0-1 dummy variables for all eight items.⁶

Subjects

The 48 subjects were students in the first author's upper elective marketing course, given at a major southwestern university. Students received class participation points for their help. Pretests of experimental materials were made using student volunteers in other marketing sections, none of whom provided the primary study data. Subjects were randomly assigned to the four experimental groups, with 12 subjects per group. Most of the subjects were women (52.1%), and their mean age was 23 years.

Results

Task Perceptions

Several debriefing items were used to measure subjects' perceptions of the experimental procedures and task. All subjects considered both the five camera "brands" and the choice task to be quite realistic. Consistent with experimental procedures, all subjects reported they based their choices on importance weights provided to them: their own personal preferences for the attributes did not affect their final choices to a great extent. Finally, all subjects considered that the attributes used to define the hypothetical brands were clearly presented and consequently understood. These perceptual data were thus consistent with the methodological needs of the study.

Manipulation Checks

The effectiveness of the accessibility manipulation was assessed by (1) self report data and (2) subjects' performance on the recall and recognition tasks. High accessibility subjects scored significantly higher in response to a question about how much use was made of prior information ($F(1,44)=42.60, p<.0001$). They also reported that prior information was easier to use when making a choice ($F(1,44)=36.18, p<.0001$) and that it helped them select their best brand to a greater degree ($F(1,44)=75.44, p<.0001$). Finally subjects were asked to indicate if their final choice depended more on prior, new or a combination of the two information sources. For the high accessibility group 62.5% said it depended more on prior information and 29.2% on both sources. Low accessible subjects stated that their final choice

⁵. This code was assigned when subjects made statements like: "I can't remember the old information", i.e., retrieval for non-identified attribute was inferred to have occurred.

⁶. Items (1) and (2) were scored for each of the 3 memory attributes, i.e., six scores were created, plus the two general items, (3) and (4).

depended more on external information (87.5%).

The effectiveness of the accessibility manipulation was also assessed by examining the increment in retrieval performance for recall versus recognition (Tulving and Pstotka 1971). Because the accessibility effect is due to retrieval failure (an appropriate retrieval cue is less likely to be available) subjects' retrieval performance should improve if a suitable cue is presented. This was the pattern of results obtained (Table 1).

TABLE 1

ACCESSIBILITY MANIPULATION CHECK: PERCENT RETRIEVAL ACCURACY OF PRIOR INFORMATION

Measure ^a	Memory Accessibility				
	Low		High		
	Low Involvement	High Involvement	Low Involvement	High Involvement	
Recall of prior information*	3.3%	12.2%	62.2%	58.3%	
Recognition of prior information*	41.1	46.7	74.4	61.7	
Incremental recognition performance	37.8	34.5	12.2	3.4	

* Encoding manipulation significant ($p<.0001$).

a. Number of correct retrievals expressed as a percent of prior information provided, i.e., 15 items (5 brands on 3 attributes).

For high accessible subjects the increment from recall to recognition for prior information averaged 7.8%. When accessibility was low the increment averaged 36.1%, or approximately five times higher. An analysis of the difference scores showed a significant main effect for accessibility ($F(1,44)=22.76, p<.0001$). The interaction was not significant ($F(1,44)=1.06, p>.20$). These results, together with the perceptual data indicated that the accessibility manipulation yielded theoretically needed differences in memory representations.⁷

The involvement manipulation was also supported, but less clearly (Table 2). High involvement subjects on average made a total of 1.58 connections, compared to 0.63 for

TABLE 2

INVOLVEMENT MANIPULATION CHECK: NUMBER OF CONNECTIONS MADE DURING CHOICE

Type of Connection	Involvement ^a Level	
	Low	High
1. Visualized how stimulus information related to identified person's/self lifestyle, attitudes, occupation or other personal characteristics.	0.13	0.29
2. Visualized ownership/use/knowledge/acquisition of product by identified person or self	0.50	1.13*
3. Identified specific person and/or situation for product use.	0.00	0.17***
Total connections	0.63	1.58**

a. There were no significant differences between accessibility groups for the three measures.

*** $p < .05$
 ** $p < .10$
 * $p = .10$

⁷. Because low accessible subjects had recognition rates lower than would be expected by chance (i.e., 50%) it is possible that the manipulation partially confounded the amount of information in memory and its accessibility. This possibility had been considered in the manipulations pretest, which showed significantly higher recall for two repetitions (36.6%) compared to the level in the study (7.8% on average). The difference in the two scores could not be explained.

low involvement subjects ($F(1,44)=4.64, p < .10$). Table 2 also shows how the two groups compared on the three types of connections coded in the study. The first two items were in the expected direction but the first was not significant ($F(1,44)=1.09, p > .10$) and the second only marginally so ($F(1,44)=2.69, p = .10$). Finally, the last item was in the predicted direction and statistically significant ($F(1,44)=4.63, p < .05$).

Use of Memory Information in Choice

Hypothesis H1 stated that the use of memory information during choice would increase as a function of accessibility of memory information. However, the increase in memory use with higher involvement levels would occur only when accessibility was low. Table 3 shows the total use

TABLE 3

USE OF MEMORY INFORMATION IN CHOICE IDENTIFIED FROM CONCURRENT VERBAL PROTOCOLS

Memory Use	Memory Accessibility			
	Low		High	
	Low Involvement	High Involvement	Low Involvement	High Involvement
1. For each attribute ^a				
Durability	0.08	0.92	1.33	1.08 * +
Convenience	0.08	1.00	1.17	0.75 +
Number of additional lenses	0.00	0.33	1.00	1.33 **@
2. Average number of memory attributes used	0.17	1.00	2.17	2.17 **
3. By brand ^b	0.08	0.83	1.83	1.58 **

Significance of results:

- ** Encoding main effect $p < .001$
- * Encoding main effect $p < .05$
- @ Involvement main effect $p < .10$
- + Involvement-accessibility interaction $p < .10$

- a. The number of times a given attribute was accessed, for all five brands, summed across four types of retrieval codes (see Measures).
- b. The number of brands referenced in the context of memory information.

of each prior (memory) attribute in choice, the average number of memory attributes used and the total number of brands that were referenced in the context of memory processing. Higher accessibility was positively associated with subjects' processing of information on durability ($F(1,44)=5.59, p < .05$), the number of additional lenses ($F(1,44)=27.31, p < .001$) and the number of brands ($F(1,44)=15.06, p < .001$). Two weak interactions were also found: for durability and convenience information the data showed that at low levels of accessibility the involvement level was positively associated with memory use. This was consistent with the hypothesis. Unexpectedly, when memory information was highly accessible, the relationship was reversed. For durability and convenience the interactions were significant ($F(1,44)=3.27, p < .10$ and $F(1,44)=3.99, p < .10$, respectively) but not for the additional lenses attribute ($F(1,44)=0.0, p > .20$). In the latter case higher involved subjects made greater use of lens information than low involved subjects ($F(1,44)=3.03, p < .10$). Finally, Table 3 shows that the average number of memory attributes used was significantly higher for highly accessible information ($F(1,44)=21.70, p < .0001$) but the accessibility-involvement interaction was not significant ($F(1,44)=1.50, p > .20$).

Table 4 shows subjects' retrieval behavior based on the general categorization of memory use inferred from the concurrent verbal protocol. The table is broken down into three levels showing the number of subjects who (1) attempted retrieval of brand values on one or more attributes (either successfully or unsuccessfully); (2) attempted retrieval in general, i.e., no attribute was identified or (3) made no retrieval attempts. More subjects used information on durability, convenience and

TABLE 4

RETRIEVAL OF MEMORY INFORMATION DURING CHOICE INFERRED FROM VERBAL PROTOCOLS

Type of retrieval behavior	Number of Subjects			
	Low Accessibility		High Accessibility	
	Low Involvement	High Involvement	Low Involvement	High Involvement
A. Specific brand-attribute values:				
1. Successful for				
Durability	1	4	9	9
Convenience	1	4	8	8
Additional lenses	0	4	9	9
Total number of subjects ^a	1	4	10	10
2. Not successful ^b	0	1	1	0
B. General attempts that were not successful ^c	3	4	0	1
C. No attempt made	8	3	2	1

- a. Because some subjects did not recall information on all 3 memory attributes, the total may exceed the individual scores by attribute.
- b. One subject tried and succeeded in retrieving a specific brand-attribute value and also tried but did not succeed in retrieving information on another attribute. Hence due to double counting the total count for the high accessible-low involvement group exceeded the cell size ($n=12$).
- c. In contrast to specific retrievals, general retrievals made no reference to a memory attribute, but were inferred from statements like: "I can't remember any of the old information".

additional lenses when memory information was accessible (estimated chi-squared from a log-linear model equalled 11.88, 9.05 and 11.00, respectively, $p < .001$ in all cases, for one degree of freedom). Conversely, more subjects made no attempt at all to use memory information (line C) when it was less accessible (estimated chi-squared=5.17, $df=1, p < .05$). Also, when involvement was higher the number of subjects who made no attempt to retrieve memory information tended to be lower (estimated chi-squared=2.65, $p = .10$). In summary, these results gave strong support for the main effect of accessibility on memory use stated in Hypothesis H1. However, support for the interaction hypothesis was less clear.

Choice Outcomes and Choice Latency

Hypothesis H2 stated that choice outcomes would reflect an interaction between memory accessibility and task involvement. To test this hypothesis choices were divided into two groups, depending on if the subject chose or rejected the target brand. A log-linear model was then used to test for the hypothesized effect. Table 5 shows the frequency of target brand choices by condition.

TABLE 5

CHOICE OUTCOMES AND DECISION TIME (CHOICE LATENCY)

	Memory Accessibility			
	Low		High	
	Low Involvement	High Involvement	Low Involvement	High Involvement
Choice Outcomes:				
Number of subjects who chose target brand ^a	0	2	8	10
Number of subjects who did not choose target brand	12	10	4	2
Choice latency (minutes)	2.58	4.08	3.83	3.17
Average		3.33		3.50

- a. Brand D. See Stimulus Design Considerations.

These data do not support the hypothesized interaction between the two treatments (estimated chi-squared=0.12, $df=1, p > .20$). The main effect of encoding was significant, however (estimated chi-squared=13.74, $df=1, p < .001$). Hypothesis H2 must therefore be rejected.

Hypothesis H3 predicted that the time taken to choose

(choice latency) would increase with higher memory accessibility but that the increase caused by higher task involvement would occur only for low accessibility. Table 5 shows that choice latency, averaged across involvement, increased from 3.33 minutes for low accessibility to 3.50 minutes for high accessibility subjects, but this was not significant ($F(1,44)=0.13, p>.20$). The increased choice latency at low memory accessibility from 2.58 to 4.08 minutes conformed to predictions, but the unexpected decline at high accessibility, from 3.53 to 3.17 minutes, did not. The treatment interaction was significant ($F(1,44)=5.29, p<.05$). Taken together these results only partially support Hypothesis H3.

Discussion

It had been expected that at high accessibility, involvement would not affect several choice processing measures. Instead some declines occurred, i.e., when memory information was more accessible, higher involved subjects' overall processing was less. The reason for this finding was hard to determine. It is possible that depending upon memory accessibility, involvement affected the emphasis placed on different choice-related processes. Thus low accessible subjects found that important memory information was hard to retrieve and use during choice because of its initial encoding. Without a strong retrieval effort, induced by higher involvement, their choices would be based more on readily available but less important external information. However, if higher involvement enhanced efforts to retrieve important memory information, more would be available and used during choice. Hence the increased processing across involvement when accessibility was low.

In contrast, subjects with more accessible memory information would have less need to focus on retrieval processes. Instead they could direct their attention to other processes, e.g., choice structuring and simplification. (Johnson and Russo (1984) report a positive correlation between prior knowledge and the use of phased decision strategies). When involvement was higher, more effort may have been applied to simplifying because subjects were more concerned about making a good choice. As a result high involved/accessible subjects would simplify the task more effectively than less involved/accessible subjects and hence need to do less processing. At the same time, because more memory information was available they would still do more processing of it than highly involved/less accessible subjects. This latter group may have spent more time on retrieval and reconstructive processing of memory information with the result that their choice latency exceeded that of high involved/accessible subjects. Thus these results may reflect involvement's differential impact on subjects' attention to retrieval and choice simplification processes caused by variations in memory accessibility (cf. Mitchell 1981, Petty, Cacioppo and Schuman 1983).

These issues clearly warrant further research. Future work could examine the impact of several levels of memory accessibility instead of the two used here. Also, a "stronger" involvement manipulation should be developed. For two reasons manipulating involvement is often problematic in lab situations: (1) because it is often a novel experience, study participating may overwhelm experimentally induced involvement processes; (2) the involvement manipulation procedures may be transparent to subjects and hence not credible. Regardless of these design problems, the procedure used in this study to check the involvement manipulation -- searching for evidence of involvement-created "traces" during choice (Batra and Ray 1983) -- seems more promising than the often sole reliance on self report measures. Acute, often quite transitory, consumer differences should provide an interesting extension to our understanding of memory factors in consumer decision making.

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THE ELABORATION LIKELIHOOD MODEL:
LIMITATIONS AND EXTENSIONS IN MARKETING

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Abstract

The Elaboration Likelihood Model (Petty and Cacioppo 1981) is discussed as a framework for understanding attitude formation and change with regard to products and services. The model has a number of limitations, some general and some specifically relevant to applications in consumer behavior and marketing. These limitations are presented and discussed along with suggestions for research. Despite its underspecification, the model is seen as a useful framework and the authors propose a number of specific marketing mediators of elaboration likelihood.

In marketing a great deal of attention has been focused on attitude formation, attitude change and attitude measurement with respect to products and services. Since 1970, the literature reflects strong interest in the application and development of multiattribute attitude models (Wilkie and Pessemier 1973; Lutz 1981). Industry applications have also relied heavily on survey methodologies and multiattribute approaches to measure attitudes toward and preferences for products and services. The multiattribute method assumes that consumers can and do base their choice decisions on beliefs about product/service attributes. Marketing strategies evolving out of this approach to attitude formation focus on analyzing and communicating information about important product/service attributes.

At the same time there has been substantial research in marketing to suggest that there are external cues or internal psychological processes quite separate from careful consideration of specific product/service attributes that may influence consumers' attitudes. Halo effect phenomena (Beckwith and Lehmann 1975; Mitchell and Olson 1981), attitude change via classical conditioning (Gorn 1982), behavior modification (Nord and Peter 1980), mere exposure effects (Obermiller 1984), self-perception theory (Reingen and Kernan 1977), and the application of simple decision rules are examples of this view of attitude formation and change. Marketing strategies evolving out of this approach focus less on specific product/service attributes and more on understanding the effects of contextual cues and heuristics on evaluation and decision making.

These two approaches to attitude formation and change can be classified under what Petty and Cacioppo (1981; 1983) refer to in their Elaboration Likelihood Model (ELM) as central and peripheral routes to persuasion. The model proposes that neither route alone can account for the diversity of observed attitude change phenomena, and that the important question is when each route is most likely to be followed. This paper discusses the ELM and its usefulness to the field of marketing as a framework for predicting how attitudes will be formed and changed in various situations. Limitations of the model are discussed and specific marketing mediators of elaboration likelihood are suggested.

The Elaboration Likelihood Model (ELM)

The ELM provides a framework for accounting for the diverse results observed in attitude change research. The model suggests that there are two routes to persuasion--the central route and the peripheral route--and that these two categories can account for all of the various

theories of attitude change. In the central route, attitudes are formed and changed by careful consideration and integration of information relevant to the attitude object or issue. In the peripheral route, on the other hand, attitudes are formed and changed without active thinking about the object and its attributes, but rather by associating the object with positive or negative cues or by using cognitive "short cuts."

"The accumulated research on persuasion clearly indicates that neither the central nor the peripheral approach alone can account for the diversity of attitude-change results observed" (Petty, Cacioppo, and Schumann 1983, p. 136). The question thus becomes under what conditions is persuasion most likely via each of the two routes. In their model, Petty and Cacioppo suggest the persuasion will occur via the central route when elaboration likelihood is high, that is when a person is both motivated and able to process information about the attitude object. Elaboration likelihood will be low if either or both of the above conditions (motivation or ability) are not met and persuasion will then be more likely via the peripheral route.

Support for these hypotheses can be found in both the marketing and psychology literature. Most work to date has addressed the role of motivation as a mediator of elaboration likelihood, and thus the route to persuasion (Chaiken 1980; Gorn 1982; Johnson and Scileppi 1969; Petty and Cacioppo 1981, 1984; Petty, Cacioppo and Goldman 1981; Petty, Cacioppo and Schumann 1983). A few studies have addressed ability as a mediator of elaboration likelihood (Wood 1982; Chaiken and Eagley 1976; Regan and Cheng 1973; Cacioppo and Petty 1981; Petty, Wells and Brock 1976). In addition to ability and motivation, and individual difference variable, "need for cognition," has been shown to be a mediator of elaboration likelihood (Cacioppo, Petty and Morris 1983).

Petty and Cacioppo also hypothesize that there are differing consequences resulting from persuasion via the two routes. They believe that persuasion via the central route is both more enduring and more predictive of subsequent behavior than persuasion via the peripheral route. The source of these hypotheses is their analysis of past studies and there is at this point only weak support from indirect tests of hypotheses (Chaiken 1980; Petty, Cacioppo and Schumann 1983).

Limitations of the Model

Although we acknowledge the usefulness of ELM as a framework for conceptualizing attitude formation and change, we wish to argue for several limitations of significance in consumer research. These limitations are not intended as criticisms of the development of the ELM. Rather they indicate underspecifications of the model that leave important questions as yet unanswered. (One reviewer of this paper suggested that the ELM in its current form is an "anatomy" whereas we are pursuing a "physiology" of attitude formation and change. We presume this comment to mean that the ELM describes and categorizes, but lacks sufficient detail of the process to afford explanation. Our criticism may well be directed at the current state of understanding as a whole rather than specifically at the ELM.)

(1) Central cues, peripheral cues--which are which. Petty and Cacioppo are clear in their description of ELM as a framework based on the classification of processing styles not on the classification of objective cues. Marketers, however, control objective cues; and communication effectiveness would be greatly improved if the model could predict which cues would be processed in which way under particular sets of circumstances. As it stands, ELM describes the process that results from a motivational state, but it cannot predict the motivational state. Thus, one person will be motivated to process brand relevant information centrally, another will be less motivated and will process background music peripherally, still another may be highly motivated to process the music cue centrally.

Studies to date have relied on face validity to justify the relationship between operationalized cues and processing. Thus, number of arguments, background music, pleasantness of atmosphere have been used as relevant peripheral cues. Petty and Cacioppo acknowledge the weakness of such an approach. In one study they used model attractiveness as a peripheral cue in an ad for shampoo only to discover that subjects appeared to use attractiveness as "central" evidence of the shampoo's performance (Petty and Cacioppo 1980).

The difficulty is not limited to overlooking possible logical connections such as that between an attractive model's hair and shampoo performance. In an environment where attention is free to roam, many peripheral cues such as music, images, humor, may attract enough attention to elicit central processing of their own. The role of such elaborate, but irrelevant, processing in affect formation is not well understood and not currently addressable within the ELM.

The "central or peripheral" cue issue, then, has two parts. How does one predict which cues will be processed centrally, and what happens when a supposed peripheral cue is elaborated but not with respect to the persuasion object? An extremely valuable avenue of research would be an application of the ELM to the development of a normative model of communication structure that would identify which cues are processed centrally, which peripherally, under what conditions, and by whom. A later section of this paper suggests at a conceptual level variables that are likely to mediate elaboration likelihood and the route to persuasion in marketing situations.

A pilot study reported elsewhere (Obermiller and Bitner 1984) begins to address these questions. In the study we have specifically identified atmosphere as an important peripheral cue for product evaluations, and purchase orientation ("shopping" versus "browsing") as a determinant of motivation. The results of that study showed that a pleasant atmosphere enhances product evaluations when subjects are in a low state of motivation ("browsing"), but that pleasantness of atmosphere has no effect on product evaluations when subjects are motivated ("shopping") as the ELM predicts. Although the study does not address the core problem of how to know in advance that atmosphere will act as a peripheral cue, the results contribute to our knowledge of how and when atmosphere may operate as a peripheral cue to influence our attitudes toward products.

(2) How does peripheral processing influence affect? ELM combines a variety of effects under the category of peripheral processing. These effects may, in fact, result from quite different processes. On one hand, peripheral effects may result from cognitive "short cuts." For example, not motivated enough to consider message points, an individual bases her attitude on source characteristics. Her information processing center is a miser that decides, "I'm not very interested in this

issue, so, rather than waste effort on developing a well-considered attitude, I'll base my affective response on a source cue." On the other hand, peripheral effects may result from more directly affective processes, which may be more or less conscious. A physically repulsive lawyer may have difficulty attracting clients regardless of ability. The negative effect associated with physical appearance is a simple affective response, not a cognitive short cut. Other less conscious affective responses may result from classical conditioning and mere exposure. Since the cognitive short cuts imply a low degree of object relevant cognitive activity and direct affective responses imply almost no cognitive activity, ELM may be underspecified in grouping the two types of processing together. This possibility is suggested by Greenwald and Leavitt (1984) in their separation of levels of involvement into four categories: preattention, focal attention, comprehension and elaboration. Preattention and focal attention represent distinctly different processes of elaboration, yet the ELM implies that both levels of involvement would result in "peripheral processing."

(3) Are there differences in the strengths of peripherally and centrally processed attitudes? A direct implication of the preceding discussion is the question of differing strengths of resulting attitudes. Petty and Cacioppo argue that peripheral results in less durable, less forceful attitudes that are less predictive of behavior. Their prediction is consistent with a model that presents affect as a cognitive structure that can be more or less integrated with an object representation, thus more or less durable and forceful. Greenwald and Leavitt (1984) are in agreement. Their principle of "higher level dominance" posits that effects of more elaborate processes will dominate the effects of less elaborate processes given equal numbers of repetition. The equal repetition constraint is an important one since peripheral processing is typically associated with many exposures, central processing with few. Another possibility is a model incorporating another construct, confidence in attitude, such that attitudes based on peripheral cues are held with less confidence. An altogether different model is argued by Zajonc (1980; with Markus 1982), who maintains that attitudes based on directly affective responses may be more durable and more forceful than attitudes that result from thoughtful consideration, particularly because they are less susceptible to change by central processing. Petty and Cacioppo (1981) present post hoc support for their hypothesis, but no direct test has been conducted.

We propose two approaches to researching the question of relative attitude strength and predictability of behavior. The first is a straightforward between subjects tests. One group would receive a positive central processing manipulation followed by a negative peripheral processing manipulation. The extent and durability of change would be compared with a second group that received the manipulations in the opposite order. Such a test would address the relative resistance of attitudes developed centrally and peripherally. Behavioral measures could also be taken in each case to compare relative attitude-behavior consistencies.

The second approach would be to select objects with existing attitudes formed largely from either central or peripheral processes. For example Zajonc and Markus (1982) suggest that our attitudes toward some foods are acquired early in life primarily through affective (or peripheral) associations. On the other hand, attitudes toward expensive products such as cars and houses are likely to result from central processing of specific product-relevant information. Several objects of each type could be selected and their relative resistances could then be assessed by subjecting

each to change strategies.

(4) Are peripheral and central processing interactive. ELM presents the two routes as alternatives. Of particular interest to marketers is the question of separate main effects versus interaction. Petty and Cacioppo (1981) suggest an interaction: If central processing occurs first, peripheral processing is irrelevant, but if peripheral processing occurs first, it may lead to central processing. Their reasoning recalls the hierarchy of effects model of low involvement learning (Ray 1973). Advertising may work through low involvement by creating very weak preferences (peripheral effects) that induce purchase, which leads to strong attitudes based on experience (central effects). Another attractive hypothesis is that peripheral processing may have a main effect in addition to central processing. If central processing results in nearly equal preferences for alternatives, peripheral effects may be marginally determinant. For many product categories objective differences, even advertising claim differences, are small, and preferences may well result from peripheral effects.

Research addressing this question might involve the selection (by "expert" judges or through another procedure) of several brands of a product that are determined to be essentially the same in their central, product-relevant characteristics. Peripheral cues such as music, endorser characteristics, or atmosphere could then be varied systematically to explore whether such peripheral cues can significantly alter the evaluations of essentially similar products and when this is most likely to be true. Image advertising of products such as beer and soft drinks would suggest that marketers believe that peripheral cues are the determinants of preference when objective cues are approximately equal.

(5) Can the central processor make do with peripheral cues? What happens when one is highly motivated to process thoughtfully but there is no "useful" information to process? ELM suggests two possibilities. The first is that "useful" is a subjective criterion. A given individual may be psycho-logical even is she bypasses information and relies on attractiveness of background music in forming her attitude. There may, however, be a consensus about which cues are objectively central and which are not. In the absence of central cues, ELM further suggests that self-generated thoughts about the issue will determine attitude via central processing. Yet, we would contend that consumers frequently face evaluation situations in which neither alternative is quite acceptable--when motivation is high, when useful central cues are absent, and when existing issue attitudes are insufficient to generate own thoughts of consequence. When judging a professional service, an expensive, unfamiliar product, even a new restaurant, consumers may be forced to form evaluations without objectively useful information and without useful prior attitudes. In such cases, consumers may well rely on peripheral cues--decor, physical features and personality traits, information source characteristics--but not on peripheral process. When nothing else is available, consumers may elaborate cues that would, otherwise, be peripheral. Does such elaboration lead to durable, forceful attitudes? A more likely hypothesis is that consumers hold attitudes with varying confidences depending on the basis of the attitudes. An evaluation of an insurance agent, based upon the pleasantness of the office, should be held with little confidence regardless of any amount of elaboration of that cue. On the other hand, a comparison of premiums, data on claims honored, or past experience should lead to an attitude held with confidence even with minimal elaboration. Confidence in attitudes is an important construct that is related to the notions of central and peripheral cues, but it probably results from an interaction between the elaboration process and the nature of the

cues. ELM could be modified by research on the usefulness or the confidence in inferences drawn from various types of informational cues. (Consideration of Olson's (1972) concept of cue utilization in terms of ELM may be of a profitable first step.)

Extending ELM's Usefulness in Marketing

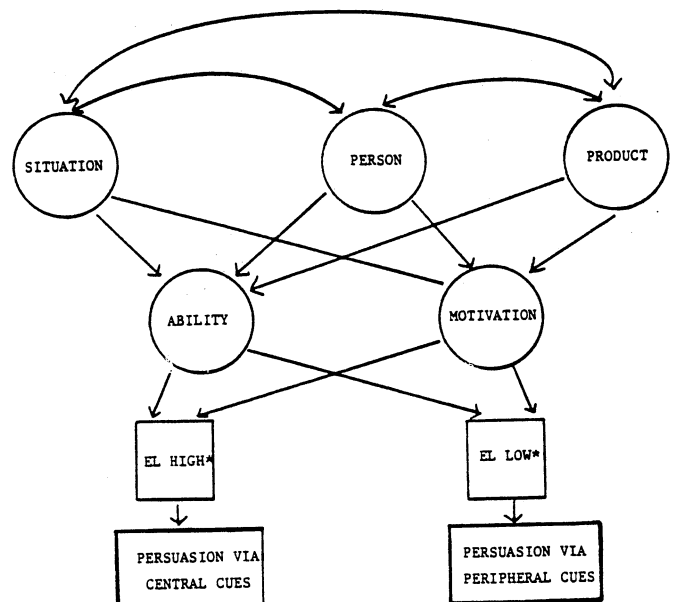
While the ELM has limitations, we believe it is an attractive framework for further research and application. An intuitively appealing feature of the ELM is that it doesn't force acceptance of only one view of attitude formation and change, but rather it directs researchers toward understanding the circumstances under which each of the two routes to attitude formation and change is most likely. For marketers, a better understanding of these specific circumstances would be very useful to explaining the diversity of consumer behavior and for designing marketing strategies appropriate to varied circumstances.

Most support for the ELM has focused on the role of personal involvement as a mediator of elaboration likelihood and thus as a determining factor in the route to persuasion. However, as Petty and Cacioppo (1983, p. 22) suggest, "there are a variety of determinants of the route to persuasion," by which they imply that there are a number of factors in addition to personal involvement that may affect motivation and ability to process central cues.

A useful line of research in marketing would be to categorize the various determinants of the routes to persuasion for products and services. We propose that in a marketing context, motivation and ability will be influenced by situational variables, person variables, product category variables, and their interactions as illustrated in Figure 1. Situation, person, and situation/person interactions have all been used to explain consumer responses (see Punj and Stewart 1983 for a review). Here the situation and the product are proposed as separate influencing variables because of the importance of the product as the primary object to which the consumer is responding. Separation of the two concepts was also suggested by Belk (1975).

FIGURE 1

Marketing Mediators of Elaboration Likelihood



*Elaboration Likelihood (EL) is high when a person is both motivated and able to engage in effortful cognitive activity and process information about the attitude object. When either condition is not met, EL is low.

TABLE 1
Specific Marketing Mediators of Elaboration Likelihood

	<u>Elaboration Likelihood</u>	<u>Why?</u>	<u>Exceptions</u>	<u>Therefore Persuasion Via</u>
<u>Situational Variables</u>				
"Shopping" Orientation	high	motivated	if not able	central cues
"Browsing" Orientation	low	not motivated	-	peripheral cues
High Issue Involvement	high	motivated	if not able	central cues
Low Issue Involvement	low	not motivated	-	peripheral cues
Time Pressure	low	not able	-	peripheral cues
No Time Pressure	high	able	if not motivated	central cues
Irreversible Decision	high	motivated	if not able	central cues
Personally Accountable	high	motivated	if not able	central cues
<u>Person Variables</u>				
Need for Cognition	high	motivated	if not able	central cues
Individual Differences in Sensitivity to Peripheral Cues	low	not able or motivated	-	peripheral cues
Knowledgeable	high	able, motivated	if not motivated	central cues
Ignorant	low	not able	-	peripheral cues
<u>Product Category Variables</u>				
Intangible	low	not able	-	peripheral cues
High Risk	high	motivated	if not able	central cues
Low Risk	low	not motivated	-	peripheral cues
Expensive	high	motivated	if not able	central cues
Shopping Goods	high	motivated	if not able	central cues
Impulse Goods	low	not motivated	-	peripheral cues
Complex	low	not able	-	peripheral cues

Specific examples of marketing variables that may lead to high or low elaboration likelihood are described below and summarized in Table 1. Although the discussion focuses on main effects, the arrows at the top of Figure 1 suggest that there will be interactions among the categories as well.

Situational Variables

In addition to personal involvement, other situational variables such as purchase orientation ("shopping" v. "browsing"), time pressure, irreversibility of the decision, and personal accountability may influence elaboration likelihood (EL). When a person is under time pressure to make an evaluation or purchase, EL will be low because the person simply doesn't have time to engage in effortful cognitive activity. The consumer will often rely on peripheral cues in making judgments about products under these circumstances. On the other hand, when there is no time pressure, a consumer is more apt to rely on central cues, unless for some other reason he or she is not motivated to do so. Research by Wright (1974; 1977) suggests that these hypotheses would be supported if tested in the context of the ELM. In the organizational decision-making environment, Beach and Mitchell (1978) have suggested a number of situational variables that may affect how a person makes a decision. At least two of these--irreversibility of the decision and personal accountability--are likely to

apply in the consumer persuasion context as well. For example, when a purchase decision cannot be reversed (an expensive product that cannot be returned, or a vacation trip), a consumer may be more likely to engage in cognitive activity (EL high) and thus be persuaded via central cues than when the decision can be reversed. Similarly, when a person will be held accountable for a decision (as in industrial purchasing) she will probably be motivated to process all possible central cues.

Person Variables

Person variables may also influence whether EL is high or low. For example, Cacioppo, Petty and Morris (1983) suggest that persons high in "need for cognition" may simply enjoy thinking more than others and thus be more responsive to central cues no matter what the situation. Similarly, individuals may be more or less sensitive to a particular peripheral cue such as source credibility or environmental pleasantness causing these variables to vary in relative persuasiveness based on individual differences in such traits as locus of control or need for stimulation. Another person variable that may influence EL is knowledge with respect to the stimulus. A person who is an expert with respect to a particular type of product is likely to process central cues because it is easy to do so and because he or she is interested in the product category. On the other hand, ignorant consumers may not process central cues simply

because they do not have the ability to do so. Cacioppo and Petty (1981) suggest as much by showing that apparent sex differences in the relative influence of central and peripheral cues actually are a function of knowledge of the subject matter.

Product Category Variables

Certain product category variables may also influence EL. For example, for many intangible products, EL may be low simply because people are not able to evaluate central cues either because they are not available or because they are difficult to comprehend and evaluate. Most professional services would be examples of this phenomenon since central cues are often not available and peripheral cues such as personal appearance and office environment may be relied upon. Furthermore, even if central cues are available, the average person may not have a sufficiently developed schema for, say, legal services, and thus may be unable to interpret the central cues in a meaningful manner.

Because many intangible products are largely experiential in nature (restaurants, hotels, hairdressers, lawyers, doctors), pre-purchase attitudes are often formed on the basis of what would normally be thought of as peripheral cues--appearance of the facility and personnel, odors, lighting, other customers in the facility. What is not clear, however, is whether these cues operate as peripheral cues or whether they are central cues in such situations.

Other product variables may also influence EL. For high risk products such as medical services, medicines, or safety equipment, people will be highly motivated to make the right judgment and therefore will be willing to engage in effortful cognitive activity. Unfortunately, central cues may be unavailable or difficult to evaluate in such cases so people may still rely on peripheral cues. For low risk products, on the other hand, there is likely to be little motivation to carefully evaluate product attributes resulting in low EL and persuasion via peripheral cues.

EL is likely to be high for both relatively expensive products and shopping goods. In both cases consumers will be motivated to process central cues because of the importance of the purchase. On the other hand, they are not likely to be motivated to process central cues in the case of impulse purchases where persuasion and evaluation are likely to be influenced by peripheral cues such as location of the product in the store, or on the shelf, and packaging. For most people, EL will be low for highly complex products because the average person will not have a fully developed schema with which to relate the multitude of central cues. If the complex product is also very expensive (a computer), or high risk (medical drugs), however, the consumer may be highly motivated to develop such a schema prior to purchase.

Conclusion

The work of Petty and Cacioppo represents an insightful synthesis of divergent research streams in attitude formation and change. Our discussion of limitations of the model in the first part of this paper should be viewed as suggestions for further development of the model rather than fault-finding. We suggest that with respect to the ELM the following questions remain unanswered:

- (1) Central cues, peripheral cues--which are which?
- (2) How does peripheral processing influence affect?
- (3) Are there differences in the strengths of peripherally and centrally processed attitudes?
- (4) Are peripheral and central processing interactive?
- (5) Can the central processor make do with peripheral cues?

Avenues of research are proposed that may begin to ad-

dress these questions and thus increase understanding of the model.

Similarly, the discussion of the framework presented in Table 1 is offered as an extension of the ELM to marketing applications by directing researchers toward exploring specifically what determines motivation and ability in product evaluations. In doing so we have implicitly accepted Petty and Cacioppo's underlying model and are seeking to increase understanding in a particular behavioral area (product/service evaluation) by being more specific about what determines ability and motivation in that context.

Research directed at answering one of the five questions or at developing greater understanding of the variables presented in Table 1 would increase the usefulness of the ELM for marketing applications. Such research is built on an acceptance of Petty and Cacioppo's basic model and is intended to extend and develop it further in the context of product/service evaluations.

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THE OVERKILL EFFECT OF CORRECTIVE ADVERTISING:
AN HEIDERIAN PERSPECTIVE ON THE INFLUENCE OF
CORRECTIVE ADVERTISEMENT SPONSORSHIP
ON COGNITIVE RESPONSES TOWARD THE COMPANY

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Abstract

From Heider's Balance Theory, it was hypothesized that the effects of corrective advertising interactively depend on who sponsors the corrective advertisement and on the audience's generalized attitude toward business and advertising. Subjects who held either favorable or unfavorable attitudes toward business and advertising were exposed to an authentic but unfamiliar corrective advertisement which was sponsored by either the FTC, or the company, or an unidentified source. The results supported the hypotheses. Persons unfavorable toward business generated more negatively loaded cognitive responses toward the company when the corrective advertisement was FTC sponsored than when it was company sponsored. The opposite pattern occurred when the subjects were favorable toward business and advertising.

Introduction

Upon judging an advertising practice as deceptive, the Federal Trade Commission (FTC) may simply require the discontinuance of the alleged deceptive advertising, but sometimes it may even require that the deceiver actively engage in corrective advertising to negate the lingering carryover effects of misinformation. (For a good review of the FTC's injunctive power and of the evolution of corrective advertising, see Scammon & Semenick 1982.) The recent empirical research on the effectiveness of corrective advertising has largely been directed at determining the conditions under which exposure to corrective advertising sufficiently reduces the strength of consumers' beliefs in the deceptive claim (the target belief), while not affecting other beliefs (the nontarget beliefs) about the product (c.f., Mizerski, Allison, & Calvert 1980).

However, there is a possible overkill effect of corrective advertising which is understandably of critical concern to the company at fault--namely, the deleterious effect of the corrective advertising on the company's own image. This issue is also of import to the FTC, for the purpose of FTC-ordered corrective advertising is to reduce the target beliefs, not to destroy a company's image. Fear of causing unnecessary damage to the company and of violating the First Amendment may be reasons why the FTC has generally been very conservative in handing down corrective advertising orders (Hunt 1977; Scammon & Semenick 1982).

Several researchers have examined the effects of corrective advertising on the company's image. A national field survey conducted by Armstrong, Franke, and Russ (1982) showed that Warner Lambert's image decreased after the corrective Listerine campaign. But a more common finding of experimental research is that

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the company's image is, by and large, unaffected by the corrective advertising (Hunt 1972; Kassarian, Carlson, & Rosin 1975; Mizerski, Allison, & Calvert 1980; Semenick 1980). Dyer and Kuehl (1974), however, reported intriguing evidence that an FTC-sponsored corrective advertisement relative to a company-sponsored corrective advertisement, enhanced the perceived trustworthiness of the company, at least for high strength messages.

There is, then, an empirical basis for suspecting that that the sponsorship of a corrective advertisement (e.g., FTC vs. company-sponsorship) may have differential effects on a company's image. Moreover, it is the contention of the present study that these effects, some of which may appear to be counterintuitive, can be parsimoniously couched in Heider's Balance Theory (Heider 1958). According to Balance Theory, persons are motivated to achieve balance among their cognitions. (For a good account of the revived interest in cognitive consistency motivation, see Wicklund & Frey 1981.) In the present context, an Heiderian analysis would lead to the projections illustrated in Figure 1. The upcoming interpretation of Figure 1 presumes that attitudes toward business and advertising tend to be inversely related to the attitudes toward those government agencies (e.g., the FTC) which regulate business and advertising practices. This presumption is not without empirical merit, for in a number of questionnaires used to measure attitudes toward business and advertising, items which address the degree to which business and advertising should be government-regulated more often than not receive high factor loadings in the inverse direction (Joseph & Cook 1981).

Figure 1 shows that the effect of FTC- versus company-sponsorship of a corrective advertisement may depend on the consumer's generalized attitude toward business and advertising practices. For example, when consumers who hold negative attitudes toward business and advertising are exposed to a corrective message in which a company sponsors a negative statement about itself (i.e., a company-sponsored corrective advertisement), imbalanced cognitions exist. To achieve balance, the attitude toward the company may become relatively more favorable. If, however, the FTC had sponsored the corrective message, those same consumers who held unfavorable attitudes toward business and advertising (or, favorable attitudes toward the FTC) should become relatively less favorable toward the company in order to maintain or achieve a balanced set of cognitions. To say it another way, if someone I like (the FTC) says something bad (in an FTC-sponsored corrective advertisement) about an object (a business), I should dislike that "object," too. To complete the picture, the remainder of Figure 1 shows that a company's resultant image should be relatively unfavorable when persons who hold positive attitudes toward business and advertising are exposed to company-sponsored rather than FTC-sponsored corrective advertising.

The primary purpose of the present study was to test this Balance Theory interaction hypothesis concerning the differential effects of FTC- versus company-sponsorship of corrective advertising on company

image. A second purpose was to demonstrate the feasibility of employing cognitive response measurement in this type of investigation. Gauging the quantity and quality of cognitive response output has become a useful and celebrated method of monitoring cognitive processing (Kassarjian 1982; Lammers 1985; Lutz & Swasy 1977; Petty, Ostrom, & Brock 1981; Sawyer & Ward 1979; Wright 1980). It is usually argued that these cognitive responses serve as mediators of attitude formation and change (Belch 1982; Olson, Toy, & Dover 1982; Toy 1982). Given the importance attached to the role of cognitive responses in the attitude formation and change process, it was felt that the measurement of cognitive response activity would be a worthy barometer of the subjects' cognitive image of the company.

Method

Subjects and Design

The experimental design was a 3 x 2 factorial with sponsorship (FTC vs. company vs. control) and generalized attitudes toward business and advertising (favorable vs. unfavorable) as the between-subjects factors. One hundred and ten undergraduates in a large west coast university volunteered to serve as subjects in a study on "attitudes toward advertisements." The use of students as subjects necessarily limits the generalizeability of the research findings. On the other hand, the use of such homogeneous samples enhances the internal validity of the experiment (Sawyer; Worthing, & Sednak 1979). Given that there must be a tradeoff between internal and external validity, and given the purpose of the present experiment, internal validity considerations were deemed more important (Berkowitz & Donnerstein 1982; Calder, Phillips, & Tybout 1982).

Procedure

The experimenter, a male graduate student, explained to the subjects that he was conducting the study as part of the requirements for one of his graduate courses in marketing. The subjects, who were run in groups of 20 to 30, were then given booklets containing instructions, a corrective advertisement, and a questionnaire. The subjects were instructed in the booklet to "examine on the next page an advertisement that had appeared in a Spring, 1978, issue of Newsweek magazine." After examining the advertisements, the subjects were then asked to complete a set of questions comprising the dependent and ancillary measures. Upon completion of the questionnaire, the subjects were debriefed and thanked for their participation. In the debriefing, none of the subjects successfully guessed the purpose or hypotheses of the experiment. This is not altogether surprising given that a between-subjects design was employed in the present study.

Manipulation of Sponsor

The sponsor of the corrective advertisement was manipulated by randomly administering three versions of a corrective advertisement for the specifics of the STP Corporation. (For a good rundown on the STP corrective advertisement case, see Belch, Belch, Settle, & DeLucchi 1981; Scammon & Semenik 1982; and Tyebjee 1982). One third of the subjects were randomly selected to receive the FTC-sponsored advertisement which contained the bold heading, "FTC NOTICE." This version was, in fact, the original corrective advertisement that had appeared in Newsweek more than four years prior to this experiment. Another third of the subjects were randomly assigned to receive the STP-sponsored advertisement which contained the bold heading, "STP NOTICE." Finally, a third of the subjects were randomly assigned to the Control condition and received an advertisement which simply had the

headline "NOTICE." Aside from the headings, all three advertisements were identical.

Generalized Attitudes Toward Business and Advertising

Generalized attitudes toward business and advertising were assessed by a series of nineteen items which appeared at the tail-end of the questionnaire. These nineteen items, presented in Table 1, were adapted from Joseph and Cook (1981), Larkin (1977), and Reid and Soley (1982). Subjects responded to the items on 9-point, Likert-type scales. An advantage of using a post- rather than a preexperimental measure of generalized attitudes toward business is that both the testing main effect and the testing X treatment interaction effect on the primary dependent measures can be eliminated as contaminators of internal validity (Campbell & Stanley 1959; Churchill 1983). However, certain safeguards were taken to assure that the experimental manipulation (sponsorship of the corrective advertisement) did not differentially affect responses to the attitudes toward business and advertising items. First, the generalized attitudes toward business and advertising items were the very last items on the questionnaire, thus allowing for a decrease in the treatment saliency. Second, immediately preceding these items was a 34-item Need for Cognition scale (Cacioppo & Petty 1982). The Need for Cognition scale acted as a "filler-distractor" between the primary dependent measures and the general attitudes toward business and advertising measures. Third, and most importantly, an analysis of variance (ANOVA) was performed on the attitudes toward business and advertising with Sponsor as the independent variable. The ANOVA clearly showed that the experimental treatment did not differentially affect generalized attitudes toward business [$F(2,104) < 1.00$]. Since the experimental manipulations did not affect responses to the attitudes toward business and advertising items, a postclassification of subjects is equivalent to a preclassification of subjects, provided that a relative index such as the median is used to split subjects into groups.

Factor analysis. A principal components factor analysis with varimax rotation was performed on subjects' responses to the nineteen items. The results, presented in Table 1, revealed a dominant factor which accounted for 40.2% of the variance (eigen value = 4.70). This factor enjoyed loadings of greater than .40 on the five items asterisked in Table 1. Factor scores based on these five items were computed for each subject. A median split of the factor scores provided for the classification of subjects as being relatively favorable or unfavorable to business practices.

Company Image

Company image was assessed by cognitive response measures and scaled perceptions.

Cognitive Response. Cognitive responses were collected by using a thought-listing procedure adapted from cognitive response research (Petty, Wells, & Brock 1976; Lammers & Becker 1980). Cacioppo (1982) and Cacioppo and Petty (1981) have amassed considerable evidence linking cognitive response activity (as measured by simple self-report and thought-listing methods) and psychophysiological activity (e.g., interhemispheric distribution of alpha abundance over the parietal lobes). They concluded that the simpler thought-listing method for measuring cognitive responses has sufficient construct validity to warrant its use over more costly and complex methods.

In the present study, cognitive response measures were taken immediately after subjects had examined the stimulus corrective message. They were asked to "Please list below any thoughts, ideas, or feelings you may have

about the material on the preceding page. Don't worry about spelling, grammar, punctuation, etc." A blank page was provided for the subjects to list their cognitive responses. After the data collection phase of the experiment had been completed, two research assistants (undergraduates) blind to the experimental purpose and design classified the cognitive responses into five categories: a) unfavorable toward the STP Company (company-negative cognitive responses), b) favorable toward the STP Company (company-positive cognitive responses), c) unfavorable toward the FTC (FTC-negative cognitive responses), d) favorable toward the FTC (FTC-positive cognitive responses), and e) irrelevant/neutral cognitive responses. The concordance between the two judges was .83. The few disagreements were resolved through their own discussions. Since over 90 percent of the cognitive responses were classified as being directed at the company, only those cognitive responses will be discussed further.

Scaled Perceptions. In addition to assessing company image via cognitive responses toward the company, company image was also measured in a more traditional manner by having subjects "evaluate the STP Corporation" on a set of ten, 10-point self-rating scales. The ten items, in order of their appearance on the questionnaire, were: Unreliable-Reliable, Dishonest-Honest, Untrustworthy-Trustworthy, Bad-Good, Weak-Strong, Passive-Active, Slow-Fast, Poor-Rich, Selfish-Generous, and Despicable-Lovable. A principal components factor analysis of those ten items yielded two factors. The first factor, hereafter referred to as the evaluative dimension, accounted for 77.7 percent of the common variance. The items which loaded most heavily on this dimension were: Reliable, Honest, Trustworthy, Good, Generous, and Lovable. The second factor, hereafter referred to as the activity-potency dimension, accounted for 22.3 percent of the common variance. The items which loaded most heavily on this second dimension were: Strong, Active, Fast, and Rich. The rotated factor matrix, communalities, and eigen values are shown in Table 2.

It is extremely encouraging to see the similarity between the bipolar structure of the present company image scale and the findings of social-environmental psychologists who contend that affect is bipolar and accounted for by the factors of pleasure-displeasure and degree of arousal (Russell 1979, 1980). These two factors once enjoyed the company of a third factor, dominance (Russell & Mehrabian 1976), but that third factor has been relegated to a less dominant role in the structure of affect (Russell & Pratt 1980).

Both factors of the present study were retained and formed the base for subsequent analyses of company image. Two factor scores, one for each dimension, were computed for each subject by using the complete estimation method shown below in Formula 1 (Kim & Mueller 1978; Sheth & Tigert 1977):

$$f_i = S \sum_{j=1}^n f_{sc_{ji}} z_j \quad (1)$$

where:

- f_i = factor score i
- $f_{sc_{ji}}$ = factor score coefficient for variable j and factor i
- z_j = standardized value on variable j
- n = total number of j variables, here $n = 10$.

FTC Image

Image of the FTC was measured by having subjects rate the FTC on the same ten scales used to assess company image. A factor analysis of these items again produced a bipolar structure virtually identical to the factor

analysis on the company image scale in Table 2. Thus, two complete estimation factors scores for image of the FTC were computed for each subject. It will be recalled that cognitive responses directed at the FTC had also been measured, but they were so few in number that they were not subjected to further analysis.

Other Measures

Strength of belief in the claim that STP reduced oil consumption, perceived appropriateness of the fine on STP, and prior familiarity with the advertisement were assessed on ten-point self-rating scales. Recent brand usage was measured by an open-ended question which asked "When was the last time you used STP oil additive?"

Results

The data were subjected to 3 x 2 analyses of variance (ANOVAs) with sponsor (FTC vs. company vs. control) and generalized attitudes toward business and advertising (favorable vs. unfavorable) as the between-subjects factors. Internal analyses of the significant interaction effects were performed with Duncan's New Multiple Range Tests (Kirk 1968).

Company Image

Cognitive Response. A significant interaction effect was found on the generation of company-negative cognitive responses, $F(2,104) = 3.67, p < .029$. The pattern of the interaction means, shown in Figure 2, is consistent with the hypothesis of the present experiment. The internal analysis of this pattern showed that the company-sponsored corrective message significantly inhibited the generation of company-negative cognitive responses for those who held unfavorable attitudes toward business and advertising ($M_{company} = 0.77$ vs. $M_{FTC} = 1.85, p < .05$; the control group mean of 1.53 differed from neither 0.77 nor 1.85). Furthermore, for persons who held more favorable attitudes toward business and advertising, the FTC-sponsored corrective advertisement tended to have the strongest inhibitory influence on the generation of company-negative cognitive responses ($M_{FTC} = .092$ vs. $M_{control} = 1.83, p < .10$; the company sponsored mean of 1.62 differed from neither 0.92 nor 1.83). No significant effects were found in the analysis of the positive cognitive responses directed at the company (all $F_s < 2.63$, Grand $M = 0.35$).

Scaled perceptions. A significant main effect of generalized attitudes toward business and advertising on the evaluative dimension factor scores simply showed that those with favorable attitudes gave the company more positive ratings than did those persons holding unfavorable attitudes toward business and advertising ($M_{unfav} = -.388$ vs. $M_{fav} = .253, F(1,104) = 12.21, p < .001$). Generalized attitudes toward business and advertising did not, however, significantly affect the activity-potency ratings of the company ($M_{unfav} = -.099$ vs. $M_{fav} = .067, F(1,104) < 1.00$). Sponsorship of the corrective advertisement, either alone or in interaction, had no statistically significant effect on scaled company image perceptions.

FTC Image

Subjects who held favorable, relative to unfavorable, attitudes toward business and advertising gave the FTC higher ratings on the activity-potency dimension ($M_{fav} = .189$ vs. $M_{unfav} = -.319, F(1,104) = 4.43, p < .05$). Message sponsorship also affected ratings of the FTC on this dimension. In specific, the FTC received significantly higher scores on this dimension when the corrective advertisement was company-sponsored ($M = .40$) than when the corrective advertisement was FTC-sponsored ($M = -.14$) or unsponsored

($M_{\text{control}} = -.52$), $F(2,104) = 4.43$, $p < .02$. No other effects on FTC image were statistically significant.

Other Measures

Subjects with favorable attitudes toward business and advertising, relative to those with unfavorable attitudes, showed a tendency to more readily believe the STP claim of reduced oil consumption. ($M_{\text{fav}} = 3.54$ vs. $M_{\text{unfav}} = 2.76$, $F(1,104) = 2.88$, $p < .093$). No other effects on this variable approached significance.

No significant effects were found in the perceived appropriateness of the fine, recency of brand usage, nor on familiarity with the corrective advertisement. It is noteworthy that the low grand mean of the advertisement familiarity measure ($M = 2.07$) indicated that subjects were very unfamiliar with the advertisement.

Discussion

The present study showed that FTC- versus company-sponsorship of corrective advertising can have differential effects on a company's image, but the direction of the effects depends on an audience factor. Specifically, the cognitive response results indicated that when the audience held unfavorable attitudes toward business and advertising, a company-sponsored corrective advertisement significantly decreased the generation of negative cognitive responses directed at the company. But for those who held favorable attitudes toward business and advertising, it was the FTC-sponsored corrective advertisement which most effectively inhibited negative cognitive responses directed toward the company.

Interestingly, a comparable interaction effect was not found on positive cognitive responses. A viable explanation is that dominant cognitive responses tend to be more sensitive to treatment effects than nondominant cognitive responses (Lammers 1982; Petty, Wells, & Brock 1976). Since the negative cognitive responses in the present study exceeded positive cognitive response generation ($M_{\text{neg}} = 1.37$ vs. $M_{\text{pos}} = 0.35$, $p < .05$) it would be reasonable to expect few significant effects on the less dominant (positive) cognitive responses.

In the same vein, main effects were found on the evaluative and activity/potency scaled perceptions of the company and of the FTC. These main effects alone had little bearing on the hypotheses of the present study and were largely unsurprising and uninteresting. The absence of an interaction effect on these scaled perceptions highlights a point made by others who have also noted less than a perfect degree of correspondence between cognitive response and "traditional" attitude measures (Lammers, Leibowitz, Seymour, & Hennessey 1983; Swinyard 1981; Wright 1974); namely, important effects and theoretical implications may be overlooked by using only the traditional measures of attitudes.

Generalizations based on the findings of the present study are necessarily limited by the constraints imposed to achieve internal validity. Few consumers would ever find themselves in a setting and situation similar to that used in this experiment. But as is the case with most experiments, the artificial nature of the setting was the result of efforts to control for such extraneous variation as exposure time, history, and maturation. And as was mentioned earlier in this report, achieving a respectable degree of internal validity was an important criterion in the design of this experiment.

An obvious next step in a marketing research system is to conceptually replicate this experiment with a field experiment. The results of a field experiment would undoubtedly have to be tempered by an attached disclaimer warning others of the internal validity which

had been forsaken for external validity. But the combined picture provided by a laboratory experiment and a field experiment should prove to be most instructive.

Despite the caveat on generalizing the results of this study, it is all but impossible to resist the temptation to dwell at least briefly on the implications of the results for strategic marketing and public policy. Foremost is the counterintuitive suggestion that FTC-sponsored corrective advertisements should not be directed at target markets known for their hostility toward business and advertising. Company-sponsored corrective advertisements stand to fare better in such markets. (This realistically assumes, of course, that no damage to the company's image is desired by the FTC.) Conversely, in friendly markets (those which evidence favorable attitudes toward business and advertising), company-sponsored corrective advertisements run the risk of producing an overkill effect on the company's image. In the friendlier markets, FTC-sponsored corrective advertisements are preferable to company-sponsored ones.

Finally, it is also important to keep a reasonable perspective on the many factors which may moderate the effects of the corrective advertising. This experiment isolated only two from the flock--sponsorship (a source factor) and generalized attitude toward business and advertising (an audience factor).

Figure 1

Hypothesized Interaction Effect of Corrective Advertising on Company Image

	Generalized Attitude Toward Business & Advertising	Sponsor of Ad	Direction of Assertion	Target of Assertion	Resultant Image of Target (Company)
Favorable	FTC	(-)	(-)	Company (+)	Positive
	Company	(+)	(-)	Company (+)	Negative
Unfavorable	FTC	(+)	(-)	Company (-)	Negative
	Company	(-)	(-)	Company (-)	Positive

Table 2

Principal Components Factor Analysis of Company Image perceptions (VARIMAX Rotation with Kaiser Normalization)

Order	Items	Factor 1: Evaluative	Factor 2: Activity, Potency	h^2
3	"Trustworthy"	.88	.09	.838
2	"Honest"	.86	.28	.812
1	"Reliable"	.82	.32	.779
10	"Lovable"	.82	.06	.661
9	"Generous"	.62	-.04	.390
4	"Good"	.77	.44	.791
6	"Active"	.10	.75	.565
7	"Fast"	.07	.69	.482
8	"Rich"	.11	.57	.343
5	"Strong"	.33	.66	.548
Eigen Value (Initial)		4.83	1.39	
Percentage of Common Variance		77.7%	22.3%	
Note. $n = 110$.				

Table 1

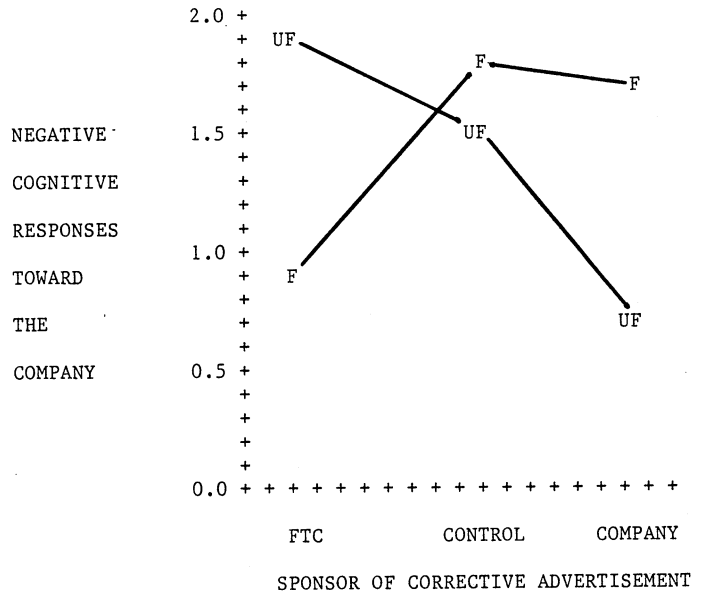
Principal Components Factor Analysis of Attitude Toward Business and Advertising (VARIMAX Rotation)

Order	Item	FACTOR						h ²	
		A	B	C	D	E	F		
5*	Most corporations are socially responsible	84	20	-06	-13	03	06	77	
4*	Most business executives are highly ethical	73	-20	04	07	-15	-27	68	
1*	Advertising is 100% truthful	68	-18	02	-10	03	17	53	
14*	Advertisements present a true picture of the product	50	-03	-24	-04	-24	04	37	
16*	Too many of today's advertisements are silly and ridiculous	-43	10	48	22	16	06	50	
19	The FTC should be stricter in enforcing truth in advertising	-12	82	15	41	11	-16	92	
13	There should be less advertising	-02	68	21	-05	04	-18	54	
9	Capitalism no longer meets the needs of society	-11	62	-17	17	06	13	48	
12	There should be more government regulation of advertising	13	61	-17	12	38	-07	59	
10	Advertisers are not likely admit they engaged in deceptive advertising unless forced to do so	-33	51	31	-12	09	34	60	
17	Most advertising insults the intelligence of the consumer	-23	06	69	01	26	-08	61	
15	There should be a ban on advertising of harmful or dangerous products	-23	06	69	01	26	01	53	
3	There is too much government regulation of business	17	-34	63	06	-07	-09	56	
18	Advertising often persuades people to buy things they really don't need or shouldn't buy	-02	34	58	27	-03	-02	53	
7	Corporate profits are excessive	05	07	20	85	27	09	86	
8	Large corporations have too much influence in government	-27	26	06	62	14	08	55	
2	Most products are safe	38	-07	01	-31	-59	02	60	
6	Most corporations intentionally engage in deceptive advertising	-23	12	30	34	49	09	52	
11	Advertising is essential to the prosperity of our economy	08	-13	-14	13	-06	94	96	
			FACTOR						
		A	B	C	D	E	F		
	Eigen Value	4.70	2.09	1.72	1.40	1.03	0.76		
	%	40.20	17.90	14.70	11.90	8.80	6.50		

Note: N = 110. Decimal points from factor scores omitted. Subjects responded on 9-point Likert-type scales. *indicates items used in final Generalized Attitude Toward Business and Advertising Scale.

Figure 2

Negative Cognitive Responses as a Function of Corrective Advertisement Sponsorship and Audience Attitude toward Business and Advertising



Note. F = Persons with favorable generalized attitudes toward business
 UF = Persons with unfavorable attitudes
 N = 110.

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RHETORICAL STRATEGIES IN ADVERTISING

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Abstract

While some advertising acts on pre-experience mental states like awareness or intention to purchase, other advertising influences what the consumer takes from the consumption experience itself (so-called transformational advertising). This paper applies rhetorical theory to identify attributes of the advertisement which must be present for transformation/embellishment of the consumption experience to occur. It proposes a typology of advertising arguments built upon characteristics of argument form and structure.

Introduction

Some experiences resist verbal description. They may generate what Bem (1972) called "weak, ambiguous, or uninterpretable" cues. Or they may offer strongly felt cues which fit no ready categories in language because the cues are new, unfamiliar or unaccepted (Schachter 1964, Valins 1966). This paper is concerned with the role of advertising in making sense of consumption experiences of these kinds. The argument is that there is a class of advertising, that following Wells (1983) can be called 'transformational', whose function is to prefigure ambiguous consumption experience and shape the meaning consumers give to it. This paper aims to identify the rhetorical characteristics of communications that affect such sense-making.

Advertising and Sense-Making

Webster (1971) proposed that the function of advertising was 'to convey meanings'. Two recent papers have argued that some advertising may go further and construct meanings, by influencing the conscious apprehension of experience. Deighton (1984) refers to 'directed inference'. Puto and Wells (1983) use the concept of 'transformational advertising' to characterize communications whose effect is to embellish the consumption experience, distinguishing this kind of communication from 'informational' advertising.

These papers claim that, while some advertising merely generates awareness of choice options or supplies reasons to try one over another, some advertising can affect what is experienced when the product is consumed. Puto and Wells (1983) ascribe this effect to vicarious classical conditioning, by which the portrayal of a social model's responses to the product induces the same responses in the observer, and to Clynes' (1980) model of generalized emotion, by which the advertisement evokes an emotional state and attributes it to the advertised product. Deighton (1984) attributes it to heuristic-driven, confirmatory processing of experience cues driven by advertising-induced expectations. In this view the advertisement affects what is attended to, and what is recalled from, the experience of using the product.

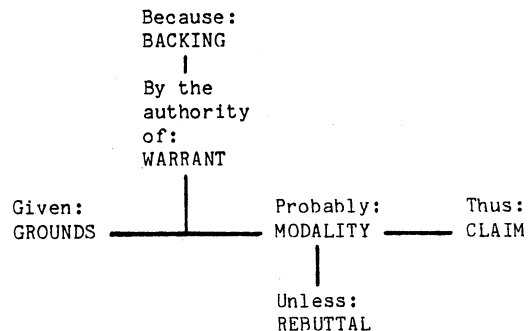
This paper, however, is not primarily concerned with the psychology of the phenomenon. If the distinction between informational and transformational communications exists, then it ought to be possible to recognize, in the advertisements themselves, the rhetorical components that account for the distinction. This paper therefore develops a coding scheme for a content analysis of advertising as part of a general investigation of the issue. It identifies attributes of argument structure and form which, from research in linguistics and logic, appear to be necessary conditions for the transformation effect to occur.

Argument structure

Advertising is argumentation, in the sense that it intends to influence an audience with substantiated assertions. An analysis by Toulmin (1958) suggests a dimension of argument structure that may account for some advertising's ability to construct meanings, rather than simply present information. The reader is referred to Toulmin's 1958 thesis and to Toulmin, Rieke, and Janik (1979) and Bettinghaus (1966), for fuller treatments of this topic.

Toulmin's concern is how should an argument be laid out if we want to locate the sources of its validity? Three elements of his structure are a claim, grounds and a warrant or license to infer from the grounds to the claim. The claim is a conclusion whose merits must be established. The grounds are the specific data, not in dispute, to which the arguer appeals. The warrant is a general principle, rule or law by which the grounds support the claim. If the warrant is disputable, then the argument will contain backing. The function of this element of the structure is to supply grounds for the authority of the warrant. If the claim is qualified, the argument may contain a modality, to specify the claim as necessary or probable or presumable, and the warrant may contain a rebuttal, to record the conditions which might defeat its general authority. Figure 1 illustrates this structure.

FIGURE 1: THE GENERAL STRUCTURE OF ARGUMENT



The structure of the advertisement for Tylenol in Appendix A is easily captured in this model, as Figure 2 illustrates. The ad in Appendix B presents more of a challenge to the model. This ad relies less on verbal argument. However as Figure 3 indicates it can be accommodated. The elements of the American Tourister ad that make it difficult to model as reasoned discourse are (1) that a large part of the grounds is presented not in words but in a metaphorical visual image (the gorilla abusing the case), (2) that the warrant is unstated and must be inferred if the claim is to hold, and (3) that it is the warrant that seems to be at issue, and not the claim.

FIGURE 2:
STRUCTURE OF ARGUMENT IN THE TYLENOL
ADVERTISEMENT SHOWN IN APPENDIX A

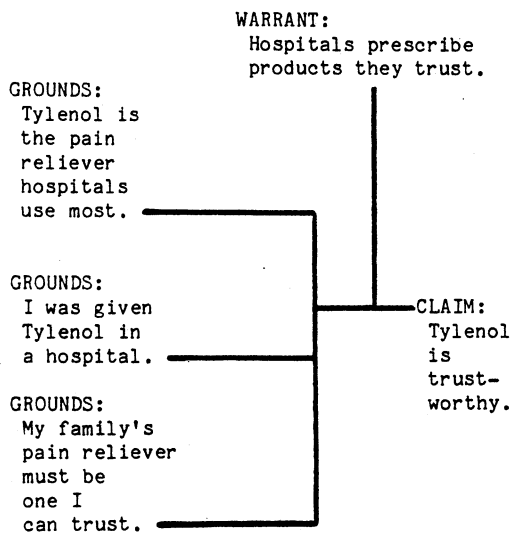
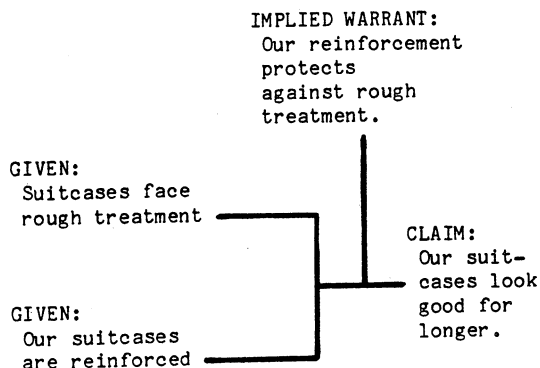


FIGURE 3
STRUCTURE OF ARGUMENT IN AMERICAN
TOURISTER ADVERTISEMENT SHOWN IN APPENDIX B



Toulmin (1958, p. 120) anticipates this third difficulty. He distinguishes between warrant-using and warrant-establishing arguments. The Tylenol ad represents the former: the warrant is a matter of common currency. It is the experience of Ann

Johnson as grounds for the claim that make the claim compelling. The American Tourister ad is an example of the latter. Toulmin describes a warrant-establishing argument as one which makes clear the acceptability of a novel warrant by applying it to cases in which both the grounds and the conclusion have been independently verified.

This distinction parallels the distinction between deductive and inductive reasoning. The Tylenol ad argues deductively, from a fact about hospitals (they prefer Tylenol) and a concrete instantiation of that fact, to the conclusion that Tylenol can be trusted. The American Tourister ad invites an inductive inference, from the vivid instantiation of a suitcase's rough treatment (the grounds) and the demonstrated survival of the case (the claim), to the warrant that the case is durable.

Notice in the case of an argument which persuades inductively that the ad does not interpret experience, it effectively supplies the experience. If the ad persuades, it is as if the event has actually occurred. Subsequent experience is assimilated incrementally: if one sees a new-looking American Tourister suitcase at an airport, it is not unreasonable to decide that the case may actually be quite old, and therefore a confirming instance of the advertised proposition.

Whether an advertisement establishes a warrant or uses a warrant, thus, indicates whether the argument appeals to evidence or constitutes the evidence. It is the latter case which can be described as transformational: the advertisement either adds to or interprets past experience, or supplies a datum to which future experience will be assimilated.

Rhetorical Form

The previous section has proposed that argument structure determines whether a communication influences the interpretation of experience. This section examines how argument form can do so. Among the many aspects of form which are rhetorical in their purpose is the use of tropes. Tropes, or figures of speech, are necessary when the domain of discourse has no well-established language conventions. When experience has been schematized, as for example in a mature science like physics, discourse has well-defined terms to employ. Discussion is perhaps colorless, but it is free of surprises. When language is set the task of conveying less well-disciplined experiences, or when the aim of discourse is to change the schema, then the objects of communication must be evoked creatively, often by reference to similar or contiguous objects. These unexpected substitutions can be classified in terms of the four 'master tropes' (Burke 1962): metaphor, metonymy, synecdoche and irony.

Metaphor is the tactic of denoting a concept by a word or phrase with which it shares some points of similarity. A metaphor succeeds as a way of telling when the respondent recognizes the intended analogy—when a train of inference is initiated by the rule that if the things agree in some respects, they will agree in others. Metaphor abounds in advertising. American Tourister asserts that busboys are gorillas when they handle luggage. IBM denotes the naive personal computer user by the Chaplin tramp. Merrill Lynch invoked the thundering herd metaphor, found that some of the inferences it induced were counter productive, and modified it to 'a breed apart'.

It is not only in media advertising that a marketer is concerned to direct the construction of meaning. The adoption by consumers of new products can be smoother if metaphor is used to build continuity between past experience and the new phenomenon and if product design is careful to have analogical inferences confirmed in use. Designers of computer systems have been quite explicit about the need to control inference by metaphor. Office software has employed the pointer, the menu, the desk and more recently the kitchen as metaphors for the control interface. In a particularly insightful paper, Clanton (1983) proposes of software, "The device should document itself. It should create the metaphor that directs its use, then give feedback that allows the user to learn more." The tactic of presenting the product to the consumer metaphorically, as something it is not, is clearly not deceptive--it is a powerful way to induce comprehension and speed adoption.

Synechdoche employs an attribute or part of the referent to stand for the referent. The effect is to make salient some aspect of the referent at the expense of others, and particularly to direct the thinker to comprehend a mere aspect as a representative aspect. The consequences for inference are suggested by Kahneman and Tversky's (1972) discussion of the representativeness heuristic.

While synechdoche focuses comprehension by reduction, metonymy does it by integration. It denotes the referent not by one of its parts, but by some whole to which it is physically or existentially linked. It makes an abstract referent more vivid or concrete, and gives it attributes that belong to the other. Thus when 'the White House' is used to denote the executive branch of government, inferences are made possible that depend on properties of a building (solidity, prominence, endurance) that the abstract referent may not share.

Irony, in which 'the author signals in advance a real or feigned disbelief in the truth of his own statements' (White 1973), turns figurative language against itself to communicate the unsoundness of the whole image-building process. Ironic language invites the audience to see through the figuring tactic to some more sophisticated and often cynical view of reality. Irony is rare in advertising, because it is potentially destructive of the whole shared enterprise. Ironic advertising, such as for example the 'lemon' campaign for Volkswagen in the 1970's, depends for its success on the excesses of other advertisers. Furthermore it is only rarely a good idea to foster a cynical interpretation of consumption experiences.

The general claim in this section of the paper is that tropes prefigure the apprehension of reality and so shape the sense that is made of it. A study by Glick and Holyoak (1983) is evidence for that claim. The counterpart of experience in this study was a problem to be solved by the subjects, and the sense that was made of the experience was revealed by whether or not subjects solved the problem. The study investigated whether exposure to an analogous solved problem (corresponding to a solution metaphor) would affect the rate of problem solving. The finding was that the rate of problem solving was higher only when at least two different analogs were presented. The authors attributed this result to a process by which exposure to two analogs drew subjects' attention to the critical similarities. These recognised similarities became the elements of a new schema for the comprehension of subsequent experience which now included a solution element.

Subjects who saw the two analogs were able to grasp the metaphor, and perceived the target problem in a different and more productive way.

The Glick and Holyoak study is a rare example of experimental analysis of the effect of communication on sense-making. It suggests a paradigm for systematic investigation of this important issue in advertising.

Hypothesis

This paper has made two distinctions among persuasive communications, a distinction of structure between warrant-establishing and -using arguments, and a distinction of form between figurative and literal language usage. Some evidence and argument have been advanced to link both of these attributes to the transformation effect, suggesting that necessary (but of course not sufficient) conditions for a transformation effect are the presence of warrant-establishing structure and figurative form.

Figure 4 sets out a taxonomy of arguments that results from this set of distinctions.

FIGURE 4
A TAXONOMY OF ARGUMENTS

		Argument Form	
		Figurative	Literal
Argument Structure	Warrant-establishing	Transformation/Myth	Report
	Warrant-using	Allegory or Fable	Syllogism

In this table, a report is an argument which proceeds inductively (its grounds and its findings are used to support the warrant or hypothesis which is in dispute) and has at its disposal a well-defined set of terms to describe experience. Perhaps the purest example of this mode of argument is the scientific paper recording the test of an hypothesis. If the same set of terms were applied to argue deductively (to use or draw implications from, rather than to support, the warrant) the result would be a syllogism. If the structure lacked a well-schematized language but retained its deductive structure, the argument could be characterized as persuasion by allegory or fable: it would argue for a claim by deduction, using symbolic terms.

In the final cell (transformation/myth), the object of the communication is not to dispute a claim. It deals with the value or warranty to be given to an event, when the event is recounted figuratively. In argumentation by myth, the story transforms the event's meaning. Eclipses and thunder are common examples of events whose experiencing has been transformed in many cultures by mythic argument.

Each of these modes of argumentation is encountered in advertising. The simple announcement ad, common in retailing and in the marketing of prosaic industrial products, is usually syllogistic (though

often with the minor premise implied). Comparative advertising for appliances and industrial equipment usually adopts the report mode to establish the warrant of product superiority. These two modes of advertising have the advantage that communicator and receiver share a common mapping of experience into language. This kind of advertising is seldom accused of being manipulative (though it may be accused of being wrong) because the argument is explicit. On the other hand, mythic/transformational or allegorical advertising often arouses public concern, especially when it is applied to 'important' issues like politics or expensive consumer product choices. Note, however, that the choice of the figurative form is inevitable when there are no literal terms in which to articulate reality. Similarly, warrant-inducing advertising is not of itself manipulative: some events simply are open to more than one interpretation.

The hypothesis derived in this paper is that advertising capable of transforming the consumption experience will have recognizably different characteristics from advertising capable only of influencing beliefs, intentions, expectations, or other pre-experiential mental states, and that these characteristics include form (the use of figurative discourse) and structure (warrant-establishing argument). A test of this hypothesis will make progress toward a typology of advertising tasks and illuminate the question of the various ways in which advertising works.

Appendix A

TYLENOL

(Woman Speaks:)

Woman (Head/Shoulders)
Title "Mrs. Pat Grayson:

Few things upset a mother more than knowing that one of her family is in pain. So the pain reliever that I choose for my family has to be one I can trust.

Pack shot
"Regular strength Tylenol safe fast pain relief without aspirin."

For me, that pain reliever is Tylenol.

Head/Shoulders

I was first given Tylenol in the hospital after my son Christopher was born and it really worked well. Turns out Tylenol's the pain reliever hospitals use most.

Head/Upper Torso

Head/Shoulders

That means I can trust Tylenol for my family.

(Male Announces:)

Regular strength pack

For relief you can

shot, SUPERIMPOSED:
"Trust Tylenol.
Hospitals Do."

Hand places Extra Strength pack next to Regular Strength pack.

trust, trust Tylenol.
Hospitals do.

Tylenol: In regular and extra strength.

Appendix B

AMERICAN TOURISTER

(Voice Over:)

Bellclerk takes suitcase from hotel guest at her room. Enters hotel stairwell.

We at American Tourister know that waiting for every suitcase is the unexpected.

Bellclerk is transformed into gorilla who leaps down stairs, hitting suitcase against rail and throwing it to the floor. Jumps on it. Case rolls end over end downstairs.

(Roar)

That's why we reinforce our beautiful American Tourister lightweighters with a steel frame, rugged rubber wheels, and tough protective covers.

Gorilla transformed back into bellclerk as he emerges into hotel lobby.

Guest arrives, hands bellclerk a banana. (Logo superimposed)

To us a American Tourister, it's not just how good it looks, it's how long it looks good.

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DECISION MAKING AND INFORMATION SEARCH IN MULTIPLE-OPPONENT BARGAINING

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Abstract

The purpose of this paper is to apply theories of information acquisition and choice heuristics to a situation where a buyer bargains with multiple sellers. Unlike the consumer buying situations that are commonly studied, bargaining presents a dilemma in which the buyer and seller share the psychological conflict between the need for information and self-imposed restraints against providing it. An examination of the bargaining literature and the consumer decision making literature yields interesting hypotheses concerning information acquisition and decision making in multiple-opponent bargaining tasks. The objectives of this paper are (1) to identify the nature of the research problem, (2) to indicate a relevant literature for possible solutions to theoretical questions, and (3) to suggest specific directions for new research efforts.

Introduction

Very little is known about how individuals acquire information and make choices when they bargain with multiple parties. In marketing, this situation may occur when a consumer visits several dealerships when shopping for a new automobile or when an industrial buyer negotiates a new purchase with several alternative suppliers.

How individuals search for information and how that information is used (termed cue utilization) to make a decision are critical elements of the bargaining process. Information search and cue utilization have been widely researched in consumer decision making; however, buyer research literature has not investigated these processes in a bargaining situation. Yet bargaining is prevalent in major consumer purchases (e.g., automobiles and houses) and in a large number of industrial purchases. Thus, the goal of this paper is to suggest specific directions for future research on information search and cue utilization in multiple opponent bargaining, i.e., bargaining with more than one seller.

The paper is organized around four major topics. First, the nature and the importance of the research problem is developed. Then, relevant bargaining literature is discussed to frame what is known about bargaining situations involving multiple opponents and negotiable terms of agreement. Because the bargaining literature provides virtually no information about information acquisition and choice heuristics in situations where there are multiple opponents, attention then turns to the consumer decision making literature, which provides some insights into multiple-opponent bargaining. Last, specific directions for research on this topic are suggested.

Information Search Behavior in Multiple-Opponent Bargaining

The Research Problem

Interest in multiple opponent bargaining was initially motivated by the desire to gain a better understanding of organizational buying behavior. Early descriptive and conceptual work directed attention toward two kinds of information search: general search for an exchange partner and specific search for terms of agreement (Robinson, Faris, and Wind 1967; Wind 1968; Webster and Wind 1973). While descriptive studies continue to examine both kinds of information search (e.g., Vyas and Woodside 1984), experimental research has not simultaneously examined both kinds of information search. The current state of experimental research is illustrated by Crow, Olshavsky, and Summers' (1980) work in which search for a supplier was examined. This study represents a milestone in that verbal protocol analysis was used to develop a detailed understanding of the supplier selection decision process. Bargaining, however, was not considered in their study.

The bargaining literature has provided insight on how opposing parties come to terms of agreement. In marketing, these terms of agreement usually refer to attribute values for one or more products or services. Relatively little attention has been focused on decision processes in multiple-opponent bargaining, however. The multiple-opponent situation differs from the single-opponent situation in that the buyer must decide between alternative sellers, as well as come to terms of agreement on the product or service package.

The consumer decision making literature has focused on choice among several alternative brands, each offering a unique set of attribute values, where the attribute levels are fixed for a given alternative. Much attention has been devoted to identifying characteristics of information search and choice heuristics in this setting. Since both brand choice decisions and supplier decisions are examples of multi-attribute choice, it is suggested here that consumer decision making research may provide some initial insights into multiple-opponent buying behavior. The bargaining setting, by contrast, is characterized by attribute levels that are not fixed, but rather the subject of the negotiation.

The next section considers multiple opponent bargaining problem from the perspective of bargaining theory. Then, the following section will draw insights from the consumer search literature.

Single-Opponent Bargaining Theory

Bargaining is a form of joint problem solving that can be framed in terms of each party's "aspiration level" and "reservation level" (Tedeschi, Schlenker, and Bonoma 1973, p. 126). An aspiration level is the ideal level of attributes sought, and the reservation level is the attribute level at which no agreement becomes preferable to an agreement. The joint set of attribute levels that fall between each party's aspiration and reservation levels represents the "zone of agreement." If the zone of agreement is a null set, no agreement between the parties is possible.

¹The authors' names were arranged alphabetically. Both contributed equally to this paper.

The purposes of communication include a discovery function, which is designed to secure information about the other party's reservation level, and a manipulative function. The manipulative function aims at disguising the communicator's own preferences and values, while attempting to alter the aspiration level of the opponent (Tedeschi and Lindskold 1976). Thus, buyer-seller communications in a bargaining situation are mutually contingent in that each party is guided partly by internal stimuli, such as plans and attitudes, and partly by the other party and the situation.

Despite the mutual need for information from the other party, bargainers often avoid revealing information that might lead to exploitation by the other party (Kelley 1966). In Kelley's view (1966), this leads to two dilemmas. First, a bargainer has reason not to believe the communications of the other party, but at the same time must rely on the other party's communications in order to structure preferences and determine an effective bargaining posture. This paradox represents the "dilemma of trust." Second, a bargainer is motivated to be both frank and deceptive. Frankness provides information to the other party that enables joint movement toward agreement. Deception is necessary to avoid exploitation by the other party. This paradox is referred to by Kelley (1966) as the "dilemma of honesty and openness." These dilemmas point to the complex nature of information acquisition in bargaining.

Communications used to probe opponents' goals and priorities can be classified into one of three types: explicit, implicit, or heuristic trial and error. In explicit communication, bargainers exchange specific information about their situations or exchange information about the relative priority of different issues (c.f., Walton and McKersie 1965; Pruitt and Lewis 1975; Schulz and Pruitt 1978; Pruitt et al. 1978). Note, however, that the value of explicit information is reduced by the dilemmas described above.

Implicit cues and heuristic trial and error provide alternative approaches to acquiring information and seeking agreement. In implicit communication, bargainers exchange directional information about their priorities, compare alternative sets of offers, and in other ways indirectly convey information about their situation (e.g., Kimmel et al. 1980; Pruitt et al. 1978). Heuristic trial and error has two components (Pruitt 1981, p. 175-6). First, trial and error refers to communicating a variety of proposals in an attempt to discover mutually acceptable terms of agreement. The other party's responses to these proposals presumably reveal something about the party's goals and priorities. Second, bargainers use heuristics for identifying proposals that maintain a target level of benefit. Thus, the set of proposals is not randomly selected.

The bargaining literature has emphasized the importance of implicit cues used by bargainers to infer information about an opponent's goals and priorities. For example, Cross (1969) proposed that bargainers infer expected rates of concession-making from the discrepancy between actual and expected rates of concession. Siegel and Fouraker (1960) proposed that an opponent's initial offer and rate of concession provide information about the opponent's aspiration level (i.e., goals and priorities). High opening offers signal high aspirations, and sudden, large concessions indicate willingness to yield. Subsequent bargaining strategy research has tended to support the original Siegel and Fouraker propositions, which are also predicted by Cross's mathematical model.

Sometimes an alternative emerges that stands out in both parties' thinking as a fair and reasonable solu-

tion. Such an alternative has been termed a "mutually prominent alternative" (Schelling 1960). Pruitt (1981, p. 58-59) hypothesizes (and cites supporting empirical studies) that a mutually prominent alternative speeds concession making, enhances the likelihood that agreement will be reached, and narrows the range of agreements achieved. Thus, the presence of a mutually prominent alternative appears to reduce some of the complexities of the bargaining task.

By manipulating implicit indicators of goals and priorities, such as opening offers and concession rates, bargainers attempt to influence their opponents' perceptions of their goals and priorities. Influence is also more explicitly exerted through the use of threats and promises, selective withholding of information, and statements about positive or negative outcomes corresponding to different courses of action (Tedeschi, Schlenker, and Bonoma 1973). The process of influence is relevant to our understanding of search and cue utilization to the extent that influence-attempts decrease the value of information as a reliable indicator of feasible terms of agreement between a buyer and seller. Thus, information search and cue utilization are more complex in a bargaining situation than in a situation where attribute levels of the product offering are "fixed."

In summary, single-opponent bargaining theory focuses on the mutual dependence of bargainers and on the indeterminate nature of mutually acceptable terms of agreement. Because bargainers are dependent on each other for information yet have some opposing goals, they face the dilemma of trust and the dilemma of honesty and openness when exchanging information. As a consequence, communications serve the mixed purposes of disguising one's own position, influencing the other party's position, and finding mutually acceptable terms of agreement. Because explicit information may be unreliable in bargaining situations, information acquired through explicit information exchange is supplemented with or replaced by information acquired from implicit cues and heuristic trial and error search strategies.

Multiple-Opponent Bargaining

There are three fundamental issues in multiple-opponent bargaining. First, how do buyers decide upon the set of sellers with whom they will engage in pre-purchase discussions and evaluations? Second, how do buyers negotiate mutually acceptable terms of agreement with alternative sellers? And third, how do buyers choose among alternative offers? Unfortunately, neither descriptive nor experimental research has shed much light on the second issue (e.g., Vyas and Woodside 1984; Crow, Olshavsky and Summers 1980). Although the Crow, Olshavsky, and Summers (1980) research regards the terms of agreement as fixed, not negotiable, this work merits attention for the way in which it experimentally addresses the first and third issues concerning how buyers choose suppliers for pre-purchase deliberations and how buyers choose among offers.

Crow, Olshavsky, and Summers (1980) examined industrial buyer decision processes using protocol analysis and detailed decision simulation models. The buying task involved the purchase of five medium-cost electrical components. There were either 7 or 15 potential vendors, and the length of time allowed for delivery was either 9 or 5 weeks, which introduced time pressure. The first phase of the purchase task was to review separate vendor history profiles on 3 x 5 cards and select vendors from whom to request quotes. Then quotes containing prices and promised delivery dates were received; these terms of agreement were not negotiable. In the high time pressure condition the sub-

ject was required to select a final supplier for each component from those vendors submitting bids. In the low time pressure condition the subjects were permitted to send out additional quote requests.

Similar to the findings in consumer decision making studies (Lussier and Olshavsky 1979; Payne 1976; Wright and Barbour 1977), organizational buyers were found to develop a two-staged decision process for quotation requests. Interestingly, no effects were found for time pressure or number of alternatives considered, two factors that are considered to increase task complexity and possibly lead to different search strategies. One explanation for the no-effect finding for these variables is that even the lower number of alternative vendors (i.e., 7) represents a high level of information load and task complexity.

The Crow, Olshavsky, and Summers study represents the state of the art with respect to experimental research on organizational buyer information acquisition and choice behavior. Note, however, that the offers of the suppliers are fixed and uninfluenced by the buyer's communications. Thus, the Crow et al. study provides information about multiple-brand search in an industrial setting, but does not address information acquisition in a bargaining situation.

Marketing experiments focusing on power relationships in a bargaining situation provide little additional information on the process of information acquisition and decision making, although insight is gained about the nature of outcomes (e.g., Walker 1971; Dwyer and Walker 1981). For example, Dwyer and Walker (1981) found that a manufacturer bargaining with two retailers obtained larger profits than a manufacturer bargaining with one retailer. This difference is attributable to the unbalanced power relationship that favors a manufacturer who faces two retailers competing for limited resources controlled by the manufacturer.

In summary, the topic of multiple-opponent bargaining is ripe for investigation. The only information we have in this area concerns interaction with one opponent where search concerns finding mutually satisfactory terms of agreement. Search among brands/suppliers has not been studied in a bargaining context. The next section discusses the consumer decision making literature as a possible source of ideas for the study of multiple-opponent bargaining situations.

Consumer Decision Making and Information Search

Much research has been focused on how consumers make a choice among a set of alternative brands, each characterized by values on several attributes. This problem is analogous to the problem of choice among alternative suppliers (or sellers) in its multi-alternative, multi-attribute structure. In this section of the paper, relevant findings from this research stream are briefly reviewed.

Decision Making

Research has clearly demonstrated that humans are limited in their ability to process information (Miller 1956; Newell and Simon 1972). Thus, when making a choice among alternative products, people generally do not search for all available relevant information, even when the information is free and easily accessible. In addition, people appear to use heuristics, or rules of thumb, when they evaluate the information they do acquire, which further reduce the demands of the task. Much research has focused on identifying the heuristics people use, and how these heuristics are implemented (e.g., Russ 1971; Wright 1975; Payne 1976; Bettman and Zins 1977; Bettman and

Park 1980).

Bettman (1979) proposed that choice heuristics can be characterized by three aspects: (1) whether or not a judgment is formed for each alternative as a direct consequence of using the heuristic, (2) what choice criterion is used to choose among alternatives, and (3) whether information is processed by brand or by attribute. Choice criterion refers to a rule such as "choose the best" or "pick the first one that is satisfactory." Processing information by brand refers to a strategy of evaluating each alternative as a whole, and then making a choice based on these overall evaluations. Processing information by attribute refers to a strategy of comparing all alternatives on a single attribute, followed by comparing the alternatives on a second attribute, and so on.

Consumers appear to use a phased strategy when the number of alternatives is relatively large (Payne 1976; Lussier and Olshavsky 1979). The first phase is used to eliminate some alternatives from consideration, and the second phase is used to compare the remaining alternatives with each other.

Consumers also appear to develop heuristics at the time of choice, using fragments or elements of rules stored in memory, rather than retrieving an entire decision procedure from memory and applying it in its entirety (Bettman and Zins 1977; Bettman and Park 1980). This implies that the choice situation may have a strong influence on the choice procedure.

Based on the notion that humans are limited in their information processing abilities, Slovic (1972) proposed a principle, termed concreteness, to describe a general information processing strategy used in judgment and choice. "Concreteness represents the general notion that a judge or decision maker tends to use only the information that is explicitly displayed in the stimulus object and will use it only in the form in which it is displayed. Information that has to be stored in memory, inferred from the explicit display, or transformed tends to be discounted or ignored (Slovic 1972, p. 14)." Although this principle has not been tested directly, empirical evidence has been found to support it (e.g., Slovic and Lichtenstein 1968; Payne and Braunstein 1971).

Information Search

Information search behavior is often characterized by the pattern of search, amount of search, and type of information sought (Jacoby, Chestnut, Weigl, and Fisher 1976). Pattern of search is thought to reveal choice heuristics, although it is an imperfect indicator. The amount of search and type of information sought are thought to be influenced by many individual and situational factors (Bettman 1979). Among these are: the buyer's knowledge, costs vs. benefits of information, time pressure, and choice task difficulty.

Directions For Future Research

In this section, findings from the consumer decision making literature are applied to the multiple opponent bargaining situation in an effort to provide insight into information search and evaluation processes in multiple opponent bargaining. Based on the literature reviewed in the preceding sections, several propositions regarding information search and evaluation processes in multiple opponent bargaining are stated and discussed. These propositions do not represent an exhaustive list of possible research questions on this topic. Rather, the propositions are meant to illustrate the direction such questions might take.

Phased Decision Making

When consumers make a choice among a large number of brands, they appear to use a two-phased decision process. First the brand alternatives are screened, and second, those alternatives that pass the "screen test" are further evaluated. The screening phase removes "inferior" brands from consideration early in the process, thus reducing the information processing demands of the choice task.

A two-phased decision process would likewise reduce task complexity in the multiple-opponent bargaining situation. When there are a large number of alternative exchange partners, these potential partners may first be screened on the basis of a limited number of attributes. Only those passing this test would be candidates for more extensive bargaining.

1. Bargainers use a two-phased strategy when the number of potential exchange partners is large.

The bargaining situation is far more complex than the consumer choice situations that have been studied previously. For example, the buyer must make inferences about the opponents' goals as well as keep track of attribute values. Thus, it is expected that in the second phase buyers will tend to bargain with one seller at a time, in order to reduce the demands on short term memory.

2. The second phase of the decision process is dominated by brand processing as opposed to attribute processing.

The pressure of a mutually prominent alternative is likely to reduce the complexity of the bargaining task with that exchange partner. As a consequence, the buyer may be able to divert some effort to bargaining with other suppliers.

3. The presence of a mutually prominent alternative enables the bargainer to expand search for an exchange partner.

Type of Information Utilized

Slovic's (1972) concreteness principal, which was discussed earlier as a principal derived from notions about limited information processing capabilities, leads to an interesting critique of Cross's (1969) theory. As described earlier, Cross's (1969) theory proposes that bargainers infer expected rates of concession-making from the discrepancy between actual and expected rates of concession. This model predicts some of the propositions offered in the widely accepted theory of Siegel and Fouraker (1960). These theories, however, were developed with a bilateral monopoly in mind. In a bilateral monopoly a bargainer faces a single opponent and perhaps can accommodate the more demanding cognitive task of comparing actual and expected rates of concession.

Slovic's concreteness principal suggests that bargainers are more likely to use concrete information. This might be particularly true in a complex choice task. Thus, contrary to the theories that propose the extensive use of rate-of-concession information as a basis for decisions, in a multiple-opponent bargaining situation bargainers may utilize offer level or concession size, rather than concession rate, as the basis for evaluating and comparing offers. Offer level information is most concrete, while actual/expected concession rate comparisons are least concrete.

4. As the number of potential exchange partners increases, a bargainer will increasingly rely on more concrete information, such as the offer-level

proposed, rather than a comparison between actual and expected concession rates.

The increased reliance on offer-level information in multiple-opponent bargaining situations suggest another interesting proposition. Earlier we noted that research on bargaining strategy in single-opponent bargaining situations has supported Siegel and Fouraker's (1960) proposition that extreme initial offers convey high aspiration levels and reduce the opposing party's expectations about the final terms of agreement. Increased utilization of offer-level information in multiple-opponent bargaining also increases the salience of initial offers and thus make initial offers even more influential.

5. As the number of potential exchange partners increases, a bargainer will increasingly use the opponents' initial offers as the basis for a first-stage screening of alternative suppliers.

Last, the increased reliance on offer-level information in multiple-opponent bargaining also suggests that a bargainer will increasingly seek "final best offers" as the last step in bargaining. As illustrated by federal government procurement, a final best offer strategy may take the form of accepting sealed bids from numerous vendors on a given date and prohibiting negotiation after the deadline. Final best offers represent offer-level information conditioned on the unacceptability of any future offers. The utilization of final best offer information does not preclude bargaining prior to obtaining final best offers.

6. As the number of potential exchange partners increases, a bargainer will increasingly choose among suppliers based on a comparison of final best offers.

Information Exchange Strategy

Earlier discussion identified three different ways to identify mutually acceptable terms of agreement: explicit information exchange, implicit information exchange, and heuristic trial and error. Explicit information exchange involving unambiguous statements about goals, preferences for certain concessions, and preferences for specific terms of agreement puts less demand on the limited information processing capabilities of a bargainer than either implicit information exchange or heuristic trial and error. The latter two strategies represent indirect forms of communication. As such, a bargainer must convert perceptions of his or her own goals and priorities into an implicit form of communication or a trial proposal and interpret the opponents' responses, perhaps over a series of trials. Thus, a bargainer may opt for a less demanding information exchange strategy (i.e., explicit information exchange) when there are more alternatives to consider.

7. As the number of exchange partners increases, a bargainer will rely more on explicit information exchange as compared to implicit information exchange or heuristic trial and error.

One form of implicit information exchange centers around directional statements that convey some information about preferences for concessions and terms of agreement. Information of this kind differs from explicit information only by degree and will be employed before an implicit information exchange strategy involving a comparison of simultaneously presented offers, which yields information that requires a greater amount of interpretation. By the same token, a heuristic trial and error strategy that relies entirely on a heuristic for developing new proposals and disregards an opponent's response until agreement is reached

ed puts less demand on a decision maker's information processing ability than does a heuristic trial and error strategy that takes into account patterns of responses. Considering that information search strategies may be differentiated according to the demands placed on limited information processing ability, a more general proposition may be stated.

8. Use of a particular information exchange strategy depends on the number of exchange partners actively considered. As the number of exchange partners increases, the greater the extent to which less demanding information search strategies will be utilized.

Summary and Conclusion

The purpose of this paper was to draw on the bargaining and consumer search literatures for insights to information acquisition and evaluation in a situation characterized by multiple-opponent bargaining. The bargaining literature has focused on search for acceptable terms of agreement, while the consumer decision making literature has focused on search for a preferred brand. A complete understanding of information acquisition in a bargaining setting requires consideration of both kinds of search simultaneously. Some directions for future research were suggested in the form of propositions, which were developed from the extant literature. An area that deserves considerable attention, but was not discussed in the paper, is that of methods for research. In this regard, an article by Schurr and Lessne (1983) provides a general discussion and guidelines for methods for conducting negotiation research in marketing. Also, Schurr and Ozanne (1984) have reported a study of multiple-opponent bargaining and thus provide some groundwork for multiple-opponent bargaining studies. Future research on this topic must devote attention to dependent measures that can adequately characterize information search in a bargaining situation.

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IDENTIFY NEGOTIATIONS IN BUYER-SELLER INTERACTIONS¹

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Abstract

The argument is presented that a useful choice of analysis of bargaining communications in marketing should be two or more communication turns between two or more parties in the exchange. Such communications are likely to include discretely packaged blocks of interactions and breaks and connections between such blocks. The concepts of official and unofficial identity negotiations may be useful in labeling a few of the blocks of interactions. These concepts are defined and examples provided from tape recordings of buyers and sellers meeting in natural settings. "Being there" is advocated as a necessary part of research programs to study bargaining behavior in marketing communications.

Extant content analytic systems for analyzing bargaining communications call for dismembering verbal or written exchanges of buyers and sellers and placing the separate utterances into categories (e.g., Bonoma and Rosenberg 1975; Pennington 1968; Willett and Pennington 1966; Angelmar and Stern 1978; Bales 1968; Pettigrew 1975). For example, building directly on the work of Bonoma and Rosenberg (1975), Angelmar and Stern (1978) develop eight categories of semantic units of each party's turn in a bargaining conversation.

While the analytical schemes used by Olshavsky (1973), Angelmar and Stern (1978), and others (e.g., Willett and Pennington 1966; Taylor and Woodside 1979) are useful, the violence done in uncoupling an exchange of turns between communicators needs to be considered. The referenced content analysis schemes use something less than exchanges as units of analysis. Classifying a communicator's verbal or written turn as a promise or into another bargaining category without relating the turn to the other party's response is similar to listening to one hand clapping. Such analytic schemes fail to capture the essence of marketing exchanges.

The choice of analysis of bargaining communication in marketing should be two or more communication turns between two or more parties in the exchange. Bargaining communications in marketing are likely to include discretely packaged blocks of interactions and breaks and connections between such blocks.

Within the talking or verbal part of a negotiation, a content analytic scheme of such exchanges should build upon the recognition of the following facts, which seem grossly apparent to relatively unmotivated examination of conversational materials. In any conversation:

- 1) speaker change recurs, or, at least occurs;
- 2) overwhelmingly, one party talks at a time;
- 3) occurrences of more than one speaker at a time are common, but brief

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- 4) transitions from one turn to a next with no gap between them are common, together with transitions characterized by slight gap or slight overlap, they make up the majority of transitions;
- 5) turn order is not fixed, but varies;
- 6) turn size is not fixed, but varies;
- 7) length of conversation is not fixed, specified in advance;
- 8) what parties say is not fixed, specified in advance;
- 9) relative distribution of turns is not fixed, specified in advance;
- 10) number of parties can change;
- 11) talk can be continuous or discontinuous;
- 12) turn-allocation techniques are obviously used, current speaker addresses a question to another party; parties may self-select, in starting to talk;
- 13) various turn-constructional units are employed, turns can be projected one word long or, for example, they can be sequential in length;
- 14) repair mechanisms for dealing with turn-taking errors and violations obviously are available for use. For example, if two parties find themselves talking at the same time, one of them will stop prematurely, thus repairing the trouble (Sachs, Schegloff, and Jefferson 1978, pp. 10-11; Morley and Stephenson 1977; Morley 1978).

Exchanges between insurance salesmen and prospective clients are used in the present article to describe what the parties do in such interactions to juggle their official and abstract identities with informal and personal identities in the course of their conversations. Schenkein (1978; 1971) first called attention to the "identity negotiations" which are likely to occur in seller-buyer encounters. "Whatever else they might or might not share, such encounters are made up of talk between strangers who might know one another only as local versions of some abstract identity like 'salesman' or 'client.' For these encounters, strangers not only conduct their business under the auspices of their official identify relations, but they also negotiate into the unfolding of their encounter eminently personal identities from their separate biographies" (Schenkein 1978, pp. 57-58).

Official and Unofficial Identify Negotiations in Buyer-Seller Interactions

Both official and unofficial identity negotiations are likely to occur in buyer-seller interactions of the type described, i.e., between a life insurance salesman and prospective client meeting for the first time. Similar negotiations are likely to occur in industrial marketing, distribution channels, and in retail trans-

actions involving expensive items.

Official identity negotiations are two or more conversational turns between parties which provide some information about one of the parties and comment by the other party related directly to the main purpose of the meeting (e.g., selling and buying insurance). Official identity negotiations help to specify the rather abstract identities of "salesmen" and "client" characteristics of the parties in the meeting.

Unofficial identity negotiations are two or more conversational turns between parties which provide some information about one of the parties and comment by the other party not directly related to the main purpose of the meeting. Attempts by salesmen to use "referent power" (French and Raven 1959) by first learning and commenting to the client on the similarity of a planned, unofficial, identity negotiation.

Official and unofficial identity negotiations may be centered on characterizing and commenting on either the buyer or seller. Thus at least 4 types of identity negotiations may occur in a customer-seller meeting:

Type	Focus	
	Salesman	Customer
Official	(1) O _s	(2) O _c
Unofficial	(3) U _s	(4) U _c

Several hypotheses can be developed and tested concerning the frequencies and sequences of occurrence of each type of identity negotiation relative to the purchase and satisfaction outcomes of buyer-seller meetings. The purpose here is to describe several examples of such negotiations, how they might be classified into discrete blocks of exchanges, and report on the separate interpretations a salesman and buyer offer later to identities earlier negotiated between them. In several instances, conjectures and other comments are offered with the examples.

Method

Excerpts of conversations from several buyer-seller meetings were transcribed from a study (Taylor and Woodside 1980) of exchanges of insurance salesmen and customers which occurred in natural settings. A total of 40 salesman-client parties was included in the study. All face-to-face meetings of the salesman and client for each of the 40 parties were tape-recorded. The second author accompanied each of 3 salesmen on sales calls to collect the data. Each client was requested to permit the tape recording "for a study of conversations among persons meeting for the first time." A total of 15 customers purchased life or health insurance and 25 did not during the meeting and taping of the exchanges, details are reported in Taylor (1977). Given the wealth of data produced, only a few of the recordings have been transcribed. A long excerpt of one conversation is available elsewhere (Woodside, Taylor, Pritchett, and Morgenroth 1977).

Action Sequences in Identity Negotiations

Schenkein (1978) observed the presence of a common four-turn Puzzle-Pass-Solution-Comment action sequence or discrete conversation block in identity negotiations. The following exchanges may be an example of such a block for an unofficial identity negotiation (U_c) of a customer (C) with a salesman (S):

C: I have one son who will take over the business someday.
 S: How old is he?
 C: Six.

S: So it won't be for awhile before he's ready to take over. Ha, ha.

Such four-turn action sequences are very common in the conversations among the 40 customer-salesman parties and for both official and unofficial identity negotiations.

Though not always present, a question by the second party is a common identifying feature of the Pass. The following exchange illustrates the presence of a question in the Pass in a U_s (unofficial identity negotiation of the salesman) in the same meeting as the U_c just reported.

S: When I was in the military I was out at Fort Knox.
 C: At Fort Knox?
 S: Yeah.
 C: I'll be.

U_s and U_c occurred commonly during the first 1 to 5 minutes of the first meeting between the salesmen and clients (Taylor and Woodside 1980). U_s and U_c are likely to be planned specifically to occur by the salesman as a method for developing referent power over the customer. Thus, Wilson (1977) hypothesizes that the first time period of a dyadic customer-salesman exchange is devoted to source legitimization attempts by the salesman. This may include attempts by the salesman to induce O_s, O_c, U_s, and U_c. "Unless this basic acceptability [of source legitimization] is developed, further communication tends to be ineffective if not impossible" (Wilson 1977, p. 36).

Identity negotiations require the willingness of both parties to participate in the exchange. While such negotiations can be stopped during the action sequence, specific changes in the topics of conversation nearly always occurred after participating in the full Puzzle-Pass-Solution-Comment sequence, in the meetings of the 40 customer-salesman parties. Thus, it may be that some action sequences are organized to resist interruptions, and with even an unwilling participant, they run to completion, as first noted by Schenkein (1978, p.74).

Examples of discrete blocks of exchanges believed to represent O_s, O_c, U_s, and U_c are provided from different salesman-customer parties in Tables 1 and 2. The exchanges shown are taken from the same meeting. Different customer parties and two salesmen (A or B) are included between the tables.

Notice in comparing O_s's in Tables 1 and 2 that the third turns are different. In Table 1, the Solution, or third turn, is a confirmation to the candidate solution offered by the salesman to the customer's first turn: "I work for State Farm Insurance." The O_c in Table 1 may be best described as an example of the following action sequence:

C: Identity-Rich Puzzle
 S: Candidate Solution
 C: Confirmation
 S: Comment.

More than a confirmation is provided in the third term in the O_c in Table 2: "I make all the decisions for this shop, but he does as far as the corporation goes." Thus both confirmations and/or "Identity-Rich Solutions" (using Schenkein's term) may be offered as solutions to a prior Pass or Candidate Solution. The willingness to provide Identity-Rich Solutions versus Confirmations only may be an indication to the other party, especially the salesman, of the likely outcome of the meeting.

TABLE 1
IDENTITY NEGOTIATIONS FOR SALESMAN A
AND A HUSBAND AND WIFE (COUPLE 1)

Official Identity Negotiations	
Salesman Related	Customer Related
S: I've been with Protection Life for 5 years now, and ... Are you familiar with Protection Life?	WC: I work for State Farm Insurance. S: You work for the insurance department? WC: Yeah.
WC: More or less.	S: Oh, oh! I'm in big trouble already.
S: They've been in business since 1923 and they are the ___ ranked company in South Carolina. They own such things as Southland Mall and WTS TV.	WC: Complaint department.
WC: I didn't know that.	

Unofficial Identity Negotiations	
Salesman Related	Customer Related
S: My wife is a big bowling fan. I used to bowl when I was small and do alot of pin setting... but that was before you guys time.	HC: I would like to think that I will be a professional bowler in five years. S: Oh, really? Do you have a program to that end? Are you getting any advice?
HC: Yeah, we do. They still have them some places in Ohio.	HC: Really, I know several pros and they are helping me but I haven't mapped out a plan.
S: Yeah, my legs use to hang down in the pits and bowlers got me... ha, ha. They would take side bets.	S: That's interesting. I'm going to follow your progress real well.
HC: Yeah, I bet so.	

TABLE 2
IDENTITY NEGOTIATIONS FOR SALESMAN A
AND A HUSBAND AND WIFE (COUPLE 2)

Official Identity Negotiations	
Salesman Related	Customer Related
S: Are you familiar with our company--Protection Life?	WC: My husband makes the decisions on fringe benefits.
WC: Liberty Life Insurance?	S: He makes all those decisions, huh?
S: Yeah!	WC: I make all the decisions for this shop, but he does as far as the corporation goes.
WC: Yeah, I am.	S: Uh, huh.

Unofficial Identify Negotiations	
Salesman Related	Customer Related
NONE	WC: This shop serves as a showcase for our plantscaping. For

TABLE 2 (cont.)

example, we just did the airport.
S: No kidding?
WC: The people saw that we can make bids at some of the banks and they come see what we have.
S: Yeah! They can take a look

The first part of the O₁ in Table 1, "I've been with Protection Life for 5 years now, and ..." is a tentative presentation of a Puzzle by the salesman which received no verbal response from husband and wife as customers. The salesman continued the turn then but changed the subject from himself to the customers and presented a direct Puzzle in the form of a question: "Are you familiar with Protection Life" [disguised name]. The Comment by the wife (WC) in the second turn, "More or less" appears to be ignored by the salesman. The Pass is followed by an Identity-Rich Solution in the third turn by the salesman. Any Pass by the customer is likely to follow with this solution, is one conjecture which may be reasonably suggested. Only the provision of a Candidate Solution in the second turn in place of a Pass is likely to change the contents of the third turn.

The original start of the Puzzle in O₁ in Table 1, "I've been with Protection Life for 5 years^s now, and ...," includes a pause indicated by the three dots. The pause allowed time for the customer to start a conversation turn and participate in an O₁. The customer did not participate in an O₁, i.e., the negotiation attempt by the salesman failed^s. The salesman immediately executed a restart that was a more direct O₁, "Are you familiar with Protection Life?" than indicated by the original start.

"Are you familiar with Protection Life?" may be better classified as a start to a discrete block of exchange to help establish source credibility, i.e., the company is trustworthy and capable, rather than an O₁. Distinguishing characteristics of company versus salesperson specific official identify negotiation can be made. Both, one and not the other, or neither sometimes occurred in the meetings tape-retorded.

The Comment in the fourth turn of the O₁ in Table 1 is followed by a comment and a transition to a new conversation topic by the salesman leading to an O₁. The salesman announced to the customer that he wanted to learn a great deal of information in the next few minutes of the meeting before the O₁ occurred.

"You didn't know that. They try to keep some of those things not too much before the public notice, but they are a good, strong, substantial company. And the people that have been policyholders of their for years, they like to take good care of them. So they assigned Buyers [name disguised] family to me, so that's why I called C.C. [husband] and asked him if I could come out and sit with you and go over what you presently have and maybe talk about some things you might want to accomplish in the future. OK? And to do that, I've got a little questionnaire that takes a few minutes to answer. Now we might discuss some things that are somewhat confidential. If you'd care not to divulge something say so, OK? But it's basic stuff. For instance, Linda, where do you work?"

This presentation served several purposes beginning with a comment to close an O₁ to an attempt to legitimize the company, to provide^s a rationale for the meeting with a vague implication to purchasing additional

insurance, to gaining cooperation to complete a "little questionnaire," to starting an O_c . The "little questionnaire" did not include a written form but the term was used to set the immediate future exchanges to facilitate participation in several successive O_c 's.

The use of such a strategy may appear to be intuitively beneficial for a salesman to use. However, in several other instances of the 40 exchanges no O_c 's were found. O_c 's did not occur in all customer-salesman meetings. An O_c followed by another type of identity negotiation (O_s , U_s , and U_c) often occurred but the inclusion of all 4 identity negotiations occurred for less than 50% of the meetings.

Successful bargaining of information by the salesperson (i.e., the customer receives, understands, and accepts information offered by the salesman), may depend significantly on the ratio of O_c and O_s . Specifically, when $O_c/O_s > 1$, then the probability of successful information negotiation by the salesman is likely to increase.

Both the number of O_c and O_s as well as their ratio can be hypothesized to be related to the sales outcome. The likelihood of purchase increases as 1) $O_c > 0$, 2) $O_c > 0$, and 3) $O_c/O_s > 1$. However, the primary effect of identity negotiations is likely to be on other discrete blocks of exchanges during customer-seller meetings and not the purchase outcome. Identity negotiations may be related most strongly with information bargaining. In turn, information bargaining may be related most strongly to other discrete blocks of exchanges occurring during the meeting.

A Retrospective Analysis

Following the meetings for 3 customers and salesmen, separate meetings were held with each customer and one of the researchers. The tape recording of the initial meeting was played to each customer with the request to stop the recording every few minutes and comment on what was happening. In several instances, the researcher stopped the tape and asked the customer why he/she made a particular comment and what did the customer think "when the salesman said that?" The retrospective comments by the customer to the original meeting were tape recorded. The same procedure was followed with the salesmen. The tape recording of the original meeting was stopped at the same locations in both of the separate meetings with each salesman and each customer.

Two brief excerpts involving identity negotiations from the original meeting of a customer and salesman with their retrospective comments are provided in Tables 3 and 4. The U_c in Table 3 was followed shortly by the O_c in Table 4.

TABLE 3
UNOFFICIAL IDENTITY NEGOTIATION OF SALESMAN
A AND RETROSPECTIVE COMMENTS

Interaction Segment
S: That's interesting. That's where I got my MBA degree (University of South Carolina).
B: Did you happen to know, by chance, Professor Olin Poe?
S: I worked for Olin Poe for a year and a half. I was his graduate assistant. He taught me everything I know today. So, anything I do wrong, blame it on him ... ha, ha.
B: OK. Lay it on my head. I've been taking notes ... ha, ha. Tell me what I need or maybe what I don't need.

TABLE 3 (cont.)

Seller's Retrospective Comments	Buyer's Retrospective Comments
At this point, I was trying to build rapport with the prospect. I discovered this common ground between us--the professor that we both knew. So, I made several references to this fact.	I was just trying to find out more about the salesman. We had both gone to the same school; and I was surprised to discover he had worked for this professor. It was good to know we had a common friend.

Analysis

This represents one attempt by the seller to evoke referent power as a means of influencing the prospective client. Similarly, the buyer sought to evaluate the seller prior to more product related conversation. Buyer-seller similarity was established by references to 1) the common friend and 2) attendance of the same college. This type conversation was typical of the opening moments of most buyer-seller interactions observed in the study.

TABLE 4
OFFICIAL IDENTITY NEGOTIATION OF CUSTOMER
AND RETROSPECTIVE COMMENTS

Interaction Segment	
S: Is it true that you don't have anyone that's dependent on you?	
B: That's right.	
S: Right? OK! So, if something were to happen to you, then, whoever your estate was left with would really have no hardship?	
B: That's right.	
S: In light of that, let's look at your present plan.	
Seller's Retrospective Comments	Buyer's Retrospective Comments
What I was trying to establish here is the fact that no one would suffer an economic loss at her death. She needs only sufficient insurance to cover burial expenses. Her present coverage was too much.	I was wondering why he brought this point up. I remembered that my mortgage company recommended, but did not require, that I purchase a mortgage protection policy when I bought the house.

Analysis

The seller entered the interaction with a well-defined goal to convert the prospect's present term policy to a whole life policy. A 3-step strategy was undertaken: 1) to establish a rapport with the buyer, 2) to show the present policy was not needed, 3) to convince the buyer that a whole life policy better fit her needs. Kathy had no prior knowledge of the seller; thus, she had no well-defined goals or strategies. Only vague goals of "seeking information" were cited by Kathy.

Both the salesman and the customer report in their retrospective comments that they were manipulating the conversation, "I was trying to build rapport ..." and "I was just trying to find out ..." Both report a discovery about the other party in exchange.

Note that the original excerpt begins with a comment by the salesman. This refers to a previous U_c . Following "That's interesting," the salesman elaborates an Identity-Rich Puzzle. "That's where I got my MBA degree

(University of South Carolina)." This is followed by a puzzle expansion plus candidate solution by the customer and a confirmation by the salesman. Then the customer comments "OK" and shifts the conversation to indicate willingness to accept insurance information, "Lay it on my head ..." A brief comment by the researcher appears at the bottom of Table 3 on the exchange.

The U in Table 3 appeared to serve to help permit the occurrence of the O in Table 4. Notice that the U in Table 4 represents the following scheme: S: Puzzle-Candidate Solution, C: Confirmation, S: Comment-Conclusion, C: Confirmation, S: Transition. The coupling of a puzzle and candidate solution by either the salesman or customer may occur most often after both U and U have occurred. The coupling of verbal actions may serve to imply to the other party that the conversation is directed to a specific goal.

Notice in the salesman's retrospective comment in Table 4 that he had a hidden agenda that he expected the customer to discover. The customer failed evidently to discover this agenda. The salesman evidently did not realize this, or he believed the discovery to be unimportant to future agendas since he shifts the conversation: "In light of that, let's look at your present plan." The salesman may be about to elaborate on the original O in the conversation about the present plan to accomplish his goal mentioned in his retrospective analysis. Later in the meeting he specifically tells the customer the conclusion he believes she should reach based upon this and other O's.

Conclusions

Some discrete parts or blocks of buyer-seller interactions may represent identity negotiations of both the seller and buyer. Such identity negotiations may be classified as official or unofficial. Possibly more categories than two should be used to classify such negotiations, e.g., semi-official, semi-unofficial.

Identity negotiations represent only a part of the total exchanges in meetings of buyers and sellers. As theorized by Wilson (1977) and Taylor and Woodside (1980), attribute delineations and attribute value negotiations are likely to occur in such meetings. The important point is that interactions appear to occur in discrete blocks of exchanges linked by transitions. The separating of the seller's and buyer's interactions into different classification categories may be useful but also violates the nature of the exchange. Both the analysis of chunks of exchanges and complete exchanges, as well as classifying buyer's and seller's turns into separate categories are advocated for use within the same research program.

Detailed analysis of salesman-customer conversational turn-taking in natural settings is a necessary step to understanding bargaining behavior in marketing exchanges. Case-by-case research programs of salesman-customer meetings are needed for marketing exchanges in several settings. Several empirical studies incorporating such ethnomethodologies are available (e.g., Lombard 1955; Browne 1973; Varela 1971) which reduce the arguments that 1) the approach is too time consuming and too much work, 2) the customers and salesman will not agree to be observed or tape-recorded, and 3) it's too obtrusive to be valid.

Lombard (1955) and his associates found substantial numbers of meetings of 20 salespersons and customers can be observed meaningfully in 6 months. Browne's (1973) participant observation study of salesmen and customers meeting in a used-car lot indicated that nearly all the customers and salesmen were willing to

be observed. The rates of sales of the salesperson during the studies by Browne (1973), Lombard (1955), and Taylor (1977) were not significantly more or less than the sales recorded before the studies nor expected by the salespersons. Given these findings, the recognition of the need to learn "theory in use" (Zaltman, LeMasters, Heffring 1982), and the serious problems with self-reports (cf. Wilson and Nisbett 1978), "being there" needs to be included in most research designs on marketing exchange behavior.

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THE EFFECTS OF EXPECTANCY DISCONFIRMATION AND
ARGUMENT STRENGTH ON MESSAGE PROCESSING LEVEL:
AN APPLICATION TO PERSONAL SELLING¹

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Abstract

Message processing levels (central versus peripheral) were assessed as a function of expectancy confirmation/disconfirmation (all salient product features superior/one salient product feature not superior) and argument strength (strong = arguments stated in terms of tangible product features; weak = intangible - feature arguments) in an experimental setting couched in a personal selling context involving a home computer. Results--measured by message beliefs, overall affect toward product, behavioral intention, causal attributions, and assessments of the spokesperson--indicate strong effects (but opposite from those hypothesized) for expectancy confirmation and virtually no effects for argument strength. Several explanations for these findings are offered.

Background

The ways in which individuals process information from persuasive communications and assess its veridicality hold considerable interest for those in the field of consumer research. In attempting to analyze these processes, researchers typically have followed one of two rather distinct perspectives (Chaiken 1980; Petty and Cacioppo 1981, 1983). The first of these treats message recipients as active processors, who systematically scrutinize the validity of arguments contained in persuasive messages. When acceptance occurs as a result of such cognitive effort, persuasion is said to have taken place through the central route. As noted by Petty and Cacioppo, persuasion induced in this manner is likely to be relatively enduring and predictive of overt behavior. In contrast, a second, more passive, view of persuasion emphasizes what can be called the peripheral route. According to this perspective, message acceptance occurs not so much because recipients have considered the central arguments of a message, but because they make simple inferences about the merits of the advocated position based on various peripheral cues--factors that are external to the message arguments, such as the speaker's attractiveness, background music, etc.

Both perspectives have spawned a considerable amount of research. However, as Petty, Cacioppo and Schumann (1983) note, neither perspective by itself is capable of ordering the diverse results obtained in the field of persuasion research. Thus, they argue for a more general framework--one that is capable of explaining when recipients will instigate active processing of message arguments and when they will become more cursory in their analysis of such communications. The research reported here is an attempt to address this issue through attribution theory (Heider 1958). In particular, this study draws on one concept thought to underlie the instigation of attributional analysis--expectancy disconfirmation--as a means of explaining when message recipients will instigate active cognitive processing of message arguments.

Expectancy disconfirmation refers to the degree to which an event conforms to or deviates from an individual observer's expectations (see Pyszczynski and Greenberg 1981). Events that conform to expectations are thought to require little cognitive effort to interpret, because people can rely on a heuristic form of analysis, using pre-existing knowledge structures, or the causal theories that gave rise to the expectancies originally. In contrast, when events disconfirm expectations, there are no pre-existing theories on which to rely. Accordingly, people are more likely to undertake active, or systematic, forms of cognitive analysis in order to interpret or "explain" disconfirming events.

This line of reasoning meshes nicely with the foregoing assumptions about the processing of persuasive communications. If expectancy disconfirmation leads to a relatively active form of cognitive processing, then persuasive appeals that disconfirm persuasion-related expectancies should receive a more active and thorough scrutiny and produce persuasion through the central route. On the other hand, when persuasive communication conforms to typical persuasion-related expectancies, message recipients should exert less cognitive effort in analyzing the message. Accordingly, persuasion through the peripheral route would be more likely.

The effects of expectancy disconfirmation on persuasion proceed largely from studies dealing with communicators who take a stand against their own best interest (e.g. Eagly, Wood and Chaiken 1978; Koeske and Crano 1968; McPeck and Edwards 1975; Walster, Aronson and Abrahams 1966). The proposition underpinning these studies is that speakers who willingly, and unexpectedly, take a position against what seems to be their own best interest appear to be more sincere and, thus, more credible to an audience than do those who argue solely in favor of their own interest. The latter speakers generally are thought to appear "motivated," or biased, and as having something to gain. As such, their credibility is discounted and their persuasiveness inhibited.

This line of reasoning also seems to order the results of studies dealing with the effects of one-sided and two-sided communication. In general, these studies show that communicators tend to be more persuasive when they are willing to present arguments for and against the advocated position (e.g. Chu 1967; Jones and Brehm 1970; Lumsdaine and Janis 1953). Presumably, the presentation of arguments on both sides of the issue, or advocated position, conveys an impression of fairness. Thus, speakers who employ two-sided messages are thought to appear less biased and more sincere than speakers who "limit" their arguments solely to those that support their point of view.

In a recent attempt to deal with the persuasive effects of messages that seemingly depart from a speaker's best interest, Eagly, Chaiken and Wood (1981) have proposed an expectancy-disconfirmation hypothesis based on attribution theory. According to this formulation, message recipients form pre-message expectancies regarding the likely position a communicator will advocate. Typically, these expectancies are biased in that

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a persuasive communication is anticipated to be skewed toward the communicator's position or interests. The origin of such expectancies is thought to be the discernible background traits of the communicator and existing pressures of the communication setting. Message acceptance hinges on whether these bias-related expectancies are confirmed by the actual message. If the actual message confirms (agrees with) the biased expectancies, recipients are thought to "explain" the message in terms of the biasing elements. Accordingly, the validity (veridicality) of the message is discounted and the credibility of the source questioned. When a message disconfirms bias-related expectations, however, recipients purportedly invoke an augmentation principle (they discount the biasing elements and place greater emphasis on the communicator's willingness to report his/her own judgment in explaining the message). As a result, the communicator is judged to be more sincere and the likelihood of message acceptance is enhanced. At least one study (Hunt, Domzal and Kernan 1982) found partial support for the Eagly et al. formulation.

Since the Eagly, Chaiken and Wood paradigm does not speak directly to the issue of message processing level (see Hunt and Kernan 1984), it likely captures only a portion of the process by which expectancy disconfirmation influences persuasion. Not only does expectancy disconfirmation influence persuasion through attributional processes related to source credibility, but it also might affect message acceptance as a result of more detailed processing of message content. Thus, a message that deviates from persuasion-related expectations might be hypothesized to have a two-fold effect on persuasion: (1) it influences how credible the source is judged to be; and (2) it affects the degree to which message argumentation is processed actively.

Such a two-fold effect is similar to the workings of two-sided messages. As in this latter case, however, one can expect disconfirming messages to be effective only under certain conditions--when the unfavorable/disconfirming information is: (1) placed at the beginning of a message; (2) already familiar to recipients; and (3) subsequently refuted in a compelling manner (Hass and Linder 1972; Sternthal, Phillips and Dholakia 1978). The first condition serves to activate the receiver's cognitive processes immediately; the second precludes the introduction of surprise elements into the recipient's counter-arguments repertoire; and the third is necessary lest (under the increased message scrutiny induced by expectancy disconfirmation) the unfavorable information remain unchallenged.

The criticality of this last condition cannot be over-emphasized. If the message arguments that are intended to refute the disconfirming information do not do so, the overall persuasiveness of the presentation is likely to suffer. Thus, "weak" arguments are far more damaging to the efficacy of a presentation when a receiver's expectations are disconfirmed (because then they play a pivotal role) than when they are confirmed (since then they are no more important than other arguments).

Evidence of this effect is reported by Hunt and Kernan (1984), who found that subjects exposed to two-sided advertising appeals formed credibility judgments largely in terms of unverifiable, or intangible, message arguments--something not found when subjects were exposed to one-sided claims. It was reasoned that, since unverifiable claims and intangible product features tend to be judged idiosyncratically

(see Hirschman 1981), positive claims regarding such issues are inferred as disingenuous and presumptuous; thus, they constitute relatively weak arguments compared with claims on more tangible or palpable features or issues. If this is so, then a source's credibility will suffer to the extent that s/he makes positive claims about a product's performance on intangible attributes. Moreover, this effect should be heightened in the case of expectancy disconfirmation (or two-sided messages) since induced cognitive effort is greater and message processing deeper. In the case of one-sided (or expectancy-confirmed) messages, product claims of an intangible nature should have a minimal effect on source credibility since message processing is more likely to occur in a heuristic or automatic fashion. In essence, the disingenuous product claims go undetected.

In summary, expectancy disconfirmation is hypothesized to be a moderating variable influencing when message recipients will engage in active and elaborate message processing. Further, this moderating effect is thought to either facilitate or hinder persuasion, depending on the strength of the arguments used in behalf of the advocated position or product. The goals of the present study were two: (1) to investigate the operation of the Eagly, Chaiken and Wood paradigm in a promotional context; and (2) to assess the effects of expectancy disconfirmation on message recipients' cognitive workload. Manipulation of expectancy disconfirmation and argument strength was carried out by exposing subjects to differing versions of a sales presentation for a home computer. Expectancy confirmation/disconfirmation was operationalized by exposing subjects to a presentation that contained "superior" product performance claims only or to one that disclaimed superiority on one of the performance attributes. Argument strength was manipulated through the tangibility of product claims; the strong-argument treatment contained only tangible (verifiable) claims, while the weak-argument treatment contained one intangible performance claim. Based on these manipulations, it was hypothesized that argument strength would have a greater influence on subjects' message acceptance when the sales presentation disconfirmed, rather than confirmed, subjects' bias-related expectancies.

Method

Subjects

A total of 174 (female and male) undergraduate students was selected from the student body of a large eastern university to participate in a study designed to evaluate various sales presentations. These volunteer subjects were paid \$3 for their participation. Subjects' ages ranged from 18 to 55, with a mean of 22 years. Most were either business-administration majors (88%) or students majoring in communication (9%). Each subject was assigned at random to one of five groups: an expectancy group, or one of four treatment groups that formed a 2 (expectancy confirmed or disconfirmed) x 2 (tangible or intangible arguments) factorial design. The expectancy group was used to establish subjects' pre-message expectancies regarding the sales presentation.

Upon reporting for the experiment, subjects were informed by an experimenter that they would be participating in the evaluation of a sales presentation for a home computer designed for student use. Their participation would entail: (1) reading a transcript of an actual sales presentation; and (2) responding to questions designed to ascertain their evaluations of both the presentation and the person who made it. Nominally, the presentation was one among many made by college applicants in the course of interviewing for sales positions with a local computer firm. Supposedly, this presentation--required of all applicants--had been made to a group of students interested in home computers. The experimenter informed subjects that the researchers conducting the study were currently working with the computer firm to identify qualified sales applicants and that subjects' evaluations would aid the researchers in this process.

After receiving initial instructions, each treatment subject was given a booklet containing the experimental materials--the presentation transcript and a questionnaire designed to measure the dependent variables. Expectancy subjects also received pre-message instructions but they did not read an experimental transcript. Instead, they were asked to respond to items designed to assess their pre-message expectancies.

The presentation revolved around four product features previously elicited through a focus group interview: (1) the computer's hardware--described as being extremely powerful and reliable, backed by many years of experience in the computer industry, and easily expanded and very versatile, with many built-in features that, unlike other computers, were available at no extra cost; (2) the cost of the computer--represented as exceptional, relative to its performance; (3) the computer's software--used to manipulate expectancy confirmation/disconfirmation; and (4) the computer's ease of use--used to manipulate argument strength.

Independent Variables

Manipulation of the expectancy confirmation/disconfirmation factor was carried out by varying the information subjects received about the computer's software. Half of the subjects read a transcript in which the software was described as being superior, while the other half received a message containing less-than-superior information regarding this feature. Argument strength was manipulated by exposing subjects to different information concerning the computer's ease of use. Some subjects read a description that presented specific, or tangible, arguments on behalf of the computer's easy handling characteristics. Others were exposed to less specific (more intangible) argumentation.

Dependent Measures

Overall, subjects responded to 18 dependent measures, grouped in five categories. There were four message-acceptance beliefs about the computer (that it was a good dollar value, was easy to use, had superior

hardware, and superior software), each measured on a 7-point aided-recall basis (where 7 = "strongly agree" and 1 = "strongly disagree"); an overall affect measure (how superior the computer was), assessed on a 7-point scale; an intention measure (whether subjects would "consider" the computer), also on a 7-point scale; the applicant-presenter's true feelings, hope of getting a sales-rep job, and the real facts about the computer in influencing him/her to say what s/he said in the presentation), measured on an "extremely important" (7)/"extremely unimportant" (1) scale; and nine source evaluations (honesty, usefulness as an information source, sincerity, knowledgeability, believability, expertise, trustworthiness, likeability, and overall impression as a good sales rep), each measured on a 7-point scale where 7 = "strongly agree" and 1 = "strongly disagree."

Results

Certain design requirements must be satisfied before the experimental results can be interpreted properly. First, it is necessary to establish that superior product claims indeed are the normal expectation in a sales presentation. This was verified by the expectancy group, whose 23 members were asked to compare the likelihood that an applicant would describe the computer as superior (a) in a sales presentation and (b) in a private (non-selling) conversation with a friend. These subjects (who did not actually read a sales-presentation transcript, but rather assessed what they expected one would contain) averaged 6.17 (where 7 = "extremely likely" and 1 = "extremely unlikely") for the sales-presentation condition but only 4.52 for the private-conversation one. A repeated-measures *t*-test (*df* = 21) yields a value of 41.25, significant at *p* < .001. Thus, it is reasonable to assume that superior claims were expected in the sales presentations read by treatment subjects.

The other design requirements have to do with the manipulation checks: whether treatment subjects actually perceived the treatment variations that were intended. As noted above, expectancy confirmation/disconfirmation was manipulated by varying the description of the computer's software. In the confirmed condition, it was described as superior; in the disconfirmed condition, it was described as less-than-superior. Subjects in the confirmation condition had a mean rating for the computer's software of 5.66, while the comparable statistic for the disconfirmed condition was only 2.68. The difference in these means suggests that this manipulation was effective--*F* (1, 148) = 104.77; *p* < .001. A similarly effective manipulation occurred in the case of argument strength. The strong-argument (tangible) condition described the computer's easy-to-use function keys that would draw graphs or construct tables, while the weak-argument (intangible) condition suggested merely that one could master the computer's operation in a short time. Mean recall of the function-key description was 6.23 in the tangible condition and 2.68 in the intangible one--*F* (1, 148) = 142.50; *p* < .001.

Thus, there is little question that these design requirements were met--subjects expected superior product claims and had these expectations either confirmed or disconfirmed. Moreover, subjects had no difficulty in distinguishing the tangible arguments from the intangible ones. Indeed, based on the experimental results about to be described, one might speculate that some of the foregoing requirements were

² Owing to space limitations, this section is condensed. A complete packet of experimental materials is available from the authors.

met too well. As we shall see, the results were remarkably impervious to the hypotheses.

The results are described according to the five sets of dependent measures listed above. Each of the 18 dependent variables was treated as a criterion in a two-way ANOVA, where expectancy confirmation/disconfirmation and message strength (tangible/intangible) served as treatments. Since the resulting data are quite voluminous, only selected findings are reported here.³

Message Beliefs

The clearest indication of how centrally, actively, or deeply receivers process information should be manifested in their post-message beliefs. Compared with heuristic or peripheral processors, central processors should attend to these elements more thoroughly and, as a consequence, recall them more veridically. In the present case, since expectancy disconfirmation was hypothesized to induce central processing, subjects in the disconfirmed conditions should exhibit "higher" message-belief scores than those in the confirmed conditions. For each of the four beliefs measured, however, the opposite result occurred: confirmed subjects rated the computer significantly higher on dollar value, hardware, and software (as well as directionally higher on ease-of-use) than did disconfirmed subjects.⁴ The main effect of argument strength was insignificant and there were no significant interactions. Thus, it would appear that the one-sided (confirmation) version of the sales presentation induced more central processing than did the two-sided (disconfirmation) version.

Affect and Intention

A similar result occurred with the overall affect and intention measures. Confirmation subjects evinced significantly higher agreement that the computer was a superior one and were significantly more likely to consider looking at it than subjects exposed to the disconfirmation treatments. Again, neither argument strength nor interactions were significant.

Attributions

Subjects' attributions of the influences that "caused" the applicant-presenter to make product claims (as a function of expectancy confirmation/disconfirmation and message strength) are mixed. Contrary to our hypotheses, confirmation of expectations induced significantly greater internal (spokesperson's true feelings) and entity (real facts about the computer) attributions; but consistent with our hypotheses, weak (intangible) arguments induced significantly greater external (hope of getting a sales-rep job) attributions. (There were no significant interactions.) These admittedly perplexing results seem to suggest that the presenter was interpreted as representing reality when s/he made all superior claims about the computer except in the case of intangible arguments, whose disingenuity is explained by the presenter's motivation to get a job. Overall, however, these results are not consistent with the Eagly, Chaiken and Wood paradigm.

³Detailed results, (e.g. cell means) are available from the authors.

⁴"Significant" differences refer to $p \leq .10$; i.e., .10, .05, .01, and .001.

Source Evaluations

The results that are most inconsistent with the Eagly et al. hypothesis, however, are receivers' evaluations of the spokesperson. Eagly et al. would predict more favorable evaluations under conditions of expectancy disconfirmation yet, in general, our results are in the opposite direction. Confirmation produced significantly higher source ratings on usefulness as an information source, knowledgeability, believability, expertise, liking, and overall impression as a good sales rep. There were no significant differences on the honesty, sincerity, and trustworthiness dimensions. Furthermore, neither argument strength nor interactions were significant. Thus, it appears that disconfirming receivers' expectations did not induce them to evaluate the spokesperson more favorably (and thereby become more susceptible to his/her persuasive arguments--see message belief results, above).

Discussion

The results of this study are substantially different from what was hypothesized. Given that the Eagly, Chaiken and Wood paradigm is the linchpin of the prediction framework proffered, one conclusion might be that their model has no predictive efficacy. We are inclined to reject that explanation, however; there is too much verification of the paradigm elsewhere--e.g., Hunt, Domzal and Kernan 1982; Hunt and Kernan 1984. Another explanation for these "contrary" findings might be that this study represents an ineffectual operationalization of the Eagly et al. model. Based on the strength of the expectancy-group results and manipulation checks, however, we doubt that conclusion as well. Rather, we suspect that the principal reason for our results is to be found not in the Eagly et al. model per se, but in some limiting conditions that apparently attend it. At least three such conditions warrant comment.

First, the Eagly et al. paradigm supposes that increased persuasion is effected through heightened source evaluation which, in turn, is produced by expectancy disconfirmation. But this assumes that there is no ceiling effect on source evaluation. In the present case, because students evaluated students it is possible that the disconfirming of expectations induced attributions that the spokesperson was inept ("what a stupid thing to do when you're trying to sell something!") rather than of him/her being a more fair, hence believable person. Support for this possibility can be seen in subjects' significantly different ($p < .01$) ratings of how good a sales rep the spokesperson was. In the confirmed conditions, the mean rating was 5.13 (out of a possible 7) while in the disconfirmed conditions, it was only 4.06. Thus, disconfirmation might indeed have induced more central processing, but since it was regarded as so stupid: (a) the spokesperson was rendered less, rather than more credible; and (b) message acceptance was less, rather than more under disconfirmation conditions. This interpretation would explain the empirical results achieved for all five kinds of dependent variables measured in this study.

Second, the potential effects of involvement cannot be ignored. Although no specific measures of involvement were made (the focus group analysis suggested that student-oriented home computers were at least moderately involving to subjects), it is altogether plausible that this product (coupled with the "evaluation task") produced a highly involving situation--one so high that, even in the expectancy confirmation

treatments, central processing occurred. If so, disconfirmation did not have the opportunity to trigger message (cf. source) processing; the former was preordained as a result of the high involvement. Such an explanation also would account for our findings.

A third limiting condition stems from the work of Hass and Linder (1972), Jones and Brehm (1970), and Sternthal et al. (1978), referred to above. Their work indicates that negative (disconfirming) information is effectual only when it: (1) appears at the beginning of a message; (2) is already familiar to recipients; and (3) is refuted in a compelling manner. The present study satisfied the first of these criteria, but probably neither of the other two. The second criterion obviously was not satisfied because, rather than admit to familiar deficiencies in the computer, the disconfirmation treatments surprised recipients and likely provided them with grist for counterargumentation. And the third criterion is suspect because we have no way of knowing whether recipients interpreted the disconfirming message as containing a compelling refutation of the less-than-superior-software description. Thus the kind of expectancy disconfirmation contemplated by the Eagly et al. paradigm might not have been present in this study. If that is the case, one can hardly expect the model's predictions to hold.

In summary, there seem to be at least three conditions in the present study that subverted a fair test of the Eagly, Chaiken and Wood paradigm. A ceiling effect on source evaluations, excessively high issue/task involvement, and an incongruous kind of disconfirmation separately or in combination might account for the "failure" of their model to order this study's results--to predict when central or peripheral processing would occur.

Given this overwhelming perturbation, little explanation is required to account for the apparent lack of effect produced by the argument-strength manipulations. As hypothesized, argument strength should emerge under disconfirmation conditions because they produce central, more scrutinous processing. Since this necessary condition did not occur, whatever effect strong/weak (tangible/intangible) arguments had was obscured. The (nonsignificant) directional effects they produced were correct. Hence we are satisfied that Holbrook's (1978) contention regarding the persuasive superiority of factual claims over intangible ones is a sound one.

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THE IMPACT OF INFORMATION
ON POLICYMAKER JUDGMENTS OF NEW TECHNOLOGY¹

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Abstract

While consumer response to technological innovation has been well documented in the marketing literature, very little is known about the "exogenous" processes influencing the technology during the early stages of its diffusion.

Rarely is the ultimate success or failure of a new technology a pure free-market process. Most new technologies will bring with them a set of consequences or impacts for segments of society. As understanding of the indirect or unanticipated consequences of the technology increases, so policymakers--both public and private--are likely to intervene to control, or mediate, the nature and extent of the technology's diffusion. To the extent these mediating effects have been ignored, estimates of the innovation's penetration will be unreliable.

It is important, therefore, to attempt to understand how policymakers react to information on the unanticipated consequences of innovations, and ultimately how decisions concerning the appropriate institutional arrangements for the technology are reached.

This paper reports partial results from a general model for investigating the mediating effects of policy formulation on innovation diffusion. The focus is upon how policymakers use and process "technology assessment" information in judgment tasks requiring ordering of alternative options for controlling the development of new technology.

Introduction

The question of consumer response to technological innovation has been well documented in the marketing literature (Robertson 1971; Sheth 1979; Tushman and Moore 1982). Underlying most such studies is an implicit assumption that the path of diffusion for new technologies will be a direct function of consumer perceptions of the substitutability of the technology for some underlying need.

While this assumption may hold during the later stages of diffusion, it is often imprecise during the early stages of technology introduction. This is because many new technologies will have performance and/or economic characteristics which are unknown or ill-understood at the time of introduction. Further, many innovations will also be associated with a set of unanticipated or secondary consequences for society as a whole. During introduction of the technology, it is possible that some of these consequences may be overlooked or even ignored completely by potential adopters of the technology. Still other consequences, while identifiable at the time of introduction, may be

impossible to assess in terms of magnitude or direction until applications of the technology have been fully developed and high penetration reached.

For innovations where the possibility of such consequences exist, the most significant factor in understanding diffusion of the innovation may well be the regulatory controls and performance standards imposed on the technology by both public and private policymakers. Recognition of the consequences of a new technology may lead to intervention aimed at stimulating, dampening, or otherwise controlling the nature and extent of diffusion of the technology.

Thus, an important question which precedes the study of consumer response to innovation is the likely form and nature of intervention by the policymaking community. In this paper, we explicitly examine the effects of information about a new technology on policymakers' preferences for control of the development and diffusion of the technology.

The study is motivated by ongoing public policy concern over the unanticipated consequences of technological innovation. This concern has (over the past decade) led to formal mechanisms commonly known as "technology assessments" (TAs), for the early warning study of technology impacts. Since technology assessments attempt to project the consequences associated with long-run, widespread adoption of the technology, they represent a means for the policymaker to increase his/her knowledge of the technology, albeit speculatively, in a comparatively short period of time. As a result, the policymaker is presumed better able to formulate policy for control of the technology.

While considerable experience has accumulated in conducting technology assessments (see, for example, Johnson 1981), very little is known about the use of such information by the policymaking community, or its impact upon development of emerging technologies.³

Of course, technology assessment information may represent only one of many possible influences on the policy formulation process. Potentially of equal importance is the organizational context in which policy choices are made (individual vs. dyadic (or group) decision processes, shared vs. independent information, etc.), and individual policymaker predispositions (knowledge of target technology, political party affiliation, etc.). In addition, formal TA reports represent only one means for the policymaker to acquire the information considered necessary to reach a policy decision. However, the objective of this research is to focus explicitly upon the impact of technology assessment information on policymaking. If information can be shown to impact policy formulation under controlled conditions, then it may subsequently be possible to modify the task environment to learn in what way factors such as organizational context alter the nature of TA utilization.

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³Possible exceptions include an important descriptive survey of TA utilization by Michaels and Berg (1978), and a study of barriers to utilization by Martino and Lentz (1977). However, these studies are purely descriptive and experiential, and as such offer only limited explanatory power.

In order to examine the impact of TA information on policy formulation, measures of information processing and policy judgments can be taken under controlled laboratory conditions from a sample of (surrogate) policymakers presented with the results of a technology assessment and confronted with a specific policy formulation task. While many such judgment tasks are possible, one which bears directly upon the likely form of intervention in technology diffusion is what Michaels and Berg (1978) describe as instrumental utilization of TA information, in which the information contained in the technology assessment is expected to contribute to some decision facing the policymaker. This information may impact the decision in a number of ways. A priori, it may be expected that TA information will increase the policymaker's knowledge of the technology, first about its performance characteristics (i.e., how can the technology be described, and in what way(s) does it differ from currently available technologies?), and second about its indirect consequences. This use of TA has been supported by Michaels and Berg, who observed higher utilization of technology assessments among policymakers who felt relatively uninformed initially in the issue area, than among individuals who felt they were better informed. In general, this learning will be sequential: the policymaker will first try to understand the workings of the technology, and then shift his attention to the higher-order task of understanding the indirect impacts. This proposition has been demonstrated by Wilton (1983).

While both types of information are likely to be useful to the "naive" policymaker, they may differ in their perceived relevance to the judgment task. Increased understanding of the performance characteristics of the technology, for example, is likely to contribute less to the explanation of policymaker preferences for controlling the technology than is increased understanding of its indirect consequences, or the consequences of selected policy options. That is, information available in a technology assessment will differ in the degree to which it is incorporated in the final decision, with technology and policy consequences information showing the closest relation to policy judgments.

In speculating about the direction of the likely impact of TA information on policy judgments, it is necessary to consider the nature of the arguments contained in the TA, together with the policymaker's "naive" (initial) policy position and subsequent pattern of information processing. If the policymaker approaches the judgment task with strong prior preferences (i.e., with high confidence in his initial position), either in favor of or against development of the technology, then his search of the TA for policy-relevant information may be only cursory. Alternatively, the policymaker may extensively search the TA for information which he expects to confirm these priors, or which he expects to conflict with them in a deliberate attempt to refute his initial position. Since higher-order consequences of a technology are by definition unexpected, the policymaker is perhaps equally likely to encounter both conflicting and confirming information during his search of the TA. The impact of these arguments on the policy judgments will then depend upon policymaker perceptions of both the credibility and relevance of the arguments; those seen as more credible being likely to have a greater influence on the policy task than those which are seen as less credible.

Given the diversity in individual initial positions and subsequent information-processing patterns, the overall impact of TA information on a sample of policymakers is certain to be bi-directional: i.e., for some policymakers, TA utilization will lead to increased preference for stimulating development of the technology, while for others utilization will lead to increased

preference for dampening its development. From a macro perspective, it is this aggregate impact that is most relevant to understanding the likely path of diffusion for the technology. That is, will the prevailing regulatory and policy environment for the technology be one of "laissez-faire" or one of tight control? The study of TA should enable an answer to this question during the very early stages of technology diffusion.

Method

Data pertaining to these questions has been gathered as part of a larger experiment on the effects of task and information salience on information utilization. Although not germane to the question of policy choice, this broader research effort has attempted to operationalize and measure many constructs associated with use of TA information, including multiattribute measures of information utility. A full description of this research effort is beyond the scope of this paper.⁴ Instead, this paper describes only those aspects of the research that relate to judgment tasks involving choices among alternative policy options for control of a new technology (videotex and teletext in the United States).

Data for the experiment were gathered in two stages, approximately one week apart. In the first stage, subjects completed a 45-minute pencil-and-paper questionnaire designed to measure background information on a wide variety of individual predispositional factors, including attitudes towards technology, public policy, decision style, computer involvement, risk propensity, information preference and sponsor credibility.

In the second stage, subjects were asked first to complete a 30-minute series of true-false and multiple-choice items designed to measure current (pre-utilization) knowledge of videotex and teletext. They were then asked to study the available TA report with a view toward formulating policy for videotex and teletext.

Subjects were asked to act as an aide to the president of a major organization interested in participating in a series of Congressional Hearings on the role of videotex and teletext in society. Subjects were told that the president was expected to come to the hearings prepared to make a recommendation, and that their task was to preference rank-order nine options for controlling the development of videotex and teletext, based upon an analysis of information contained in the TA. They were further instructed that they were to be able to defend their choice, and that the president did "not wish to appear unknowledgeable about either the details of the technology or its likely impact on society."

Each policy option comprised a unique combination of investment support and regulatory control for the technology. The nine alternatives represent cells in a 3x3 pairwise tradeoff (conjoint) task, with three levels on each of the two attributes, investment support and regulatory control. The alternative levels of investment support included:

- (1) heavy, direct investment
- (2) moderate, indirect investment
- (3) no investment support.

The alternative levels of regulatory control included:

- (1) no regulatory control, industry self-regulation
- (2) reinterpret existing laws as need arises
- (3) formation of a new regulatory commission to oversee all development of videotex and teletext.

⁴Interested readers should refer to Wilton and Myers (1984).

Subjects were told they would have approximately one hour in which to access the TA. Access proceeded via a main menu of information comprising the titles of the fifteen chapters of the report, and a series of fifteen submenus comprising the titles of the subsections within each chapter.

Prior to accessing any information, and after each chapter was accessed, measures were taken on each of the following variables: the preference rank-order of the nine pre-identified policy alternatives (described above), the perceived self-confidence in performing the assigned task (7-point bipolar scale), the overall (constant-sum) utility for each chapter of the report, together with measures of the expected/perceived relevance, credibility and novelty of each chapter contained in the TA (6-point bipolar scales).

Data collection and information exposure sequences of the second stage of the research employed a computer-interactive system called STARSIS, or Strategic Technology Assessment Research and Information System. STARSIS is a multi-user, interactive system in which managers can be asked questions, exposed to information, and can input responses via CRT terminals. The system represents an initial attempt to study the problems and opportunities associated with prototype on-line computer decision support systems for the dissemination of technology assessment information.

All sessions were administered in individual soundproof cubicles. Thus, the task environment is computer-interactive, with no possibility for group interaction.⁵

Subjects were 72 graduate students at a large prestigious Western university. These students were enrolled in a variety of degree programs, including Masters or PhD programs in Business Administration, Economics, Law, Public Policy, Engineering and Liberal Arts.

Results

Assuming decision makers have little or no knowledge about an innovation, what regulatory or investment alternatives are they likely to adopt? In most cases, the judgments made by policymakers concerning the appropriate form and extent of control over the technology's development will require that trade-offs be made among the alternative means of control.

The two means of control employed in the current judgment task, regulation (or the passing of laws) and investment, each with three possible levels, have been represented as a 3x3 trade-off judgment task. As such, the data are suitable for analysis by any of a variety of conjoint analytic procedures (Green and Wind 1975) which provide estimates of the policymaker's utility for each means of control, together with the part-worths for each level on each means. One such method is provided by LINMAP (Srinivasin and Shocker 1973).

Based upon a LINMAP analysis of the policy option rank vectors for all 72 subjects, the mean utility for (any form of) regulation as a means of control is 0.68 (standard deviation 0.26). Since the weights for the two alternative means of control are within-subject-normalized (with higher weights denoting more preferred), their sum must equal one. Thus, the mean utility for investment as a means of control for the future development of videotex and teletext is .32. Further, since for an individual the means of control

receiving a weight of 0.50 or larger might be considered the most preferred control option, these results indicate a strong preference (across the sample) for regulation over investment as the most desirable way of controlling the development of the technology initially.

Table 1 shows the part-worths on regulation and investment for the aggregate sample. The numbers shown are the mean preference scores for each of the discrete levels on the two methods of control.⁶

TABLE 1
Part-Worths for Alternative Levels
of Regulation and Investment: Pre-Utilization
(Mean Scores, N=72)

	Policy Alternative		
	Regulation	Investment	
Strict	-6.7	Heavy, direct	-13.7
Reinterpret	21.7	Moderate, indirect	12.9
None	-15.7	None	-0.8

As can be seen, the highest aggregate part-worth utility on the dimension of regulation is for "reinterpreting existing laws" (21.7), followed by "strict regulatory control" (-6.7). On the dimension of investment, "moderate, indirect investment" shows the highest part-worth utility (12.9), followed by "no investment support" (0.8).

The picture that emerges is that most subjects under conditions of low prior knowledge of the technology choose the middle ground in terms of government involvement and control. A significant number, however, would support a policy of strict regulation and no government investment. For this group, one might suspect that teletext and videotex represent a potentially damaging technology that needs strict control by regulation and no attempts to stimulate diffusion via government spending.

The major research question addressed in this paper, however, concerns the impact of the utilization of technology assessment information on policy choices. A direct test of this relation is given by the magnitude and direction of changes in the ordering of the nine policy options, following utilization.⁷

Table 2 shows the part-worth utilities associated with each level of regulation and investment, following utilization of the TA. The table provides a direct comparison to Table 1, the pre-utilization utilities.

When compared to the initial part-worths based upon limited prior knowledge of the technology, the greatest

⁶It should be recognized, however, that these mean scores assume homogeneity across subjects in terms of utility scale values. To the extent this homogeneity does not exist, the interpersonal utility comparisons implied by the mean scores are invalid.

⁷It is important to note at the outset of this analysis that not all 72 subjects participating in the exercise were exposed to the same information about the technology. As currently implemented, the STARSIS system allows free subject access to any part(s) of the complete TA report. In this sense, the study should be considered a "free choice" experiment.

⁵The external validity restrictions imposed by this operationalization are addressed in the discussion section of this paper.

TABLE 2

Part-Worths for Alternative Levels
of Regulation and Investment: Pre-Utilization
(Mean Scores, N=72)

		Policy Alternative	
Regulation		Investment	
Strict	7.9	Heavy, direct	-10.2
Reinterpret	22.2	Moderate, indirect	10.6
None	-30.1	None	-0.5

(average) shift in utilities has been for the various levels of regulation. The part-worth for all forms of strict regulation has increased from -6.7 before utilization to 7.9 following utilization. Conversely, the part-worth for no regulatory control has decreased from -15.1 to -30.1 as a result of utilization. Although shifts in the utilities for alternative forms of investment support do not appear as marked, the data indicate that, on average, information about the technology has the effect of inducing shifts towards both increased regulatory control and investment support as a means of controlling the diffusion of the technology.

These average shifts in part-worths in turn imply shifts in the overall importance of each of the two means of control--regulation or investment, independent of level--indicated by the magnitude of the difference between the pre- and post-utilization weights for regulation (or investment). Across the sample, the product-moment correlation between the pre-utilization weight for regulation and the post-utilization weight is .57. The mean difference between these two weights is 0.018 (standard deviation 0.24). Although not shown due to space limitations, this represents a distribution of differences in pre- and post-utilization weights for regulation in which the largest shift away from investment towards regulation as a means of control is 0.90, and the largest shift away from regulation towards investment is 0.47. Included in this distribution are 12 subjects (approximately 20% of the total sample) who exhibit a complete reversal of their pre-utilization preferences for control means; 8 subjects (11% of sample) switching from investment to regulation; and 4 (6%) switching from regulation to investment. This result is important, since it indicates that the effects of TA utilization on policy choice are not unidirectional. Different policymakers exposed to the same TA (though not necessarily the same information) may alter their initial policy preferences in entirely opposite directions.

The findings indicate that exposure to, and utilization of, information contained in the TA leads many subjects to shift their middle ground positions in the direction of increased regulation and, somewhat surprisingly, increased investment. The impact of utilization based on these data would appear to be a heightening of the risk factor perceived by some subjects (possibly concerning the consumer protection issues of the technology), in combination with a belief that the potential benefits of the technology and its diffusion should be accelerated by increased government spending.

Given that shifts in policymaker utilities for alternative means of control for videotex and teletext are taking place, an important question is to what extent can these shifts be explained by characteristics of the utilization process? One possible explanation for the shifts lies in the nature of the information contained in the TA, and accessed by subjects.

A test of the relationship between TA utilization and policy preferences is given in Table 3. The figures shown are the partial correlation coefficients between subjects' post-utilization weight for regulation and the intensity of processing each type of information within the TA, after controlling for each subject's pre-utilization policy preferences.⁸ Thus, the coefficients reflect only the impact of TA utilization on policy preferences.

The analysis is based upon grouping of items within the TA, identified through a principal components analysis of subjects' pre-utilization scores on the expected utility of each chapter of information in the TA. As seen in Table 3, the fifteen chapters of the TA can be grouped into five main classes of information, each with a unique relation to the policy formulation task. The five classes of information are: descriptive data defining the technology and its current status, consequences information describing likely direct and indirect long-run impacts of the technology, forecasts of developments in the technology's costs and components, scenarios of future applications of the technology, and identification of key policy options for the technology.

The relationship of subjects' preferences to processing of each class of information is indicated by the partial correlation coefficients. The results are intuitively meaningful. First, subjects' preferences for regulation as a means of control are significantly and positively associated with the intensity of processing of both policy-options and technology-consequences information. Thus, as subjects learn more about the various options available for influencing the development of the technology, or about the likely impacts of the technology, so preferences for closer regulation of the technology increase. Not surprisingly, policy preferences are not influenced by the level of processing of any other type of information within the TA.

Also shown in Table 3 are the partial correlation coefficients between subjects' post-utilization utility for regulation and measures of the confirmation/disconfirmation of initial expectations of the relevance, credibility and newness of the various types of information in the TA.⁹

Examining first policy-options and technology-impacts information, all judgments of these items in terms of their post-exposure relevance, credibility and novelty are positively and significantly related to the preference for regulatory control of the technology. That is, subjects whose expectations of this information are positively disconfirmed (i.e., who see this information as more relevant, credible or informative than initially expected) tend also to more strongly favor regulation as the appropriate means of control of the technology.

⁸Intensity of processing information was measured as the product of (i) the total amount of time spent reading an item, normalized within subject, and (ii) the proportion of the total number of sections accessed by the subject within the item.

⁹For each item accessed, subjects were asked to indicate (using 6-point bipolar scales with higher values denoting more positive responses) the extent to which each item (i) contained new information, (ii) was more or less relevant, and (iii) more or less credible than expected prior to exposure. Thus, an item may either confirm, or positively or negatively disconfirm, the subject's pre-exposure expectation of the value of the item.

TABLE 3

Partial Correlation Coefficients*

Policy Preferences as a Function of Utilization Intensity,
Confirmation/Disconfirmation of Expected Utility.

Controlling for Pre-Utilization Policy Preferences

Factor	Information Category				
	Descriptive	Technology Consequences	Technology Forecasts	Future Alternatives	Policy Options
Utilization Intensity	-.04 (.36)	.19 (.06)	.004 (.49)	.08 (.26)	.21 (.04)
Relevance Confirmation	-.26 (.01)	.22 (.03)	-.05 (.35)	.003 (.49)	.18 (.06)
Credibility Confirmation	-.30 (.006)	.22 (.03)	.005 (.48)	.001 (.50)	.19 (.05)
Amount of New Information	-.31 (.005)	.20 (.05)	.02 (.44)	-.03 (.42)	.22 (.03)

*Alpha level in parentheses

Judgments of descriptive information, on the other hand, are all negatively associated with preference for regulation of the technology. Thus, subjects who are positively disconfirmed by descriptive information tend to more strongly prefer investment over regulation as the appropriate means of control.

Thus, after controlling for initial policy preferences, TA utilization appears to directly affect the policy formulation process. These effects are due to differences in both the level of processing of policy-related information (much other information in the TA appears redundant), and subjects' judgments of the actual utility of the information for the policy-formulation task.

Conclusion

Several issues relating to external validity and experimental procedure need to be addressed. Task environment in the current study required individual evaluations of a major new technology, based upon written information contained in a TA, with no possibility for group interaction. Some readers may feel this environment is inappropriate for the study of policy formulation since it fails to capture the dynamics associated with the policy formulation process. However, the purpose of this study is not to study policy formulation, per se, but rather the utilization of information about technology. In descriptive studies of TA utilization (Michaels and Berg 1978), instrumental task assignments of the type described in this research have been identified as established contexts for TA utilization.

The question of group processes in policy formulation is an important one. Under some situations, the policymaker may either be required to aggregate judgments of several experts or information sources, or may simply be presented with the results of a group-think, such as a Delphi procedure, etc., and incorporate these judgments into the final policy recommendation. However, this aggregation problem is preceded by the need to first understand the impact of TA utilization on individual decisions. Further, evidence is available which indicates that group participation does not produce decisions which differ from individual decisions. Vinokur and Burnstein (1974), for example, in studying the effects of group dynamics on the risky-shift phenomenon, observe that shifts are primarily dependent

upon the arguments presented, and not group participation.

This research also employed computer-based procedures for data collection and presentation of information. The rationale lies principally (i) in the higher level of precision and control afforded in measurement of the complex constructs associated with information processing, and (ii) in the potential for developing prototype computer database systems for the future dissemination of technology assessment information. These objectives notwithstanding, the social judgment theory work of Hammond et al. (1978, 1980a, 1980b) indicate that computer-based procedures lead to significant improvements in the judgments of individuals in policy formulation tasks.

The importance of studying consumer response to innovation in marketing and consumer research is well documented. We have made the argument in this paper that, at least in the case of "discontinuous" innovations, the study of policy formulation is equally important to the prediction of the long-term diffusion of new technologies. The issue is captured in a recent review comment by Nicosia (1980):

Evolving new technologies have the potential of making it possible for each member of a society to interact with all other members. If this evolution cannot be stopped, then public policymakers . . . will inevitably have to choose. Either public policy will assume the authority to shape the development and use of communication technologies . . . or it will help people search for a society-wide institutional arrangement of consumer information systems that fits the variety of human needs for different kinds and amounts of information.

The diffusion of technological innovation is not, in general, a free-market process. Rather, it is a process mediated by particular policy positions taken towards the innovation. Policymakers face a variety of choices concerning the appropriate institutional arrangements and infrastructures to support the technology, as well as the means of achieving these arrangements. It follows in these cases that it is as important to study the information processing and

choice behaviors of policymakers as it is to study such processes among consumers and ultimate users.

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CONSUMER DECISION MAKING AND PERCEIVED DECISION FREEDOM

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Abstract

This experimental study explores the decision consequences of varying levels of perceived decision freedom. The results indicate that the number of equally valued alternatives is the most important antecedent of perceived decision freedom. Further, these results suggest different cognitive, affective, and behavioral consequences for different levels of perceived decision freedom. Differences between this view of perceived decision freedom and reactance theory are also discussed.

Study Objectives

Clee and Wicklund (1980) attempted to extend the concept of psychological reactance to consumer decision making. Reactance was described as "the motivational state of the person whose freedom is threatened" (Clee and Wicklund 1980, p. 389). The authors identified (1) expectation of freedom and (2) threats which infringe on that freedom (i.e., social influence and/or external barriers) as antecedents of reactance and suggest behavioral and attitudinal consequences aimed at reasserting this threatened freedom.

This model implies that for consumer behavior consequences to be manifested, perceived decision freedom must be threatened. While these authors cite several research studies that support this view, other research has demonstrated that perceived decision freedom has consumer behavioral consequences independent of the perception of threatened loss of freedom (Reibstein, Youngblood, and Fromkin 1975; Walton et al. 1979). It may be equally fruitful, therefore, for consumer researchers to study the effects of varying levels of decision freedom, as opposed to the more restrictive situation in which freedom is only perceived to be threatened.

Accordingly, the objectives of this paper are twofold. First, perceived decision freedom is conceptualized by (1) defining the term within the context of the decision process and (2) reviewing research on important antecedents of perceived decision freedom. Second, particular antecedent conditions are manipulated experimentally for a consumer decision involving non-carbonated soft drink alternatives. Hypothesized consequences of these antecedents manipulations are then specified and tested.

Perceived Decision Freedom

The individual consumer decision process begins with the identification of a consumption problem. The consumer will then engage in internal, and, if necessary, external search activities (Engel, Kollat, and Blackwell 1973, p. 375). If successful, these activities will result in the identification of an alternative or set of alternatives which may conceivably solve the problem. Decision freedom relates to the perception of volition the consumer believes herself/himself to exercise when he/she decides (1) whether or not to choose among the alternatives identified and/or (2) to choose one alternative over the others in the set (Harvey 1976; Steiner 1970). In recent literature, the term perceived

control has been considered synonymous with perceived decision freedom (Harvey, Harris, and Lightner 1979).

The amount of empirical research on perceived decision freedom has been limited despite three extensive theoretical discussions in the last decade (Harvey 1976; Harvey, Harris, and Lightner 1979; Steiner 1970). This contrasts sharply with the number of research efforts that have tested theoretical propositions that assume the presence of some level of perceived decision freedom. These efforts include not only reactance studies, but also numerous attribution and dissonance studies. Given the potential importance of perceived decision freedom in both marketing and nonmarketing decision situations, this lack of effort is surprising.

Antecedent Conditions

Extant research on perceived freedom has been concerned primarily with the identification of important antecedent conditions. Most of these efforts have focused on the relative attractiveness of and number of alternatives in the choice set. These findings have consistently supported the hypothesis that greater decision freedom is manifested when alternatives are perceived as being relatively equal in attractiveness (Brehm and Cohen 1959; Harvey and Jellison 1974; Harvey and Johnston 1973; Jellison and Harvey 1973; Monty et al. 1979; Walton et al. 1979).

Given relative equality of preference, some studies have assessed the relationship between perceived decision freedom and the number of alternatives in the choice set. Both monotonic and nonmonotonic results have been observed. Walton et al. (1979) reported a positive monotonic relationship when 2 and 4 equally valued choice alternatives were considered. In a second study, Harvey and Jellison (1974) found nonmonotonic relationships for 3, 6, and 12 alternatives, with the highest decision freedom associated with the 6 alternative condition. While these are seemingly inconsistent, they do not necessarily conflict when the range in the number of alternatives is considered.

Knowledge relating perceived decision freedom to another antecedent variables is sparse. Some preliminary efforts have investigated predecision uncertainty, valence of available alternatives, and quantity of available alternatives.

Predecision uncertainty refers to the probability that the expected consequences of choosing a particular alternative will, in fact, be experienced by the decision maker. Two attribution studies that have investigated the relationships between predecision uncertainty and perceived decision freedom report contradictory findings. Subjects in Kruglanski and Cohen's (1974) study attributed more decision freedom when outcomes were more certain, while their counterparts in Harvey and Johnston's (1973) study demonstrated the opposite relationship. While this conflict cannot be resolved in this review, it is noteworthy that both studies measured subject attributions toward identified actors, and not actual perceptions of, and responses

to, personal choice situations. Since the perception of decision freedom in personal decision situations may differ from attribution situations, efforts to investigate predecision uncertainty in the former appear justified.

Assuming alternatives in the choice set are perceived as relatively equal in attractiveness, the valence of these alternatives may still vary from very positive to very negative. Harvey and Harris (1975) reported a positive relationship between the perception of decision freedom and the valence of alternatives in the choice set. This finding suggests that any experiment attempting to investigate decision freedom by constructing relativistic choice sets should select sets that are positive, or at least neutral, in valence. This selection criterion should reduce an important source of error variance in the measurement of perceived decision freedom and related constructs.

A final potential antecedent of perceived decision freedom is the quantity of alternatives available in the choice set. Walton et al. (1979) observed that in certain choice situations, increasing the number of alternatives in the choice set also increases the quantity of alternatives available to subjects. Specifically, these authors investigated the amount of consumption of a chosen soft drink when subjects chose from 2 to 4 alternative choice sets. They argued that the greater quantity of drink available to the 4 alternative subjects may affect their subsequent soft drink consumption. Their findings, however, were equivocal on this point.

Two issues are apparent from this review of perceived decision freedom research. First, few consumer research studies have investigated perceived decision freedom. Second, studies that have been performed on this concept have focused on the relationship between various antecedents and perceived decision freedom and have ignored the various consequences of experiencing decision freedom. The study described in the remainder of this paper is concerned with both of these issues.

Method

Subjects were 206 male and female introductory marketing students. The decision task facing these subjects was to choose a particular flavor of a noncarbonated soft drink from a set of equally valued alternatives.

Independent Variables

The antecedent variables served as the independent variables in the study. Three levels of number of soft drink flavor alternatives (2, 4, and 6) and two levels of quantity (1 or 2 two-quart pitchers of each soft drink flavor) were included. Two levels of predecision uncertainty (high or low) were specified and operationalized as described in the experimental procedure discussion. Combining these independent variables into a factorial design resulted in 12 distinct treatment conditions.

Pretest and Subject Assignment

Subjects were pretested in their scheduled class period to determine their preferences for 12 different flavors of noncarbonated soft drinks. These flavors were: black cherry, cherry, grape, apple cider, lemonade, raspberry, fruit punch, orange, lemon-lime, peach, strawberry, and pink lemonade. Preferences were measured on a five point scale ((1) Dislike a lot, (2) Dislike Somewhat, (3) Neutral, (4) Like Somewhat, and

(5) Like a lot). After completion of the pretest, subjects were asked to sign-up for a 1/2 hour individual session. These individual sessions started one week after the pretest and continued for three weeks.

For inclusion in the second phase of the study, a subject's pretest data must have shown at least two flavors rated equally and the preference rating for these similar alternatives in the neutral or like categories. This latter requirement was necessary because of the valence research cited earlier. Six subjects failed to meet these criteria and were eliminated from the study.

A second subject assignment consideration was that a subject must have rated at least 4 flavors equally (either neutral or like categories) to be assigned to a 4 alternative treatment or 6 flavors equally (either neutral or like categories) to be assigned to a 6 alternative treatment. Subject to this restriction, subjects were randomly assigned to the twelve treatments.¹

Experimental Procedure

Before a subject's arrival, the appropriate number of flavors and pitchers of soft drink were prepared and placed on a table. A chair on which the subject would sit was placed directly in front of the table. The pitchers were covered with a large piece of white paper so that as they were seated, the subject could not see the specific alternatives available to him/her. A partition was placed around the area so that the table could not be seen by the subject until the experimenter was ready to begin.

Upon arrival, the subject was seated in the briefing area and his/her thirst was measured on a 4 point scale ((1) extremely thirsty, (2) very thirsty, (3) somewhat thirsty, (4) not thirsty at all). After current level of thirst was assessed, the following instructions were read to each subject.

"Let me briefly describe what we want you to do. Behind the divider are several different flavors of powdered, noncarbonated soft drinks like Kool-aid. They have already been mixed and are in pitchers ready to drink. The names of the flavors appear on a card in front of the appropriate pitcher.

In a minute, you will be seated in front of these pitchers. At the time I want you to choose the one flavor that you would most like to drink. You may take as long as you wish to make your choice. However, you may not touch any of the pitchers, nor taste the contents of any of the pitchers.

As soon as you have chosen a flavor, please say, out loud, the name of that flavor. I'll move that pitcher (or pitchers) to you and give you a cup. At that time you may drink as much of your chosen flavor as you wish. We do ask that you don't leave any liquid in your cup. So, if you pour it, please drink it.

While you're drinking I'll be removing the pitchers you didn't choose. I'll be back in a few minutes. Even if

¹The authors recognize the potential for bias in this assignment method. It may be that subjects rating more alternatives equally were more equivocal or less discriminatory in their judgment. Unfortunately, given the objectives of the study, this potential bias had to be accepted.

you're finished drinking, don't leave until I come back. When I come back, I'll give you a short questionnaire to fill out and then you'll be finished."

At this point, depending upon the treatment condition to which the subject had been assigned, two versions of the remaining instructions were read. The intent of these two versions was to manipulate predecision uncertainty. Version A read as follows: "One more thing. All of the flavors you will choose from were mixed according to package directions. Therefore, none should be too sweet or too tart. Any questions?" Since it was determined on the pretest that all subjects were familiar with noncarbonated soft drink products, it was expected that the subjects would perceive a low level of predecision uncertainty as to the taste outcomes of these alternatives.

Version B read as follows: "One more thing. The person who mixes the soft drinks has not had a lot of experience. He just told me that he doesn't think he used enough sugar. Therefore, all the flavors you have to choose from might be too tart. Any questions?" It was expected that subjects who received this version would exhibit higher levels of predecision uncertainty as to the taste outcomes of their alternatives. It should be noted that all drinks were mixed according to package directions.

The subject was then taken behind the partition and seated in the chair. The experimenter stood to the left of the subject and removed the paper with her left hand and started a concealed stopwatch with her right hand. The experimenter stopped the watch as soon as the subject indicated his/her choice.

After the subject consumed as much of the room temperature drink as he/she wanted, he/she was asked to complete a questionnaire. After the subject completed the questionnaire, he/she was thanked for their participation. After the subject left, the experimenter recorded the elapsed time on the stopwatch and inspected the cup to insure no liquid remained. In each case the cup was virtually empty. Each pitcher contained 32 ounces of liquid and was graduated in ounces so that the amount that had been poured out by the subject could be easily determined. The experimenter recorded this amount and the room was prepared for the next subject.

Dependent Variables

In addition to the amount of soft drink consumed and response time, the questionnaire measured a variety of affective and cognitive response variables. Table 1 lists these additional dependent variables and the scales used to measure them. Also, the questionnaire contained the same flavor preference scales as the pretest. From these data, a preference change score for the chosen flavor alternative was calculated. The scale ranged from 1 (negative change of 4 scale units) to 7 (positive change of 2 units).

TABLE 1

Additional Dependent Variables and Response Scales

Dependent Variable	Response Scale
1. How good was this soft drink?	very bad - very good ¹
2. How well do you think your friends would like this soft drink?	dislike very much - like very much
3. How "thirst quenching" would you rate this flavor as compared with plain ice water?	much less thirst quenching than ice water - much more thirst quenching than ice water
4. How much freedom of choice did you feel you had in selecting a flavor of soft drink?	very little freedom - very much freedom
5. How much did you enjoy participating in this study?	not at all - a great deal
6. How difficult did you find participating in this study to be?	not difficult at all - extremely difficult
7. How much would you be willing to pay for a quart package of this flavor of soft drink?	actual cents
8. What do you think this study was all about?	open end

¹The bipolar adjectives shown in this column were used to define the end points of a 7 point self-report rating scale.

Hypotheses and Analysis Methods

Four hypotheses were formulated and subsequently tested. In order to assess the consequences of perceived decision freedom, it was necessary that perceived decision freedom vary across treatment conditions. Therefore, the first hypothesis was:

H1: Perceived decision freedom will vary across the antecedent treatment conditions.

Subsequent hypotheses investigated cognitive, affective, and behavioral consequences of perceived decision freedom. These hypotheses were:

H2: Measures of cognitive consequences will vary across antecedent treatment conditions.

H3: Measures of affective consequences will vary across antecedent treatment conditions.

H4: Measures of behavior and behavioral intention will vary across antecedent treatment conditions.

Nonorthogonal analysis of variance (regression method) was used to analyze each of these hypotheses. When significant effects were observed, multiple comparisons were accomplished using the Newman-Kuels procedure.

Results

Any thirst differences across treatments might seriously confound the results of the study. Therefore, as a manipulation check, the four point thirst measure was analyzed. No significant interactions or main effects were indicated.

TABLE 2

Summary of Analyses of Variance Results

DEPENDENT VARIABLES	ANOVA EFFECTS						
	A	Q	U	AQ	AU	QU	AQU
HYPOTHESIS 1							
Decision Freedom	20.04 ^{a,c}	.01	5.46 ^c	1.65	.24	.00	.08
HYPOTHESIS 2							
Thirst Quenching	3.51 ^b	.27	.06	.33	.57	1.04	1.28
Difficulty in Participating	.50	.46	.08	.64	.30	.19	3.49 ^b
HYPOTHESIS 3							
Flavor Preference Change	3.75 ^b	.01	3.36	.87	1.01	.72	.45
How Good	3.35 ^b	.40	.01	.05	.73	.26	.84
Friends Like	4.93 ^b	.18	.03	.19	.93	.05	.09
Enjoyed Participation	.46	.01	.21	.88	1.08	1.66	3.59 ^b
HYPOTHESIS 4							
Soft Drink Consumption	.01	.80	.197	.21	3.11 ^b	.68	.23
Response Latency ^d	13.99 ^c	4.68 ^b	.49	1.40	.39	.22	.18
Willing to Participate	.49	.41	2.56	.38	.68	2.03	1.88

NOTE: The following abbreviations are used: Alternatives (A), Quantity (Q), and Predecision Uncertainty (U).

^aA cell entry represents the F-value for each effect.
^b.05 < p < .01
^cp < .01

^dThe degrees of freedom for response latency effects were: A(2,189), Q(1,189), U(1,189), AQ(2,189), AU(2,189), QU(1,189), and AQU(2,189). Degrees of freedom for all other dependent variable effects were: A(2,193), Q(1,193), U(1,193), AQ(2,193), AU(2,193), QU(1,193), and AQU(2,193).

Table 2 summarizes the analysis of variance results for each hypothesis. For H1, alternatives and predecision uncertainty main effects were significant, while the quantity main effect and all interaction terms were not. Perceived decision freedom means for the 2, 4, and 6 alternative conditions were 4.16, 5.45, and 6.05, respectively. Multiple comparison tests documented significant differences between each pair. For predecision uncertainty, perceived decision freedom was greater when outcomes were more certain ($\bar{X} = 5.32$) as compared to less certain ($\bar{X} = 4.66$).

Hypothesis 2 concerned two cognitive variables, thirst-quenching and difficulty in participating. Only a significant alternatives main effect was observed for thirst-quenching. Specifically, the 2 alternative condition was seen as less thirst-quenching ($\bar{X} = 3.03$) than either the 4 ($\bar{X} = 3.60$) or 6 ($\bar{X} = 3.54$) alternative conditions.

Regarding Hypothesis 3, a significant alternatives main effect was indicated for flavor preference change, how good, and friends like. As shown in Table 3, the pattern of means for each of these variables was identical. For each variable, the two alternatives value was significantly lower in affect than either the four or six alternative values. The four and six alternative comparisons, however, were not significantly different.

While all other effects for these three variables did not reach conventional significance levels, the predecision uncertainty main effect for flavor preference change approached the minimum standard ($p = .06$). Given this proximity, this finding is reported. Specifically, greater preference change was evidenced when outcomes

were more certain ($X = 4.26$) as compared to less certain ($\bar{X} = 4.08$).

TABLE 3

Affective Variable Means

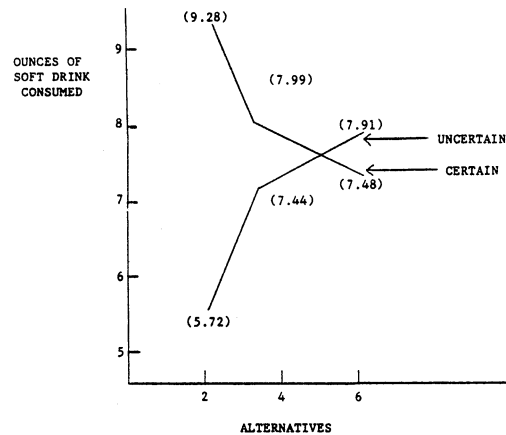
Affective Variables	Number of Alternatives		
	2	4	6
Flavor Preference Change	4.02	4.27	4.33
How Good	5.02	5.45	5.38
Friends Like	4.55	5.04	5.08

The final hypothesis concerned behavior or behavioral intention differences across treatments. As seen in Table 2, soft drink consumption and response latency exhibited such differences.

The alternative - predecision uncertainty interaction was the single significant effect for soft drink consumption. This effect is graphically displayed in Figure 1. For two alternatives, a significantly greater number of soft drink was consumed when outcomes were more certain. The effect became less pronounced as the number of alternatives increased. Indeed, for six alternatives, more consumption was found in the less certain group.

FIGURE 1

The AU Interaction for Soft Drink Consumption



Significant alternative and quantity main effects were observed for the response latency measure. As the number of alternatives increased, response latency increased accordingly. Mean seconds to decision for the 2, 4, and 6 alternative treatments were 7.73, 11.63, and 13.56, respectively. Differences between each pair were significant.

A similar relationship was exhibited with quantity levels. That is, response latency was greatest for two pitchers ($\bar{X} = 10.96$) as compared to one ($\bar{X} = 9.64$). Willingness to participate was the intention measure and did not vary across treatments.

All of the research hypotheses in the study received some degree of support. The importance of these results are discussed in the concluding section of this paper.

Discussion

The principal objective of this study was to assess the effects of varying levels of perceived decision freedom on selected cognitive, affective, and behavioral consequences. Overall, the results suggested a range of such effects, with affective and behavioral being the most pronounced. Specific findings indicated that the number of similarly valued alternatives is the antecedent condition most strongly related to the perception of decision freedom. Relationships between the other antecedents and perceived decision freedom were much less pronounced.

While the decision task in this study was admittedly atypical, some generalizations to other types of decision situations seem appropriate. For example, the bulk of all consumer decisions may be classified as routine response behavior (Haward 1977). Since the consumer has typically made this decision frequently, it is reasonable to assume that one or more preferred alternatives have been identified. When a single alternative is clearly preferred to the others for this type of decision, we would expect decision freedom to be perceived as low. Based on the findings in this study, cognitive and behavioral differences and lessened affect could be predicted. Note that reactance theory would predict consequences only if the consumer perceived their freedom to be threatened. This is an unlikely occurrence for this type of decision.

When two or more alternatives are equally preferred for a routine response decision, perceived decision freedom should be greater. In this situation, cognitive and behavioral differences and heightened affect could be predicted. Similar outcomes should be expected for most nonroutine decision situations. In these limited or extensive problem solving situations (Howard 1977), we would expect greater external search to result in the identification of a set of potentially attractive alternatives. Once again, recognizing the presence of heightened levels of perceived decision freedom would allow predictions about likely consequences that are not obvious with reactance theory.

This study represents only an initial effort and many issues remain unresolved. For example, the use of a homogeneous subject pool ignores any relationship between individual difference variables and perceived decision freedom. Demographic, socio-economic, personality, and cognitive style variables undoubtedly have some impact on the perception of decision freedom and these relationships should be assessed.

Furthermore, the relationship between perceived decision freedom and the quality of the resulting decision was ignored. It may be that when perceived decision freedom is greater, consumers feel better about their decision but do not actually choose the best alternative available to them. Clearly, more research efforts are required to clarify these and other research issues. Based upon the results of this study, these additional efforts seem warranted.

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TOWARDS A MORE COMPREHENSIVE THEORY OF CHOICE

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Abstract

A comprehensive theory of choice should explain the composition and priority of goals within a consumer's life goal as well as the specificity of these goals. Likewise, the relationship between goal formation and behaviors relating to the acquisition, consumption, and disposition of goods and the relationship of all these behaviors to obtaining information should be explained. A theoretical framework is presented that encompasses all of these behaviors and their relationships.

Introduction

Within the last decade or so consumer researchers (e.g., Bettman 1979; Kassarian 1978; Krugman 1965; Olson 1977; Olshavsky and Granbois 1979) have recognized that choice is determined in a much more varied fashion than was suggested by the early models. Unfortunately, theory development has not kept pace with these empirical findings. While there have been some efforts to construct theories capable of explaining some of these variations (e.g., Bettman 1979, 1982; Payne 1982), none have been comprehensive. Nor have any of these theories done an adequate job of explaining the relationship between preference and intention and the relationship between intention and acquisition. Further, the relationships between acquisition and the consumption/disposition of goods have largely been ignored (Jacoby 1976).

Much more theoretical work also needs to be done to clarify the relationship between behaviors directed toward goods and behaviors directed toward information (acknowledging that in some cases information is a good). The "low involvement" concept in particular has stimulated efforts to modify existing models of decision making (DM) (e.g., Engel and Blackwell 1982) or to modify Lavidge and Steiner's (1961) hierarchy-of-effects model (e.g., Ray 1973; Smith and Swinyard 1982) to accommodate this type of behavior; unfortunately, this concept has also generated a great deal of confusion.

The purpose of this paper is to present a new theoretical framework that encompasses these and several other important issues related to choice. Preference formation (PF) will be addressed first. Intention formation (IF) will be treated next. The manner in which goals are added/deleted to the life goal and prioritized will be discussed. Acquisition, consumption, and disposition of goods will be related to intentions. The goal-subgoal relation between these behaviors and the "obtaining" of information will be described. Finally some advantages of this framework will be briefly described.

The Theoretical Framework

Overview

The framework to be presented represents an adaptation and extension of Newell and Simon's (1972) information processing theory of human cognition. Very briefly, the important assumptions, elements, and concepts of the theory are as follows: (For a more detailed exposition, see Olshavsky 1975.)

Two assumptions are fundamental to the theory. 1) Man is an adaptive system. This means that man's behavior is shaped by an interaction, over time, between man and

the task environment (TE). 2) Man is an information processing system (IPS). It is assumed that man has the ability to interpret and execute a small, but powerful set of elementary information processes (eip's), such as "compare two symbols," and "find the next symbol on a list."

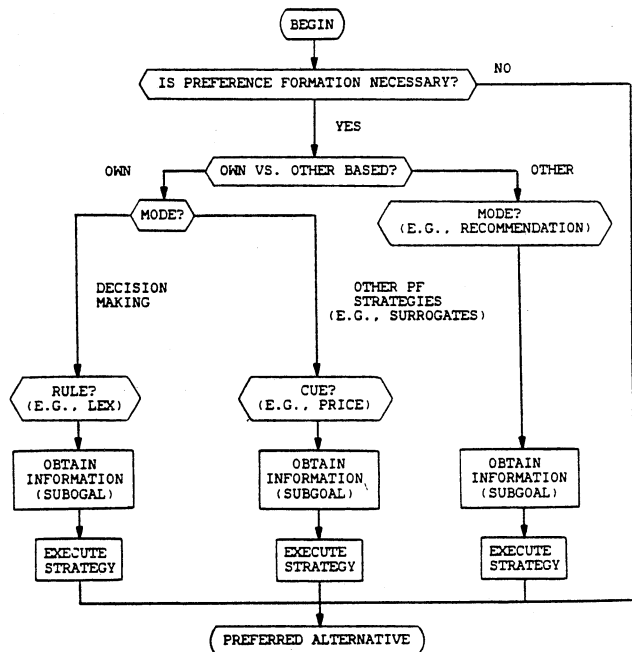
One of the important concepts in Newell and Simon's theory is the "program." A program consists of an organized sequence of eip's. Man's behavior is guided by this program. It is further assumed that the appropriate program (production system) is evoked by the nature of the goal and the TE in which man finds himself pursuing his goal. Given the right program, man is capable of some very sophisticated behaviors (e.g., playing chess, proving logic theorems). Another important concept is the "problem space;" it is man's internal representation of the external task environment that is determinant.

Preference Formation

Newell and Simon's theory can be extended and adapted to consumer choice by the crucial assumption that a consumer (here defined as a household) possesses a generalized PF "schema" (GPFS) (Abelson 1981) that guides the selection of a particular PF strategy on any particular PF occasion. (Due to space limits, intra-household behaviors, i.e., family DM, cannot be addressed; see Olshavsky and King (in press).) It must be emphasized that the GPFS (see Figure) is not a model of how choice itself occurs. Once selected, that strategy guides the behavior of the consumer, but it is the interaction of consumer and TE characteristics, over time, that determines behavior. For a more detailed description of the GPFS, see Olshavsky (1984).

FIGURE 1

THE GENERALIZED PREFERENCE FORMATION SCHEMA



Is Preference Formation Necessary? For many reasons, no PF strategy of any kind may be required on some PF occasions. For example, prior PF may have established a preference for a good (e.g., affect referral). In this case, the preferred alternative is the pre-existing preferred alternative. If PF is necessary, then the consumer has two fundamentally different types of PF strategies from which to choose: own-based or other-based.

Own-Based PF Strategies. The most prominent own-based PF strategy (in the literature) is decision making. Several alternative decision making rules — lexicographic, conjunctive, additive (including expectancy-value models), additive difference, etc. — are assumed to be available to the typical consumer (Bettman 1979; Svenson 1979).

Once a particular rule is selected, the consumer attempts to execute that rule. The behavior of the consumer, at both the outcome and process level, is then determined by the interaction that occurs over time between the consumer and the TE, as that TE is internally represented by the consumer, i.e., the problem or choice space (evoked set and brand/store image are relevant here).

Another own-based PF strategy is the use of a cue(s) (e.g., price, country of origin) as an index of quality, if quality is the basis for preference (Olson 1977). The outcome of this PF strategy is determined by the value of each alternative on the cue(s) utilized.

Other cognitive processes such as judgment, concept identification, learning, and reasoning may also serve as the basis for own-based PF. For instance, judgment is implied whenever only one alternative exists. More research is required on these behaviors however.

Other-Based PF Strategies. Other-based PF strategies refer to those choice behaviors in which the consumer subcontracts the PF to another consumer or organization. The clearest example of this type of PF strategy is "following a recommendation" (Formisano, Olshavsky and Tapp 1982; Olshavsky and Rosen (in press)).

This PF strategy is qualitatively different from that usually studied under the rubric of "opinion leadership," "word of mouth," or "interpersonal influences" because the assumption is made in that literature (at least implicitly) that the consumer obtains information from others for use in an own-based PF strategy (see e.g., Engel and Kollat 1982).

Combination Strategies. Two or more PF strategies may be selected and utilized on any particular occasion. An illustrative example of a combined strategy is a "phased strategy;" here two or more decision making rules are executed in sequence, e.g., a lexicographic rule followed by an additive rule (Olshavsky 1979).

Affectional Processes in PF. It is assumed here that emotional responses (affect), of various types and degrees, are activated (simultaneously) by PF and other behaviors. For example, finding a brand that meets all of a consumer's evaluative criteria may evoke joy. This emotional response is assumed to interact in important ways with the purely cognitive based PF processes and outcomes; in some cases, preferences may be based exclusively on affect (Zajonc 1982).

Obtaining Information. (This term refers to several behaviors in addition to acquiring information as will be made clear below.) As a precondition to the execution of any PF strategy the consumer must acquire information from internal and/or external sources. Obtaining information therefore is a subgoal to the goal of PF (and other behaviors to be described). The specific type of

information acquired, sources contacted, and the manner in which the information is processed depend greatly upon the particular PF strategy evoked. Behaviors directed expressly toward obtaining information will be described in greater detail below.

Determinants of PF Strategy. If this framework is ever to have the status of a theory (Hunt 1983), the "if-then" relationships that determine which strategy or combination of strategies is evoked on any particular PF occasion must be specified. The following contingencies between strategy and the basic elements are merely illustrative. (See Olshavsky (1984) for a more detailed presentation.)

Consumer characteristics can influence the PF strategy evoked in several ways. For example, the relatively small capacity of short term memory has been found by several researchers to be a determinant of the strategy evoked in a variety of cognitive tasks, including consumer choice (Bettman 1979). (However, Olshavsky and Acito (1984) demonstrate that an external memory aid may offset this constraint.)

The TE can be subcategorized into three types of environments — the marketplace (MP), the social environment (SE), and the physical environment (PE). The MP refers to the goods available at a particular point in time. MPs are characterizable in terms such as the number of alternative brands/stores, their similarity, the nature of the alternatives (e.g., complexity, price), and the nature of information available (Nelson 1970). Any one or combination of these MP factors can influence the PF strategy selected by a consumer. For instance, if a large number of alternatives exist then a phased DM strategy may be used (Olshavsky 1979).

The SE refers to the groups, formal and informal, that exist within a particular society. Groups are characterizable in terms such as their size, objectives, strategies, and tactics. One or more of these groups may influence the PF strategy. For instance, if a business firm uses comparative ads, the consumer may use a DM strategy rather than affect referral (Bettman 1979; Wright 1976).

The PE refers to all remaining aspects of the TE, such as the structural and climatic features of a particular locale. One or more of these aspects can influence the PF strategy. For instance, an impassable highway or inclement weather may deter a consumer from utilizing a DM strategy that requires external search.

Goal Formation

To explain the relationship between preference and intention, it is first necessary to describe in a little more detail the nature of consumer goals and the behaviors related to goal formation and change. (Goods are but one type of goal.)

A comprehensive theory of choice should explain: 1) how particular goals (or bundles of goals) are added to or deleted from a consumer's overall goal in life (i.e., life goal), and 2) how a priority among goals (or bundles of goals) included within the life goal is established and changed. PF is viewed as part of this more general process of goal formation (GF); but PF only increases the specificity of a goal (e.g., which brand/store).

Behaviors involving additions to a life goal relate to those behaviors traditionally studied in the "adoption of innovations" literature (Robertson 1971; Rogers 1962). And, changes in the priority of goals relate to research and theory on values (Rokeach 1968).

Changes in both composition and priority of goals relate to the literature on family life cycle.

These two additional types of GF behaviors can be explained in a manner similar to that described for PF. A schema consisting of alternative strategies is assumed to exist and the same type of contingent relationship between strategy and the state of the basic elements is assumed.

Intentions Formation

Financial, temporal and other considerations typically preclude a consumer from acquiring all goals included in the life goal. A comprehensive theory of consumer choice should be able to explain how the specific goals (involving goods) that are to be sought within the next (or subsequent) purchase period are determined.

The composition, priority and preferences contained within a consumer's life goal, the price of goods (or expected price), and a consumer's disposable income (or expected income) and disposable time are among the factors assumed to play an important role in determining the outcome of the IF process. Traditional economic theory describes how consumers attempt to achieve all desired goods, in the desired amounts, subject to the budget constraint. But this is only one of several alternative IF strategies (Olshavsky and Granbois 1979). Research involving "budgeting and planning" (Ferber 1973) and purchase priorities are directly related to IF.

To explain IF, again a schema is postulated to exist that consists of several strategies and the particular IF strategy evoked on any particular occasion depends upon the state of the basic elements.

Acquisition, Consumption, and Disposition of Goods

An intention does not always result in an acquisition (purchase, choice). The acquisition of goods involves behaviors such as transporting the consumer to the marketplace, locating goods in the marketplace, exchanging money for goods, and transporting goods to the desired location (e.g., the consumer's home). Difficulties encountered during any one of these behaviors (e.g., inability to locate a store) can result in failure to acquire the good. A comprehensive theory of choice should be able to explain acquisition and its relation to other choice behaviors.

Consumption refers to behaviors such as storing, preparing, and using goods. Consumption patterns also pertain to usage rates, timing of purchases, frequency of repurchase and certain unintended outcomes (e.g., automobile accidents). A comprehensive theory of choice should be able to explain consumption and its relation to other choice behaviors.

Some goods typically are disposed of before another good of the same type can be acquired (e.g., houses, cars). Disposition of goods can take many different forms such as trashing, trading, and selling (Jacoby, Berning and Dietvorst 1977). Difficulties, actual or anticipated, encountered in the disposition of a good can have important implications for first time or repeat purchase. A comprehensive theory of choice should explain disposition and its relation to other choice behaviors.

The framework being presented here can be expanded to explain acquisition, consumption, and disposition by assuming that each of these behaviors is directed towards the achievement of a distinct goal and by assuming that associated with each goal is a separate generalized

schema. Each generalized schema, in turn, is assumed to consist of a variety of alternative strategies for performing each of these behaviors and that the particular strategy evoked on any particular occasion depends upon the state of the basic elements. For instance, there are many ways of preparing foods, the specific strategy (recipe) evoked on any particular occasion depends upon a large number of consumer and TE factors.

The relationships among goal formation, acquisition, consumption, and disposition can be explained by the postulation of yet another more generalized schema (an "episode") that specifies the sequence in which these four behaviors typically occur (i.e., $GF \rightarrow A \rightarrow C \rightarrow D$) while recognizing that exceptions to this sequence occur under certain conditions (e.g., in the case of sampling, acquisition occurs without intentions).

Obtaining Information

Obtaining information is a subgoal in goal formation, acquisition, consumption and disposition. In the interest of parsimony, the assumption is made that achieving this subgoal involves the same four types of behavior -- goal formation, acquisition, consumption and disposition; but, at this level these behaviors pertain to obtaining information. (It is recognized that some types of information are goods.)

Goal Formation (Regarding Information)

Before a consumer can attempt to acquire information, the type and amount of information desired must be specified. Also, the priority of the different types of information desired must be specified. And preferences must be established among specific sources of information.

Further, not all information desired will typically be translated into intentions to achieve that information due to financial, temporal and other constraints; thus, a separate stage of IF with respect to information is assumed to occur.

Considerable research has been done on GF with respect to information, although not under this terminology. For instance, an extensive literature exists on the effects of the "credibility of the communicator." But source credibility can be viewed as an attribute of a source and as an evaluative criterion used by a consumer in PF with respect to alternative sources. GF with respect to information can be explained in a manner similar to that described above for GF with respect to goods.

Acquisition (Regarding Information)

After intentions with respect to information have been formed, the consumer attempts to acquire that information. The same basic types of behaviors are assumed to be involved here as with the acquisition of goods; namely, transporting, locating, and exchanging with due recognition of the unique characteristics of information (e.g., information can be "transported" over telephone lines). It is to be emphasized that information can be acquired without intentions, as in influence attempts.

Considerable research has been performed on information acquisition behaviors involving both internal sources (i.e., retrieval from long term memory) and external sources (see Bettman 1979). Acquisition behaviors can be explained in a manner similar to that described above for the acquisition of goods.

Consumption (Regarding Information)

Once information has been acquired, this information is assumed to be consumed (processed) in some fashion.

Consumption of information may result in changes to pre-existing beliefs, attitudes, skills, affect, etc., which, in turn, may lead to a change in preference. The consumer's perception of the TE (i.e., the choice space) is assumed to be determined in this fashion.

Considerable research has been performed on the "consumption" of information. Indeed, all research on persuasive communications, from either personal or non-personal sources, can be viewed as studies of information consumption. This research has shown that information is consumed in ways ranging from simple learning to extended elaboration (e.g., Craik and Lockhart 1972; McGuire 1976; Olson, Toy and Dover 1977; Petty, Cacioppo, and Schumann 1983; Wright 1973, 1980). Also, research involving use/trial of a good (Bem 1972; Oliver 1980; Smith and Swinyard 1983) relates to information consumption. For instance, the satisfaction or dissatisfaction experienced during consumption of a good is viewed here as the outcome of the process of consuming information in the form of direct experience. Research on socialization, compliance, reactance, and conformity is also relevant here.

The proposed framework can accommodate all types of information consumption behaviors by postulating, as before, the existence of a set of alternative strategies for the consumption of information. A detailed specification of these information consumption strategies would include basic processes already identified in one or more of the traditional theories on persuasion such as learning theory, attitude theory, consistency theory, attribution theory, social judgment theory and cognitive response theory.

The specific strategy evoked on any particular occasion is again assumed to depend upon the state of the four basic elements. Recent theoretical developments in the area of persuasive communications all seem to be headed in the direction of a similar, contingent view of information processing (Petty et al. 1983; McGuire 1978; Krugman 1966; Ray 1973; Smith and Swinyard 1982).

Variables identified in research on persuasive communication as being important determinants of effectiveness can all be conveniently classified as belonging to one of the four basic elements. For instance, consumer characteristics encompass variables such as the initial strength of the beliefs of the consumer. MP characteristics encompass variables such as the expertise/credibility of the communicator (e.g., salesperson). SE characteristics subsume variables such as the characteristics of the message (e.g., sidedness, vividness, type of appeal). And PE characteristics encompass variables such as the nature of the context in which the consumer attempts to consume information (e.g., loud, distracting noise).

Disposition (Regarding Information)

Information, once acquired and consumed, may be disposed of in various ways. Information stored in long term memory may be forgotten due to the consumer's failure to rehearse this information periodically. And, past copies, of Consumer Reports may be discarded or passed along to friends.

A great deal of research has been performed on learning and retrieval processes in psychology, but little is known specifically about the manner in which consumers dispose of information related to goods. It is expected however that these behaviors can be explained in the same manner described above for the disposition of goods.

Conclusions

The theoretical framework being proposed here has several distinct advantages over existing theories of choice. First, it can encompass all known types of PF strategies. Given the pre-occupation choice theorists have had with attitude as the sole mediator of intention and subsequent acquisition, the present framework should encourage future researchers to view attitude as but one of several bases for the establishment of a preference (i.e., preferences are not the same as attitudes). An important implication of this framework is that when an other-based PF strategy is evoked, advertising or other persuasive communications efforts may not affect preference even though it may produce changes in beliefs, attitudes, or affect. For instance, a consumer may prefer the brand recommended by a friend regardless of the impact advertising has had on his/her beliefs and attitudes toward that brand and toward competing brands (Formisano, et al. 1982).

Second, this framework encompasses behaviors and relationships involving goal formation (including PF and IF), acquisition, consumption and disposition. No theory of choice addresses all of these important aspects of consumer behavior (Jacoby 1976). The many ways in which PF is assumed to occur and the separate IF and acquisition stages that are assumed to intervene between PF and purchase may help to explain the low correlations so frequently observed between attitude and behavior.

Third, this framework provides a better perspective on the impact of advertising on choice. In particular, the manner in which a consumer processes information from ads (or any other source) has been shown here to depend greatly upon the specific context in which the desire for information arises (i.e., in a goal-subgoal relationship). The hierarchy-of-effects model ignores this situational dependence. Past attempts to explain the relation between advertising and choice based on the hierarchy-of-effects model share this problem. In addition, such models fail to maintain a clear distinction between behaviors relating to goods and behaviors relating to information. These models also treat attitude as the sole basis for choice.

By maintaining a clear separation between behavior directed towards goods and behavior directed towards information and by stressing the goal-subgoal relationship between these behaviors, the present framework brings greater clarity to this and other areas. For example, the great confusion that surrounds the low-involvement concept can be reduced somewhat by describing, within the proposed framework, some of the many different types of behaviors identified with this ambiguous concept: 1) The priority of the good, as a goal within the life goal, may be low. (This interpretation appears to be closest to Krugman's definition of the term.) Little time may be allocated for GF for goods that are relatively unimportant. 2) At the level of GF involving goods, a consumer may not engage in any PF activity because the alternatives are judged to be so similar that any type of PF is unwarranted (e.g., commodities). 3) At the level of GF involving information, a consumer may decide that the best source of information for a particular good is trial (Smith and Swinyard 1983). (Hence, "conation" can occur before "affect".) 4) At the level of consumption of information, a consumer may select a strategy that involves little or no processing of an advertisement. (Limited processing of an ad is particularly likely to occur for ads acquired without intentions, as in watching television.) 5) At the level of consumption of information, the consumer may have such weak beliefs and attitudes (i.e., low "ego involvement") that little processing of the message occurs beyond simple learning.

In short, the low involvement concept has lead to great confusion because it refers to so many types of behavior and/or states of the consumer. The proposed theoretical framework adds precision to the description of the behaviors of interest; it also promises to provide an explanation for all of these behaviors.

The final advantage to be highlighted is that the assumptions expressed in this framework about the contingent relationships between strategies and the basic elements and between the consumer and the TE can be expressed in great detail and formalized in the form of a computer program, such that predictions about the choice process and outcome can be made (Newell and Simon 1972). For an illustration of how part of the DM branch of the GPFS has been formalized see Olshavsky and Acito (1982). Clearly, insufficient detail has been provided in this paper to formalize the theory; however the task is less formidable than it might at first seem since much more research has been done to specify the relationships involved than could possibly be reviewed in this short paper.

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PRODUCT RECALL COMMUNICATIONS: THE EFFECTS OF SOURCE, MEDIA,
AND SOCIAL RESPONSIBILITY INFORMATION

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Abstract

The experimental study investigated three factors that may affect consumer perceptions of companies making product recalls. When information indicating that the company acted in a socially responsible manner was present, student consumers held more favorable feelings toward the company. A government press release was viewed as more objective than a company advertisement discussing the recall. Finally, the print medium was viewed as more trustworthy and somewhat more objective than the sound medium. Managerial implications are provided.

Introduction

Product recalls have become a major problem for companies over the past decade because of the increased complexity of products and of the involvement of such agencies as the National Highway Traffic Safety Administration. While it has been charged that under the Reagan administration, enforcement of product safety standards has become lax, product recalls have continued to be made and in some cases cost companies millions of dollars, as with the 1982 Tylenol recall by Johnson and Johnson. In 1974 almost 25 percent of all consumer goods' companies appearing in *Fortune's* 500 had initiated recall campaigns (Tamarkin 1978). When this article was written, General Motors was in court arguing against being forced to make what could become the largest recall in corporate history for possible defective brakes on its X-body automobiles.

Much of the written work on product recalls by academicians has been aimed at increasing the effectiveness of the recall program and the organization in handling the recall (e.g., Fisk and Chandran 1975). A few empirical pieces on product recalls have been written. Wynne and Hoffer (1976) found that recalls didn't appear to influence market share unless a series of recalls occurred involving the same product model. Simpson and Mowen (1981) found that recalls had little measurable impact on the stock prices of publicly traded companies. These studies indicate that markets in some way adjust to the news of product recalls, making it difficult to measure their impact on market share or stock prices.

Another approach to the study of the impact of recalls is to identify how consumers react to various types of information about the company and the recall. Much of this work has been conducted by Mowen and his colleagues. In the first of a series of studies, Mowen (1979) manipulated whether or not the company was known to consumers, whether or not the Consumer Product Safety Commission (CPSC) directives were given to the company prior to the recall, and whether or not other companies had experienced a similar product problem. The results revealed that company familiarity and CPSC action influenced how responsible people felt the company was for the defect. Further, a well-known company was perceived as less responsible for a defect than an unknown company.

Mowen, Jolly, and Nickell (1980) conducted a survey to obtain consumer reactions to recalls which had recently occurred. A stepwise regression was employed to examine the possible effects of the recall on perceptions of the companies. The subjects' perceptions of the perceived danger of the defect, of a company's social responsibility,

and of a company's perceived responsibility for the defect were the best predictors of the subjects' favorability toward the company.

In a third study, Mowen and Ellis (1981) conducted an experiment in which three variables were manipulated--the injury resulting from the defective product, the length of time it took the company to decide to make the recall, and the number of previous recalls made by the company. Each variable was found to influence subject perceptions of the company and their intentions to purchase a replacement product.

The theoretical rationale for the studies by Mowen and his colleagues was attribution theory (Kelley 1967). Indeed, the work of attribution theorists suggests that product recalls, like other types of negative information, can severely damage a company's corporate image. For example, Mizerski (1975) found that subjects tended to attribute favorable information about a product to external causes (i.e., that a person likes products like that), and unfavorable information to internal causes (i.e., it's the company's fault it makes a poor product). People appear to weight negative information more heavily than positive information. Similarly, Kanouse and Hanson (1972) proposed that people are cost oriented in their evaluations and place greater weight on negative information than on positive content.

The findings of Mizerski (1975) and Kanouse and Hanson (1972) have important implications for companies recalling products. Because the news of a product recall is a type of negative information, consumers are likely to weight the information more heavily than advertising revealing product strengths. Thus, companies have a need to mitigate such potential negative information. One approach could be to inform consumers of the socially responsible actions of the company in recalling the product. As Mowen, Jolly, and Nickel (1980) found, companies perceived as more socially responsible are liked more. One approach to creating such an impression could be simply to tell consumers that the company is acting in a socially responsible way during the product recall. Thus, one purpose of the present research was to test whether information on the socially responsible nature of a recall influences consumer liking for a company.

Information Sources

Much has been written on the impact of sources of information. (For example, see the excellent review of Sternthal, Phillips, and Dholakia 1978). Attribution theorists (e.g., Kelley 1973) have argued that sources which provide expected information are relatively uninformative and are therefore "discounted." In contrast, sources which give unexpected information are relatively more informative and the impact of such information is therefore "augmented."

One issue of relevance to a product recall is consumer perceptions of the trustworthiness and objectivity of the government. Recalls ordered by the government have not always been popular, as in the case with the saccharin recall made in the late 1970s. Sandage and Barban (1970) found that farmers felt the government to be too involved in the area of consumer protection. The respondents felt that protection from government bureaucrats could become as vital as protection from unsavory business practices. A company needs to consider the

relative impact of information coming from itself or from the government. Indeed, because of the ambivalence felt by some Americans towards the government, it could be beneficial to simply advertise a company's social responsibility rather than hope that the government will say something positive about the company. Thus, a second purpose of the study was to investigate how consumers react to messages sponsored either by the government or by the company.

Media Influences

The degree to which the medium affects the message has been a topic of some interest to those in the mass communications field. The results of such research, however, have been inconsistent. Dommermuth (1974) investigated the effect of four different media (television, motion picture, print, and radio) on audience perceptions of the communicator and his presentation. Subjects who received the presentation in print thought the presentation was better, fairer, and stronger than either sound or television. The radio mode produced the greatest mean attitude changes with the print mode a close second. Television produced the least amount of attitude change.

Other researchers, however, have obtained results inconsistent with Dommermuth's. Lee (1978) found that television was believed three times more often than newspapers when conflicting reports were given. Clarke and Ruggels (1970) found that a correlation between education and preferences for print media existed. In addition, the types of news made a difference. The preferred medium to obtain international news was television. However, for national news subjects preferred newspapers. The third purpose of the study, then, was to assess the relative impact of a print or a simulated radio source on consumers learning about a product recall.

Design Overview

Based on the three major goals of the study, a 2x2x2 between groups factorial experiment was developed. Factors investigated included the source of information (government or company), the type of media used to convey the information (print or sound), and the inclusion or deletion of social responsibility information. Major dependent variables of interest included subject perceptions of the company (favorable-unfavorable) and the company's objectivity and trustworthiness.

Based on the literature review, the following hypotheses were developed.

H1: The inclusion of information that the company acted socially responsible will lead consumers to perceive the company more favorably than if no such information is given.

H2: The government source will be perceived as more trustworthy and objective than company advertisements.

H3: The print medium will be viewed as more trustworthy and objective than the sound medium.

No prediction was made concerning interactions among the independent variables.

Methodology

A 2x2x2 between subjects factorial design was employed. The three factors were source of information (a company advertisement or government news release), media type (radio or print), and favorable social responsibility information either presented or not presented. Because a company would not place unfavorable social responsibility information in its own advertisements, only two

levels of social responsibility information were included in the design--social responsibility information given or not given.

The defective product scenario used in the study was a modification of an actual product recall case involving a hair dryer manufactured by Conair Corporation. In this instance, the hair dryer deposited asbestos (a possible carcinogen) onto the heads of hair dryer users. In the experimental situation, the defect was changed to an electrical short circuit that could cause the user to receive an electrical shock when the unit was in operation. The rationale for changing the scenario was to create a defect which would be perceived as serious enough to cause a consumer to become concerned. (Subjects were debriefed after the study as to the true nature of the recall.)

A second reason for choosing a hair dryer as the defective product lies in its relevance to the students that made up the sample. Many students of both sexes own hair dryers and would be able to picture themselves as owning one of these defective products. In addition, the defect needed to occur in a consumer product that had little ownership documentation associated with it, so that ownership could not be traced. It would then be reasonable to expect the recall information to be imparted via the mass media.

In previous experimental work the independent variables have been operationalized in script form. That is, participants read a scenario about a product that had been recalled and some background information leading to the recall. One purpose of the present study was to reoperationalize the social responsibility variable so that a greater sense of realism is obtained. Fictional advertisements and radio newscasts were developed, with the experimental manipulations embedded within them, and presented to subjects.

Subjects

The subjects that participated in this study were drawn from two sources. Forty-eight of them were randomly selected from a listing of all undergraduate students enrolled in the Colleges of Business and Arts and Sciences at a large midwestern university. The remainder of the sample was drawn from introductory management and consumer behavior classes at the same university. Two of the questionnaires were unusable, leaving a total of one hundred nineteen usable responses.

Procedure

Subjects were asked to sit at a table and either listen to the "radio" or read the "newspaper." All subjects who received the government press release condition were presented with the following material:

Some models of hair dryers manufactured by Conair Corporation in May 1979 are being recalled because of a possibility of electric shocks, a government spokesman for the Consumer Product Safety Commission said today.

Conair officials said they have discovered a wiring defect in the handle of the company's Warp-9 model hair dryer during additional performance tests on the Warp-9. Company officials said that anyone who had purchased a Warp-9 should return the hair dryer to the place of purchase or any store which carries Conair products. Consumers have a choice between either receiving another model hair dryer or receiving a full refund.

At this point, subjects in the manipulation offering positive social responsibility information read or heard:

The CPSC spokesman said, "Conair should be commended for initiating this prompt recall as soon as the defect was discovered. Socially responsible actions such as these make our job to insure the safety of consumers a little easier."

All subjects assigned to news sources then read or heard:

The defective models can be detected by checking the serial number on the bottom of the handle. If the first number is a 6, and the last number is either a 2, 3, or 5, then the hair dryer is defective and should be returned.

Those subjects assigned to advertising conditions were presented with the following material:

Did you just buy a hair dryer? A Conair hair dryer? If you did, Conair Corporation needs to hear from you. Conair has discovered that some of the hair dryers it made in 1979 may have developed a short in the electrical system. This problem may cause an electrical shock to the user when the unit is turned on.

How can you tell if you own one of these hair dryers? Just look at the serial number on the bottom of the handle. If the first number is a 6, and the last number is a 2, 3, or 5, then you will know you have purchased a defective hair dryer. If you own one of these hair dryers, please take it to the store where

you purchased it or any store where Conair products are sold. There they will either replace the hair dryer or refund your money in full.

Subjects receiving the social responsibility material were presented with an advertisement that contained this addition:

Although the government has not yet decided if this error is serious enough to force a recall, we at Conair feel it is our responsibility to you to offer only safe, quality products, and to act quickly to correct any problems that do occur.

Filler material surrounded each advertisement or news story to add a sense of realism and make the purpose of the study less obvious to subjects. This filler material was the same for all tape conditions and for all print conditions, but it differed between media. In the tape medium the filler material consisted of an advertisement for ladies' clothing and a news brief of local and national events. The local news was concerned with a car accident, and the national news related congressional response to a presidential budget request. The filler material on the print medium consisted of a story about a missionary's work in Africa and an advertisement for a political candidate. While the different type of filler material was confounded across the media, no reason existed to expect that it would influence the manipulations.

Following the presentation of the experimental materials, each subject was given a self-report

TABLE 1

MEANS

Dependent Variable	Social Responsibility Information		Source of Information		Media Type	
	Included	Excluded	Gov't.	Company	Print	Sound
Perception of Conair (favorable--unfavorable)	2.4	3.0	2.7	2.7	2.6	2.9
Certainty of Perception (certain--uncertain)	2.6	2.7	2.6	2.7	2.7	2.7
Danger of the Hair Dryer (dangerous--not dangerous)	3.1	3.1	3.0	3.1	3.0	3.3
How socially responsible was Conair? (socially responsible--not socially responsible)	2.1	2.6	2.1	2.5	2.2	2.6
Would this information prevent you from purchasing other Conair products? (definitely yes--definitely no)	3.3	3.0	3.1	3.1	3.2	3.2
Is Conair responsible for the defect? (definitely yes--definitely no)	2.0	1.9	1.9	2.0	2.0	1.9
Was the recall information presented objectively? (definitely yes--definitely no)	2.2	2.3	1.9	2.5	2.1	2.5
Was the source of the message trustworthy? (definitely yes--definitely no)	1.9	1.9	1.8	2.0	1.8	2.1

Six-point Likert-type scales were used. The anchors appear below each dependent variable.

questionnaire containing multiple choice and Likert-type questions. Table 1 presents the dependent variables. The scales were six-point scales anchored by Favorable/Unfavorable, Dangerous/Not Dangerous, and so on.

Results

Because multiple dependent variables were employed, a procedure was followed to combine them into several distinct indices. In the first step a within-cell correlation matrix was constructed. This matrix was analyzed using a principle components factor analysis with varimax rotation. Three factors were obtained with eigenvalues greater than one. The factors accounted for 72 percent of the total variance.

The first factor was composed of three dependent variables--the favorability of the perception of Conair, the social responsibility of the company, and the extent with which the recall would deter the person from buying another Conair product. The factor was labeled "perception of the company." Coefficient alpha was computed for the index and was .84.

The second factor was composed of two dependent measures--the objectivity of the presentation of the information and the trustworthiness of the source of information. The coefficient alpha was somewhat low for the index, $\alpha = .48$. The factor was labeled "objectivity of message and source."

The third factor was composed of three scales--the "certainty of the perception of the company, the danger of the defect and the responsibility of the company for the defect. The coefficient alpha for the scales was .54. The factor was labeled "perception of the defect." While the coefficient alphas for factors two and three were lower than desired, for exploratory research they were marginally satisfactory.

Each of the factors was then analyzed via multivariate analysis of variance. (Table 1 presents the means of each of the scales across the main effects of the three factors design.) A number of significant effects were found. For Factor 1 (the perception of the company) a main effect was found for whether or not social responsibility information was provided in the message (Wilk's Criterion, $F[3, 109] = 4.4, p < .001$). The univariate analyses revealed significant effects for both the social responsibility of the company and the favorability of the impression of the company ($ps < .01$). The means showed that when social responsibility information was given, the company was perceived more favorably and as more socially responsible than when it was not given. No other significant main effects or interactions were obtained for Factor 1. These results supported Hypothesis 1.

A number of multivariate effects were found for Factor 2 (Objectivity of message and source). A main effect for media occurred (Wilk's Criterion, $F[2, 110] = 3.2, p < .05$) as well as a main effect for the source of information (Wilk's Criterion, $F[2, 110] = 5.4, p < .01$). In addition, an interaction was found between the media and social responsibility information (Wilk's Criterion, $F[2, 110] = 3.6, p < .05$).

The univariate analysis revealed that the significant "source" effect occurred on the objectivity of source dependent variable ($F = 10.9, p < .005$). As predicted, the government was viewed as more objective in the presentation of the recall information ($p < .001$). This outcome supported Hypothesis 2 of the study.

Univariate analyses also showed that on the dependent variables of source trust and source objectivity a media effect was found ($p < .05$ for trust, $p < .07$ for source

objectivity). The means revealed that in each instance the print media outperformed the sound medium. These results supported Hypothesis 3.

A significant interaction was found for Factor 2 in which whether or not social responsibility information was given interacted with the medium over which the information was received. The significant MANOVA effect appeared to result principally from the dependent variable of trust ($p < .02$). The pattern of means revealed that the trust in the source did not change significantly when social responsibility information was varied, if the print medium was used. However, if the sound medium was used, trust decreased when no social responsibility information was given in the message.

For Factor 3 (Perception of Defect) the only significant effect was a media by source of information interaction (Wilk's Criterion $F[3, 108] = 3.5, p < .02$). The overall MANOVA effect appeared to largely be influenced by the "certainty" dependent variable. The certainty of the perception of the company did not change when the source of information was varied, if the print medium was used ($p < .01$). However, when the sound medium was used, the certainty of the perception of the company was lower if the company sponsored the message. While univariate analyses revealed that the interaction was not significant on the other dependent variables making up the index (Danger of defect and responsibility for defect), the patterns of means were similar to those found for "certainty of perception." That is, differences across levels of source were minimal when the print medium was used. However, possible differences existed when the sound medium was used. Thus, the danger of the product and the responsibility of the firm were viewed as marginally higher when the company was the source of information rather than the government.

Discussion

The results generally supported the hypotheses. When the company was described as socially responsible, whether by itself or by the government, more favorable feelings were held toward the company. This result indicates that a company involved in a product recall may be able to "pat-itself-on-the-back" in corporate advertisements and achieve a favorable response from consumers. Such action could act to mitigate some of the potential negative reactions expressed by consumers after receiving unfavorable corporate information. The second hypothesis stated that the government news source would be viewed as more trustworthy and objective than the company advertisement. This hypothesis also was supported. The MANOVA combining the dependent variables of objectivity and trust of source was significant. The univariate analysis revealed a strong effect such that subjects perceived the recall information to be presented in a more objective manner when it was presented as a government news release than as an advertisement. From a corporate perspective, these results indicate that, all else equal, the government is a better source of "positive" information about a company. However, if the government cannot be persuaded to give positive information, the company can "pat-itself-on-the-back," as shown through support for Hypothesis 1.

The third hypothesis was also supported by the data. The print medium was viewed as more trustworthy and marginally more objective than the tape medium. In addition, the print medium produced more positive responses concerning Conair's social responsibility than the tape medium. The print medium seemed to be more effective than the tape medium, a finding that does have support in the mass communications literature. These results suggest the use of corporate advertisements in news magazines as a potential medium for the message. Of course, television should also be examined. While not investigated in the present research, Johnson and

Johnson, Inc., made effective use of television in defusing the negative effects of the Tylenol recall.

Limitations

The study has several limitations. One is that respondents were required to role play. The use of role playing in experiments has been criticized. However, researchers have argued that role playing can be effective in capturing the decision process of individuals (Forward, Canter, and Kirsch 1976). If the situation cannot easily be created in an experiment and if the subjects have familiarity with the situation under investigation, role playing can be a useful methodology (Hansen 1972). The use of the hair dryer as the product was felt by the authors to help insure subject familiarity with the role playing situation.

A second limitation of the study is that student subjects were used, caution is advised in generalizing the results to other populations. However, the sample did represent a relevant population due to the frequent use of hair dryers by students of both sexes.

A third problem in the study concerned the low coefficient alphas for factors two and three of the study. Additional work is required to develop internally reliable measures of how people view product defects (Factor 3) and of the manner in which people assess objectivity, trustworthiness, and such of companies (Factor 2).

Future Research

Much work remains on investigating the consumer impact of product recalls. Most needed is a longitudinal study of consumer perceptions of companies which must make product recalls. How attitudes vary over time after a product recall occurs has not been reported in the academic literature.

A second area of need is an overall model of how recalls affect consumers. Such a model should be fit into the broader literature on the effects of negative communications and on the attribution of responsibility for negative outcomes. Previous research has not done a satisfactory job of integrating the various findings into the marketing or psychological literature. Finally, more attention needs to be given to measurement issues.

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AN EXPERIMENTAL INVESTIGATION CONCERNING THE COMPARATIVE INFLUENCE OF MTV
AND RADIO ON CONSUMER MARKET RESPONSES TO NEW MUSIC

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Abstract

MTV is a recent media phenomenon that has been attributed almost mystical powers in selling youth on new rock-oriented music. It is often suggested that MTV will soon replace radio as the most influential music medium. This study experimentally examines the proposed differential influence of MTV over radio on dimensions that are suggested to be important for selling new music--song title recall and recognition, lyric recognition, affect toward and intention to purchase recorded songs. Although MTV was found to provide significantly improved awareness, its differential impact on affect and intention was less clear.

Introduction

Radio airplay has been traditionally considered the primary force behind record sales. However, many of today's new songs are climbing the charts after receiving little or no radio airplay. MTV has been acknowledged as having a major effect on sales. The following provide examples of typical industry comments:

"MTV's proving to be an influential alternative to radio in making the public aware of new music."

Joel Denver, Radio & Records Magazine

"Customers mention the video clip they saw on MTV when they ask for a record."

CBS Records Representative

"A recent nationwide survey by Billboard Magazine found record stores reporting sales increases of 15-20% for acts shown on MTV, particularly new recording artists."

Wall Street Journal

As with any cable channel, much of MTV's attractiveness lies in its ability to effectively reach a specific market segment who is very interested in, and attentive to, its programming content. The innovativeness of the programming is especially appealing due to the presumed stagnant nature of popular radio formats (Radio & Records November 18, 1982). Many formats have been accused of playing it "too safe" by limiting their play lists and exhausting top sellers through overplay. MTV "can afford a less frantic schedule . . . run(ning) about 750 titles in the library, with about 500 in rotation at any one time" (Les Garland, Radio & Records).

In addition, the innovative nature of the medium itself is appealing to the young audience. Music television has gone beyond "Midnight Special" and "American Bandstand," incorporating story lines and superior presentations--MTV is visual radio.

Combining the principles of radio with the added benefit of seeing the artist perform is thought to affect a stronger and longer-lasting impression. Tommy Matola, President of Champion Entertainment, Inc., suggests that today's society is a video-oriented one, due in part to dependence on TV and the popularity of video games. This, coupled with the popularity of music among youth, provides an environment which is very conducive to a medium such as MTV.

Also, there is some evidence from basic research that visual stimuli may be superior to audio in terms of developing affect, recall and recognition--all of which are suggested to affect the purchase of rock music records or

tapes. Nonetheless, it is surprising to note that virtually no empirical study has been conducted to validate the intuitive feelings of the industry.

Background Research

Numerous areas of marketing research including learning experiments, recall and recognition studies, attitude research, and consumer judgment experiments involving visual versus verbal stimuli present evidence which directly relates to the issue at hand.

Effect of Visual Versus Verbal Stimuli

In an experiment conducted by Mitchell and Olson (1981), visual stimuli were found to be more influential than verbal information in encouraging inference about a product. Furthermore, the presence of pictorial stimuli more actively predisposed knowledge constructs and memory schemata.

Other studies have indicated that visual memory is superior to verbal memory. Brainerd, Desrochers, and Howe (1981) found that exposure to pictorial stimuli resulted in better retention of message content than exposure to word stimuli. The authors explained these findings in terms of Dilley and Pavio's (1968) hypothesis that pictorial stimuli enhance recall because they are "particularly effective in evoking sensory images which could mediate response recall."

Based upon findings that visual memory is superior to verbal memory (e.g., Erdelyi and Becker, 1974; Lippman and Shanahan, 1973; Pavio and Csapo, 1969), Lutz and Lutz (1977) examined the effect of interaction within pictorial stimuli. In a study of recall of Yellow Page advertisements, Lutz and Lutz utilized two types of pictorial stimuli. The first consisted of an interactive image which integrated the name of a brand (verbal) and a picture representing the product. Picture interaction was considered present when both the brand and product picture were shown together in interaction. The other depicted the brand representation separately from the verbal form.

The interactive imagery experimental group recalled more brand names than both the non-interactive imagery and control groups. The authors concluded that "an interactive (visual) image facilitates better recall than a non-interactive image, presumably by increasing the concreteness of the material to be learned" and "the more pictorial the interaction, the more facilitative the mediating image."

Gail McKoon (1980) conducted two experiments examining memory representation of pictorial interaction. "Priming," or speeding item-recognition was the technique used to investigate memory structure. McKoon found that the time to recognize a target part of a picture was primed (speeded) when two parts of the picture were interacting. In other words, elements of pictorial stimuli were recognized more quickly when they were seen interacting with other elements of the stimuli (e.g., two characters shaking hands).

Reasons for Differences in Verbal and Visual Processing

The effect of pictorial stimuli has also been examined in the context of information processing. Morris Holbrook and William Moore (1981) posited that differences in judgemental responses between verbal and pictorial stimuli are a result of differences in the encoding of the two types of stimuli.

Holbrook and Moore's research presented numerous arguments which are applicable to the present study. The first concerns the validity of the "verbal additive" paradigm in representing consumer judgements. The verbal additive paradigm has evolved from techniques such as multi-attribute attitude models. These models employ verbal rating scales, combining attribute evaluations and "weighting" techniques to produce predictive indices of brand preference. The verbal additive paradigm is based upon the assumption that the consumer processes information verbally and combines "cues" (bits of information) additively.

Holbrook and Moore suggest that when consumers evaluate "aesthetic" products (whose attributes are multisensory and emotive in nature, such as music), another sort of evaluative processing takes place. Here, cues are encoded simultaneously rather than additively, and the judgement effect of one cue is dependent on other cues. Product evaluations are seen to be dependent on interactions between product features. For example, an evaluation of an article of clothing is dependent on the evaluation of the neckline combined with the evaluation of the waistline, length, etc. In a similar vein, the evaluation of a musical recording may be dependent on the combined effects of the tempo, vocals, etc. These "feature interactions" result in an evaluation in which cues are combined configurally (simultaneously) as well as additively. This approach to determining product evaluation is termed "representational." Holbrook and Moore contend that the representational approach is superior to the verbal additive in identifying judgemental evaluations of aesthetic products (such as clothing, food, and music).

The relationship of the representational approach to the present area of interest lies in its application to the encoding of visual stimuli. Holbrook and Moore (1981) suggest that for products with sensory appeal, pictorial stimuli will be superior to verbal stimuli in encouraging cue configurality, resulting in affective evaluation.

Differences between the processing of pictorial and verbal information have received considerable support from psychological literature on three facets of information processing. The first involves the "dual-coding" hypothesis (e.g., Pavio, 1971; Pavio and Begg, 1974) which proposes that there are two independent cognitive systems. Pictures tend to be perceived, stored, and processed simultaneously in an imagery system, while words are received and processed sequentially in a separate verbal system.

A second body of literature indicates that differences in pictorial and verbal stimuli are dependent on specialized functioning of the right and left hemispheres of the brain (e.g., Anderson, Garrison, and Anderson, 1979; Geschwind, 1979; McGee, 1979). These studies suggest that the left brain dominates the verbal system, while the right brain is primarily responsible for the imagery system. The analytical and logical thought processing tends to be centered in the left brain, while the global/holistic processing is more likely to occur in the right brain.

Finally, factor analytical studies conducted by Das, Kirby, and Jarman (1979) supported the proposition that

task-related abilities (i.e., dealing with words versus pictures) depend upon successive (additive) versus simultaneous modes of information processing. The studies showed that verbal abilities cluster together, presumably due to their dependence on simultaneous processing.

An Alternative Perspective--Verbal Better Than Visual

Findings from the earlier-cited studies have received some resistance from other researchers. Elizabeth Loftus, considered an authority on the subject of memory, cites differences in time of response and memory storage between iconic (visual) and echoic (audio) stimuli. Response to light is thought to occur in 180 milliseconds, while response to sound is quicker at 140 milliseconds. Furthermore, Loftus suggests that images fade more quickly from iconic memory than echoic memory (Ries and Trout, 1983).

Music Research

Much of the music research suggests that music has a strong effect on a listener's affective state. In a study of gratifications and expectations associated with popular music consumption, Gantz, Gartenberg, Pearson and Schiller (1980) determined five major areas of musical consumption effects. One of the categories, "Effects on an Individual's Affective State," had "relaxes and calms" and "makes one feel happy, good, or excited" as the two most prevalent responses within the affect category.

Coker (1972) suggested that the listener interacts with the music as he listens (emotional involvement). Coker further proposes that music is made "aesthetically meaningful" by the individual in much the same way that social interaction becomes meaningful, suggesting parallels between the process of music appreciation and the process of interaction between members of a social group.

In summary, the diverse literature from marketing, psychology and music tends to show that visual and particularly audio along with visual stimuli, are more influential than audio stimuli over a wide range of responses that the recording industry would like to influence. These responses include recall, recognition and affect toward the music of interest. Although purchase intentions have not yet been addressed, it would seem to follow that the proposed superiority of visual and audio stimuli (over audio stimuli only) on these awareness and affective responses would carry over to prompting stronger intentions to purchase as well. After input from recording industry marketing representatives, several consumer responses are of particular business interest. These responses are hypothesized to be differentially effected by MTV, as compared to radio presentations of the same musical material.

Hypotheses

1. The correct recall of song titles will be greater for subjects exposed to an audio and visual stimuli (MTV), than for subjects receiving only audio (radio surrogate).
2. The correct recognition of song titles will be greater for subjects exposed to an audio and visual stimuli (MTV), than for subjects receiving only audio (radio surrogate).
3. The correct recognition of song lyrics will be greater for subjects exposed to an audio and visual stimuli (MTV), than for subjects receiving only audio (radio surrogate).
4. Positive affect toward a song will be greater for subjects exposed to an audio and visual stimuli (MTV), than for subjects receiving only audio (radio surrogate).

5. The intention to purchase a song will be greater for subjects exposed to an audio and visual stimuli (MTV), than for subjects receiving only audio (radio surrogate).

Methodology

Selection of Treatment

A July, 1983 segment of the "Basement Tapes," an MTV program that previews new music in the late evening, was used as the stimulus for both the audiovisual and the audio treatments. The use of an actual MTV production was felt to provide a more realistic presentation than a treatment produced by the investigators. The format of the "Basement Tapes" readily lent itself to the experiment in that it provides both an audio (unlike regular MTV programs), and a visual superimposed identification of the song title before and after each song. Therefore, the audio treatment would provide an identical exposure including song identification, without overdubbing.

All of the songs in the "Basement Tapes" were virtually unknown before their exposure on the program. Post-test inquiry showed that none of the subjects had remembered seeing them previous to the experiment. Thus, there should be no confounding due to familiarity with the treatment songs.

The songs from the program covered the most common types of videos played on MTV (and radio for that matter), and included "in-concert," and "concept" themes. The visual production quality appears to be comparable to songs featured on regular MTV programming. The segment chosen featured six new songs, along with commercials, and was pretested in the audiovisual format. This was done to make sure that none of the songs would be considered too good or too bad in order to alleviate potential "floor" or "ceiling" effects on measures in the main experiment. Subjects in the pretest were similar to respondents used in the main experiment.

Experimental Procedure

Groups consisting of between six and eight subjects were exposed to either an audiovisual presentation of the MTV "Basement Tapes," or an audio-only treatment. The facility used was a focus group room (with all mirrors covered) that was configured like a typical living room. The respondents were seated on chairs and a couch in a semi-circular pattern in front of either a television (audiovisual) or a receiver-tuner. The VCR used to play the program was placed out of sight, and the audio portion of both treatments was played through a single JVC-brand speaker in order to provide identical audio quality across treatments.

After entering the room and choosing a seat, the subjects (all undergraduate students) were told that they were part of a study to evaluate a new form of local music programming that either a local TV station (audiovisual treatment), or radio station (audio treatment) were considering for regular programming. They were further told that they should view/listen to the segment in order to answer some later questions about how they liked the concept, and that they should refrain from talking to one another. However, to make the treatment environment as realistic as possible, the subjects were allowed to read magazines provided on end tables, or to write letters, etc.

The 30-minute treatment was then played to the subjects. After the segment was completed, the respondents were given the first questionnaire that included song title recall and recognition questions. After they completed these measures, the subjects were then re-exposed to 45 seconds of two songs (Song #2 and #6) from the original

segment. These songs were judged approximately equal on how much pretest subjects liked the songs. After re-exposure, the subjects completed a second questionnaire that ascertained lyric recognition, affect toward, and their intention to purchase each of the two songs.

It was felt necessary to provide a second exposure to the treatment songs for a more valid indicator of these latter responses. For example, it would be difficult to put much weight on responses concerning affect if the subject did not remember the song.

Dependent Measures

Song Title Recall. Subjects were asked to recall all of the song titles they could remember without the need for giving them in the order presented. Correct recall required the subject to provide at least two of three, or three of four words in the title. This criteria would provide a conservative gauge for recall. One song had a single-word-title, and obviously needed recall of that one word to be judged correct. There were no interpreting differences between coders with intercoder reliability at 100%.

Song Title Recognition. Subjects were then provided a list of ten song titles and asked to circle the six songs presented in the first segment. Therefore, the subjects could have received a score from 0 (no song correctly recognized) to 6 (all six songs correctly recognized).

Song Lyric Recognition. After a 45-second re-exposure to each of two selected songs, the subjects were asked to circle one of four lines of lyrics that were featured in each song. Choice of the correct line reflected correct lyric recognition.

Affect Toward the Song. Items from Holbrook and Huber's (1979) Index of Global Evaluation were used to gauge subjects' affect toward the two re-exposed songs. This index employs a list of eight bipolar adjectives, separated by a 7-point scale, that has been suggested to be a more stable and appropriate measure of subjects' affect toward aesthetic stimuli. The responses were summed across the eight adjectives (transformed to account for opposing directions of some items) to provide a theoretical range from 8 (low affect) to 56 (high affect).

Intention to Purchase. Finally, each subject was asked to rate the statement, "I would purchase this song the next time I shop for music," along a 7-point scale anchored by Strongly Agree (1), and Strongly Disagree (7).

Results

Because the order of the songs were not varied in their presentation, order effects are probably evident in the results. However, the thrust of this study is to compare the differential influence of MTV to an audio/radio presentation, rather than to examine absolute ratings of songs.

Title Recall

The first hypothesis proposes that subjects in the audiovisual treatment will provide significantly more correct recall of song titles than individuals in the audio treatment. The number recalled for each treatment, for each song, is shown in Table 1.

TABLE 1

RECALL OF SONGS

Treatment	Recall		Song
	Correct	Incorrect	
Audio	16	28	Song 1
Audiovisual	24	27	
Audio	4	40	Song 2
Audiovisual	7	44	
Audio	11	33	Song 3
Audiovisual	16	35	
Audio	7	37	Song 4
Audiovisual	12	39	
Audio	9	35	Song 5*
Audiovisual	28	23	
Audio	8	36	Song 6**
Audiovisual	19	32	

*p < .001

**p < .067

A larger proportion of audiovisual subjects correctly recalled each song title, with the difference significant for song 5 ($X^2 = 10.38$, 2df, $p < .001$), and marginally significant ($X^2 = 3.34$, 1df, $p < .067$) for song 6. The consistency in the direction, and the fact that two out of six songs showed the differences to be significant, moderately supports this first hypothesis.¹

Title Recognition

The second hypothesis states that the audiovisual treatment group will provide greater recognition scores than the audio-only subjects. Table 2 shows the mean scores for each group, and reveals that the audiovisual subjects did score higher in terms of correctly recognizing more of the song titles in the stimulus. Because of the metric quality of the data, a t-test was used to ascertain if the differences were significant. Given the significant differences in the two population variances ($F = 2.99$, $p < .001$), the pooled variance estimate was used. The results of the t-test show that the audiovisual groups' recognition scores were statistically significant ($t = 3.67$, 93df, $p < .001$), and provides strong support for the second hypothesis.

TABLE 2

SONG TITLE RECOGNITION

Treatment	No. of Cases	Mean*	Std. Dev.	Std. Error	F Value	T Value	P**
Audiovisual	51	5.51	0.703	0.099			

*Number of songs (0-6).

**One-tailed test, with pooled variance estimate.

Song Lyric Recognition

The third hypothesis proposes that the audiovisual group will also provide more correct song lyric recognition for the two songs re-exposed to the subjects. Table 3 provides the proportion of correct responses for each treatment group for the two songs. The audiovisual group provided more correct recognition of lyrics for both songs. However, these differences were statistically significant for only the first re-exposed song ($t = 4.38$, 1df, $p < .036$). Therefore, the third hypothesis can be considered only partially supported.

¹ A log linear analysis was not available at the submission deadline, but will be supplied when it is up on the system in May, 1984. The present results should provide a reasonable approximation.

TABLE 3

SONG LYRIC RECOGNITION

Treatment	Recognition		Song
	Correct	Incorrect	
Audio	31	13	Song 2*
Audiovisual	44	5	
Audio	9	34	Song 6
Audiovisual	12	37	

*p < .036

Affect Toward the Song

The fourth hypothesis projected that the audiovisual group would exhibit more favorable affect toward each of the two songs. Tables 4 and 5 present the mean scores for each treatment group for each song. The means are in the predicted direction for only the first re-exposed song (#2). Here, the audiovisual group tended to have stronger, positive affect toward this song than the audio group. The audio group reported higher mean affect toward the second song (#6). However, applying t-tests to the data showed that the differences reached statistical significance for the first song only ($t = 1.73$, 91df, $p < .043$), providing partial support for hypothesis four.

TABLE 4

AFFECT TOWARD RE-EXPOSED SONG 2

Treatment	No. of Cases	Mean*	Std. Dev.	Std. Error	F Value	T Value	P**
Audiovisual	51	32.2	8.194	1.259			

*The higher the mean, the stronger the affect toward the song.

**One-tailed test, separate variance estimate.

TABLE 5

AFFECT TOWARD RE-EXPOSED SONG 6

Treatment	No. of Cases	Mean*	Std. Dev.	Std. Error	F Value	T Value	P**
Audiovisual	51	28.7	8.993	1.259			

*The higher the mean, the stronger the affect toward the song.

**One-tailed test, separate variance estimate.

Intention to Purchase Songs

The final hypothesis stated that the audiovisual group should provide stronger intention to purchase each of the two songs. Tables 6 and 7 show the mean scores for each group for each re-exposed song. As with the previous affect measure, a significant difference was found for only the first song re-exposed (#6). Here, the audiovisual group provided stronger intention to purchase ($t = 1.89$, 91df, $p < .03$). These findings provide partial support for the last hypothesis.

TABLE 6

INTENTION TO PURCHASE SONG 2

Treatment	No. of Cases	Mean*	Std. Dev.	Std. Error	F Value	T Value	P**
Audiovisual	51	5.57	2.676				

*The lower the value, the greater the intention to purchase.

**One-tailed test, separate variance estimate.

TABLE 7

INTENTION TO PURCHASE SONG 6

Treatment	No. of Cases	Mean*	Std. Dev.	Std. Error	F Value	T Value	P**
Audio	44	5.57	1.676	.253	1.20	-1.13	.131
Audiovisual	51	5.94	1.529	.214			

*The lower the value, the greater the intention to purchase.

**One-tailed test, separate variance estimate.

Summary and Conclusions

Subjects provided the audiovisual stimulus (MTV) tended to provide more accurate song title recall and recognition, as well as song-lyric recognition. These responses were suggested as being important, by recording company representatives, for requesting a song for airplay or purchase.

However, the findings are less conclusive when viewing measures of affect toward, and intention to purchase two re-exposed songs. The last two hypotheses were only partially supported. The audio (radio surrogate) treatment group showed stronger (but not significant) affect toward and stronger (but not significant) intention to purchase the second song. On the other hand, the audiovisual group (MTV) had significantly stronger affect toward the re-exposed first song and significantly greater intention to purchase the first song. Therefore, hypotheses four and five were only supported by findings for one of the two songs tested for affect and intention to purchase.

There are several cautions that should be noted before some final conclusion can be made concerning the results. First, the sample of stimuli cannot be presented as statistically representative of rock music on MTV or radio. However, given the dynamic nature of rock music, "statistically representative" may be valid for such a very short time, the value of that perspective may be moot.

In addition, the sample was limited to a specific population (college students at a Southeastern university). Still, that group is a major audience of both MTV and rock-oriented radio.

Perhaps covariates such as "musical involvement," or previous propensity to purchase rock music recordings may help explain the inconsistency in affect and intention to purchase, although one would expect these factors to "wash out" given the sample size and the random subject allocation to each treatment.

Finally, the limited number of exposures (once for title recall and recognition; twice for lyric recognition, affect and intention to purchase) offers, at best, a short-run indicator of differential effects between the two media types. Yet, it may be the issue of relative impact of exposure that may offer an insight to the inconsistency of results.

MTV appears to much more strongly influence indicators of awareness with as little as one exposure, and may have its major impact on this initial aspect of consumer decision-making. The simultaneous presentation of audio and visual cues clearly appear to work better on this area. This impact is not as strongly evidenced for higher level cognitive processes, such as evaluation and intention to act, which may require more time, and input from other sources such as peer groups and opinion leaders.

Nonetheless, the importance of obtaining initial awareness and memorability is critical for introducing new music. Perhaps the anecdotal evidence of the recording industry--that MTV significantly increased the distribu-

tion of new groups and music types--is reflected in the findings.

In short, the combination of audio and visual cues provided by MTV may do more for introducing music, especially in the initial stages of a song's life cycle. Radio, with its local flavor (opinion leader surrogate?) and generally higher frequency of playing a song, may still be necessary for a successful record.

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INTERPERSONAL COMMUNICATION: A PROCESS OF RULE NEGOTIATION
THROUGH METACOMMUNICATION

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Abstract

The purpose of this discussion is to elaborate upon the notion of process in interpersonal communication. An understanding of process requires attention to the underlying rules which link sequential messages. It is argued that these rules are negotiated through a process referred to as metacommunication.

Introduction

One of the most difficult dimensions of interpersonal communication has to do with the issue of process. The notion of process necessarily requires that each person's message convey information relative to the message which preceded it. Consumer researchers have failed to capture the dynamic, sequential nature of process, instead of leaving it to the province of communication researchers. It is important, however, for consumer researchers to pursue this area because we do have a unique subject matter that is unlikely to occupy the attention of communication researchers.

While process is relevant to all interpersonal encounters, the nature of process depends upon certain underlying rules, and these rules are context bound (e.g., Smith 1984). In effect, then, process refers to a linkage between contiguous messages, and this linkage follows from a rule-governed pattern. Understanding such rule-governed patterns has been the pursuit of various fields of inquiry in keeping with their respective boundaries (e.g., organizational communication, therapeutic communication, family communication).

The purpose of the present discussion is to elaborate on notion of process in interpersonal communication in terms of its relationship to rules. These rules comprise an ongoing aspect of the communication process such that interactants do, in fact, negotiate rules through a somewhat abstract level of communication referred to as metacommunication (Watzlawick, Beavin, and Jackson 1967). Metacommunication literally means "communication about communication", and refers to our ability to convey multiple messages simultaneously such that some of these messages refer to the process itself. It is argued here that our ability to metacommunicate allows us to develop the rules underlying our interactions with little explicit reference to them while, at the same time, exchanging information about some topic. Since the rules are likely to be context specific, it is our concern that we begin to understand and develop a typology for them in terms of our own field of inquiry. Thus, because different rules may be operative in various consumer and non-consumer related settings, rules articulated in a general setting would not necessarily be expected to apply to a buyer-salesperson or family buying interaction.

In effect, we are proposing a dual system of communication in which, one, information is exchanged and, two, rules are negotiated. The negotiation of these rules is what allows for the unfolding of the information in an orderly manner. The discussion begins with an illustrative dialogue between two consumers. The paper then proceeds by (a) defining the terms process and rules as they apply to interpersonal communication and (b) discussing the ways in which process and rules are interconnected. This is followed by an examination of

the concept of metacommunication and the role it plays relative to communication processes and rules.

An Illustrative Example

Consider the following two dialogues:

Dialogue 1:

Person A: "I want to buy a Mercedes."

Person B: "Have you seen the interest rates?"

Dialogue 2:

Person A: "Have you seen the interest rates?"

Person B: "I want to buy a Mercedes."

To begin, it should be noted that these dialogues could occur between any number of dyads such as two friends, a husband and wife, two strangers, or a buyer and salesperson. The assessment of these dialogues, as suggested, must take into account which context in which they occur. Thus, while we could theoretically consider the relationship between process and rules in terms of any exchange, the above example is intended to highlight an exchange between a salesperson and buyer which, even at an intuitive level, is different from that same exchange between two friends.

Were these two dialogues to be compared in terms of the verbal content, there would be no difference between them. The exchange of information could be measured and quantified, but the measurement would not provide any indicator of the process. The two dialogues, apart from their identical information, are very different. The most significant distinction occurs in the realm of process. The salient issue here is to understand how and why these two dialogues are different.

Intuitively, the first dialogue seems to be reasonable. That is, a statement indicating a desire to own a Mercedes might logically be followed by an inquiry as to awareness of interest rates. The second dialogue, on the other hand, while not nonsensical, does not appear to have the straightforward underlying logic. An inquiry about interest rates does not logically lead into a statement of a desire to own a Mercedes. It can be seen, therefore, that the difference between these dialogues is meaningful in terms of the juxtapositions of their contiguous statements. Necessarily, this implies the two concerns that are related to metacommunications: process and rules. Each will be discussed below.

Communication as a Sequential Process

While consumer researchers have demonstrated a continuing interest in the interpersonal communication process through attempts to conceptualize (e.g., Hulbert and Capon 1972), to review (e.g., Capon, Holbrook and Hulbert 1977) and to empirically investigate the area (e.g., Graham 1982), our knowledge remains somewhat fragmented and incomplete. Although studies have addressed everything from verbal content (e.g., Holbrook and O'Shaughnessy 1975) to communicate style (e.g., Sheth 1975), timing (e.g., Chapple and Donald 1947), and nonverbal behavior (e.g., Grikscheit and Crissy 1973), they have failed to capture the dynamic, sequential nature of the process.

In order to study process, one can represent interactions as a series of messages: $a_1 b_1 a_2 b_2 \dots a_n b_n$, where the a_i represent the messages of person A and the b_i represent the messages of person B. Many static coding schemes attend to both A and B, but the analysis results in portrayals such that $A = \sum a_i$ and $B = \sum b_i$. While the a_i and the b_i can represent anything from giving suggestions, asking questions, indicating product attributes, etc., such a portrayal views persons A and B as the sum of their own individual behaviors. As Watzlawick and Beavin (1967) explain, however, "in such cases, any explanation of A's behavior must be intra-personal" (p. 6), even if the same analysis is followed for person B. Thus, if a scheme such as Bales Interactions Process Analysis (1950) is applied to the above dialogues, the differences between the dialogues is not depicted. Although Bales' scheme is described as a "process" analysis, it has typically been employed to count the frequency of various types of messages to establish summary statistics such as the ratio of instrumental to socioeconomic acts. These indices, however are still rooted in a summary of intra-individual behaviors and thus miss the alternating sequence of the interaction (Rogers and Farace 1975).

A variant of this approach comes closer to capturing the interactive quality of communication. This variant views some criterion behavior of A or B as a function of the other's communication. Thus, in the above notation, B's behavior would be represented as follows: $B = f(\sum a_i)$. Note, however, that, although this variant could be said to be interpersonal, it does not fully capture the sequential nature of the process.

In order to develop a model of the communication process in the true sense of an interpersonal process, A and B have to be seen as interacting entities wherein messages are exchanged and alternated. As such, the analysis must view the interaction as a series of events which progress through time:

$a_1/b_1, b_1/a_2, a_2/b_2, \dots, a_n/b_n$ (Mark 1970)

Rather than looking at the exchange in two message units, the exchange can also be viewed as a continuous stream as follows:

$a_1 b_1 a_2 b_2 a_3 b_3 \dots a_n b_n$ (Watzlawick and Beavin 1967, p. 6)

Viewing communication in this way is a major step to conceptualizing the process. In other words, an analysis of a_t relative to b_{t-1} as well as to b_t leads us out of the static mode of simply counting the frequency of behaviors. But, turning again to the above dialogue, it can be seen that, while the sequential nature of the two dialogues is clearly different, it is still not clear as to how or why they are different. What is missing are the rules that relates a_t to b_{t-1} .

A Definition of Rules

Despite the apparent general agreement that the communication process is rule-governed, the issue of what constitutes a communication rule is rarely addressed explicitly (Hymes 1980). While scholars have defined rules in a variety of different ways, communication scholars tend to view rules as "statements of regularity" which are (1) "followable", (2) prescriptive, and (3) contextual (Toulmin 1974).

The requirement of followability implies that a rule may or may not be followed. As such, followability serves to differentiate the rule from another type of statement of regularity--the scientific law. One cannot fail to follow a scientific law. Water, for example, cannot fail to follow the law which says that

it will boil at 212° F. In contrast, a person can fail to follow a communication rule such as "questions call for related responses."

The second requirement, that rules are prescriptive, also serves to differentiate the rule from the scientific law. The requirement that rules are prescriptive implies that behaviors can be evaluated relative to rules. Thus, ignoring a question typically results in some sort of negative evaluation. One cannot, on the other hand, criticize or reward water for boiling at 212°.

The final requirement (that rules are contextual) implies that, while communication rules tend to apply in similar situations, they do not necessarily apply across all contexts (Gottlieb 1968). In interpersonal communication, this situational context may refer to the relationship which exists between the speakers, the settings in which they speak, the topics about which they speak, or even their purpose for speaking (Hymes 1980). Thus, different communication rules may apply between a buyer and a salesperson, between a husband and wife discussing a purchase, and between a husband and wife discussing a non-purchasing topic.

The fact that the rules of communication are contextual has important implications in terms of the eventual articulation of a list of rules. While certain rules may appear to be general (e.g., questions should be followed by related responses), we cannot expect most rules to apply across all contexts. Perhaps as a result of this limitation, a definitive list of communication rules does not exist. The development of such a list is also complicated by the view that communication rules may be implicit or explicit (Shimanoff 1980). In order to capture implicit patterns of regularity, lists of rules would have to be developed empirically and tailored to different contexts.

While their intent was not to develop a list of rules per se, Rogers and Farace (1975) empirically identified patterns of regularity in interactions which were linked to dominance and control. Because these patterns were between contiguous messages, they can be viewed, within this context, as a limited set of rules. According to these "rules", patterns such as abrupt subject changes and interruptions serve to take control of an interaction, while the support of a previous statement, for example, relinquishes control.

A Taxonomy of Rules

Although there exists no definitive list of actual rules, there have been several attempts to taxonomize rule-related behaviors according to various criteria. Typically these criteria are based on the degree to which a behavior consciously follows or does not follow a rule (Shimanoff 1980). One such taxonomy which is relatively inclusive includes the following categories:

1. rule-absent: the behavior is not rule-governed (e.g., blinking an eye).
2. rule-fulfilling (rule-ignorant) behavior: one in which the behavior is rule-governed, but the person in question has no knowledge of the rule.
3. rule-conforming (or rule-error): one in which the person in question has tacit knowledge of the rule but follows (or breaks) it unintentionally.
4. rule-following (rule violation) behavior: a behavior in which the person in question consciously follows (or does not follow) the rule.
5. rule-reflexive behavior: a behavior that con-

sciously follows (or does not follow) a rule as a result of a conscious evaluation of the rule's merit.

This type of taxonomy is quite consistent with the concept of context-bound rules. The negotiation of communication rules within a particular context (i.e., within a particular relationship, for a particular purpose, etc.) involves, among other things, an implicit assessment by both parties about where the behaviors of the other fall within this taxonomy. That is, both parties achieve some sense about the extent to which the rules are followed or not followed intentionally.

In the second illustrative dialogue, for example, there are many different explanations for person B's responding to a statement about interest rates with a statement about a Mercedes. Depending upon the context, A might view B's comment as "rule-error" behavior (inferring that B unintentionally changed the subject because of some unstated associations made between interest rates and Mercedes in his own thinking. A might also infer that B's response was "rule-violating" (i.e., that B intentionally changed the subject, perhaps as a move to dominate the conversation). The inference made by A would be expected to vary depending upon the type and length of their relationship, whether they were a buyer and salesperson, two friends, etc. In either case, A's response to B will tend to vary depending upon A's interpretation, which in turn will vary as a function of the context.

Rule-Governed Structures Underlying the Process

Shimanoff (1980) argued that communication "requires the use of rules in order to make sense out of otherwise arbitrary representations, rules are central in communicative processes; therefore, above all else, a theory of communication must involve a rule-related explanation...." (p. 230) Our ability to engage in dialogue rests on the existence of mutually shared rules which govern the sequencing of a dialogue. In other words, dialogues must have some system of rules indicating how strings of utterances can be heard as being somewhat connected to one another (e.g., Donohue, Diez, and Hamilton 1984, Ellis, Hamilton, and Aho 1983).

This system of rules is analogous to the system of rules of grammar. Grammatical rules govern how strings of words can be connected to one another to form meaningful units referred to as sentences. While many people are not explicitly aware of the rules of grammar, these rules tend to be followed, and violations tend to be noticed. A similar situation exists with respect to the interpersonal communication process where a mutual understanding of the patterns developed in a particular relationship allows messages to be connected to one another such that meaningful dialogue results.

In interpersonal communication, rules of connectedness govern nonverbal as well as verbal sequencing. With respect to regulating the flow of an interaction, paralinguistic cues such as dropping the voice, pausing, or looking to the other serve as a signal that a speaker has finished speaking and is waiting for a response from the other (Exline and Fehr 1979, Harper, Wiens, and Matarazzo 1978). As Dittman (1977) has argued, "the patterns of conversation which included taking turns and giving feedback to the speaker are superimposed upon language *per se*" (p. 144). Kent, Davis, and Shapiro (1981) take a similar position when they argue that orderly interaction requires that knowledge of these rules be shared.

There is some empirical evidence for these assertions. Clarke (1975) had subjects reconstruct dialogues in which the order of speaking turns was randomized.

Subjects were able to perform this task, and Clarke argued that this lent support to the notion that dialogue is governed by a structure of shared rules. At the same time, Kent, Davis and Shapiro (1981) found that, when the structure of a dialogue was interrupted by banning questions, a third party was not able to reconstruct the dialogue. With respect to the two dialogues posited above, we would hypothesize that, if subjects were told the two utterances were random, upon reconstructing the dialogues, the subjects would show a preference for the first dialogue.

There is also empirical evidence indicating that rules are context-bound (as defined above) in that they tend to be negotiated as a relationship develops. Kent, Davis, and Shapiro (1981), for example, found that banning questions was more disruptive on the dialogue of strangers than on the dialogue of mutual acquaintances. This is suggestive that strangers have to spend more time developing the boundaries and functions of rules than do people with interpersonal experience with one another. This is corroborated by a large body of literature that has found that behaviors directed explicitly at the negotiation process become more simplified and efficient throughout interaction (Ruesch 1973, Schefflen 1963, Vine 1970). It appears that, although there is a need for continual negotiation between interactants regarding the process of their interaction (Duncan and Fiske 1979), the effort devoted to this negotiation diminishes over time (Derlega, Wilson, and Chaiken 1976). (It can be noted that Watzlawick, Beavin, and Jackson 1967, among others, have argued that the explicit negotiation of rules will increase again in distressed relationships.)

Metacommunication

What has been posited thus far is that interpersonal communication, as a process, is sequential, and that the elements of the sequential development depend upon one another because they are connected through rules. The interaction process appears to involve a continuous negotiation regarding how the rules will be enacted. Our ability to conduct this negotiation process while simultaneously exchanging information about some topic is argued to be a function of our ability to meta-communicate.

The definition of metacommunication as "communication about communication" can be deceptively simple. Some scholars have argued that metacommunication is crucial to the control of interactions (Watzlawick, Beavin, and Jackson 1967). The essence of the concept is that every instance of communication contains multiple messages. Some of these are explicitly spoken and, as such, become part of the actual information exchanged. Others are implicit in the grammatical form of verbal messages, and still others are nonverbal. The levels of communication which communicate about the negotiation of the interaction process are metacommunicative.

It is probably more typical that metacommunicated messages are communicated through some means other than the explicit verbal content of the dialogue. In most cases, interactants do not need to verbalize about how they are negotiating the process. As a result, it is our ability to communicate simultaneous messages that allows us to negotiate procedural rules without constantly verbalizing about what we are doing.

Consider, for example, the contrast between the two dialogues which referred to interest rates. The dialogues contain identical words, yet the negotiation of procedural rules is quite different. The difference can be seen in the metacommunicated messages. In the first dialogue, the metacommunicative negotiation

becomes almost trivial. Person A initiates a conversation by making a statement to which Person B responds with a related question. The second dialogue, however, contains an apparently abrupt change of subject. A change of subject is metacommunicative because it refers to a rule which dictates that questions should be followed by related responses. In this case, the meta-message is that Person B has failed to follow the basic rule. In order to continue the interaction, Person A needs to assess whether this change of subject was rule-ignorant, rule-error, or rule violating (Shimanoff 1980). One way in which Person A might handle this assessment is by a direct statement (e.g., "Why did you change the subject?"). Note that, in this case, A must interrupt the flow of information. If B responds in kind with another direct metacommunicative message (e.g., "I didn't mean to change the subject."), the conversation would no longer be about interest rates and buying intentions, but would evolve into a metacommunicative discussion about the rules of the interaction.

Alternatively, A may negotiate indirectly by changing the subject back to interest rates in order to test B's response. This negotiation also represents metacommunication by conveying the implicit message that Person A will not accept B's change of the subject (i.e., B's failure to abide by an accepted rule). Given this type of message, B must respond by breaking another rule (e.g., failing to answer, changing the subject) or by submitting to A's challenge (e.g., Rogers and Farace 1975). In either case, B's response will help A to assess B's original intent.

An additional alternative for A would have been to accept B's metacommunicated message without question and to continue to talk about a Mercedes. In this case, the response to B's statement metacommunicates that A is willing to proceed according to B's definition of the rules without questioning B's intent.

In both of these indirect metacommunicative cases, A can communicate about the process without interrupting the flow of information (i.e., verbal content) with explicit reference to the negotiation. This is because in both cases, the meta-message is handled through the form of message relative to the preceding message (e.g., a statement that is nonresponsive to a question). This form dimension of verbal communication is commonly referred to as relational communication (Soldow and Thomas 1984). Rogers and Farace (1975) and Donohue (1981) have shown that the relational dimension of communication plays an important role in establishing control in interactions. Perhaps because of the efficiency of the dual (form and content) message system, interactants rely heavily on the relational dimension for reference to and negotiation about rules. In fact, existing empirically based relational communication coding schemes (e.g., Rogers and Farace 1975) can be viewed as preliminary attempts to establish lists of rules. To the extent that an empirically identified pattern (e.g., change of subject, question non-answer) is associated with a move toward dominance, for example, we can infer an underlying rule that these responses are appropriate when dominance is called for and inappropriate when it is not.

An additional channel for handling the metacommunicative messages in the above dialogue would have been non-verbal communication. In fact, were this an actual interaction, nonverbal messages would have contributed to the inference/negotiation process. The nonverbal cues accompanying B's original subject change, for example, would have helped A to make the original determination regarding whether B had ignored or intentionally violated a rule. Person A might have, in turn, relied heavily on nonverbal cues to return a metacommunicative message. By failing to look

at B, A might have metacommunicated a lack of acceptance without engaging in an obvious change of subject (e.g., Harper, Wiens, and Matarazzo 1978).

Regardless of the specific options chosen, one would expect the inferences made by A and B at each stage of the negotiation to vary according to the context in which the dialogue takes place. If, for example, A and B are a salesperson and a consumer with no ongoing relationship, the occurrence of an explicit verbal meta-message would probably be less likely. If, on the other hand, A and B represent a distressed couple, we would expect more direct meta-messages following a rule violation (Watzlawick, Beavin, and Jackson 1967). Another typical effect of A and B's relationship would be on A's inference regarding B's change of subject. If the relationship is an ongoing one in which B has typically dominated, the topic change may represent an established pattern of behavior (an idiosyncratic rule) which A need not further investigate.

It should be clear from this discussion that the processes involved in interpersonal communication are extremely complex. The purpose here was to illuminate this complexity with the eventual hope of providing a framework for understanding different types of consumer-related interactions.

Summary and Conclusions

An understanding of interpersonal communication as a sequential process requires an examination of how each message is linked to contiguous messages. It has been argued that rules underlie these linkages. While communication rules represent regularities, they also vary somewhat according to the type and length of the interactants' relationship, the purpose for the interaction, etc. As a result, each interaction involves a negotiation of its own underlying rule structure. What allows interactants to engage in this negotiation is the ability to communicate multiple simultaneous messages to metacommunicate about the process without interrupting the flow of information.

The above conceptualization of interpersonal interaction has several important implications for consumer researchers. First, we cannot rely completely on communication theorists for our knowledge of the interpersonal interaction process. To the extent that rules are context-bound, consumer researchers need to investigate specific communication rules which may exist in consumer-relevant situations. Given preliminary findings that the rules which are negotiated during interactions pertain to dominance and control, this may be particularly important for the study of consumer-salesperson, husband-wife buying, and opinion leader-opinion seeker dyads.

Because the identification of rules is an empirical problem, there is a clear need for future research which attempts to identify these patterns of regularity in communication sequences. The identification process involves initial research in which dialogues are analyzed in order to identify rules. Additional research will then be required to examine the extent to which these rules vary according to context. Eventually, we may be able to identify the dominant member of various consumer dyads simply by examining underlying patterns of interaction. In addition, we might expect findings that certain patterns of negotiation tend to be used by successful salespeople and opinion leaders.

A crucial requirement of empirical research which attempts to examine communication rules is that it approach interaction as a sequential process. Specifically, this approach entails the analysis of each message (a_t) relative to its contiguous messages (b_{t-1})

and (b_c) in order to identify implicit patterns.

Methods which are limited to counting explicitly stated messages cannot reveal implicit metacommunicative messages, and thus miss the implicit negotiation patterns which underlie the process. As a result, research which relies on static coding schemes can never capture the dynamic process through which messages are linked.

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HUSBAND-WIFE DECISION MAKING: AN EXPLORATORY STUDY OF THE INTERACTION PROCESS

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Abstract

The present study presented a preliminary analysis of interaction data in couple decision making. A detailed discussion of the methodology used to examine interaction processes was presented as well as a discussion of the limitations and benefits of interaction analysis to examine couple decision making.

Introduction

Husband-wife interaction in family decision making is an area of consumer behavior that is of growing interest (Kassarjian 1982). In recent years, consumer researchers (e.g., Bonfield 1978; Burns and Ortinau 1978; Davis 1976; Filiatrault and Ritchie 1980; Granbois 1978; Rollins and Bahr 1976; Szybillo, Sosanie, and Tenenbein 1979; Woodside and Motes 1979) have focused husband-wife research on the following questions: (1) What is the relative power of each spouse over the other? (2) Does relative power vary by product, stages in the family life cycle, and decision style? and (3) What is the influence of marital roles in the decision making process?

Most of the research on husband-wife decision making has focused on outcomes, rather than process. A great deal of potential information is lost concerning the decision process by using input-output static models. The current paper is an initial attempt to incorporate a process analysis to study couple decision making. We will begin this paper with a brief overview of past research on couple decision making, then provide a detailed description of the methodology used in the present study to examine the interaction process between couples. We will then present some findings associated with this process analysis and discuss their implications for future research.

Previous Research Findings

Two approaches have dominated the study of husband-wife interaction in family decision making: (1) power allocation in the marriage and (2) role differentiation.

Power Allocation

Blood and Wolfe (1960), in their classic work, found the power position to be the most important aspect of family structure; where power was defined as the potential ability of one partner to influence the other's behavior. Blood and Wolfe found that the partner who contributes the greater amount of resources to the marriage (where a resource is defined as anything that can be transmitted to the other to help the latter satisfy his/her needs or attain her/his goals), the greater the power of that individual over the other. These authors found the relative power of one spouse over the other varied as a function of product type (e.g., husbands were more influential in decisions related to the car and career whereas wives were more influential in decisions related to food budgeting). These findings have been criticized by Herr (1963), however, for examining power at a global, rather than a specific level, as well as by Safilios-Rothschild (1970).

Power in family decision making has also been related to social class (Komarovsky 1961), self-concept of power (Woodside 1972) and the impact of children (Filiatrault and Ritchie 1980) on the distribution of power. In addition, Schaninger and Allen (1981) examined the relation between the wife's occupational status and her power in the family.

A consistent theme throughout previous research on power allocation is the focus on static, outcome oriented variables (e.g., the wife or husband estimating their relative influence over the other with regard to some decision). The empirical research we will discuss in this paper may be used as an alternative strategy for assessing power, based on the patterns of interaction, rather than post-hoc self-report estimates.

Role Differentiation

The second major approach toward the study of husband-wife decision making is the identification of the roles and their relation to the decision process. Past work in this area has focused on role structure (i.e., husband-dominant, wife-dominant, etc.) as well as the extent of role specialization (see Engel and Blackwell 1983; Schiffman and Kanuk 1983 for a more detailed discussion).

Recent work (e.g., Scanzoni and Szinovacz 1980), however, has focused on traditional vs. modern sex roles. Traditional sex roles have been found to be sharply different and rigid, and tend to make family decision making quite simple; that is, the expected behaviors of the husband-wife are quite clear. In the more modern sex role, the behaviors expected of each spouse are becoming less predictable because of the increased flexibility and freedom associated with the role. Consequently, the decision process for those couples has become more complex. In a study of changing female roles on family purchase patterns, Green and Cunningham (1975) found that husbands of modern wives tend to make fewer purchase decision than husbands of traditional wives. A more detailed review of the literature on role differentiation may be found in Schwenk (1983).

The research on role differentiation has also focused on static, outcome oriented models. One aspect of that research which we will examine further in the current study is the relation between traditional vs. modern couples and their patterns of interaction.

Process Analysis in Couple Decision Making

Interest in couple decision making also has a research history in clinical and social psychology. One outgrowth of that interest has been the development of coding schemes to record the exchanges between two (or more) people. Bales (1950) provided an early effort in the use of a coding scheme to categorize the interaction among group members. That scheme (described as the Interaction Process Analysis) used an instrumental and expressive dimension as the bases for the 12 categories in the IPA. Several researchers (e.g., Waxler and Mishler 1965; Winter and Ferreira

1967; Raush, Barry, Hertel and Swain 1974) adapted Bales IPA to study the interactions in families. Unfortunately, all these researchers found that high levels of interjudge agreement could not be established because of the ambiguity in the categories.

McGrath and Kravitz (1982) noted that the late 1970's brought a resurgence of interest in group interaction. Perhaps the most exciting research in this area has focused on verbal and nonverbal communication processes. New category systems were developed (Gottman 1979; Bales and Cohen 1979) as well as new technology for the analysis of process data. In the current study, we will use the Couple Interactive Scoring System (CISS) developed by Gottman (1979) as well as the analytic techniques he described for the analysis of process.

The main focus of the current study is the adaptation of the CISS to study the interaction process between couples who are making a decision. We examined two categories of decisions: (1) product related decisions and (2) interpersonal decisions. Because of the recent interest in family decision making research on traditional vs. modern roles, we also examined how the patterns associated with these two types of roles differ in regard to their decision process. This study was designed as a hypothesis-generating rather than a hypothesis-testing project. Our plan is to use the patterns we identify in this research to form hypotheses that can be tested in future work.

Our purposes in this paper are two-fold: (1) to introduce consumer researchers to a set of conceptual and analytic tools that will allow them to examine process data, and (2) to present some preliminary findings of such data.

Method

Coding Scheme

The Couple Interactive Scoring System (CISS) developed by Gottman (1979) was used to categorize the interactions of the couples in the current study. When using this scheme, the couple's conversation is taped and transcribed verbatim. Statements are then divided into "thought units," which provide the basic unit of analysis for the CISS. The "thought unit" can be a phrase, a sentence, or a speech fragment and is usually separated by pauses, commas, ands, buts, or periods. Each thought unit is placed into one and only one of the categories in the CISS. The categories are as follows:

- (1) Agreement - which includes direct agreement, accepting responsibility for a past or present problem, accepting modification and compliance with a preceding request or command,
- (2) Disagreement - which includes direct disagreement, denial of responsibility, qualified agreement or apology, disagreement with rationale or justification supplied,
- (3) Communication Talk - which is a comment on the process of communication, directing the conversation back to a given topic or toward a resolution of a problem, an evaluation of a conversation, or a request for clarification,
- (4) Mind Reading - which is an inference about feelings, attitudes, opinions or motives of the spouse or couple, or which attributes past, present, or future behaviors to the other person,

(5) Problem Solving and Information Exchange - which includes suggesting a plan or method for how to solve a problem and presenting information or behavioral facts that may relate to the couple,

(6) Summarize Other - which is summarizing the previous statements of the other person, or reviews or summarizes the couple's conversation,

(7) Summarizes Self - which is a review or summary of the speaker's previous statements, and

(8) Expressing Feelings about a Problem - which is a concern about the problem the couple is discussing or a statement of feelings being expressed by the speaker.

A question is placed by the appropriate content code.

The original coding scheme developed by Gottman (1979) had 28 categories and was too cumbersome to be used reliably by coders. The eight categories were a refinement of that earlier scheme. In addition to the content coding, Gottman (1979) has also coded affect and nonverbal responses contiguous with the content code. We did not include affect coding or nonverbal coding in the current study but anticipate including these additional channels of information in future work.

Both the husband and the wife were coded separately. We expanded the 8 category coding system because we believed: (a) coders could reliably place the information derived from interaction in the appropriate category and (b) useful and interesting insights may be gained into the decision process with the expanded set of categories. The following are the fifteen content categories used in the present study:

1. Agreement
2. Agreement - accepts modification
3. Disagreement
4. Disagreement - Yes, but...
5. Disagreement - with rationale
6. Disagreement - Command
7. Communication Talk
8. Mind Reading
9. Problem Solving
10. Information Exchange
11. Information exchange - Most important issue
12. Information exchange - Least important issue
13. Summarize other
14. Summarize self
15. Express feelings about decision

Coder Training

Four undergraduates were trained to use the revised CISS. Initially, each coder was given a booklet containing definitions of the CISS codes, abbreviations and examples. Their first task was to memorize the codes, apply them to a set of examples, and to generalize to other examples. Each coder was given sample transcripts to divide into thought units, and then place in the appropriate category. Reliability estimates were obtained by comparing the responses of two of the coders as well as with the main experimenter. Training the coders to meet the criterion of 90% reliability took approximately 5 weeks (with 2, 2 hour sessions per week). We used Cohen's (1960) Kappa to estimate the percent of agreement between coders. The Kappa statistic was computed separately for each

transcript. In addition to measuring inter-coder reliability, the main experimenter coded randomly selected pages from a transcript for additional reliability checks.

Sample

The following criteria were used to select the sample: (1) the couple had to be married, (2) living together, (3) of child bearing age (because of questions concerning the possibility of having and disciplining children). A total of 41 couples took part in the study and all (but one) were interviewed in their home. The interviews lasted between 1 and 2 hours.

Procedure

The initial set of instructions described the general purpose of the study as well as the use of the audiotaping equipment. The first task for each participant was the completion of three, short questionnaires. The first questionnaire was used to identify the major decision that would be pertinent for that couple. Each person indicated "how likely is it that you and your spouse will make a decision about each of the following within the next year." The product related decisions were: a house, a car, a major furniture purchase (such as living room, dining room, or bedroom furniture), a major appliance, home entertainment equipment (such as TV, stereo, VCR) and making investments (such as stocks, bonds, or real estate). This particular set of products were selected because of past research (Cox 1975; Burns and Ortinau 1978; Woodside and Motes 1979; Park 1982). The interpersonal related decisions were: changing one's job or career, moving, having a child, disciplining a child, taking a vacation and taking in an elderly parent. Each list contained an "Other" category which gave the participant the opportunity to add a decision possibility not included in the original set. Only 3 of the 41 couples used the "other" category. We will present the methodology used to collect both the product and interpersonal decisions, although only the results of product related decisions will be discussed. The product both spouses indicated had the highest likelihood of being decided on in the next year was chosen as the topic of conversation.

The second questionnaire assessed marital roles (Scanzoni and Szinovacz 1980). Each participant was presented a set of 22 statements concerning family roles and asked to respond on a 5 point agree-disagree scale. This questionnaire was used to assess the traditional to modern orientation of each spouse in the marriage.

The third questionnaire assessed marital adjustment (Spanier 1976). Each participant responded on a 6 point agree-disagree scale to a set of 34 statements that assessed four aspects of adjustment: (1) dyadic consensus, (2) affect expressiveness, (3) dyadic satisfaction and (4) dyadic cohesiveness. For the purposes of the present study, all 34 items were used for an overall measure of adjustment (all questionnaires may be obtained from the first author upon request).

After responding to these questionnaires, the couples were informed which product decision they would probably be making in the next year. We selected the product based on the responses to the first questionnaire. The couples were instructed

"To imagine they had decided to purchase _____. I (the experimenter) am interested in finding out how you will choose this product that will best

meet your needs and that you both can be happy with. I would like you to discuss with each other, for no more than 30 minutes, the issues you need to consider in purchasing _____. Please do not assume that your spouse is aware of what you think and feel about purchasing _____. You should also not assume that you know what your spouse thinks and feels. It is important that you respond naturally, not as you think you ought to respond. At the end of the discussion, you should hopefully be ready to go out and purchase _____."

At the completion of the first conversation, the individuals were asked to indicate what they considered to be their most (and least) important points. This information was then used in the coding of the interactions. The researcher then repeated the same procedure for the second conversation. The order of presentation for the two decision classes was counterbalanced. At the end of both conversations, the couple was given a brief questionnaire to assess their background (e.g., years married, age, educational background, number of children, income).

Results

Sample Characteristics

A total of 41 couples participated in the study. The average length of marriage was 7.6 years, after having known their spouse an average of 3.3 years before marriage. The husband was two years older than the wife and had one more year of schooling. There was a sizeable difference in income between the husband and the wife, with the husband reporting an average salary of \$28,000 and the wife reporting an average salary of \$7,000. A total of 68% of the couples had children. There were no significant differences in the dyadic adjustment scores for the husband and the wife. On the marital roles questionnaire, however, women preferred contemporary roles significantly more than the husband. This finding is consistent with Scanzoni and Szinovacz (1980).

Distribution of Decisions

In the product category, the frequencies of each product are as follows: purchasing a car (n=9), purchasing a house (n=9), purchasing home furnishings (n=9), purchasing home entertainment equipment (n=7), making investments (n=4), and "other" (n=3). There was little difference in the husbands' and wives' perceived likelihood of making a decision for each product (range was .3 to 1.1 on a 7 point likely-unlikely scale).

Reliability Checks

Inter-coder and coder-experimenter reliability coefficients were calculated for each conversation. Inter-coder reliability was calculated across an entire conversation, while coder-experimenter reliability was calculated over randomly selected samples of each conversation. The median inter-coder reliability coefficient was .92 (with a range from .90 to .95). The median coder-experimenter reliability coefficient also was .92 (with a range from .90 to .94).

Sequential Analyses

The primary focus of the present study was to examine the sequential nature of the decision process. Two forms of analyses were conducted. The first examined the relation between: (1) the proportion of occurrence of each of the categories at lag 0 (i.e., the occurrence of each category independent of the other categories) and (2) the perceived marital roles for

that couple (i.e., whether the couple perceived themselves to be contemporary or traditional). This relation was determined by correlating the proportion of each category and the couples' score on the marital roles questionnaire. Several findings should be noted, all of which are significant $p < .05$:

- the more contemporary the couple, the more likely the wife is to direct the conversation back toward a resolution of the problem (i.e., communication talk) ($r = .27$)
- the more contemporary the couple, the more likely the husband is to agree with the wife ($r = .31$)
- the more contemporary the couple, the less likely the husband is to disagree with the wife ($r = .34$)
- the more contemporary the husband, the less likely the wife is to give commands to him ($r = .27$)

These findings suggest the following trends: (a) there seem to be more positive interactions (i.e., agreement) among contemporary couples, (b) the greater "communication talk" among contemporary couples suggests their decision process is more complex than traditional couples.

The second set of analyses examined the relation between the lag 1 proportions of the categories with the marital roles. The term lag 1 refers to a strategy where each category serves as the "criterion behavior" for each of the other categories. For each category, the conditional probability of that category given the criterion category is determined. The relation between these conditional probabilities and the marital roles was determined by correlating the proportion derived from the conditional probability with the score on the marital roles questionnaire. Because of the large array of data, we will only highlight some of the findings (A more detailed description of these findings may be obtained from the first author).

- the more contemporary the wife, the more likely the husband will agree with her after she disagrees with him ($r = .29$)
- the more contemporary the husband, the less likely the wife will provide a rationale when she disagrees or make an inference about his feelings after he expresses qualified agreement (i.e., yes, but...) ($r = .36$)
- the more contemporary the couple, the more likely the wife is to exchange information about the issue most important to her after the husband suggests a solution to the problem ($r = .28$)
- the more contemporary the couple, the less likely the wife is to express her feelings about a problem after her husband has summarized himself ($r = .42$)

These findings suggest the following trends: (a) as before, there is more positive interaction in the discussions of contemporary couples, (b) contemporary couples are less likely to become involved in cross-complaining, a term used by Gottman (1979) to describe disagreement followed by disagreement, (c) contemporary wives are more likely to emphasize the issue most important to them during the conversation, perhaps indicative of their feelings of equality with their husband and (d) contemporary wives seem less likely to express their feelings about a problem.

The development of theories capable of explaining patterns of interaction between couples making decisions is in very early stages of development. The data collected in the present study are an initial attempt to identify patterns that may provide a basis for such theories. The analyses presented in this paper are quite preliminary. Subsequent work in this area (and with this data set) will provide a richer, more thorough, description of the interaction process.

Several limitations in the present data set and in interaction research should be noted: (a) only a verbal content code was used to categorize the interactions in the present study. Future research should use additional channels of information, that is, nonverbal and affective sources of information that can be coded concurrently with the verbal categories, (b) the present study only describes patterns that emerged from the interaction, that is, it was hypothesis-generating research. Future research should test the robustness of these patterns across decision classes and using confirmatory, rather than exploratory analytic techniques, (c) the technology needed to study interaction processes is more complex than simple self-report research (e.g., video-equipment to tape two individuals interacting, split screen playback equipment that can synchronize the tape of each participant), (d) interaction research is labor intensive, where the training of coders can take between 20-30 hours, and the analysis of a 10 minute interaction can take 2-3 hours (e.g., transcribing the interaction, having 2 (or more) coders categorize the interactions, and (e) the amount of information generated from a sequential analysis is vast (e.g., with 30 codes, there are 900 pieces of information at lag 1).

In spite of these limitations, there are several important advantages in the use of process analysis to study couple decision making: (a) the interaction between the couples can be examined explicitly. In this way, researchers no longer will need to assume certain types of interactions but will be able to examine them directly, (b) there will be less reliance on self-report measures in collecting information and greater use of direct observation and (c) a richer, more complex, and more accurate nomological network of relations will emerge to explain couple decision making.

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INDIVIDUAL AND PRODUCT CORRELATES OF EVOKED SET SIZE FOR CONSUMER PACKAGE GOODS

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Abstract

This study is the most comprehensive study of the determinants of evoked set size for consumer package goods to date, focusing on eight product categories and based on the responses of experienced adult female consumers of those products. The results indicate that the size of consumer's evoked sets is affected by both individual and product characteristics, specifically brand loyalty, brand awareness, situational factors, and educational level. Implications for further research and marketing practice are identified.

Introduction

With the proliferation of brands that has occurred in the marketplace for consumer package goods, it is well known and widely accepted that buyers don't give equal consideration to all available brands. In order to simplify the decision-making task, many brands are eliminated from consideration early in the decision process and the final selection is made from a relatively small number of brands. This final subset of brands actually considered for purchase when making a specific brand choice is called the evoked set (Howard & Sheth 1969).

In light of the fact that inclusion in the evoked set is a necessary condition for final purchase of a brand, the process of evoked set formation should be of great interest to both marketing practitioners and public policy makers. From the marketing manager's point of view an understanding of how consumers finally select the brand(s) that they purchase is only relevant if the firm's brand is among those finally considered, i.e., is in the evoked set. Yet, while the process by which consumers evaluate and make final brand choices has been a subject of great interest and the focus of a large body of research, the process of evoked set formation has received only recent attention (Belonax 1979, May 1979, Parkinson and Reilly 1979, Brisoux and Laroche 1980). Since the size of the buyer's evoked set is a limiting condition on the breadth of buyer choice, it is basic to the understanding of evoked set formation to first analyze those factors that determine the size of that set.

The early research into the determinants of evoked set size is characterized by its sparsity of results and focus on a single or very few products (Belonax 1979, Belonax and Mittelstaedt 1978, Campbell 1969, Gronhaug 1973-74, Jarvis and Wilcox 1973, Maddox et.al. 1978, May and Homans 1977, Ostlund 1973, Prasad 1975, Williams and Etzel 1976). This study reported investigates the relationship between evoked set size and a large number of individual and product characteristics across eight different consumer package goods. Specifically, evoked set size will be correlated with a variety of variables related to the purchase and use of the products, the personal characteristics of the buyers, and a number of demographic variables.

The Determinants of Evoked Set Size

The term evoked set was first introduced into the marketing literature by John Howard in 1963 (Howard 1963). However, the concept was not generally accepted until the publication of Howard and Sheth's (1969) comprehensive model of buyer behavior some years later. Howard

and Sheth defined the evoked set as "the brands that the buyer considers as acceptable for his next purchase...", and postulated that the magnitude of a buyer's evoked set was related to the importance of the purchase and personality traits such as Pettigrew's (1958) category width. However, they also hypothesized that when the number of available brands is numerous, there would be no relationship between evoked set size and the number of known brands.

Campbell (1968) provided the first evidence of the actual existence of evoked sets. Participants did, in fact, consider only a small subset of the brands known to them purchasing toothpaste and laundry detergent. Campbell found that only two variables, brand loyalty and "importance of price differences among brands," were associated with evoked set size. Evoked set size was found to be related negatively to the former and positively to the latter. Campbell, however, found no relationship between the evoked set size and any demographic characteristic. The results of this study further supported the proposition that evoked set size is an individual phenomenon as buyers were consistent in their relative evoked set size across both product categories.

Ostlund (1973) replicated Campbell's initial study several years later using sub-compact cars as the product of interest and a subject pool made up of adult males. Again brand loyalty was found to be negatively correlated with the magnitude of the respondent's evoked set. However, category width (Pettigrew 1958), perceived risk, perceived price importance, amount of search, and previous ownership experience did not appear to effect evoked set size. In the same year Jarvis and Wilcox (1973) investigated the relationship between perceived importance of the product class and evoked set size utilizing three household products and female adults as subjects. Jarvis and Wilcox hypothesized that individuals who were more ego-involved with a product class would have smaller evoked sets. Their results supported this relationship, and in addition, indicated that an individual's evoked set size in one product class was correlated with his evoked set size in another. This second finding would appear to suggest that individual differences are important determinants of evoked set size.

Narayana and Markin (1975) expanded the concept of evoked set by further classifying all of the known brands in the consumer's "awareness set." Their conceptualization suggested the division of the brands in the awareness set into the evoked set, the inept set (rejected brands), and the inert set (brands evaluated neither positively nor negatively).

The evoked set size concept was examined in the consumer durables category by Williams and Etzel (1976) who examined the purchase behavior of married students and their spouses. The results indicated that evoked set size for consumer durables was positively related to price, but not to the "perceived importance of the purchase." This study also indicated that the evoked set concept could be extended to consideration of retail outlets.

Thus, with the exception of Gronhaug's (1973-74) study, which demonstrated a positive relationship between evoked set size and education level, there exists very little evidence of any relationship between evoked set

size and traditional marketing and demographic variables except brand loyalty. This paucity of significant results led to several studies designed to explore the relationship of individual cognitive variables and evoked set size.

Prasad (1975) hypothesized that the relationships between personality variables and evoked set size was mediated by intervening variables. In his study of toothpaste, shampoo, and headache remedies, evoked set size was shown to be related to need for cognitive clarity only in situations where performance risk and product specific self-confidence was high. When either performance risk or self-confidence was low, no relationship was observed between evoked set size and need for cognitive clarity. Thus, personality variables appear to manifest themselves differently in different decision situations. Prasad's results would appear to indicate that investigating direct relationships between personality variables and evoked set size would be difficult, and that investigation of the indirect links would be more appropriate.

May and Homans (1976) investigated the relationship between the abstractness of an individual's information processing, which is also positively correlated with education level, and the size of the individual's evoked set for automobiles. They found that the level of abstraction in the comprehension of the product class and the level of abstractness in the choice criteria were both positively related to the size of the evoked set. This finding would appear to indicate that evoked set size might be related to the complexity of a person's cognitive processes. Maddox, et.al. (1978) extended the research on evoked set size for automobiles to the international arena with their study of evoked set size correlates in Norway and the United States. Their results indicated that evoked set size in both countries is negatively associated with age, and positively correlated with educational level and the amount of search.

Further evidence justifying the examination of both individual and purchase situation variables and their effect on evoked set size is provided by the recent work of Belonax and Mittelstaedt (1978, 1979). Their study investigated the decision making process of adults and reported that the size of the evoked set was negatively related to both the number of choice criteria used and the variability of information available.

The most recent examinations of the evoked set concept have focused on the process of evoked set formation (Parkinson and Reilly 1979, Brisoux and Laroche 1980). However, there remains a gap in the evoked set size research stream for a comprehensive study focusing on a significant number of products and both individual and product characteristics. This study attempts to fill that gap.

Methodology

To investigate the relationships between the number of brands in a consumer's evoked set and both individual and product characteristics, a written questionnaire was designed and administered to 111 adult females. The participants in the study were drawn from the women's organizations of four different churches in a university community. A contribution of \$5.00 per participating member was made to these organizations upon completion of each questionnaire.

This self-administered questionnaire was distributed to each respondent at one of their organizations regular meetings and returned within a week to the authors. The questionnaire consisted of three parts and covered eight

product categories. These categories were selected to represent a cross-section of household items commonly purchased by women homemakers. The products included were bath soap, ground coffee, hand lotion, kitchen paper towels, laundry detergent, margarine, shampoo, and toothpaste.

The first section of the questionnaire consisted of eight pages (one for each product category) and required the respondents to evaluate the following eleven characteristics related to the purchase and use of brands in each product category:

- frequency of purchase
- difficulty of purchase decision
- purchase pattern (brand loyalty)
- importance of purchase decision
- perceived risk (2 items)
 - likelihood of satisfactory performance
 - importance of satisfactory performance
- product complexity
- peer influence
- confidence in purchase ability
- situational variation in brand choice

Each subject evaluated all eight products; however, the order of presentation was rotated to offset any fatigue or experience effects. The second section of the questionnaire was designed to measure the subject's evoked set size in each product category. To accomplish this, the subjects were first presented with a list of all of the national and private brands in each product category that were available in the community. The total number of brands listed ranged from a high of 19 (laundry detergent) and a low of 10 (ground coffee, kitchen paper towels, and toothpaste). In each product category, the subjects were first asked to cross-out any unfamiliar brands, and then to do likewise with any which were familiar to them by name only. This established the "inert set" (Narayana and Markin 1975). The evoked set was then identified by asking the subjects to select from among the remaining brands, only those brands that they "would consider buying." In addition, the subjects were given the opportunity and encouraged to write in any additional brands that they would consider which were not on the original list. This procedure was repeated for each product category with the order of presentation again being rotated throughout the sample. The final section of the questionnaire contained the dogmatism measure (Troidhal and Powell 1965), a measure of the subject's cognitive style (Cox 1967), generalized self-confidence, (Day and Hamblin 1964), and finally a cognitive complexity measure (Bieri et.al. 1966). The questionnaire ended with the collection of demographic information.

Analysis Procedure

In view of the fact that each of the subjects was asked about all eight products, a repeated measures analysis of covariance model was utilized. However, since eight of the 111 subjects failed to complete one or more of the evoked set size instruments, a final data matrix containing responses from 103 subjects was used. The data were first analyzed by a simple repeated measure analysis of variance to determine if there were any significant differences in evoked set size across subjects and product. Stepwise analyses of covariance was then used to identify the various individual and product characteristics that significantly contributed to the differences in evoked set size in the first analysis. BMDP2V (Dixon and Brown 1979) was utilized in all three analyses.

Results and Discussion

Table 1 contains the results of the initial repeated measures analysis of variance across product categories, while controlling for subject effect. The significance of the F-Ratio associated with the product effect indicate that there were significant differences across product categories. To further explore the significance of these differences, Fisher's test was used to determine which means were statistically significant from each other. The results of this analysis showing the mean evoked set size for the eight product categories appear in Table 2. As shown in the table, the mean evoked size ranged from a high of 4.09 brands for bath soap to a low of 2.83 brands for coffee. Although significant differences exist across the entire eight categories, the results also indicate that many of the means are not statistically different from each other.

TABLE 1

Analysis of Evoked Set Size Across Product Categories

Source of Variation	df	Sum of Squares	Mean Square	F Ratio	P Value
Products	7	131.94	18.85	9.84	<.000
Subjects	102	939.92	9.21	4.82	<.000
Subject x Product	714	1367.19	1.91		

TABLE 2

Comparison of Mean Evoked Set Size by Product Category

	Bath Soap	Marga-rine	Laundry Detergent	Shampoo	Tooth-paste	Hand Lotion	Paper Towels	Ground Coffee
Mean Evoked Set Size	4.09	3.78	3.67	3.42	3.11	3.10	3.08	2.83
Differences*	_____		_____			_____		

*Pairs of means which are not statistically different from each other are underlined. Means not underlined by the same line are statistically different at an experimentwise error rate $\alpha = .05$, as computed using Fisher test described by Cohen and Cohen (1975).

Product Factors

In order to identify the product factors that contribute to the differences in evoked set size between categories, a stepwise analysis of covariance was carried out with each of the eleven product factors included as covariates, while controlling for subject differences. The resulting linear model was as follows:

$$Y_i = \mu + T_i + \alpha_j + T_i \alpha_j + \beta_k (X_{kij} - \bar{X}_k), \text{ where } (1)$$

β_k = the regression coefficient for covariate k

\bar{X}_k = the mean across subjects and products on covariate k

X_{kij} = subject i's rating of covariate k for product j.

As shown in Table 3, three covariates were significant at or beyond $\alpha = .10$ and entered the analysis. In order of significance they were the number of brands that the women were aware of (counted up), their stated tendency toward brand loyalty (measured by loyalty in Appendix 1), and the degree to which different brands were utilized in different consumption situations (measured by situate in Appendix 1).

These results bolster Campbell (1968), Ostlund (1973) and Gronhaug's (1973-74) conclusions that brand loyalty is an important determinant of evoked set size. However, there is a tautology implicit in this finding. Brand loyal consumers, by definition, must only buy from a small subset of available brands. As a result, it is not surprising that they have smaller evoked sets; evoked set size being defined in terms of the number of brands considered. Small evoked sets and brand loyalty may actually be different measures of the same behavior, i.e., selecting from a tightly constrained subset of available brands.

TABLE 3

Analysis of Covariance Results for Product Factors

Source	df	Sum of Squares	Mean Square	F Ratio	P Value	Regression Coefficient
Subjects	102	939.92	9.21	5.26	<.000	
Products	7	15.70	2.25	1.28	.25	
Familiar Brands	1	60.70	60.70	34.66	.000	.42
Brand Loyalty	1	41.74	41.94	23.95	.000	.09
Situational Influence	1	5.60	5.60	3.19	.08	.14
Subjects x Products	711	1244.90	1.75			

The finding that evoked set size is positively correlated with the size of the awareness set is, indeed, more interesting. This empirical finding which is consistent with earlier results published by Markin and Narayana (1975), would appear to contradict Howard and Sheth's (1969) prediction that no relationship would exist between the number of known brands and the number of brands in the evoked set. This result which suggests that the size of consumer's evoked sets may expand as their awareness set is enlarged should be of considerable interest to those managers concerned with the introduction of new brands to the marketplace. Their efforts to gain membership in target consumer's evoked sets would appear to be greatly facilitated if, in fact, consumers simply expand their evoked set to accommodate new brands rather than replacing an old brand with the new one as implied by Howard and Sheth.

The finding that evoked set size is related to the degree to which the individual feels that different brands are appropriate in different situations is new to the evoked set literature. Respondents who felt that there were different brands suitable for different consumption situations appeared to have larger evoked sets. Belk has repeatedly argued the importance of situational influences on consumption (Belk 1974, 1975; Clarke and Belk 1979), but little work has been done on exactly how situational factors influence consumer decision process. This study would appear to support Belk's contention in the case of evoked sets.

The three previously mentioned product factors taken together appear to account for most of the differences in evoked set size across all eight produce categories. This is evidenced by the fact that inclusion of these three covariates in the model results in a non-significant F-ratio associated with the product effect in Table 3. However, it should be noted that this finding is limited by the degree to which the observed relationships may reflect underlying causal variables that were not measured, but are correlated with both the covariates and the criterion variables.

Individual Factors

Given the significant F-ratio associated with the subject effect in Table 1, it was also appropriate to explore the underlying individual factors related to evoked set size. For this purpose a second stepwise analysis of covariance was carried out. In this case the covariates were added to the linear model which was as follows:

$$Y_i = \mu + \tau_i + \alpha_j + \tau_i \alpha_j + \beta_k (X_{ki} - \bar{X}_k), \text{ where: } \quad (2)$$

β_k = the regression coefficient for covariate k

\bar{X}_k = the mean across subjects on covariate k

X_{ki} = subject i's score on covariate k

As shown in Table 4, only two individual factors, education and family size were significant at or beyond $\alpha = .10$. These results support the earlier work by Gronhaug (1973-74) that demonstrated that there was a positive correlation between educational level and the number of brands considered for purchase. It is interesting, however, that the other cognitive measures included in the study were not significantly related to evoked set size in the produce categories measured. It is possible that past studies which found these types of variable useful in explaining evoked size may well have been capitalizing on the intercorrelation between most of these measures and educational level. Further research is needed to replicate these findings with a broader sample of respondents and across a broader range of product categories.

TABLE 4

Analysis of Covariance Results for Individual Factors

Source	df	Sum of Squares	Mean Square	F Ratio	P Value	Regression Coefficient
Subjects	100	886.63	8.87	4.59	<.000	
Products	7	131.94	18.85	9.84	<.000	
Family Size	1	33.94	33.94	3.83	.05	.140
Education	1	27.53	27.53	3.10	.08	.145
Subjects x Products	714	1367.18	1.91			

The significant correlation between family size and evoked set size is interesting when viewed in light of the previously reported finding regarding situational influences. One could postulate that within larger families, the products included in this study would have a variety of uses among different family members. Since different family members may be using products differently and may be seeking different benefits from their use; family size may be another measure of situational influence.

The significance of the F-ratio associated with the subject factor, even after the removal of the covariate effects, indicates, however, that additional work is needed to find individual factors that account for individual differences in evoked set size.

Conclusions and Future Research

The study reported here is the most comprehensive study of evoked set size among consumer package goods reported to date. The study covered a larger number of product categories than any previous work, and was based on the responses of subjects who were familiar and experienced purchasers of these products (female homemakers).

The results, while not abundant, appear to support the proposition that the number of brands considered by consumers is affected by both individual and product characteristics specifically, brand loyalty, awareness set size, situational and use factors and education level. However, additional research is needed especially in the area of individual factors to complete the picture.

However, as intriguing as the current findings may be, they have not resolved the fundamental issue associated with the concept of evoked sets. Howard and Sheth viewed the evoked set for a given brand as essentially fixed. When the time came for the consumer to make a choice, she/he referred to the evoked set to see which brands needed to be considered. The evoked set itself existed as essentially a static representation of the consumers past decision making and experience with the product category. Not much theorizing went into the creation and modification of the evoked set, or even into the notion of whether an evoked set would even exist for infrequently purchased items.

A less static view comes from researchers studying consumer information processing. In this research stream, the consumer is viewed operating much like a computer following the dictates of some algorithmic information processing strategy. Evoked set, if it exists at all, is simply the current contents of memory in the processor. Brands that are still under consideration (the evoked set) are those still remaining in the buffer. Other brands have not yet been considered (the inept set) or have been rejected (the inept set). In one version of this line of thinking, the evoked set is merely the middle phase of a decision strategy where the first step is to select some subset of available brands and the next step is to choose the best from among the subset. The evoked set from this process is fundamentally different from that suggested by the static view.

A Key piece of research which needs to be done is to longitudinally measure the evoked set as a sample of consumers go through their decision processes, optimally for durable as well as package goods. If the brands under active consideration remain fairly consistent, there would be some support for the static notion of the evoked set as stored positive reactions to brands. If, however, there is variability in the contents of "brands currently under consideration" then an information processing view might be more attractive. It may even be that both views are supported for different products, and/or by different consumers.

Appendix 1

Measures Used

Loyalty:

Which of the following best describes your purchase pattern when buying (product)?

- _____ I always buy the same brand
- _____ I always buy the same two or three brands
- _____ I do not buy any particular brand or group of brands

Situate:

The brand of (product) I prefer depends on the situation for which it is intended. That is to say, I prefer one brand of (product) for certain situations and another brand for other situations. (Circle One)

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
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THE PROTOTYPICALITY OF BRANDS: RELATIONSHIPS WITH BRAND AWARENESS, PREFERENCE AND USAGE

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Abstract

Although most theoretical accounts of market definition, competition and brand choice entail the assumption that consumers categorize products and brands, explicit accounts of product categorization have been lacking in the consumer research literature. Categorization processes are particularly relevant for constructs such as brand awareness and the evoked set. Much recent psychological research on categorization has investigated the representativeness, or "prototypicality," of category members. This paper presents results from an exploratory study that investigated various aspects of prototypicality for brands in several product classes. The study also examined the relationships between prototypicality and other marketing related variables such as brand name awareness, usage and liking.

Introduction

Awareness of a product or the ability to bring it to mind has often been considered an important determinant of choice. Practitioners and consumer researchers alike have been interested in indicators of memorability, since brand recall may play an important role in determining whether a product is considered for purchase at all. The notion of the evoked set (Howard & Sheth, 1969; Campbell, 1969; Narayana & Markin, 1975) posits that a set of brands or products are retrieved by consumers and considered for purchase. Various standard measures, such as aided and unaided brand name recall and top-of-mind awareness, rest on the assumption that the ability of the consumer to remember a brand or product will strongly affect the probability of its being considered for purchase.

In an attempt to understand what drives product awareness researchers have examined the relationship between awareness and a wide variety of marketing and consumer behavior variables (e.g., Axelrod, 1968; Haley and Case, 1979). Important among these are variables such as brand attitude, preference and usage, and advertising recall. Each of these have been found to be related to brand recall in systematic ways.

Research in psychology and consumer behavior, within the information processing paradigm, has examined the "strength of association" between concepts and has demonstrated the importance of variables such as frequency and recency (of exposure) in determining strength of association and thereby in affecting retrievability of a certain concept given relevant cues. Recent work on categories and categorization processes has established the importance of "prototypicality" as a determinant of the associative strength between a category concept and members of the category. Prototypicality (or simply typicality), is a measure of how representative an object is of a category. Operationally, the prototypicality (of an object) is measured by individuals' ratings of how "good an example" they consider the object, of a category (Rosch, 1973).

Internal Structure

In classical concept formation experiments, categories were thought of as composed of undifferentiated, functionally equivalent instances. Any stimulus which fit the definition of the concept (i.e., possessed the necessary and sufficient criteria for membership) was considered as good an example of the category as any other. However, it has been subsequently established in a number of naturally occurring domains that all members are not equally representative of the categories to which they belong, and necessary and sufficient conditions for category membership seldom exist. More specifically, it has been established that:

- (1) Some instances are better examples of a category than others (e.g., Rosch, 1973, 1975; Rips, Shoben & Smith, 1973).
- (2) Items exist whose category membership is uncertain (e.g., Labov, 1973; McCloskey & Glucksberg, 1978).
- (3) Non-members of a category vary in how similar they are to the category concept (e.g., Barsalou, 1983).

These findings have been considered indicative of the fact that categories possess internal structure. To quote Rosch (1973), "Categories are composed of a 'core meaning' which consists of the clearest cases (best examples) of a category, surrounded by other members of decreasing similarity to that core meaning." Thus, objects in a category vary in their typicality leading to graded, internal structure within the category.

Determinants of Prototypicality

A number of explanations have been proposed for how people assign or arrive at the clearest cases within categories. In general, two distinct factors have been identified. First, objects that are frequently encountered as instances of the category are perceived to be representative of the category. Second, objects that possess attributes that occur frequently within the category are also perceived to be representative. Thus, it is possible for an item to have high prototypicality even though it is rarely encountered if its attributes are typical of the category.

In research using artificial, statistically generated categories, such as random dot patterns, the 'prototype' could be identified a priori as the central, or average, member of the category. However for most domains, prototypes do not precede the category but appear to be formed through the processing of relationships between items within the categories. Rosch (1975) has argued that the majority of objects encountered in nature possess attributes that are highly correlated with one another. The attributes "has feathers" and "lay eggs" are not statistically independent properties; likewise, the "curb weight" and "luxuriousness" of cars tend to be correlated. This correlational attribute structure leads to natural clusters of objects which get named

in various ways so as to form categories. As a result, objects within the same category tend to have many attributes in common. Moreover, these attributes occur infrequently in contrasting categories. This high intra-category similarity is referred to as family resemblance (Rosch & Mervis, 1975).

Cohen (1982) suggests that we should consider affect as residing in the category itself and that we may well categorize our world to reflect our evaluations of it. This would be especially true for product categories, where evaluation clearly serves an important purpose. If consumer categories are to be functional, they may well group products into categories that incorporate affect (e.g., "affordable cars" or "movies I would take the family to"). This suggests that the prototypicality of a brand could be affected by such marketing variables as the importance and determinance of attributes, brand evaluations, preferences and levels of usage.

Effects of Prototypicality

Prototypicality has been found to affect a number of major dependent variables used in psychological research which carry clear implications for consumer behavior. Speed of processing and response times for verification of category membership were found to be faster for representative members of a category. Importantly the frequency and order of production of members of a category (in response to free elicitation tasks) was found to be significantly correlated with degree of typicality (Mervis, Catlin & Rosch, 1976). All of these measures are natural indices of brand awareness and should be related to the ease with which a brand is recalled when the need for a particular product class arises.

Category membership is learned first for the most representative exemplars and last for the least representative ones. In addition, categories are learned more easily if initial exposure is to representative exemplars only (Mervis & Pani, 1980). There is no reason to believe that learning would be any different for product categories. Thus, the representativeness of a specific brand could have a major impact on the acquisition of brand-related knowledge, particularly for consumers with low product familiarity.

Extensions of Prototypicality to Other Domains

The notion of representativeness in categorization has recently spread to quite a few domains besides object categories. While findings of typicality have been quite robust, the explanations for the development of internal structure have not always been the same.

Barsalou (1983) studied prototypicality in ad hoc or goal-derived categories -- such as "things to take on a camping trip", or "things not to eat on a diet". His findings differ from those for natural object categories in certain respects and are quite relevant to consumer product categorization. Barsalou finds that although the members of such categories are quite heterogeneous they still give rise to typicality effects. However, typicality was not determined by family resemblance (i.e., its general similarity to other members of the category) but by

- (a) the value of the item on the goal-relevant dimension and

- (b) the frequency with which the item had been used as an instance of the concept in the past.

For example, "things not to eat on a diet" would have high calories and edibility as goal-relevant dimensions. Chocolate and butter, although they may not normally belong to the same product category, are thought of as highly typical of this ad hoc category.

The determinants of typicality hypothesized by Barsalou may be quite related to usage, frequency of exposure and liking, and further underscore the need to conduct domain-specific research to establish the locus of typicality effects.

Other interesting research has demonstrated how representativeness could have an effect on processing of information about categories. For instance, in the area of inductive reasoning Rips (1975) shows how novel information about a category is often generalized asymmetrically with respect to typicality. New information about typical members is more likely to be generalized to atypical members than vice-versa. This type of generalization would be especially important for consumer expectations about pricing. In most circumstances, consumers do not have access to price information for all brands and all retail outlets. Since prices change on a continuing basis, inferences about price are a virtual necessity.

Finally, Kahnemann and Tversky (1973) and Tversky and Kahnemann (1973) demonstrate how individuals use various decision heuristics based purely on the availability and representativeness of certain events/items. This often leads to significant biases in judgment.

An Exploratory Investigation of Brand Prototypicality

Objectives of the Study

Prototypicality appears to be an important product related variable that deserves further study. It could have effects on diverse consumer behaviors, such as retrieval of product information, generalization within product categories, making of inferences and ultimately brand choice. It is quite surprising that given the robustness of these findings in other domains, no attempts have been made to verify its importance in consumer behavior.

The objectives of this study were thus to:

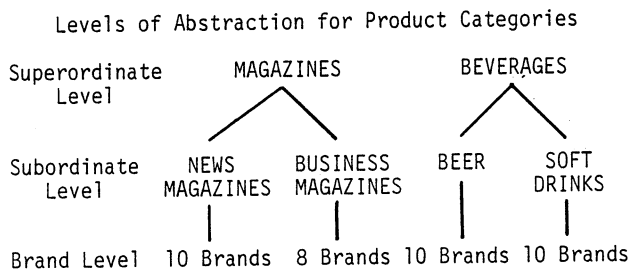
- (1) Verify the existence of "prototypical products" and graded, internal structure in consumer product categories.
- (2) Examine the importance of typicality as a determinant of product/brand awareness.
- (3) Explore the relationships between prototypicality and other important variables such as brand preference and usage.
- (4) Examine the effects of the level of generality at which the product class is defined (i.e., the breadth of market boundaries) on the above relationships.

Methodology

The principal manipulations in this study pertained to the level of abstraction at which the product classes were defined. Two superordinate level product

categories, magazines and beverages, and four subordinate level categories, news magazines, business magazines, soft drinks and beers, were used in the study (see Figure 1). A target set of brands was defined for each subordinate category based on estimated market penetration (Simmons, 1982). The principal dependent measures were unaided brand name recall, rated prototypicality, rated liking and self-reported rate of usage.

FIGURE 1



Each subject completed three questionnaires during the experimental session. The order in which the questionnaires were given was the same for each subject. In the first questionnaire, unaided brand name recall was measured. Subjects were given five minutes to recall as many brands as possible belonging to a particular product class. This task was performed twice, once for each product class (i.e., magazines or beverages). The three levels of generality for each product class (i.e., the superordinate or one of the two subordinates) were varied randomly across subjects. Thus, each subject was assigned to one of nine (3 x 3) possible conditions. The order in which product classes occurred (i.e., magazines first vs. beverages first) was also varied randomly across subjects. Unaided brand recall yielded three empirical measures. Brand Recall was defined as one if the brand was listed, zero otherwise. Top-of-Mind Awareness was defined as one if the brand was the first listed, zero otherwise. Finally, Conditional Awareness was the rank of a brand in the list, given that it was recalled. That is, the first brand listed had rank 1, the second listed had rank 2, etc. All measures were computed only for those brands that were in the target set. If a target brand was not recalled, Conditional Awareness was treated as a missing observation.

The second questionnaire asked subjects to rate the prototypicality of each brand on a nine point scale. Prototypicality was defined and given examples in a manner very similar to that used by Rosch (1973). The distinction between prototypicality and preference were specifically noted. Two randomly constructed orderings of the brands, and their corresponding reverse orderings were used, one ordering per subject. These four orderings were counter-balanced across subjects. The category level to be used in making the prototypicality judgment (i.e., superordinate vs. subordinate) was varied randomly within subjects on a brand-by-brand basis and counterbalanced across subjects.

The third questionnaire asked subjects to rate each brand on a nine point scale indicating their liking for the brand and to indicate the approximate number of times that they had used the brand in the last month. Note that no particular level of generality was specified in this task. The order of presentation of brands was randomized anew and

counterbalanced as in the second questionnaire. Seventy-two undergraduates at the University of Florida participated in this study in return for course credit.

Results and Discussion

Typicality effects. Subjects found the task of rating prototypicality readily understandable and appeared to have no problem in rating representativeness of brands within a product class. Table 1 shows the the mean ratings on typicality obtained by each brand for both subordinate and superordinate levels. Mere examination of the results indicate quite a few points of interest.

The phenomenon of graded structure is readily apparent. Subjects consistently rated some brands as being more typical than others. An analysis of variance found significant main effects of Brand and Level ($F[37,1796] = 14.94, p < .00001$, and $F[1,1796] = 25.92, p < .00001$, respectively). The interaction was also significant $F[37,1796] = 3.83, p < .00001$). Subjects was included as a random factor and was significant ($F[71,1796] = 6.31, p < .00001$). Mean prototypicality ratings are presented in Table 1. The obtained values appear to be consistent with intuitive expectations about brand prototypicality. For instance, Time and Coca Cola received high prototypicality ratings at both the subordinate and the superordinate levels, while New Republic and R.C. Cola received low ratings for both. Quite in line with research in other domains, the phenomenon of typicality appears relevant to product categorization.

TABLE 1

Mean Prototypicality Ratings By Brand and Level of Abstraction

Magazine Brands	Prototypicality	
	Subordinate Category	Superordinate Category
<u>News Magazines</u>		
U.S. News & World Report	8.30	7.33
Time	8.22	8.50
Newsweek	7.70	8.25
Life	5.74	7.46
New Yorker	4.92	6.30
National Geographic	4.91	6.79
Reader's Digest	4.71	5.96
People	4.26	7.25
Us	3.89	4.36
New Republic	<u>3.83</u>	<u>3.43</u>
Mean Rating	5.65	6.56
<u>Business Magazines</u>		
Business Week	7.70	6.92
Forbes	7.23	5.30
Fortune	6.85	6.52
Money	6.60	5.93
Barrons	5.80	4.70
Changing Times	5.66	4.80
Harvard Business Review	5.40	5.63
Industry Week	<u>5.10</u>	<u>4.81</u>
Mean Rating	6.29	5.58

TABLE 3
BEVERAGES (N = 20)

P _B	1.0																		
P _S	.76	1.0																	
R _B	.67	.45	1.0																
R _S	.54	.74	.48	1.0															
T _B	.35	.40	.45	.29	1.0														
T _S	.35	.61	.34	.57	.80	1.0													
A _B	.33	.27	.77	.31	.47	.34	1.0												
A _S	.53	.66	.55	.69	.55	.80	.41	1.0											
U _B	.66	.67	.38	.45	.73	.68	.32	.48	1.0										
U _S	.64	.69	.21	.49	.62	.64	.11	.45	.96	1.0									
L	.92	.89	.67	.64	.37	.45	.31	.60	.60	.60	1.0								
	P _B	P _S	R _B	R _S	T _B	T _S	A _B	A _S	U _B	U _S	L								

P = Prototypicality
R = Brand Recall
T = Top-of-Mind Awareness
A = Conditional Awareness
U = Usage Share
L = Liking
B = Superordinate Level (subscript)
S = Subordinate Level (subscript)

Prototypicality

The most obvious result is that most of the correlations of other variables with Prototypicality are in the expected directions and are significant. In particular, both levels of Prototypicality were found to be highly correlated with Liking for both Magazines and Beverages. This is consistent with our earlier discussion of the role of affect in determining the internal structure of product categories. Specifically, this result suggests that the semantic importance and the evaluative importance of attributes are similar for these product categories. It is likely that these correlations have been inflated by method variance attributed to the fact that Prototypicality and Liking are the only rating scale measures. If this were the sole determinant of the correlations, however, Liking and the two levels of Prototypicality would be expected to exhibit the same patterns of correlation with the other variables. It will become evident from the discussion that follows that this is not the case.

A second interesting aspect of the relationship between the two levels of Prototypicality and Liking is that it interacts with product class. For Beverages, Liking is equally correlated with both levels of Prototypicality. For Magazines, however, the correlation is higher with Superordinate Prototypicality. This pattern is also present for the correlations between the two levels of Prototypicality and Superordinate Usage share. Given our earlier discussion of the misclassification of News Magazines, this result suggests that Liking will be strongly related to Prototypicality only when "natural" product categories are used. An interesting area for future research will be to examine the relationship between cognitive and evaluative determinants of naturally occurring market boundaries.

Brand Awareness Measures

The various brand awareness measures exhibited differential sensitivity to the other variables. In general, Top-of-Mind Awareness was most highly correlated with Usage Share. Conditional Awareness, on the other hand, was most correlated with

Prototypicality and Liking. Brand Recall did not consistently differentiate between Prototypicality, Liking, and Usage Share. This suggests that consumers access a product category first through brands they use and then retrieve brands based on structural aspects of memory such as product attributes. Interestingly, Usage Share is the variable that is most sensitive to the frequency with which a brand is encountered in the external environment. Conversely, Prototypicality and Liking are more related to internal, cognitive representations.

Finally, the internal validity of the distinction between superordinate and subordinate levels of generality was supported by a consistent interactive pattern of correlations. Variables measured at the same level of generality were consistently correlated more highly than the variables measured at different levels of generality. This was true for both product classes.

Conclusions

In this paper we have outlined several ways in which prototypicality is likely to be of interest to consumer researchers. Although the reported results must be considered exploratory, there are several clear implications. First, there appear to be significant differences between brands with respect to judged prototypicality. Second, contrary to the trend for ordinary object categories (Rosch, 1973), the prototypicality of brands appears to be significantly related to personal preference. Finally, different memory-based measures of brand awareness appear to be differentially sensitive to internal and environmental aspects of product familiarity. In particular, Conditional Awareness was found to be strongly related to Prototypicality and Liking, but not to Usage Share. Top-of-Mind Awareness exhibited the opposite trend. Issues regarding the reliability and validity of the brand prototypicality construct and its casual relationships with other theoretical constructs are important areas of future research.

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EFFECTS OF PRODUCT CLASS KNOWLEDGE ON THE EVALUATION OF COMPARATIVE
VERSUS NONCOMPARATIVE MESSAGES

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Abstract

This study proposes prior knowledge as one of the moderating factors that limit the effectiveness of comparative advertising. Comparative and noncomparative messages including objective information about a complex product were shown to individuals with varying product class knowledge. Results show that prior knowledge has a positive influence on the evaluation of and preference for comparative messages and on the evaluation of the sponsoring brand. This indicates that the greater the product class knowledge, the more likely to prefer comparative over noncomparative messages.

Introduction

Studies reveal the amount of product class knowledge individuals possess plays an important role in acquiring and using information. Cognitive psychologists, for example, report differences in problem solving (Chi 1981), information use (Fiske and Kinder 1980), and comprehension and recall (Bransford (1972) among individuals with varying degrees of knowledge. Consumer behaviorists, on the other hand, have investigated the effects of product class knowledge on information integration (Park 1976), information retention (Alba 1983, Gardner 1983), information use (Gardner 1983), and organization of information in memory (Hutchinson 1983, Mitchell et. al. 1983). Their results also report differences in the processing and use of information among consumers who possess varying knowledge of a specific product class.

In spite of the important role prior knowledge has on processing information, few studies have investigated its influence on the perception and evaluation of advertisements, a communication vehicle used (among other purposes) to provide consumers with product information.

The purpose of this study is to investigate the role product class knowledge has on the evaluation of messages which differ in amount, type, and complexity of information. In particular, the effectiveness of comparative versus noncomparative messages among expert and nonexpert consumers is addressed in this paper.

Prior Knowledge and Advertising Effectiveness

It is generally acknowledged that consumers' prior knowledge influences their reaction to persuasive communication. The same advertisement may or may not be perceived as complete, interesting or useful depending on the consumers' currently activated knowledge; however, research in this area is scant. There are few studies that have used advertisements as the stimuli for testing hypotheses regarding the influence of prior knowledge on the processing and acquisition of information. In one study it was found that product attribute based information advertising is more likely to be attended to and interpreted by highly knowledgeable individuals (Edell and Mitchell

1978). This study also reports that individuals with little product class knowledge generated significantly fewer counterarguments than the more knowledgeable subjects.

Research on the impact of technical wording on advertising found that consumers' responses to complex information are influenced by their prior experience with the product class and their education level (Anderson and Jolson 1980). The authors suggest that knowledge influences the interpretation and comprehension of the message. Marks and Olson (1981) studied the impact of knowledge on cognitive responses elicited by advertisements. They found that high knowledge reduced the number of cognitive responses, especially counterarguments. Highly knowledgeable individuals displayed more positive attitudes toward the advertised brand which they were more likely to recommend. Marks and Olson suggest that knowledge improves message acceptance by providing the consumer with an appropriate framework to evaluate the message.

In a study designed to test the role of prior knowledge in the acquisition, retention, and use of new information, Srull (1983) employed four experimental situations. An advertisement was used in only one experiment, in which Srull manipulated subjects' moods and prior familiarity. His results show that under high familiarity, moods (positive, negative, or neutral) do not influence how subjects encode the information provided by the advertisement but under low familiarity, moods influence the rating provided. Subjects in a positive mood rated the product more positively than subjects in a neutral or in a negative mood. Product evaluation, on the other hand, did not differ as a function of prior familiarity when neutral moods were induced. Srull suggests that under high familiarity, subjects are resistant to mood influences while under low familiarity, mood has a strong effect on product evaluations.

Alba (1983) also tested the effects of product knowledge on the comprehension, retention, and evaluation of product information. His results show that while knowledge did not affect reading time, it did account for differences in quantity and content of recall. High-knowledge individuals recalled more complex information and more idea units (e.g. sentences) than low-knowledge individuals.

From the amount of research in the area, it is impossible to derive conclusions on the influence of prior knowledge on advertising effectiveness, however, it is obvious that prior knowledge does affect message comprehension and retention.

Comparative Advertising

Since 1971 when the Federal Trade Commission issued guidelines encouraging advertisers to name competing brands as a means to improve the consumers' information environment, there has been a substantial increase in the use and specificity of comparative

claims. This increase in the use of comparative advertising has been accompanied by empirical studies examining the effectiveness of this form of advertising, particularly with respect to the effects of comparative versus noncomparative messages.

Most research has followed the definition proposed by Wilkie and Farris (1975) who defined comparative advertising as a message that: (1) compares two or more specifically named or recognizably presented brands of the same generic product/service, and (2) compares specific attributes. Several researchers have taken a broader perspective by incorporating implicit comparisons and nonproduct based attributes (McDougall 1977; Sewall and Goldstein 1979).

Overall, research on comparative advertising has produced mixed results. Levine (1976) and Pride et al. (1977) reported no favorable effects of comparative advertising on awareness levels. Jain and Hackelman (1978) found that the advantage on brand recall for comparative messages lasted no more than one day. Notwithstanding, Prasad (1976), found higher recall with comparative messages than with noncomparative messages, however, his study used indirect rather than direct comparisons.

Concerning attitude formation and change, results are scant. Wilson (1976) reported that subjects exposed to comparative messages indicated a greater willingness to change their views toward the product, than subjects exposed to noncomparative messages. Goodwin and Etgar (1980) indicate that although comparative advertising improves (only marginally) consumers' feelings toward the advertisement, it does not improve respondents' attitudes toward the promoted brand.

Behavioral responses to comparative messages have been measured by buying intentions and actual purchase behavior. The findings reported by several researchers indicate no significant differences in buying intentions between consumers exposed to comparative messages and consumers exposed to noncomparative messages (Belch 1981; Golden 1976, 1979; Levine 1976; Shimp and Dyer 1978).

Several researchers have focused on the consumers' perceptions of comparative versus noncomparative messages. Wilson (1976) found that comparative messages were perceived as less believable and more offensive than noncomparative messages; Levine (1976) and Shimp and Dyer (1978) also found that comparative messages were perceived as lower in believability. Golden (1979), conversely, found no significant difference in perceived believability between comparative and noncomparative messages. Claim credibility has also been researched. Golden (1979) found no significant differences on the credibility of claims between comparative and noncomparative messages. Swinyard (1981) and Wilson and Muderrisoglu (1979) found that consumers perceived comparative messages as lower in credibility when compared to noncomparative messages. Opponents to comparative advertising have used these results to suggest that the use of comparisons in a message leads to deceptive or misleading information.

Although the FTC encouraged the use of comparative messages as a way to improve the consumers' information environment, research has found no significant differences between comparative and noncomparative advertising in terms of perceived usefulness of the information provided by the message (Golden 1979; McDougall 1977; Pride et al. 1977; Shimp and Dyer 1978; Wilson 1976). Furthermore, skepticism toward advertisers who use comparative messages was found in

several studies (Golden 1979; Shimp and Dyer 1978; Wilson 1976). Belch (1981) suggested that dislike of advertisements that explicitly compares products may motivate consumers to rely on disparagement of the advertiser as a strategy for processing comparative messages. Also, subjects exposed to comparative messages generated more source derogations than those receiving noncomparative messages. Swinyard (1981) and Wilson (1976) also found more negative ideation in response to comparative versus noncomparative messages.

Message and respondent characteristics moderate perceptions and evaluations of comparative messages. Prasad (1976) discovered that perceived credibility ratings were lower among individuals with prior preference for the comparison brand. McDougall (1978) found that users of the comparison brand were less receptive to comparative claims than respondents who were loyal to other brands or uncommitted. Pride et al. (1977) found that comparisons that were moderate in intensity showed more favorable results than those that were strong in intensity, particularly among owners of the comparison brand. Brand loyalty and product usage rate measures were also used in studies by Etgar and Goodwin (1978, 1980) and by Belch (1981), however, they did not show any significant effects on dependent measures when used as covariants.

Several studies have examined the effects of one and two sided messages in a comparative message context. Swinyard (1981) found that credibility of comparative messages can be increased through the use of a two-sided claim. Etgar and Goodwin (1978) found that a two-sided comparative advertisement was superior on product-related measures, but inferior with regard to ad-related perceptual measures. Mazis (1976) found some positive effects for two-sided comparative appeals on cognitive response measures, but not for attitudes and purchase intention. Belch (1981) found no significant differences in one- and two-sided comparative messages even after multiple exposures to the ads. The relative effectiveness of comparative messages is influenced by several other factors such as advertising theme (Golden 1979), competitive or market position of the advertiser (Shimp and Dyer 1978; Golden 1979), and claim substantiation (McDougall 1978; Golden 1979).

In summary, despite the extensive amount of research on comparative advertising, results are diverse. Comparative messages are not more effective than noncomparative ads with respect to attitude and purchase intention. There is evidence that consumers perceive comparative messages more negatively and have more negative thoughts toward them than toward noncomparative advertisement.

Furthermore, the effectiveness of a comparative message may be influenced by both message and recipient factors. Factors such as claim substantiation, message sidedness, market position, and ad theme may moderate the effects of the message as may prior knowledge and initial predispositions of the recipient. Additional research of specific conditions in which a comparative messages are effective (i.e. under high familiarity, under high involvement, etc.) should provide better insights.

Prior Knowledge and Comparative Messages

The results on the impact of prior knowledge on message acceptance indicate that the amount of prior information individuals have of a particular product

class affect their attention and their ability to comprehend, recall, and evaluate the information presented in the message.

Although prior knowledge has not been addressed in previous research as one of the recipient characteristics that may affect the effectiveness of comparative messages, the complexity of this type of message may require some prior experience with the product class to understand how the similarities/dissimilarities between the brands affect the performance of the sponsoring brand. The recipient of a comparative message is required to understand how the compared attributes affect product performance and why the combination presented provide the best results. Empirical evidence in Cognitive Psychology suggests that prior knowledge helps individuals to distinguish important product attributes and thereby focus their attention on the most relevant product characteristics (McArthur 1980). Prior knowledge also increases the ability to understand and remember a complex message (Bransford 1979; Bransford and Johnson 1972, 1973). Finally, prior knowledge influences recall of information and facilitates the processing of the information (Spilich et al. 1979, and Chiesi et al. 1979)

Research on prior knowledge using an advertisement or a similar communication as a context, suggests that knowledge influences the information processing of a message, therefore, it plays an important role in its evaluation. This may be particularly important in the context of comparative advertisement given the type of information provided. In particular, it is suggested that:

- H₁ High knowledgeable individuals will react more favorably (advertiser, advertisement, and brand evaluations as well as purchase intention) to comparative messages than to noncomparative messages; and,
- H₂ Low knowledgeable individuals will react more favorably (advertiser, advertisement, and brand evaluations as well as purchase intention) to noncomparative messages than to comparative messages.

Method

A pretest/posttest laboratory experiment tested the research hypotheses. A 2x2 between-subjects design was used with type of message (comparative or non-comparative) and product class knowledge (high or low) as the factors. Printed messages for a new brand of personal computer to be introduced into the U. S. market were produced to serve as message stimuli. The new brand, unknown in the U. S. market, was selected to avoid any possible confounding effects due to prior liking or disliking of the brand.

Also, comparative messages are often used for new products to compare them with market leaders. The decision to use personal computers as product class was based on the results of a pretest which indicate that consumers prefer comparative messages of complex products with several objective characteristics that can be compared. Similarly a new and complex product permits manipulation of the amount of prior knowledge a consumer has.

One comparative and one noncomparative full-color printed messages were designed for this study. The decision concerning which attributes to include was based on pretesting numerous personal computers'

attributes. Special features of a personal computer not commonly found in the computers sold in the U. S. market were chosen as the main appeal of the message.

The comparative message used in the experiment compared three brands on nine attributes. The noncomparative one presented the same information but just for the sponsoring brand. The messages were constructed alike. The same background, picture, colors, headings, introductory sentences and message layout was used.

Subjects

Members of seven computer clubs in a large East Coast city participated in this study. All the participants had interest in personal computers, however, their knowledge of the product class varied. Some were nearly experts in the field while the majority desired to know more about personal computers. Of the 200 subjects contacted, just 75 had the characteristics desired (either high or low product class knowledge).

Pretest: Knowledge Manipulation

The purpose of pretesting the experiment was to measure the participant's product class knowledge.

Knowledge was measured by three different concepts: knowledge about product attributes, knowledge about brands available in the market, and experience with the product class. Knowledge about product attributes was measured by using a "paper and pencil" test in which individuals were asked to name the concept applied to a list of the definitions. Knowledge about brands was measured by using a recognition test in which fifteen computer brand names were mixed with fifteen noncomputer brand names. Experience with the product class was measured by the number of hours during a week spent in front of a personal computer, and by the type of computer usage. Eleven different usage categories were developed ranging from computer games (the simplest) to software development (the most complex).

After completing the pretest, correlations between the measures used were calculated. Concept identification, brand identification, and usage type were highly correlated. Time showed low correlation and was found to be high among subjects who used the computer to play games or for word processing. These results indicate that is the quality of time (usage type) and not the amount of time what makes a difference between high and low knowledgeable individuals.

A three-way classification method using the three measures was used to identify high and low knowledgeable subjects. Seventy-five individuals were selected to participate in the second phase of the experiment. Thirty-nine subjects were categorized as high in knowledge and thirty-six subjects were categorized as low in knowledge.

Dependent Measures

Message reactions were measured by using semantic differential scales that measured advertiser evaluations (biased-unbiased; believable-unbelievable; sincere-insincere), advertisement evaluations (favorable-unfavorable; interesting-boring; attractive-unattractive; useful-useless), brand evaluations (positive-negative; favorable-unfavorable), information search intention (likely-unlikely; wise-foolish) and purchase intention (likely-unlikely).

Posttest Procedure

Members of each group (high or low knowledge) were randomly assigned to the comparative and noncomparative experimental conditions. Each participant received a booklet containing either a comparative or a noncomparative message and a questionnaire. The booklets instructed participants to read the advertisement and answer questions. In addition to the five dependent measures used (advertised evaluations, advertisement evaluations, brand evaluations, information search retention and purchase retention), self-perceived familiarity with the product class and demographic characteristics were also measured after ad exposure.

Results

Manipulation Check

To determine whether the individual's knowledge manipulation was successful, during the posttest subjects were asked to evaluate themselves in three dimensions: (1) knowledge about the important features of personal computers, (2) knowledge about computer alternatives and their performance, and (3) overall knowledge about personal computers. A seven-point scale was used to measure these perceptions. The results of these manipulation checks (in Table 1) suggest that the knowledge measures used to divide the sample into two groups were successful.

TABLE 1

	High Knowledge	Low Knowledge	t-value	Probability
Knowledge about product features*	5.28	2.47	4.07	.0001
Knowledge about available brands*	4.38	2.92	3.06	.0053
Overall knowledge*	5.02	2.70	3.40	.0026

*Measured on seven-point scale where: 7=very extensive and 1=very limited

High Versus Low Knowledge Individuals

Self perception of knowledge were different between these two groups. While the differences are clear with respect to product features and overall knowledge, the differences between available brands, although significant, are not extreme, therefore, the term "high knowledge" refers to an individual with an extensive knowledge about product features and available brands, and the term "low knowledge" refers to those with limited knowledge about product features. Also, it is important to note that in this research, individuals without computer knowledge were not included. All the participants, by club membership, by ownership, by work experience, or by mass-media exposure were previously exposed to personal computers.

High Knowledge and Comparative Ads

The first hypothesis concerns the effects of high product class knowledge on the message acceptance measures used. With respect to advertiser evaluations, results indicate that individuals with high product class knowledge perceive comparative messages as more believable ($\bar{X}=3.45$) than noncomparative messages ($\bar{X}=4.70$). No differences were found

with respect to the perception of biasedness or sincerity of comparative and noncomparative ads. Refer to Table 2.

TABLE 2

	High Knowledge		Low Knowledge	
	Comparative	Non-Comparative	Comparative	Non-Comparative
Advertiser Evaluations:				
Biased*	5.26	5.35	5.25	4.94
Believable*	3.45	4.70+	4.70	5.44+
Sincere*	4.16	4.35	4.25	4.31
Advertisement Evaluations:				
Favorable*	3.63	3.85#	4.10	4.50#
Interesting*	4.16	4.55+	3.20	4.69+
Attractive*	3.05	3.55#	3.40	4.19+
Useful*	3.58	4.25+	4.10	4.31
Brand Evaluations:				
Favorable*	3.27	4.01+	5.39	4.52+
Positive*	3.61	4.15	4.86	4.13
Information Search Intention:				
Likely*	4.19	4.92#	5.69	4.47+
Wise*	4.37	5.11+	5.37	4.92#
Purchase Intention:				
Likely*	2.37	2.35	2.56	2.63

* Measured in a seven-point scale: 1=positive anchor; 7=negative anchor.

+ Significantly different at .05 level.

Significantly different at .08 level.

Among highly knowledgeable participants, a comparative advertisement was perceived as more favorable ($\bar{X}=3.63$) more interesting ($\bar{X}=4.16$) more attractive ($\bar{X}=3.05$) and more useful ($\bar{X}=3.58$) than a noncomparative ad (refer to Table 2). Also the sponsoring brand was more favorably perceived ($\bar{X}=3.27$) and more positively evaluated ($\bar{X}=3.61$) (Refer to Table 2).

As a result of exposure to a comparative ad, highly knowledgeable individuals showed higher information search intention: likely ($\bar{X}=4.19$) and wise ($\bar{X}=4.37$), however, no significant differences in purchase intention was found among high knowledge individuals exposed to comparative or noncomparative ads. The results presented above partially support the first hypothesis. Individuals with high knowledge provided higher advertisement evaluations, brand evaluations, and information search intention where they are exposed to comparative messages, however, no significant differences in advertiser evaluations and purchase intention were found.

Low Knowledge and Noncomparative Ads.

The second hypothesis refers to the effects of low product class knowledge on the message acceptance measures used. Among this group (low product class knowledge) comparative ads were perceived as more believable ($\bar{X}=4.70$) than noncomparative ads ($\bar{X}=5.44$). No significant differences were found in terms of biasedness and sincerity. Refer to Table 2.

Advertising evaluations were also higher for comparative ads. Low knowledgeable participants evaluated comparative ads as more favorable ($\bar{X}=4.10$), more interesting ($\bar{X}=3.20$), and more attractive ($\bar{X}=3.40$) than noncomparative ads. No significant difference in the usefulness of comparative versus noncomparative ads was found. Refer to Table 2. Brand evaluations were higher when a noncomparative message was used. The sponsoring brand was more favorable ($\bar{X}=4.52$) and positive ($\bar{X}=4.13$) when presented in a noncomparative

advertisement than when presented in a comparative advertisement. Information search intentions were also higher as a result of exposure to a noncomparative message (likely: $\bar{X}=4.47$; wise: $\bar{X}=4.92$). No significant difference in purchase intention was found between comparative and noncomparative advertisements. Refer to Table 2.

The results suggest that individuals with low knowledge provide higher brand evaluations and information search intention when exposed to a noncomparative advertisement. However, they provide higher advertiser and advertisement evaluations when exposed to a comparative advertisement.

Knowledge and Type of Message

To examine the relationship between the amount of knowledge (high versus low) and the type of message (comparative versus noncomparative) the dimensions of each of the message reactions measures were factor analyzed to derive five summary measures: advertiser evaluation, advertisement evaluation, brand evaluation, purchase intention, and information search intention. Anova was used to analyze the data. The results are shown in Table 3. The results confirm the previous analysis. Amount of knowledge influences brand evaluations and information search intentions, however, it does not affect advertiser evaluation, advertisement evaluation, and purchase intention.

TABLE 3

Factors	F-value	Significance
Advertiser Evaluations:		
Knowledge (K)	.279	.604
Type of Message (T)	.324	.586
KXT	.120	.730
Advertisement Evaluations:		
Knowledge (K)	.497	.413
Type of Message (T)	2.729	.093
KXT	3.020	.087
Brand Evaluations:		
Knowledge (K)	5.400	.023
Type of Message (T)	1.647	.179
KXT	.482	.425
Information Search Intention:		
Knowledge (K)	7.566	.008
Type of Message (T)	1.590	.146
KXT	3.319	.086
Purchase Intention:		
Knowledge (K)	1.798	.183
Type of Message (T)	1.236	.126
KXT	.582	.492

Discussion

Comparative advertising is a controversial issue in advertising research. The results reported in this study suggest that knowledge may be one of the many moderating factors that limit the effectiveness of comparative messages. Prior knowledge seems to influence brand evaluations and information search intentions. The higher the knowledge the more positive the brand evaluations and the more likely the recipient of a comparative ad will engage in more external information search about the sponsoring brand.

In this study evaluations of comparative advertisements were surprisingly more positive than evaluations of noncomparative advertisements. The brand used in the study has very unique characteristics not found in the available brand, therefore, a comparison that points out this uniqueness may be viewed more positively than a comparison that focuses on more simple differences.

The impact of prior knowledge should be further explored before drawing definite conclusions on the impact of prior knowledge on the effectiveness of comparative versus noncomparative messages. Knowledge was manipulated at two levels, high and moderate-low. A more complete understanding of the role of prior knowledge can be gained if several types of knowledge (high, moderate, low, no knowledge) and several types of product (convenience, comparison, specialty; or high and low involvement) are included in the research situation.

Overall, the findings suggest that knowledge has a definite influence on effects of advertising.

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ADVERTISING COMMUNICATION MODELS

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Abstract

A general structure is proposed for constructing models of "the way advertising works" (advertising communication models). Four fundamental models with a total of eight paired variations are identified. These models: assist managers to set complete advertising objectives, help creative specialists to articulate purpose, and increase the validity of advertising pre-tests.

Advertising communication models are theories about "how advertising works." These theories or models attempt to explain and describe, at the individual buyer or consumer level, the process by which advertising communicates with and effectively persuades individuals to take action. Managers operate with these theories or models, explicitly or implicitly, whenever they create, approve, or test advertising.

Most available theories or models share one of two common faults: (1) they are either singular versions of the hierarchy-of-effects notion (e.g., Colley 1961; Ehrenberg 1974; Howard and Sheth 1969; Krugman 1972; Lavidge and Steiner 1961; McGuire 1976; Rogers 1962) whereas it is evident that advertising works in at least several different ways rather than via a single process; (2) or else the theories acknowledge multiple processes but focus inordinately on the role or location of brand attitude as a communication objective (e.g., Ray and Webb 1974; Ray 1982; Smith and Swinyard 1982; Vaughn 1981) while ignoring other necessary steps in the advertising communication process.

The purpose of the present article is to provide a new interpretation of previous approaches and to extend the context of advertising communication models to incorporate the other inputs that advertising managers need. Firstly, a general structure of the necessary components of an advertising communication model is provided. Secondly, four fundamental brand attitude strategies are described which, together with two prior types of brand awareness alternatives, produces a total of eight basic advertising communication models. Thirdly, advertising tactics for these models are listed. Finally, major implication for the process of pre-testing advertising are discussed.

General Structure of Advertising Communication Models

A complete account of the overall advertising process requires at least six steps (Figure 1). The last two of these steps are concerned with marketing objectives, to which advertising must contribute, namely: sales or market share, leading to profit for the firm.¹ These will not be discussed further in this article.

¹The present article is based on several chapters from a forthcoming book by the authors to be published by McGraw-Hill. A more detailed exposition of the points summarized here can be found in those chapters. For the present article, the authors would like to acknowledge the comments of Robert J. Donovan, then visiting associate professor of marketing at New York University, Geraldine Fennell of Fordham University, as well as research personnel at Ogilvy & Mather/New York and Ogilvy & Mather/Australia.

FIGURE 1
Six-step Sequence of Advertising Effects

1	2	3
<u>EXPOSURE (MEDIA)</u>	<u>PROCESSING (AD)</u>	<u>COMMUNICATION EFFECTS (BRAND)</u>
<ul style="list-style-type: none"> . Selection (reach) . Schedule (effective frequency) 	<ul style="list-style-type: none"> . Attention . Emotions evoked . Points learned . Points accepted 	<ul style="list-style-type: none"> (1) Category Need (2) Brand Awareness (3) Brand Attitude (4) Brand Purchase Intention (5) Purchase Facilitation
4	5	6
<u>TARGET AUDIENCE ACTION (BUYER)</u>	<u>SALES/MARKET SHARE (MARKET)</u>	<u>PROFIT (FIRM)</u>
<ul style="list-style-type: none"> . New category users (trial) . Brand loyals (use more) . Brand switchers (buy more often) . Other-brand loyals (convert) 	<ul style="list-style-type: none"> . Sales in flat or declining market . Market share in growth market 	<ul style="list-style-type: none"> . Higher price . More volume . Lower costs

The first four steps are the province of advertising as a communication process, along with the behavioral outcome of communication. In order for advertising communication to be successful, the prospective buyers in the target audience must: (1) be exposed to an ad or series of ads in a campaign, via media, (2) process the elements of each ad in the intended manner so that the advertising results in (3) communication effects, connected to the brand, which in appropriate circumstances produce (4) action, such as purchase of the brand.² Our approach postulates a "recycling" sequence of overall steps whereby a buyer may take action, then be reexposed to further advertising and go through the sequence again, albeit in a modified state of mind due to purchase or usage experience with the brand (Ehrenberg 1974; Smith and Swinyard 1982). The overall sequence should not be confused with the hierarchy-of-effects notion, which is essentially a theory about the communication effects step. Rather, our approach postulates a "heterarchy" of effects, at both

²As usual we use the term "brand" in a broad sense to include any type of product or service that the advertising is designed to promote. Also "action" can include a variety of desired target behaviors on the part of distributors or consumers, such as sales inquiries, visits to retail outlets, and other forms of purchase-related behaviors whenever purchase is consummated by personal selling or other marketing inputs.

the processing step and the communication effects step, as will be explained later.

An advertising communication model should incorporate all four steps. Essentially, an advertising communication model sets objectives for each step, and provides strategies and tactical detail on how each step is supposed to lead causally to the next one. From the manager's "top down" planning perspective, an advertising communication model therefore consists of decisions at four levels:

- | | |
|-----------|-----------------------------------|
| A. BUYER: | Target audience action objectives |
| B. BRAND: | Communication objectives |
| C. AD(S): | Processing objectives |
| D. MEDIA: | Exposure plan |

A generic structural checklist for advertising communication models is given in the Appendix. The checklist asks for sufficient detail to enable a comprehensive advertising communication model to be stated while at the same time attempting to be short and explicit enough so that managers will use it (Little 1979). In the succeeding sections of the article, we explain how the checklist is used to develop an advertising communication model suited to particular advertising situations.

A further note about the checklist is that the manager is asked to indicate whether the input for each component of the model stems from research or from judgment. Checking the research box means the manager considers that adequate research supports the input; if not, the manager still supplies the input but checks the judgment box. Not only does this ensure that all components are addressed, it also highlights areas where specific types of research would be of value to yield sounder conclusions. In the real world of advertising management, adequate research often does not exist nor can it afford to be done. Much planning stems from judgment and one of our purposes is to provide some theoretical input that will make these judgments more defensible and better reasoned.

The checklist is not in itself an advertising communication model; it is just the general framework. However, what goes into the framework must be based on an advertising communication model, of which we will now outline the main alternatives.

A. Target Audience Action Objectives (Buyer)

Step A-1: Target Audience. The first step in constructing an advertising communication model for a particular brand and advertising situation is to identify the target audience. In our approach, a target audience is defined behaviorally and attitudinally as the group of people (or households, companies or retailers) from whom sales are expected to come. A target audience consists of those people who will be most responsive to advertising.

The concept of target audience differs from the broader concept of market segments. Market segments are based on the other "4 P's" in the marketing mix, such as product segments for different end uses, price segments for high and low priced brands, geographic markets for distribution, or customer sales potential segments for personal selling. A target audience for advertising may be drawn from people within a market segment or across market segments. It is their vulnerable behavior and attitude toward the brand that draws them together as a target audience for advertising.

Increased sales through advertising can come from one or more of four prospective target audiences: (1) new category users -- who can be induced to try the product category via our brand, e.g., IBM personal computers; (2) brand loyalists, who can be induced via new users to

use more of our brand than they use at present, e.g., Arm & Hammer baking soda; (3) brand switchers -- who can be induced to switch to our brand more frequently than they do at present, e.g., the Coke-Pepsi battle; and (4) other-brand loyalists -- who can be converted to our brand from loyalty to another, e.g., Ralph Lauren's Polo shirts' inroads on Izod Lacoste's previously loyal buyers.

A particular advertising campaign rarely addresses more than one target audience. To do so would be requiring too much of what should be a tailored communication effort. However, managers will sometimes establish a primary target audience, to whom the communication content is mainly tailored, and one or more secondary target audiences, who will be affected but to a lesser degree. A campaign targeted to other-brand loyalists, for example, is often undertaken with the provision that the campaign does not alienate but rather maintains the behavior of current brand loyalists.

Step A-2: Decision-Maker. Unless purchase of the brand is an entirely personal decision, the manager must then identify the decision-maker or decision-makers within target audience households or companies to whom the advertising is directed. In our checklist the manager is asked to nominate the decision-maker by role and by action (Webster and Wind 1972) as to whether the target audience individual should: propose the brand for consideration (initiator), recommend it (influencer), make the final decision (decider), order or buy it (purchaser), or use or consume it (user). The communication content of the advertising will differ according to the decision-maker target, e.g., men's shirts such as Hathaway being advertised to women as influencers, or children's products such as Fisher-Price toys being advertised to parents as deciders. For entirely personal purchases, the individual occupies all five roles and is the solitary decision-making and action target.

Step A-3: Personal Profile. Target audiences are behaviorally and attitudinally defined with regard to the brand. (A better term for the latter would be communication effect-defined, since it is not only attitude that determines action, as we shall see in the next section.) In this last section of Part A of the checklist, the manager is asked to specify the target audience decision-maker's current rate of behavior in terms of frequency and volume, as well as the future target rate desired as an action objective for the advertising.

Also requested are several personal profile variables: media exposure patterns, to help media planners reach decision-makers directly; demographics, to help copywriters portray the decision-maker; psychographics, to further help copywriters in writing "to" the decision-maker; and an estimate of the decision-maker's likely "mental state" during media exposure, which can be useful to copywriters to determine the style of ads, e.g., for tired late-night TV viewers or harried commuters reading newspapers.

Again it should be emphasized that although research may not be available for all these inputs, they will be tacitly assumed anyway in the process of advertising creation. That they are identified as judgments forces these aspects to be considered and can highlight points at which audience research may be needed.

Already, therefore, we see emerging the alternative content decisions that need to go into the particular advertising communication model via the general checklist. However, it is not yet reasonable to refer to these as alternative advertising communication models, since these decisions mainly refer to alternative targets of the communication rather than to alternative communication processes. The next section of the checklist, Part B, differentiates the fundamental advertising communication

models via communication processes.

B. Communication Objectives (Brand)

Our approach utilizes five advertising communication effects (see Table 1 for definitions). In order to take action such as purchase of a brand, a target audience individual must: (1) have the category need, i.e., be "in the market" for the product class; (2) be aware of the brand as an option within the class; (3) have at least a tentatively favorable brand attitude toward it; (4) intend to buy it, although this intention may be quite latent or subconscious until the individual is in the purchase situation; and (5) experience no barriers to purchase facilitation, such as distribution unavailability or inability to meet the price or pricing terms.

TABLE 1
The Five Basic Communication Effects Defined

(1) Category Need:	buyer's perception of requiring something (a product or service) to remove or satisfy a perceived discrepancy between the current motivational state and the desired motivational state
(2) Brand Awareness:	buyer's ability to identify (recognize or recall) the brand within the category in sufficient detail to make a purchase
(3) Brand Attitude:	buyer's overall evaluation of the brand with respect to its perceived ability to meet a currently relevant motivation (brand attitude consists of an "emotional" or affective motivation-related component which energizes brand choice and a "logical" or cognitive belief component which directs choice toward the particular brand)
(4) Brand Purchase Intention:	buyer's self-instruction to purchase the brand or to take purchase-related action when the need arises
(5) Purchase Facilitation:	buyer's perception of other marketing factors (the "4 P's") that hinder or stimulate purchase

NOTE: As explained in the accompanying text, these communication effects can be defined from the standpoint of other decision-makers as well as the buyer and, accordingly, for decisions to propose, recommend, choose, or use the brand as well as to purchase it.

The five communication effects may appear to resemble and perhaps to extend the notion of a hierarchy-of-effects, and it would be surprising if they didn't, given the widely acclaimed face validity of the hierarchy notion. However, there is no assumption that they occur in any hierarchical order, and indeed they may be generated simultaneously or at different times and with varying degrees of strength in a prospective buyer's mind. For example, an individual may know all about Preparation-H, but not experience the first communication effect, category need, for a hemorrhoid remedy until later in life. Similarly, an individual may have the category need and experience no barriers to purchase

facilitation, but make an "impulse" selection on the brand wherein brand awareness, brand attitude, and brand purchase intention are created by point-of-purchase advertising at the last minute. There is no hierarchical necessity although the communication effects may in some cases be experienced at full strength in the numerical order shown.

Not all communication effects are necessarily communication objectives for a particular advertising campaign. There are, however, two effects that are universal objectives -- brand awareness, and brand attitude.³ It is these two communication objectives that differentiate advertising communication models. All advertising campaigns are aimed at maintaining brand awareness (if not to increase it) and at maintaining brand attitude (if not to change it). The other three communication effects are optional as objectives.

Step B-1: Category Need. Category Need is an optional communication objective for a particular campaign. In the checklist, as with all the communication effects, the manager is asked to make this decision explicitly. Category need can be ignored as an objective if this communication effect is at full strength in the prospective buyer's mind. For example, Coca-Cola probably does not have to address the cola category need in advertising Coke; whereas in advertising for Diet Coke, the category need for diet cola may require reminding, or selling, the other two options in the checklist. Discontinuous innovations (Robertson 1971) invariably have to "sell" the category need in their advertising; new brand entries in a well known category may have to remind the target audience of the category to which the brand is aspiring; but established brands rarely have to address category need unless, as Campbell's Soup did recently, they are trying to stimulate category sales of which they reap a large share.

Step B-2: Brand Awareness. Brand Awareness is a necessary communication objective. Indeed, without brand awareness being experienced at some point prior to the purchase decision, the brand cannot be bought. Brand awareness is poorly conceptualized in most advertising plans. Only Bettman (1979) and a few others have come close to identifying what is required to set valid brand awareness objectives. Many advertising agencies and their client companies continue to rely blindly on top-of-mind brand recall, when many brands are in fact chosen by brand recognition at the point-of-purchase, not by recall prior to the purchase situation.

The main decision concerning the brand awareness objective (and thus the brand awareness component of the advertising communication model) is whether the target audience predominantly enters the brand purchase decision via brand recall or brand recognition. This may differ by target audience for the same brand. For instance, R-C Cola brand loyals may predominantly plan to buy that brand, by recall; whereas R-C Cola brand switchers may predominantly notice it at the point-of-purchase as one of the alternative cola brands that they

³One could argue that brand awareness is the single universal communication objective. For example, the one-word ad "Perrier" may effectively increase or maintain brand awareness and cause purchase among target audiences who already have a fully learned favorable attitude toward the Perrier brand. However, most managers would concede that, although the brand attitude content is by implication only, the brand attitude objective of even this one-word ad is to maintain the target audience's favorable attitude toward Perrier by reminding the target audience of their attitude and thus protecting against competitive attitude interference. It is therefore meaningful to regard both brand awareness and brand attitude as universal communication objectives.

switch between, by recognition. The checklist does provide an option of "both," to be selected only when a substantial proportion of the target audience is known or judged to use the alternative method. This should not be used as a "cop-out" option by managers because, as we shall see, the advertising communication tactics differ markedly depending on whether the objective is brand recall or brand recognition. Complexity is increased if both brand awareness communication objectives must be addressed in a single advertisement, and furthermore, the exposure (media) schedule differs too.

Table 2 presents a summary of the advertising tactics recommended for the respective types of brand awareness.⁴ A full rationale for each tactic is given in Rossiter and Percy (1983) and the rationales can only be summarized here. Brand recognition is a much easier response to learn than brand recall. The main brand recognition tactic is to emphasize the package and the name visually in the advertising. This prescription is often ignored or slighted, and it may be noted that it renders radio a very poor medium for generating brand recognition. Media weight can also be reduced after initial learning of brand recognition, since it is a relatively easy response to maintain (see also Krugman 1972). However, the reduced media weight tactic may be overruled by the brand attitude strategy, as explained in the next section.

Brand recall is a considerably more difficult form of brand awareness to achieve. As suggested in the table, the key is not simply repetition of the brand name, but repetition of the association of the brand name with the category need. Brand recall does not occur in a vacuum. Rather, brand recall is a "response" to a category need "cue" and it must be learned in association with that cue. (Note that in brand recognition, the process is reversed: brand recognition is the cue and category need is the response. For example, you see the Fab package and remember that you need detergent.)

TABLE 2
Summary of Brand Awareness Advertising Tactics for Brand Recognition and Brand Recall

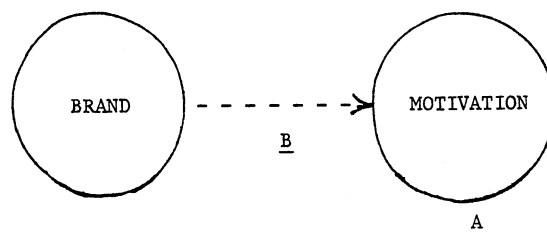
Brand Recognition Tactics	Brand Recall Tactics
a. Ensure sufficient exposure of the package and brand name in the ad	a. Associate the category need and the brand in the main copy (headlines, tag lines, copy claims)
b. The category need should be mentioned or portrayed (unless immediately obvious) so that the brand package and name makes the audience think of the category need	b. Keep the main copy short
c. After the initial burst, less media weight is needed for brand recognition (though check brand attitude strategy first)	c. Use repetition of the main copy for brand recall
	d. Include a personal reference in the main copy unless it is already strongly implied
	e. Use a bizarre execution as long as it is appropriate to brand attitude
	f. For broadcast ads, a jingle may increase brand recall

The category-brand association can be made in what we have called the "main copy," which includes headlines, tag lines, and also the copy claims themselves, to ensure repetition. The other brand recall tactics are explained further in Rossiter and Percy (1983) where it is shown that personal reference increases brand recall by personalizing the association; that bizarre executions are a very effective associative vehicle as long as they do not detract from the brand's "image"; and that jingles, if they catch on with the target audience and elicit spontaneous rehearsal, are a very effective mnemonic device for increasing brand recall because music offers greater opportunity of unique encoding than words heard or read in copy unaccompanied by music.

Step B-3: Brand Attitude. Brand Attitude is the second necessary communication objective. Brand "attitude" as a communication effect is defined in our approach a little differently from the usual academic definition and more in line with the way most practitioners use the term (Figure 2). Academic definitions tend to follow the Fishbein type of definition (e.g., Fishbein and Ajzen 1975) in which attitude is conceptualized as overall affect toward the act of buying the brand. However, as Wyer (1974) has argued, overall affect is simply one class of beliefs about the brand -- that "the brand (or the act of purchasing the brand) is likable." Evaluation or likability in this sense has very limited motivational status; only a few products or brands are bought merely because they are liked. Rather, as Fennell (1975, 1978) has cogently pointed out, people buy brands to fulfill one or several of a relatively finite set of motivations. It should be noted that these motivations are not just "benefits" but rather underlying energizing mechanisms of human action to which benefits contribute in a secondary manner.

FIGURE 2
Brand Attitude Structure for Advertising

Graphic depiction of brand attitude (buyer's overall evaluation of the brand with respect to its perceived ability to meet a currently relevant motivation):



Consideration A: correct emotional portrayal of the motivation

Consideration B: adequate logical support for perceived brand delivery on the motivation

⁴It should be clearly stated that the tactics recommended for brand awareness and brand attitude are hypothetical at this point. Most were synthesized from a thorough reading of various advertising sources, although there is a good deal of original speculation. If these a priori tactical recommendations stimulate research to test or challenge them, they will have served their present purpose.

Our approach to brand attitude builds on Fennell's and identifies eight basic motivations to which a brand may be attitudinally connected: problem removal, problem avoidance, and normal depletion (the negatively originated motivations); and sensory gratification, intellectual stimulation, and social approval⁵ (the positively originated motivations). Brand attitude is conceptualized as a summary belief (an overall evaluation) linking the brand to a motivation.

The checklist item B-3 for brand attitude is divided into two sections. Section 3(a) is quite straight-forward as it simply asks the manager whether the brand attitude objective is to: create a new attitude from zero; increase a currently favorable attitude; modify an existing attitude (connect the brand to a new motivation); maintain a current attitude; or change a currently negative attitude across the neutral point into the positive zone, which is generally a much harder task than an increase within the positive zone.

Section 3(b) for brand attitude identifies the brand attitude strategy that will meet the brand attitude objective. It is here that advertising communication models become truly differentiated. Referring to Figure 2, it can be seen that brand attitude -- from an advertising communication standpoint -- has two strategic components: (A) correct emotional portrayal of the motivation, and (B) adequate logical support for perceived brand delivery on the motivation. These are of course the affective and cognitive components of attitude. In advertising terms, to borrow psychologist George Mandler's words (1979), the crux of the attitudinal approach is "heat" and "light." An effective advertisement engages the prospective buyer's emotions and enlightens him or her about the brand.

FIGURE 3
The Four Main Strategies for Brand Attitude Based on Type of Motivation and Type of Decision

		Type of Motivation	
		INFORMATIONAL (reason why)	TRANSFORMATIONAL (brand-user image)
Type of Decision	LOW INVOLVEMENT (trial experience sufficient)	<ul style="list-style-type: none"> . aspirin . light beer . detergents . routine industrial products . Brand Loyals . Routinized Brand Switchers 	<ul style="list-style-type: none"> . soda . regular beer . snacks and desserts . cosmetics
	HIGH INVOLVEMENT (search conviction required prior to purchase)	<ul style="list-style-type: none"> . housing . professional calculators . cars (print) . new industrial products . New Category Users . Undecided Brand Switchers . Other-Brand Loyals 	<ul style="list-style-type: none"> . vacations . fashion clothing . cars (TV) . corporate image

⁵ Social approval is meant in the sense of social rewards, which are positively motivating. If social approval is sought because of personal anxiety, it comes under problem removal and is negatively motivating.

NOTE: The product examples and target audience categorizations shown are tentative only. In practice, the manager must assess how various target audiences actually regard the brand purchase decision and also the actual type of appeal that will work best for the brand.

The emotional (motivational and energizing) and cognitive (directional) components of brand attitude form the basis for a four-fold typology of brand attitude strategies (Figure 3). On the emotional dimension, we have borrowed the terms suggested by Wells (1981) to categorize the predominant type of motivation governing purchase of the brand. Brand attitude strategies can be classified as relying primarily on either an "informational" (reason why) motivation or a "transformational" (brand-user image) motivation. In our approach, these are not just nominal distinctions. Informational strategies apply when the brand is linked to one of the five negatively originated motivations: problem removal, problem avoidance, incomplete satisfaction, mixed approach-avoidance, or normal depletion. Transformational strategies, in contrast, apply when the brand is linked to one of the positively originated motivations: sensory gratification, intellectual stimulation, or social approval.

On the cognitive dimension, we utilize the concept of involvement or perceived risk associated with buying the brand. Involvement is categorized according to the economic theory developed by Nelson (1970), which classifies the brand purchase decision as either "low involvement" or "high involvement" (search/conviction required). Related developments of this conceptualization of involvement can be seen most directly in the theory advanced by Ehrenberg (1974) and also Lutz and Reilly (1974), Smith and Swinyard (1982) and Finn (1982). The perceived risk leading to involvement can be either economic, especially for products sold informationally: or psychosocial, especially for products sold transformationally (Bauer 1967; Peter and Tarpey 1975).

The involvement classification applies to a particular brand, for a particular target audience. As indicated in Figure 3, brand purchase decisions in some product categories tend to involve so little economic and psychosocial risk that it is meaningful to speak of a "product" as being low involvement. However, the classification depends on the target audience for the brand. For example, the brand loyal buyer of a Rolls-Royce automobile, an ostensibly high involvement product, is essentially making a low involvement purchase decision; likewise, the other-brand loyal buyer of Tylenol, an ostensibly low involvement product, would be making a high involvement decision in switching to the aspirin-containing Bayer brand. Involvement, and thus the cognitive classification of brand attitude, must be determined for the brand and for the particular target audience.

The brand attitude strategy classification produces four fundamental advertising communication models which, when combined with the two brand awareness alternatives described earlier, produce a total of eight models. The tactical recommendations for the four brand attitude strategy variations of these models are summarized in Table 3. Space limitations again preclude a detailed exposition of these tactics (Rossiter and Percy 1983) but several important distinctions are reviewed next.

Authentic emotional portrayal of the motivation. In the transformational models, emotional authenticity is of paramount importance. Indeed, in the low involvement/transformational model, positive emotion is the sole "benefit" associated with the brand, e.g., the exuberant portrayal of sensory gratification in the "Coke is it" commercials. In the informational models, correct emotional portrayal, which usually follows a negative

TABLE 3
Advertising Tactics for the Four Brand
Attitude Strategies

LOW INVOLVEMENT/INFORMATIONAL TACTICS

Consideration A (correct emotional portrayal of the motivation):

1. Use a simple problem-solution format
2. It is not necessary for people to like the ad

Consideration B (adequate logical support for perceived brand delivery):

3. Include only one or two benefits or a single group of benefits
4. Benefit claims should be stated extremely
5. The benefits should easily be learned in one or two exposures (repetition serves mainly a reminder function)

LOW INVOLVEMENT/TRANSFORMATIONAL TACTICS

Consideration A (correct emotional portrayal of the motivation):

1. Emotional authenticity is the key element and is the single benefit
2. The execution of the emotion must be unique to the brand.
3. The target audience must like the ad

Consideration B (adequate logical support for perceived brand delivery):

4. Brand delivery is by association and is often implicit
5. Repetition serves a build-up function and a reinforcement function

HIGH INVOLVEMENT/INFORMATIONAL TACTICS

Consideration A (correct emotional portrayal of the motivation):

1. Correct emotional portrayal is very important early in the product life cycle but becomes less important as the product category reaches maturity
2. The target audience has to accept the ad's main points (see B below) but does not have to like the ad itself

Consideration B (adequate logical support for perceived brand delivery):

3. The target audience's "initial attitude" toward the brand is the overriding consideration that must be taken into account
4. Benefit claims must be pitched at an acceptable upper level of brand attitude (do not over-claim)
5. Benefit claims must be convincing (do not inadvertently under-claim)
6. For target audiences who have objections to the brand, consider a refutational approach
7. If there is a well-entrenched competitor and your brand has advantages on important benefits, consider a comparative approach

⁶Extreme claims are of course subject to legal substantiation. However, on the verbal side, there are

TABLE 3 (Continued)

HIGH INVOLVEMENT/TRANSFORMATIONAL TACTICS

Consideration A (correct emotional portrayal of the motivation):

1. Emotional authenticity is paramount and should be tailored to lifestyle groups within the target audience
2. People must identify personality with the product as portrayed in the ad and not merely like the ad

Consideration B (adequate logical support for perceived brand delivery):

3. Many high involvement advertisements also have to provide information
4. Over-claiming is recommended but do not under-claim
5. Repetition serves a buildup function (often for subsequent informational ads) and a reinforcement function

emotion to positive emotion problem-solution format, is also important, but less so relative to the cognitive component. For instance, the efficacy with which Wisk detergent is shown (and perceived) to remove shirt collar stains is relatively more important than the particular portrayal of the stain problem itself.

Ad likability (attitude toward the ad). A second distinction, also related to the informational-transformational advertising, is that in transformational advertising, it is essential that the target audience like the ad itself, regardless of its opinion of the brand. This is not true for informational campaigns, where sometimes "irritating" commercials get the point across more effectively, e.g., the notorious "Mr. Wipple" campaign for P&G's Charmin which effectively communicated that Charmin toilet tissue is squeezably soft. It is noteworthy that all published studies in which attitude toward the ad has been shown to contribute significantly to attitude toward the brand have employed what appear to be low involvement/transformational products: beer (Rossiter and Percy 1980); facial tissues (Mitchell and Olsen 1981); and soda (Shimp and Yokum 1982).

Following the low involvement route to persuasion demonstrated by Petty and Cacioppo (1979) and summarized by Petty and Cacioppo (1983), extraneous elements of the message such as executional likability assume much greater weight in low involvement attitude formation and change than they do in high involvement attitude formation and change. This is also reflected in the models.

Adequate logical support for perceived brand delivery on the motivation. A third distinction turns now to the cognitive component of brand attitude strategy in the models. In the low involvement models, claims stated (informational) or visually implied (transformational) about the brand need only be tentatively believed, to a degree that is adequate to prompt trial of the brand (cf. Maloney's 1962 concept of "curious disbelief"). This means that claims in low involvement advertisements should be stated or implied as extremely as possible.⁶

plenty of psycholinguistic devices for delivering perceptually extreme claims (Harris et al. 1980) such as, "You can't beat Crest for fighting cavities" (but you can equal it), and on the visual side, perceptually extreme claims are often made effectively by implication rather than explicitly and may avoid legal challenge (Rossiter and Percy 1981).

Claims in low involvement advertising have to be learned, rather than fully believed and accepted, and a more extreme claim will be more likely attended to and learned, and more likely to induce trial to test the claim via usage experience.⁷ This has been labelled the "ask more, get more" tactic of attitude formation and change (McGuire 1969).

In contrast, it is only in high involvement models that the textbook attitude principles of "latitude of acceptance/rejection" and the careful tailoring of claims to the target audience's prior or initial attitude are truly applicable (Houston and Rothschild 1977). High involvement purchase decisions dictate that advertising claims must be believed and accepted before purchase action will be considered. Accordingly, the cognitive tactics for the high involvement models (especially the high involvement/informational model) are much more detailed than for the low involvement models.

Media exposure schedule. A fourth distinction in the models relates to the exposure schedule for different types of advertising (Wells 1981). Generally speaking, informational campaigns have to work immediately -- the reason or reasons why the target audience should buy the brand should be evident and fully learned (low involvement) in one or two exposures. In contrast, in transformational campaigns, brand attitude continues to build with multiple repeated exposures (Zajonc 1980) until a peak or asymptote is reached; thereafter, continued exposures are needed to reinforce the attitude, especially in low involvement/transformational advertising, where attitude toward the advertising is a significant contributor to attitude toward the brand.

Quadrant dimensions as dichotomies in practice. The four brand attitude strategy "quadrants" are postulated to represent functionally distinct models. Although it may be contended that the two dimensions that form them are continual, thus rendering the classification artificially extreme, in practice it is comparatively easy to determine, especially through research, whether most of the target audience regards the brand purchase decision as within the realm of "try-it-and-see" (low involvement) or whether they would have to be convinced first before buying (high involvement). In rare cases when the target audience exhibits mixed levels of involvement or when a single ad is aimed at two target audiences, one of which is high-involved and the other low-involved, then high involvement tactics should be assumed. High involvement models are the more conservative or "safer" models but they also require more complex and careful execution and, according to the theory, a high involvement model will be less effective if used when the brand decision is actually low involvement.

Similarly, by identifying the main motivation, it is comparatively straightforward to decide whether the predominant executional focus of the ad should be informational, or transformational. Truly mixed cases on the informational-transformational dimension most often occur with high involvement/transformational advertising that has to provide information so that the prospective buyer can "rationalize" before accepting the transformation. Mercedes-Benz automobiles, for example, are purchased primarily because of social approval motivation, but their ads provide plenty of performance information

with which the prospective buyer can rationalize the brand choice. Mixed cases of informational and transformational strategies can be handled by including both sets of tactics, although this necessarily poses a more complex task for the advertising to accomplish.

Step B-4: Brand Purchase Intention. Brand purchase intention is usually a purchase intention but can refer to any intended action targeted by the advertising. Industrial advertising, for instance, often targets sales inquiries as the intended action rather than purchase directly. Brand purchase intention is an optional communication objective. The option refers to the difference between "hard sell" (intention-induced) advertising and "soft-sell" (intention-deduced) advertising.

In hard-sell advertising, the target audience should form a conscious, immediate intention to act at the next purchase opportunity. In the tactical extreme, promotion offers and exhortations to "act now" are included in hard-sell advertising. The hard-sell approach, intended to generate an immediate purchase action intention, mainly is used with informational advertising. However, high involvement/transformational advertising, e.g., for vacation packages, may also employ hard-sell to try to stimulate immediate intentions. The manager has to decide which approach is more suitable even though there is a reasonable correlation with the communication model selected.

In soft-sell advertising, the target audience does not form an immediate conscious intention to purchase or take action with regard to the brand. An intention to act is only experienced consciously, later, when it is triggered for a fraction of a second in the choice situation (Krugman 1965). At this time, the prospective buyer "deduces," from brand awareness and brand attitude, a momentary but effective intention to act. We suggest that low involvement/transformational advertising frequently operates in this way to trigger purchase. If so, it is pointless to try to measure purchase intention prior to the event.

We do not, however, suggest that the hard-sell and soft-sell options represent a sufficient conceptual difference to warrant these being designated as separate advertising communication models. Rather, they are seen as close complements to the brand attitude model incorporated in the advertising.

Step B-5: Purchase Facilitation. Purchase Facilitation, the fifth communication effect, is also optional as an objective. It applies when the advertising must overcome a barrier to purchase resulting from the remainder of the marketing mix. Barriers may take the form of a perceived product problem, e.g., Tylenol and tamper-proof containers; a perceived high price problem, addressed in purchase facilitation by the inclusion of easy payment terms or a high quality appeal to offset the price via perceived value; or an actual distribution problem, overcome by exclusivity appeals such as "not available everywhere" or by offering home delivery.

Purchase facilitation is not usually a communication objective for national brand advertising although it frequently occurs in retail and direct mail advertising. If purchase facilitation is not required, the manager so indicates on the checklist and omits this objective.

C. Executional Processing (Ad)

Communication models can, if desired, cease detailed exposition with the establishment of communication objectives. The creative department and the media department, respectively, can be left to construct specific advertisements and a media plan that will meet the communication objectives. However, the eight advertising communication models (differentiated by the two types of brand

⁷ Smith and Swinyard (1982) attempt to address the low involvement trial induction phenomenon with their concept of lower order and higher order beliefs. However, this concept confounds the degree of belief with the confidence with which it is held (see also Wyer 1974). Beliefs, in low involvement attitude formation, are extremely polarized but only weakly or tentatively held, subject to post-trial usage experience.

awareness and the four brand attitude strategies) require concomitant variations in the way ads are processed and the schedule on which they are best delivered. Accordingly, a full advertising communication model will specify the two remaining levels: processing and exposure.

Processing refers to the prospective buyer's immediate responses to elements of the advertisement. Following the popular cognitive metaphor, processing responses occur in short-term or "active" memory, and are "ad-centered." The intended outcome of processing is to produce communication effects in long-term or semi-permanent memory, which are "brand-centered." Processing is not exclusively cognitive, however. In our approach, processing includes: (1) attention to all elements of the advertisement relevant to respective communication objectives; (2) physiological responses to emotional elements of advertisements pertaining to the motivation portrayal; (3) rote (often subconscious) learning of associations between elements pertaining to brand awareness and, if applicable, low involvement brand attitude; and (4) cognitive acceptance of elements pertaining to, again when applicable, high involvement brand attitude, category need, induced brand intention, and purchase facilitation.

In our work with the checklist, we have found it both highly instructive, and very useful as a means of guiding later diagnostic searches following ad testing, to have the creative personnel on the account complete the processing section of the model. Here is what they are asked to do. It should be noted that the checklist skips the attention phase of processing, as this would be very tedious to complete and is implicit in the points listed in the remaining three steps of processing.

Step C-1: Emotional Portrayal. The copywriter and the art director are asked to describe the exact emotion, or sequence of emotions, that they are trying to elicit in the audience in conjunction with the brand motivation. For example, an informational advertisement addressing the problem removal motivation might employ the sequence: disappointment → hope → relief. A transformational advertisement addressing the sensory gratification motivation might simply nominate elation as the emotion or "tone" to be portrayed.

Including emotional descriptions in the advertising communication model used for a brand makes explicit an aspect of advertising effectiveness that is almost always neglected by managers who focus only on approving written copy. As we have seen in the definition of brand attitude, the emotional component is a necessary complement to the cognitive or brand benefit delivery component. For transformational campaigns in particular, it is the emotional execution of advertisements that differentiates the great from the average campaign. Furthermore, an explicit listing of emotions to be portrayed makes the task of ad testing easier because appropriate emotional adjectives can then be selected with which to gauge audience reactions to the ad.

Step C-2: Points to be Learned. In our approach (Ros-siter and Percy 1983), two communication effects require only rote learning during processing. These are brand awareness, and low involvement brand attitude. In brand awareness processing, the target audience must learn the association between the category need and the brand, producing a subsequent recall response or recognition response as appropriate.⁸ The copywriter is asked to indicate those elements of the ad that tie in the category need with the brand -- following the tactics for brand recognition and brand recall described earlier.

In brand attitude processing, the target audience must learn further associations between the brand and speci-

fic benefits (related to the motivation). In low involvement attitude formation and change, rote learning is all that is required. The copywriter is asked to identify the specific message points to be learned -- be these in the verbal copy or implied in the visual portrayal.

Step C-3: Points to be Accepted. For all other communication effects apart from brand awareness and low involvement brand attitude (and note that this means that many low involvement campaigns are based strictly on learning), the in-ad elements pertaining to these effects have to be consciously accepted by the target audience. The prospective buyer of the IBM Personal Computer, for example, has to : accept the category need for a personal computer; accept that the IBM Personal Computer is a good brand; accept an action intention, such as visiting an IBM store or calling for a demonstration; and accept that the price or payment terms aid purchase facilitation.

Acceptance signifies personal agreement with the relevant advertising elements or message points. Acceptance is manifest consciously in the phenomenon of "cognitive responses" (Cialdini, Petty and Cacioppo 1981; Hovland, Janis and Kelly 1953; Perloff and Brock 1980; Wright 1980) which seem to be prerequisite for shifts in high involvement attitudes and, we would argue, for shifts in these other non-rote communication effects.

The copywriter does not, of course, have to be knowledgeable about acceptance or cognitive response theory. All that is required is a careful listing of the message points -- either stated or implied visually or verbally in the ad -- that the target audience is supposed to accept. It is straightforward to do this, especially if the points are categorized in terms of the communication objectives they are intended to address. In working with the checklist, categorization of message points in terms of specific communication objectives to which they relate has been found to illuminate the copywriter's purpose rather than hinder it. The results of the exercise are of immense value to managers and researchers because they help to reduce the mystery (but not the magic) of what creatives are doing.

The four types of responses in processing -- attention, emotional responses, learning, and (if appropriate) acceptance -- are also "heterarchical." For an ad to meet a communication objective, each element relevant to the communication effect concerned must be processed. Because ads consist of multiple elements, this means that a person processing the ad may be making, for example, an acceptance response to one element while simultaneously seeking attention to further elements. Just as in the communication effects step earlier, there is no set hierarchy of effects in the processing step.

Nor, except in the rare case of a new brand being launched into a virtual mental vacuum, is there any necessity for the four overall steps themselves to form a hierarchy, even though they are shown this way for convenience (Figure 1 earlier). For example, communication effects (Step 3) may be salient in the audience's mind before the ad is processed (Step 2). Similarly, behavioral action (Step 4) may lead to deliberate reexposure

⁸ In brand recall, the prospective buyer experiences the category need first then recalls the brand(s) associated with it. In brand recognition, the prospective buyer recognizes the brand first, e.g., in-store, then associates (actually recalls) the category need whereupon a mental check of category need status is made. Recall and recognition thus reverse the stimulus and response roles of the associative link between category need and brand awareness.

to advertising for the brand (Step 1) as in the well-known dissonance reduction sequence. The whole series of steps should be regarded as a potentially inter-looping mental heterarchy, punctuated by occasional behavioral acts such as purchase.

Returning now to the steps in the checklist, there is another frequently used tactic or set of elements that affects processing -- the use of a presenter.

Step C-4: Use of a Presenter. The use of a presenter (or endorser) in ads is another decision that often confronts managers. In our approach, endorsement is not a separate strategy; rather presenters or endorsers can be used, with any of the advertising communication models, to increase processing of specific communication effects that need strengthening. Presenters should be considered to "boost: communication effects when a "standard" advertising execution falls short of attaining the communication objectives.

The processing checklist for presenters identifies presenter characteristics that relate to various communication effects and particularly to the four brand attitude models. The VisCAP Acronym (an extension by McGuire 1969 and Percy and Rossiter 1980 of Kelman's 1958 approach) summarizes the major presenter characteristics.

Visibility. Visibility or recognizability, the strong characteristic of celebrity presenters, is likely to heighten brand awareness -- notably brand recall, although the advertiser must be careful that the presenter does not obscure the presentation of the brand itself. The processing mechanism associated with visibility, of course, is the expectation that a highly visible presenter will draw attention to the ad and thus make the brand more visible; that is, the presenter will increase brand awareness.

Credibility. Credibility consists of two characteristics, expertise and objectivity. A presenter can be perceived as expert without being objective, and vice versa. Expertise is relevant to informational communication models, both low and high involvement, because perceived expertise enhances attention to and learning of (low involvement) or acceptance of (high involvement) information presented in support of brand attitude. Objectivity, on the other hand, is mainly relevant to the high involvement/informational model. This is because high involvement claims have to be believed (accepted) whereas low involvement claims are more effective if they stretch credibility and are stated more extremely and thus less effectively.

Attraction. Attraction or attractiveness as a presenter characteristic also consists of two components, likability and similarity. The attraction the presenter holds for the target audience is of primary importance for the transformational models, where the advertising content most offers positive stimuli to enhance the positive motivation. Likability is mainly relevant to the low involvement/transformational model, where everything about the ad must be likable, including the presenter. Similarity (to the target audience) is a high involvement/transformational factor, where the target audience must not like the ad, but identify with the brand presentation personally.

Power. Power, or perceived authority, is not a widely employed presenter characteristic. However, it is relevant in hard-sell campaigns where the purpose is to induce immediate intention to act. Public service campaigns on safety and health (problem avoidance motivation) frequently use powerful, authoritative presenters to good effect so that the message will be accepted almost as a commandment or a duty rather than as a message the audience can freely accept or reject. Pharmaceutical ads, too, can imply medical or clinical authority by using

powerful presenters.

The use of a presenter, therefore, is not an arbitrary decision. Presenters must be selected so that their salient personal characteristics are those which amplify audience processing of elements relevant to the particular communication model through which the ad is designed to operate.

D. Exposure (Media)

A full advertising communication model also addresses exposure of advertisements via the media plan. Advertising communication models have inherent implications for media selection and media scheduling. As such, they dictate the overall media strategy of a campaign while leaving tactical details and specific considerations to the media specialists.

Step D-1: Media Selection. Media planners usually select a primary medium for a campaign, then supplement this with one or more secondary media to reinforce particular communication objectives or to reach prospects omitted in primary media coverage. The strategy checklist in Section D-1 asks the media planner to indicate these choices. As shown in Table 4, it is essential that the media planner selects media that are compatible with the particular communication model upon which the campaign is based. Particular models eliminate or severely limit the use of certain models.⁹

TABLE 4
Advertising Communication Models and
Media Selection

	Brand Awareness		Brand Attitude			
	Brand <u>Recogniton</u>	Brand <u>Recall</u>	LI <u>Info</u>	LI <u>Trans</u>	HI <u>Info</u>	HI <u>Trans</u>
Tele- vision	YES	YES	YES	YES	<u>Elim- inated</u>	YES
Radio	<u>Elim- inated</u>	YES	YES	YES	<u>Elim- inated</u>	YES
Maga- zines	YES	(Limit- ed*)	YES	(Lim- ited*)	YES	YES
News- papers	(Limit- ed)	YES	YES	(Lim- ited)	YES	(Lim- ited)
Outdoor	YES	(Limit- ed*)	YES	(Lim- ited*)	<u>Elim- inated</u>	YES
Direct Mail	YES	(Limit- ed*)	YES	(Lim- ited*)	YES	YES

NOTE: Limited = color imitation; Limited* = high effective frequency limitation

The respective models eliminate or restrict media selection according to: (i) visual capacity (radio is eliminated for brand recognition models where packages must be shown); (ii) color quality and cost (newspapers are lim-

⁹Rossiter and Percy (1983) discuss creative solutions for overcoming many of these limitations. However, the solutions are typically elaborate and expensive, and should only be used when other considerations strongly dictate use of the medium. The discussion here is confined to conventional use of the respective media.

ited for new package brand recognition and for transformational campaigns); and (iii) verbal message capacity (the "short" media of TV, radio, and outdoor are virtually eliminated for high involvement/informational campaigns). A further limitation is imposed by (iv) high effective frequency, which is discussed in connection with media scheduling.

Step D-2: Media Scheduling. Media planners are increasingly recognizing the importance of basing media schedules on effective frequency calculations. Effective frequency (e.g., Naples 1979) is based on the estimated minimum number of times an individual target audience member must be exposed -- within a purchase cycle -- in order to induce purchase of the brand (see D-2). The effective frequency estimate will vary with the target audience; for instance, brand loyals will require less frequency than brand switchers, other-brand loyals, and new category users, usually in this order (Rossiter and Percy 1983).

Effective frequency also depends on the advertising communication model. Table 4 (earlier) indicates limitations (in parentheses) when high effective frequency is required. Brand recall campaigns typically demand high effective frequency to instill the brand or to protect against competitive brand learning. Hence, in the checklist, the media planner is asked to estimate the frequency per purchase cycle used by the leading competitor, so that a "dominance" schedule can be planned. Low involvement/transformational campaigns also demand high effective frequency (Wells 1981) to generate and maintain brand attitude or "image."

When all factors inherent in the advertising communication models are considered, the media planner's choice of media for a particular campaign becomes quite circumscribed. The final choices can be inferred from the table. To provide examples from just two of the eight basic models: brand recall/low involvement/informational campaigns are best suited to TV, radio, or newspapers; whereas brand recognition/high involvement/transformational campaigns are best suited to TV, magazines, outdoor, or direct mail.

To complete the exposure plan checklist, the media planner is asked to list other factors such as continuity, seasonality, and geographic market considerations that will affect the plan (Step D-3). These do not depend on advertising communication models and are not discussed here.

Implications for Ad Testing

The eight advertising communication models have crucial implications for ad testing. There is no one way in which ads work; therefore, there is no single procedure that can validly test all types of advertising. Failure to appreciate this fact has led to endless, fruitless debates among various proponents (such as syndicated test service providers) of particular advertising testing models.¹⁰

The eight advertising communication models differ on three basic dimensions: (1) brand recognition versus brand recall; (2) low involvement versus high involvement brand attitude strategy; and (3) informational ver-

¹⁰ Preston (1982) has made a heroic effort in proposing an advertising communication model that attempts to integrate most of the major syndicated measures. However, this seems backwards operationally, in that correct concepts should surely precede consideration of extant measures. Moreover, Preston's is yet another singular model and, as we have seen, singular models cannot account for the different ways in which advertising works.

sus transformational brand attitude strategy. These three dichotomies require different ad testing measures, as summarized in Table 5. When these measures are recombined into the eight models, it can be seen that eight different testing procedures emerge. Rather than discuss all eight, which are relatively easy to piece together, we will examine just the three dimensions of difference.

TABLE 5
Ad Testing Measures for the Three Basic Advertising Communication Model Dimensions

<u>Brand Recognition</u>	<u>Brand Recall</u>
. package recognition	. correct category need cue
. competing display set	. recall cutoff depends on typical evoked set
<u>Low Involvement</u>	<u>High Involvement</u>
. advertiser-intended message (learning)	. consumer-believed message (acceptance)
. overall brand attitude measure (unless LI/TRANS)	. overall brand attitude measure
. benefit beliefs measured 0-1	. benefit beliefs measured on graduated scale
<u>Informational</u>	<u>Transformational</u>
. rough executions sufficient	. high quality executions necessary
. 1 exposure (print) or 2 exposures (broadcast)	. 1 exposure (print) or 3-4 exposures (broadcast)
. pre-post design	. experimental-control design
. overall brand attitude measure	. overall brand attitude measure (unless LI/TRANS)
. Likert belief measures	. semantic differential belief measures
. purchase intention measure	. intention measure usually inappropriate

Brand Recognition Versus Brand Recall

It should be obvious that if the brand is chosen in the real world through a brand recognition process, as with many supermarket products, then the standard brand recall measure usually obtained in conjunction with half-hour delayed advertising recall (e.g., ASI, McCollum-Spielman procedures) is irrelevant. The brand awareness objective with brand recognition models is to get the package recognized in a typical competing package display setting. An appropriate visual measure, such as a tachistoscope test of a multi-brand display, should be used. Brand recognition is not correlated with brand recall (Thorson and Rothschild 1983) and so the substitute use of a brand recall measure for a brand recognition objective is inappropriate and misleading.

If the correct model is, however, brand recall, then there are two main brand awareness measurement details to be considered. One is the cue to be used to elicit recall; this should correspond with the category need that prompts brand recall in the real world, and it depends on how consumers define the category and not necessarily on how the marketer defines it. The other is the number of recall responses that are allowed; this number should

correspond with the typical evoked set size from which consumers select the brand in the real world.

Also, because recall usually declines with time (mainly due to interference), brand recall in an ad test situation can provide only a relative measure of brand recall awareness. It can provide an absolute measure only when the exposure-to-test interval is similar to the average real world interval. Brand communication effects are conditional on brand awareness, and a brand recall measure (or a brand recognition measure) taken very soon after exposure in a test situation can produce a spuriously inflated estimate of advertising effectiveness.

Low Involvement Versus High Involvement

The testing of low involvement ads differs from the testing of high involvement ads in several ways. Firstly, the nature of processing is different. Low involvement brand attitude registration depends on the perceived (learned) rather than the believed (accepted) message. Thus, the correct type of processing measure for the low involvement models centers on correct learning of the intended message. A suitable measure would be along the lines of: "In this ad, what do you think the advertiser is trying to tell you about the brand?" Open-ended responses are then coded as correct if they mirror or closely paraphrase the advertiser's intended message, i.e., the benefit beliefs to be learned.

An overall measure of brand attitude is taken, usually relative to other brands in the evoked set (except in the low involvement/transformational model as explained below). Finally, aided or diagnostic measures of the benefit beliefs presumed to lead to the overall brand attitude can be taken. For low involvement beliefs, it is recommended that the beliefs be measured on a 0-1 (yes-no basis: for low involvement brand purchase decisions, the brand either has the characteristic or it does not.

High involvement processing is quite different. Here it is the believed message that counts. The correct type of processing measure for high involvement ads is of the cognitive response variety (e.g., Wright 1980; Belch 1982; Lutz and MacKenzie 1981; Petty, Ostrom and Brock 1981). Measurement focuses on the target audience's own responses rather than the advertiser's intended responses. A question such as, "List all the thoughts, visual images, or feelings that you had when watching/listening to/looking at this ad," is used to prompt reproduction of actual processing reactions, then these are coded as positive, negative, or more specifically in terms of reactions to elements of the ads.

An overall brand attitude measure is taken, followed by measure of specific benefit beliefs. In high involvement models, beliefs are most likely to be graduated rather than all-or-none, and so multi-step scales (either Likert or semantic differential, see below) are appropriate.

Informational Versus Transformational

A further set of differences occurs in testing informational ads as distinct from transformational ads. For ads based on the informational brand attitude strategy, a rough execution is sufficient for test purposes, because the informational (reason why) message should be apparent regardless of the executional quality of the ad presented to consumers.¹¹ Likewise, the message should

be apparent immediately, so that one exposure (print ads) or two exposures (broadcast; cf. Krugman's 1972 point that the first exposure of a fleeting broadcast ad allows only a "What is it?" response) should be sufficient.

An overall brand attitude measure is used. For attitude measurement, a pre-post design is most efficient. A pre measure is not sensitizing because consumers consciously experience attitude shifts with informational ads. For diagnostic measurement of brand benefit beliefs, Likert-type (agree-disagree) scales are recommended, because the consumer must agree that the brand provides the benefit; note, however, the 0-1 measures recommended if the model is low involvement-informational. Finally, since informational ads are supposed to work immediately, it is appropriate to include a purchase intention measure.

For ads based on the transformational brand attitude strategy, a high quality version of the test ad is required. Transformational ads depend on production values for contributing to the positively derived brand attitude, so a transformational ad should be tested in a version as close to the finished ad as possible. Whereas one (unlimited or natural) exposure is sufficient for transformational print ads, multiple exposures are necessary for transformational broadcast ads to allow them the opportunity to "build" their brand attitude effect. Three to four exposures of the test commercials represent a more valid simulation of real world conditions than just one or two exposures.

An overall brand attitude measure is usually appropriate for high involvement-transformational models; but it is unrealistic to expect low involvement-transformational advertising to produce an immediate attitude because of the low involvement, virtually subconscious way in which these ads operate, and thus an overall brand attitude measure is omitted in this case. For the same reason that transformational advertising produces "soft" attitude shifts, a non-sensitizing experimental-control (two group) design is recommended rather than a pre-post design. Brand benefit beliefs are also more appropriately measured on the "softer" semantic differential type of rating scales, anchored by "image adjectives" than on Likert-type agree-disagree scales. Finally, transformational attitude shifts are not validly captured by an immediate purchase intention measure because the translation of attitude into planned action is not an immediate, conscious process as in informational advertising. The kid glove response registration represented by semantic differential-type "image" measures is the most valid way of testing the typically fragile effects of transformational advertising.

Composition of a valid ad test therefore depends crucially on careful prior identification of a suitable advertising communication model. The eight basic models outlined in this paper should prove adequate for most advertising applications. If a more specifically tailored model is desired, the eight basic models together with the strategy checklist should be of considerable assistance in indicating the questions to be answered in designing the inputs for a specialized model.

Appendix

A. Target Audience and Action Objectives (Buyer)

Re-	Judg-	
search	ment	
()	()	1. <u>Which households/companies/retailers sales to come from?</u> (Nominate one group per campaign)
		. new category users (trial)
		. brand loyals (use more)
		. brand switchers (buy more often)

¹¹Schlinger and Green (1980) have presented detailed comparisons of the test results from rough versus finished ads. The correspondence is noticeably higher for informational measures than for transformational or "image" measures.

A. Target Audience and Action Objectives (Buyer) (Continued)

Re- search Judg- ment

- . other-brand loyals (convert)
- () () 2. Who is the decision-maker that the advertising must reach?
(Choose one or more roles per campaign)
 - . initiator (proposes)
 - . influencer (recommends)
 - . decider (chooses)
 - . purchaser (buys)
 - . user (uses)
- 3. What is the personal profile of the decision-maker?
(Complete all)
 - () () . current and target brand behavior frequency, volume
 - () () . media exposure patterns
 - () () . demographics
 - () () . psychographics
 - () () . likely state during media exposure

B. Communication Objectives (Brand)

Re- search Judg- ment

- () () 1. Category Need (Choose one option)
 - . ignore
 - . remind
 - . sell
- () () 2. Brand Awareness (Choose one option)
 - . brand recognition (at p-o-p)
 - . brand recall (prior to purchase)
 - . both relevant
- () () 3(a) Brand Attitude Objective
(Choose one option)
 - . create (new attitude)
 - . increase (make present attitude more positive than it is)
 - . modify (connect to new motivating need)
 - . maintain (current attitude)
 - . change (from negative to positive)
- () () 3(b) Brand Attitude Strategy (Choose one option; state the motivation*; and list any supporting benefits)
 - . low involvement/informational
 - . low involvement/transformational
 - . high involvement/informational
 - . high involvement/transformational
- () () 4. Brand Purchase Intention (Choose one option)
 - . soft sell (deduced -- subconscious decision)

B. Communication Objectives (Brand) (Continued)

Re- search Judg- ment

- . hard sell (induced -- conscious immediate decision)
- () () 5. Purchase Facilitation** (Choose one option)
 - . none required
 - . incorporated in campaign (explain below)

*Primary motivation identified from list of eight: problem removal, problem avoidance, incomplete satisfaction, mixed approach-avoidance, normal depletion (all informational); sensory gratification, intellectual stimulation, social approval (all transformational).

**Marketing factors -- product, price, distribution, promotion -- that could hinder advertising effectiveness.

C. Executional Processing (Ad)

Re- search Judg- ment

- () () 1. Emotional portrayal of the motivation
 - . describe emotion (e.g., elation) or sequence of emotions (e.g., disappointment/hope/relief) to be elicited by ad
- () () 2. Message points to be learned
 - . Brand Awareness: describe how the brand will be identified in the ad (e.g., name mentions, package shots, etc.) and how the brand is linked to the product category via the ad execution
 - . Brand Attitude (if LOW INVOLVEMENT MODEL): list the benefits to be learned in conjunction with the brand, including any benefits implied in visual portrayals)
- () () 3. Message points to be accepted
 - . Category Need (if an objective): list the benefits that are intended to "sell the category"
 - . Brand Attitude (if HIGH INVOLVEMENT MODEL): list the benefits to be accepted in conjunction with the brand, including any benefits implied in visual portrayals)
 - . Brand Purchase Intention (if HARD SELL INDUCED): identify reasons (e.g., exhortational copy or promotion offer) to act immediately
 - . Purchase Facilitation (if an objective): describe how the product, price, distribution or promotion barrier (as applicable) is addressed in the ad
- 4. Presenter(s) to be considered for ads?
(If so, complete the following for each potential presenter)
 - . Visibility: what % of the target audience will immediately recognize the presenter:

C. Executional Processing (Ad) (Continued)

Re- search Judg- ment

- . Credibility (a) Expertise: (especially for LOW INVOLVEMENT/INFORMATIONAL and HIGH INVOLVEMENT/INFORMATIONAL MODEL). Describe nature of expertise "hook" to product.
- . Credibility (b) Objectivity: (especially important for HIGH INVOLVEMENT/INFORMATIONAL MODEL). Describe presenter's reputation for honesty and objectivity.
- . Attraction (a) Likability: (especially important for LOW INVOLVEMENT/TRANSFORMATIONAL MODEL). Describe why the target audience likes or will like this presenter.
- . Attraction (b) Similarity: (especially important for HIGH INVOLVEMENT/TRANSFORMATIONAL MODEL). Describe how the presenter is similar in lifestyle to the target audience.
- . Power: (relevant to authority or fear appeals and for HARD SELL INDUCED Brand Purchase Intention). Describe authoritative or commanding characteristics of presenter.

D. Exposure Plan (Media)

Re- search Judg- ment

- () () 1. Media Selection (Indicate primary medium "P" and secondary media "S" from list below. Write one paragraph justifying each choice, and provide several examples of likely vehicles and ad units for each medium)
- . TV _____ . newspaper _____
 - . radio _____ . direct _____
 - . magazines _____ . p-o-p _____
 - . out-door _____ . other _____
- () () 2. Effective Frequency (Complete each item below)
- . target audience purchase cycle for this product category: ___ months days
 - . estimated minimum effective frequency of exposure per purchase cycle to cause individual to purchase: ___
 - . estimated frequency per purchase cycle used by leading competitor: ___
 - . if the campaign is expected to generate substantial word-of-mouth, write "YES" here: ___
- () () 3. Continuity and Geographic Markets (Complete each item below or write "NO" if not applicable)
- . seasonal peaks: _____
 - . dates of tie-ins with publicity, promotions: _____
 - . geographic markets that need extra emphasis: _____

D. Exposure Plan Media (Continued)

Re- search Judg- ment

- . any other pertinent factors that may affect the campaign: _____

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RACIAL AND SOCIOECONOMIC INFLUENCES ON THE DEVELOPMENT OF CONSUMER BEHAVIOR

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Abstract

While most marketers and consumer behavior researchers are in general agreement that the consumer behavior of blacks differs from that of whites, there appears to be no consensus on the causes of the differences. Information on cause of black-white differences in consumer behavior is lacking, and the few studies conducted in this area have produced contradictory results. The study results suggest that black-white differences in consumer behavior may be attributable to socialization processes that operate differently among the two subcultures.

Introduction

Social scientists have traditionally been interested in understanding black-white differences in cognitions and behaviors, such as intelligence and competency, and whether such differences are the result of genetic or socioeconomic characteristics. Similarly, while most social scientists, marketers and consumer behavior researchers are in general agreement that the behavior of blacks in the marketplace differs from that of whites, there appears to be no consensus on the causes of the differences. The controversy seems to center around two issues: 1) whether differences in consumer behavior are the result of racial or socioeconomic factors; 2) how such differences develop. Generally, information on cause of black-white differences in consumer behavior is lacking and the few studies conducted in this area have produced contradictory results.

Previous studies focusing on the first issue suggest that black-white differences in consumer behavior may be the result of racial factors, socioeconomic factors, and an interaction of both (Feldman and Star 1968, Cicarelli 1974, Donahue et. al. 1978, Moschis and Moore 1981). However, these studies do not indicate how and why such differences may occur. Recent research suggests black-white differences may not be necessarily due to racial characteristics per se, but due to influences (i.e., third variables) present in different socioeconomic and racial subcultures of society. Such influences may affect the learning of consumer behaviors. For example, black and lower-class youths are likely to respond to TV commercials and use the mass media differently than their white and upper-class counterparts (e.g., Christiansen, 1979) and such differences may result in the development of different consumer patterns.

The present study extends research reported by Moschis and Moore (1981) which found differences in the consumer skills, knowledge and attitudes between blacks and whites, such as knowledge of consumer affairs, ability to filter puffery, management of consumer finances, materialism and brand preferences, beyond those differences that can be accounted for by the individual's socioeconomic status. The focus is on whether these differences are due to antecedent variables associated with different

socioeconomic and racial factors, or due to other intervening factors associated with different socioeconomic or subcultural characteristics.

Explanations for such possible differences are sought in socialization theories. The socialization perspective appears to be the most viable for addressing these particular research questions for at least three reasons: first, a great deal of consumer behavior is believed to be learned, especially during pre-adult years (Olshavsky and Granbois, 1979); second, learning of one's behavior and culture according to the culture in which he is raised (e.g., black vs. white) is a major subject of socialization theory and research (Engel, Blackwell and Kollat, 1978); finally, research findings on black-white differences in consumer behavior presented in this paper suggest that the socialization model is an appropriate framework for understanding these black-white differences in consumer behavior.

Background and Hypotheses

A conceptual model of consumer socialization developed in previous research (Churchill and Moschis 1979; Moschis and Churchill 1978; Moschis and Moore 1978, 1979) incorporates five different types of variables: learning properties, age or life cycle, social structural variables, socialization agents, and learning processes (Moschis and Churchill 1978). The five are classified as "antecedent variables," "socialization processes," or "outcomes."

Antecedent variables include social structural and developmental variables that locate the individual in his or her social environment. Examples of social structural variables are social class, race, sex, and education; developmental variables include either age or life cycle. Socialization processes refer to agent-learner relationships, which incorporate the specific agent and learning process. Socialization agents include mass media, parents, peers, and school, while learning processes include modeling (imitation of learner's behavior), reinforcement (positive or negative), and social interaction (which may include both modeling and reinforcement). Outcomes in the model include the development of consumer knowledge, attitudes, and norms. Developmental and social structural variables may affect cognitions and behaviors directly as well as indirectly by impacting upon socialization processes.

With respect to the influence of antecedent variables, previous research suggests that race and socioeconomic status may directly affect the learning of some consumer behaviors. Specifically, research by Moschis and Moore (1981) investigated the effects of race and socioeconomic status on the adolescent's ability to filter puffery in advertising, ability to manage consumer finances, consumer knowledge, brand preferences, materialistic attitudes, attitudes toward the marketplace, and consumer discontent. It was found that white adolescents were better able to filter puffery, but contrary to the researchers' expectations, they were less likely to have preferences for brands. Middle class adolescents, on the

other hand, were better able to filter puffery in advertising, had greater knowledge about consumer matters, had stronger brand preferences, had weaker materialistic attitudes and more negative attitudes toward the marketplace than their lower class counterparts. Thus, while the effects of race, independent of those of socioeconomic status, were not particularly strong, the effects of socioeconomic status on consumer behavior were more significant and can be interpreted in the context of learning and cognitive theories. For example, it can be argued from a learning theory perspective that low socioeconomic status adolescents have less experience with money and thus may be less aware of the range of consumer goods available in the marketplace than those from upper socioeconomic backgrounds who have more opportunities for and experiences with consumption (Riesman, Glazer and Denny, 1950; Ward, 1974). Additional research also appears to support this line of reasoning showing that upper socioeconomic class youths compared to those of lower socioeconomic background have greater knowledge of economic concepts (Williams, 1970) and brand preferences (Guest, 1942). It has also been argued that the cognitive field to the lower class youngster is believed to be unstructured, increasing the possibility of eventual disappointment and frustration (Hess, 1970). The latter notion may explain the inverse relationship found between social class and general attitudes toward the marketplace and is consistent with findings reported by Ward and Reale (1972).

The main research hypothesis in this study is that race and socioeconomic status are also likely to affect the acquisition of consumer behaviors indirectly by impacting upon socialization processes. Previous theory and research suggest that both the importance of socialization agents and learning process are likely to vary by race and socioeconomic status. For example, a commonly held belief among social scientists is that black children are sheltered by the family for a shorter period and exposed to peer interaction earlier than most white children (Hartup, 1970, pp. 409-410). Similarly, the black child may soon perceive his peers as having less status and power and he may feel that their judgments may be worth less simply because they are blacks (Hartup, 1970, p. 410), which may explain why blacks attempt to model after whites. Gerson (1966), for example, found that black adolescents are using the mass media to learn how to behave like whites. Others have also found that not only race, but also socioeconomic status may be differentially related to observational learning from television (e.g., Christiansen, 1979), with lower class and minority youths being most likely to be affected by television.

The preceding discussion suggests the following hypotheses:

H1 White adolescents compared to black adolescents are more likely to (a) discuss consumption with their parents, (b) observe parental consumer behavior; they are less likely to (c) discuss consumption with peers, (d) observe peer consumer behavior (e) be heavy television viewers, and (f) to have motivations for television viewing.

H2 Middle class adolescents compared to lower class adolescents are more likely to (a) discuss consumption with their parents, (b) observe parental consumer behavior; they are less to, (c) discuss consumption with peers, (d) observe peer consumer behavior, (e) be heavy television viewers, and (f) to have motivations for television viewing.

H3: Consumer learning processes have different impact on the development of consumer orientations among (a) whites vs. blacks and (b) middle class vs. lower class adolescents.

Thus, race and social class are expected to indirectly influence the acquisition of consumer orientations (attitudes toward products, brands, the marketplace and materialism) by affecting the socialization processes, and such processes are expected to directly affect consumer learning.

The Study

Since this study addresses different questions from those addressed in the Moschis and Moore (1981) study, the same data base was used. The sample of this study consisted of 784 adolescents from several cities and towns in six counties in urban, suburban, semirural, and rural Georgia. In each county, self-administered questionnaires were completed by respondents in one middle and one senior high school as part of a longitudinal study. The selection of schools was based on personal interviews with school officials, and attempts were made to select schools representative of their respective regions. The sample was very representative with respect to race (approximately 12 percent blacks), age (53% middle schoolers and 47% high schoolers), sex (49% males and 51% females) and socioeconomic status using Duncan's (1961) scale (mean = 45.15).¹ Duncan's scale has been used in previous studies of consumer socialization (e.g. Moschis and Churchill, 1978; Moschis and Moore, 1979).

The operationalization and reliability coefficients of the independent variables used in this research are shown in Table 1. These were constructed by summing responses to items and using item-to-total correlations to purify the indexes; and by using coefficient alpha to assess the resultant reliability. The criterion variables examined were limited to those which were found to be significantly related to race and/or socioeconomic status in the Moschis and Moore (1981) study. Factor analysis revealed three factors relating to motivations for viewing of TV advertisements and programs: viewing TV ads for consumer decision making and social purposes, and viewing programs for social reasons. These motives were in line with previous theory and research (e.g., Moschis and Churchill, 1978; Lull, 1980), providing validity checks for these newly constructed variables.

Results

Of main interest in this research was the examination of differences of teenagers' socialization processes as a function of the individual's socioeconomic and race characteristics. To investigate the independent effects of each of the two factors, a two-way analy-

sis of variance was performed. The four possible treatment groups were defined by SES(2) x RACE(2). Table 2 shows F-ratios highlighting the significant effects produced by ANOVA.

In examining the effects of race and socioeconomic status on socialization processes, both variables produced main effects but no interactive effect on these processes (Table 2). Specifically, white adolescents do not appear to discuss consumption with their parents significantly more than black adolescents do, a finding that offers no support for hypothesis H1 (a). However, white adolescents tend to observe parental consumer behavior more frequently than their black counterparts, as posited [Hypothesis H1(b)] ($F = 21.75, p < .001$). White adolescents do not appear to be less likely than black adolescents to discuss consumption and observe peer consumer behavior, providing little support for Hypotheses H1(c) and H1(d), respectively. However, black teenagers are more likely than their white counterparts to spend more time watching television ($F = 3.96, p < .05$), as posited [Hypothesis H1(e)]; and they are more likely to watch television ads and programs too for social reasons ($F = 5.99, p < .01$ and $F = 5.05, p < .02$, respectively, providing partial support for Hypothesis 1(f).

With respect to the effects of social class or socialization processes, there were no differences on the measures of overt and cognitive social interactions with significant others (parents and peers), providing no support for Hypotheses 2(a), 2(b), 2(c), and 2(d). Socioeconomic status, however, was found to be related to television viewing. Specifically, lower class adolescents compared with their middle class counterparts tend to spend more time watching television, and they are more likely to have motivations for watching television advertisements, such as to make consumer decisions ($F = 3.97, p < .04$) and for social reasons ($F = 6.19, p < .01$) as well as to watch television programs for social reasons ($F = 3.95, p < .04$). These data provide support for Hypotheses 2(e) and 2(f).

To determine the extent to which such racial and socioeconomic differences on socialization processes affect consumer learning, separate analyses were performed on black and white as well as lower and middle-class adolescents. The results of these analyses are shown in Tables 3 and 4.

Table 3 shows relationships between significant socialization processes and consumption-related variables on which significant direct differences emerged among blacks and whites (see Moschis and Moore 1981). The table indicates that different learning processes may operate among black and white adolescents in the acquisition of various consumer skills and that the effectiveness of such processes may vary by consumer learning property. The regression coefficients were significantly different among the two groups as indicated by Chow's (1960) F-test of equality.² For example, by observing their parents, black youths seem to develop preferences for brands, while whites seem to develop materialistic values watching TV ads for social reasons. These findings provide support for Hypothesis 3(a).

Although SES contributed to the understanding of differences in learning processes independently of race, there were fewer differences in the effec-

tiveness of the learning processes among lower and middle class subjects as suggested by Chow's F-test (Table 4), providing inadequate support for Hypothesis 3(b). In addition, socioeconomic status appears to be a more important factor in the development of consumer behavior of whites rather than the consumer behavior of blacks, while race is a much more important variable in the consumer socialization of lower class rather than middle class youths (Table 4). Specifically, socioeconomic status is positively associated with consumer learning only among white adolescents, whereas in lower social classes relatively more white than black teenagers are likely to develop consumer behaviors in comparison with teenagers in middle social classes.

Discussion

This study addressed the question of whether differences in consumer behavior between whites and blacks found in earlier studies can be attributed to socialization processes operating differently in these subcultures. Race and SES produced independent effects on consumer socialization processes, which differentially impacted the development of consumer cognitions. The influence of socialization processes, further, seems to vary by race and to a lesser extent by socioeconomic status. Simultaneously with the impact of socialization processes using multivariate analysis. This analysis revealed that the effect of SES tends to disappear while racial effects remain strong. The impact of socialization processes on criterion variables is significant on both blacks and whites, as well as on lower and middle social classes. However, these influences are more likely to be different among blacks and whites than among lower and middle class adolescents. Thus, the development of consumer orientations among blacks and whites occurs not only direct, but also indirect via socialization processes that operate differently among the two subcultures. Socioeconomic influences tend to be indirect via socialization processes, which appear to have a rather similar impact among the two social groups.

In the context of the general consumer socialization model, the antecedent variables race and social class examined in this study appear to differentially affect, both directly and indirectly, the development of consumer behavior. While adolescent's interaction with the television and his parents varied by his race and SES characteristics, the findings suggest that different learning processes may operate in the acquisition of various consumer behaviors among these groups. In sum, black-white differences in consumer behavior appear to be affected socialization processes operating differently among the two subcultures.

The findings of the present study should be viewed in the light of several limitations. First, one must keep in mind that the study dealt only with teenagers from specific counties in Georgia. Perhaps the consumer behavior of teenagers in other parts of the country may differ with respect to the effects of SES and race. Second, the dependent variables obviously do not represent all aspects of consumer behavior. Thirdly, because of the possible intercorrelations among the socialization processes, MANOVA (rather than ANOVA) could have produced more

accurate findings. Finally, differences in consumer behavior between blacks and whites--beyond those accounted for by the socialization processes--may not necessarily be attributed to race *per se*, but they also may be due to third variables, perhaps other socialization processes not examined in this study. Future studies should address these questions using structural equations, using a more complete test with the explicit consideration of measurement error simultaneously.

Although the results of this study are limited, differences between black and white teenagers in the acquisition of consumer skills, knowledge and attitudes appear to be linked primarily to different socialization processes among the subcultural groups examined. Such socialization processes are unlikely to change until a strong effort is made by educators and others such as the family to teach both groups socially desirable consumer attitudes and behaviors. Consumer socialization both for blacks and whites appears to be a rather complex process that does not lend itself to easy solutions. Individualized instruction designed to fill in existing gaps in consumer knowledge and skills may be more appropriate than a massive education effort since levels of learning may vary considerably from one subgroup to another.

Also, the role of socioeconomic status should not be downplayed since higher SES usually provides greater opportunities for interaction with the marketplace and thus opportunities for appropriate learning. Since adolescence is apparently a particularly crucial period for consumer socialization, efforts at consumer education will probably be far more successful if begun at this stage or among younger children than if simply waiting until adulthood when it may be too late.

Footnotes

- 1 Using Duncan's two-digit occupational percentile code, the lower social class category consisted of adolescents whose father's occupation fell in the lowest 50% of the percentile scale (10% for the lower lower and 40% for the upper lower--see Warner 1972), whereas the remaining respondents, which fell within the next 45% of the occupational characteristics, were treated as middle class. Since none of the respondents fell in the upper 3% of the code, no upper class category was constructed. Fifty-five percent of the respondents in the sample fell into the lower class category.
- 2 Chow's (1960) F-test can be used to test whether the same relationships (in a multiple regression model) hold for two different groups. A significant F-value suggests that the regression coefficients in the two groups differ, with the independent variables having different effects on the dependent variable.

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TABLE 1

CONSTRUCT	OPERATIONAL DEFINITION	MEASURE	NUMBER OF ITEMS	COEFFICIENT ALPHA
1. Family Communication Consumption	Overt interaction between parent and adolescent concerning goods and services.	5-point very often-never scales. Items such as: "My parents and I talk about buying things."	6	.56
2. Parental Modeling/Observation	Self-reported frequency of observing parents' consumer behaviors.	0-9 point scale representing positive responses to observing behaviors such as: "They keep track of the money they spend and save."	9	.52
3. Peer Communication about Consumption	Overt peer-adolescent interactions concerning goods and services.	5-point very often-never scales. Items such as: "My friends and I talk about buying things."	8	.77
4. Peer Modeling/observation	Self-reported frequency of observing peers' consumer behaviors.	0-9 point scale representing positive responses to observing behaviors such as: "They keep track of the money they spend and save."	9	.57
5. Television Viewing	Adolescent's frequency of viewing specific program categories.	5-point everyday-never scales. Categories such as "movies" and "cartoons."	7	.62
6. Reasons for watching TV ads: Consumer Decisions	Motivations to watching TV ads as a means of gathering information about the marketplace for making consumer decisions.	4-point very often-never scales. Items such as: "I watch TV ads to help me decide what products to buy."	3	.72
7. Reasons for watching TV ads: Social	Motivations to watch TV ads as a means of gathering information about life styles and behaviors associated with uses of consumer products.	4-point very often-never scales. Items such as: "I watch TV ads to find out what things to buy to impress others."	4	.72
8. Reasons for watching TV Shows: Social	Motivations to watch TV shows as a means of gathering information about life styles and behaviors associated with uses.	4-point very often-never scales. Items such as: "I try to get some ideas from TV shows on what things to buy to make good impressions on others."	6	.78

TABLE 2

EFFECTS OF RACE AND SOCIOECONOMIC STATUS ON CONSUMER SOCIALIZATION PROCESSES

SOCIALIZATION PROCESS	EFFECT OF:	F-Value	Sign Level	w ² Value
Family Communication	RACE	0.00	.99	.000
	SES	0.04	.99	.000
Parental Modeling	RACE	21.75	.001	.028
	SES	2.08	.14	.002
Peer Communication	RACE	0.76	.99	.000
	SES	1.30	.25	.001
Peer Modeling	RACE	0.09	.99	
	SES	1.20	.27	
Television Viewing	RACE	3.96	.04	.004
	SES	5.26	.02	.005
TV Ad Viewing Motives: -Consumer Decisions	RACE	0.00	.99	.000
	SES	3.97	.04	.004
-Social Purposes	RACE	5.99	.01	.006
	SES	6.19	.01	.006
TV Program Viewing Motives: Social	RACE	5.05	.02	.005
	SES	3.95	.04	.004

TABLE 3

Effects of Socialization Processes and SES on Consumer Orientations among Black(B) and White(W) Adolescents

	Knowledge		Materialism		Attitudes		Brands		Puffery	
	B	W	B	W	B	W	B	W	B	W
Television	-.01	-.06	-.07	.05	-.01	.06	-.01	.10*	-.01	-.01
TV Shows: Social	-.05	-.14*	.34*	.12*	.05	.08	-.03	.06	.10	.02
TV Ads: Social	.29*	.03	-.02	.18*	-.19	.10*	.04	.01	-.28*	-.10*
TV Ads: Decision	-.13	.03	-.20*	-.00	.11	.03	.08	.02	.41*	.08
Parental Model	.18	.03	-.12	.01	-.06	.05	.28*	.01	.15	-.03
SES	.00	.08*	-.05	-.01	.01	-.07	-.18	.11	.01	.09*
R ²	.07	.03	.12	.09	.03	.06	.12	.03	.17	.02
Chow's F	3.16*		6.21*		3.73*		4.87*		5.02*	

*Asterisk denotes that regression coefficients for the two equations (among blacks and among whites) are significantly different (p < .05).

TABLE 4

Effects of Socialization Processes and Race on Consumer Orientations among Lower-Class(L) and Middle-Class(M) Adolescents

	Knowledge		Materialism		Attitudes		Brands		Puffery	
	L	M	L	M	L	M	L	M	L	M
Television	-.06	-.07	.05	-.03	.03	.09	-.07	-.02	.02	-.05
TV Shows: Social	-.10*	-.18*	.10*	.28*	.09	.06	.04	-.04	.02	-.01
TV Ads: Social	.06	.10	.21*	.06	.02	.09	.05	-.02	.13*	-.14*
TV Ads: Decision	.04	-.06	-.08	.01	.05	.08	-.04	.12*	.13*	.13*
Parental Model	.01	.11*	.00	-.01	.01	.08	.10*	-.14*	.00	-.00
RACE	-.11*	-.01	.04	-.09	.03	.05	-.17*	-.06	-.13*	-.01
R ²	.03	.04	.08	.10	.02	.07	.06	.04	.04	.02
Chow's F	1.17		1.53		1.29		2.73*		.55	

*Asterisk denotes that regression coefficients for the two equations (among blacks and whites) are significantly different (p < .01).

A COMPARISON OF THE UNIVERSITY OF MICHIGAN AND CONFERENCE
BOARD INDICES OF CONSUMER ECONOMIC ATTITUDES

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Abstract

The indices to assess consumer economic attitudes developed by the University of Michigan and the Conference Board were compared over the time span 1964-1983. The analysis investigated the variables predictive of the two indices. Stepwise regression analysis indicated that greater variance ($R^2 = .84$) could be accounted for in the University of Michigan Index of Consumer Sentiment than in the Conference Board Index ($R^2 = .60$). The indices were also analyzed via canonical correlation, and two roots were extracted. The independent variables explained 86 percent of the variance in the first root and 34 percent of the variance in the second root. Results were discussed in terms of the composition of the two indices of consumer economic attitudes.

Introduction

A rarely asked question concerns the issue of how much variance in consumer buying behavior is controlled by the variables commonly studied by consumer behaviorists. The authors suspect that if a way of calculating how much of buying behavior is controlled by information processing variables, such as cognitive responses, the answer would be very little. This focus on "micro" variables has recently been criticized (Sheth 1979). A more "macro" approach to consumer behavior could yield dividends, if it resulted in the ability to explain the combined actions of the millions of consumers making up consumer markets.

The study of psychological economics (Katona 1974) has been proposed as one approach for predicting the actions of large numbers of consumers within an economy (Didow, Perreault, and Williamson 1983; Young, Mowen, and Silpakit 1984). Founded by George Katona, the field of psychological economics is based upon the importance of the consumer in modern western economies. Post World War II consumers have had discretionary income to spend as they wish after fulfilling their basic consumption needs. Whether aggregates of consumers choose to spend or save this discretionary income can have major effects on the economy.

Katona (1974) proposed that discretionary spending was based on a subjective factor, called consumer sentiment, in addition to the traditional economic variables such as household income, interest rates, employment levels and so forth. When consumer sentiment rises, consumers tend to loosen their purse strings; conversely, when sentiment becomes more pessimistic, discretionary spending slows. The outcome of reduced spending is that a falloff in demand occurs, retail inventories grow, orders to manufacturers slow, layoffs occur, and recession is born. When consumer sentiment rises, the economic optimism results in greater discretionary spending. As a consequence, inventories fall, retailers order, manufacturers recall workers, and the economy begins to expand.

In order to assess the changes in consumer sentiment, Katona developed an index which was obtained from periodic surveys of consumers. Three basic areas of consumer economic confidence were assessed in the surveys -- consumer perceptions of their personal financial

position, their business outlook, and their evaluation of market conditions. These surveys of consumer sentiment have been conducted since 1946 at the Survey Research Center, University of Michigan.

Competing measures of consumer economic confidence have appeared since Katona developed his measure. In particular, the Conference Board has created an Index of Consumer Confidence and run surveys on a quarterly basis since 1964. The purpose of the Conference Board Index is similar to that of the Michigan index, however, both the questions and the survey research approach are different. The Index of Consumer Confidence is based upon five attitudinal questions concerning the consumer's view of business conditions and employment, both now and six months into the future, and the consumer's view of his or her own income six months in the future.

The published research on consumer economic confidence has been devoted entirely to the Michigan Index of Consumer Sentiment. The early work investigated either the ability of the index to forecast the economy or the economic variables which were predictive of the index. The early studies revealed that when economic variables were used to predict the index, as much as 80 percent of the variance of the index could be accounted for (Hymans 1970). The index was also found to improve the predictive ability of economic variables to forecast the economy (Adams and Duggal 1974; Hymans 1970).

Recent work investigating the indices of consumer economic confidence has been sparse. Didow, Perreault, and Williamson (1983), using a cross-sectional optimal scaling analysis, raised some questions about the procedures used to measure and report the Michigan Index. For example, the researcher found that identical values on the index could be obtained despite quite different response distributions to the questions due to the method of scoring the responses. Despite these findings, the index does appear to have pragmatic validity. It is also the most frequently used of the indices and is even reported in the U.S. Commerce Department's Business Conditions Digest.

Young, Mowen, and Silpakit (1984) replicated and extended the earlier work by Hymans (1970) in order to identify the economic variables predictive of the Michigan index. Their results showed that the lag of average stock prices, the lag of the consumer price index, and the lag of the 60-day commercial paper rate accounted for 79 percent of the variance of the index. When the lag of the index was included in the equation, as Hymans had done, the variance accounted for rose to 87 percent. These researchers also found that the 60-day commercial paper rate, which Hymans (1970) had not investigated, became predictive of consumer sentiment only after 1974 when economic conditions changed due to government policies and world economic conditions.

The Study's Purpose

The purpose of the present study is to compare and contrast the variables predictive of Michigan and Conference Board indices. In the first phase, the

research extends the work of Young, Mowen, and Silpakit (1984) on the Index of Consumer Sentiment to the Conference Board's Index. In addition, variables previously analyzed by Adams and Green (1965) are added to the analyses. Specifically, phase one of the study explores the economic variables predictive of the two indices through stepwise regression analysis.

In the second phase of the study, a canonical correlation analysis is performed in order to assess the combined properties of the scales. The idea is that the two indices can be viewed as independent measures of consumer economic confidence and could be used jointly in macro consumer analyses. The canonical correlation will provide information on how the independent variables are related to the linear combination of the two indicators of consumer economic confidence.

Methodology

The Data

The University of Michigan's Index of Consumer Sentiment and the Conference Board's Index of Consumer Confidence were the dependent variables in the study. The indices and the various predictor variables were collected from the first quarter of 1964 to the first quarter of 1983. The total number of data points actually used were 64, due to the necessity to develop lags in a number of independent variables. Where quarterly data were not reported, monthly data were averaged over three consecutive months. Where discrepancies in data values from different sources were found, the most recently published values were chosen.

Operationalization of the Predictor Variables.

In the first phase of the study, stepwise regressions were developed for each of the consumer economic attitude indices. The variables chosen for inclusion in the exploratory study were those originally identified by Hymans (1970), Adams and Green (1965), and Young, Mowen, and Silpakit (1984). Table 1 identifies the independent variables investigated.

TABLE 1

LIST OF VARIABLES USED IN THE ANALYSES

VARIABLE NAME	DESCRIPTION
CONSENT	Index of Consumer Sentiment, University of Michigan.
CONFIND	Index of Consumer Confidence, Conference Board.
LAVRDISP	One quarter lag of ratio of current disposable income to eight quarter average disposable income, net of transfer payments.
LSPRAT	One quarter lag of ratio of current Standard and Poor's index to index of previous quarter.
LAVSPR	One quarter lag of ratio of current stock price index to four quarter average of index.
LAVCPIR	One quarter lag of ratio of current consumer price index to eight quarter average of index.
LCOMPAP	One quarter lag of 60 day commercial paper rate offered by major banks.
LWW	One quarter lag of average work week in hours.
LALESSL	One quarter lag of accession minus layoff.
LDNO	One quarter lag of change in new orders.
LHOUSE	One quarter lag of new housing starts.

A number of the variables require explanation. Disposable income was the ratio of real disposable income (net of transfer payments) lagged one quarter to a

lagged eight-quarter average of real disposable income. According to Hymans (1970), if the eight quarter average represents the level of income to which consumers are well adjusted, the ratio measures any deviation from that average. Thus, the measure assesses how the immediate tone of business activity diverges from baseline conditions.

Stock prices from the Standard and Poor's index were operationalized as the lagged rate of increase from the preceding quarter. Furthermore, the rate of increase of a lagged four-quarter average of common stock prices was also used as another independent variable. This measure was intended to assess the underlying market trend, while the former measure assessed more transitory movements in the stock market.

The consumer price index was included to represent inflation, because persistent inflation could be expected to influence consumer attitudes (Katona 1974). It was operationalized as the lagged ratio of current consumer prices to an eight-quarter average of consumer prices. The use of the ratio picks up how current prices diverge from baseline changes.

The accession-layoff variable was included to obtain information on factors related to the employment picture faced by consumers. Other variables investigated included change in net orders, new housing units, and the length of work week. All of these variables were lagged one quarter.

Johansson, Bagozzi, and Sheth (1982) argued that straight redundancy analysis or simultaneous equations systems are more appropriate than canonical analysis. For two reasons, however, the authors chose to use canonical correlation followed by a redundancy analysis, rather than a simultaneous equations model. First, the authors could state no *a priori* model of the causal relations among the variables. The study was exploratory, making a structural equation approach inappropriate. Second, straight redundancy analysis tends to be used when the goal is to obtain a single overall measure of a construct. In the present study, the authors were as interested in finding the differences in what the indices measure as in their similarities. Based on this study, future researchers can develop more explicit forms of the relationships among the variables.

Results

A stepwise regression analysis was performed using the Index of Consumer Sentiment as the dependent variable, followed by the same type of analysis using the Conference Board's Index of Consumer Confidence. Final equations are presented in Tables 2 and 3 and include independent variables reaching the .05 level of significance.

Inspection of the results reveals that the consumer price index entered both equations first, indicating its superior predictive ability for the Michigan index and for the Conference Board index. The remaining two independent variables reaching significance in both equations were average stock price ratio and work week. Work week entered the equation before average stock price ratio with the Conference Board index as the dependent variable, while the reverse was true with the Michigan index as the dependent variable.

A total of six economic variables reached the .05 level of significance in predicting the Michigan index, with an associated R^2 of .84. Only three of the potential variables reached significance, however, in predicting the Conference Board index with an associated R^2 of .58. Clearly, more of the Michigan index variance

TABLE 2

STEPWISE REGRESSION RESULTS ON THE MICHIGAN INDEX

Eq.	Intercept	LAVCPIR	LAVSPR	LAVRDISP	LWW	LALESSL	LCOMPAP	R ²
1	444.49	-344.865 .001*						.719
2	361.17	-336.770 .001	74.260 .001					.785
3	499.01	-374.163 .001	77.642 .001	-99.256 .010				.807
4	399.28	-353.881 .001	81.981 .001	-130.855 .003	2.640 .141			.814
5	213.40	-354.674 .001	81.706 .001	-104.715 .018	6.858 .009	-3.402 .029		.829
6	56.64	-270.159 .001	78.748 .001	-88.536 .040	8.382 .002	-3.845 .012	-0.879 .028	.843

*associated probability for coefficient

TABLE 3

STEPWISE REGRESSION RESULTS ON CONFERENCE BOARD INDEX

Eq.	Intercept	LAVCPIR	LWW	LAVSPR	R ²
1	606.56	-490.118 .001*			.488
2	45.44	-362.487 .001	10.586 .012		.538
3	-132.02	-337.386 .001	11.724 .004	104.411 .016	.581

*associated probability for coefficient

was predicted with the set of economic variables used in this study.

Inspection of the coefficients of the independent variables in the equations for predicting the Michigan index reveals some potentially disturbing results. Two of the independent variables have signs associated with their coefficients that are counter intuitive. The signs for average disposable income and accession-layoff are negative. A priori, one would expect increased income and greater net hiring to be indicative of improving economic conditions.

Quite likely this counter intuitive result occurred because of high multicollinearity in the data, attributable both to the variables themselves and to the fact that the data are time series data with underlying common cycles. Simple bivariate correlations of the variables are presented in Table 4. Inspection of the correlations of disposable income and accession-layoff reveal that they are positively correlated with the sentiment variables as expected. However, the high multicollinearity of the variables, particularly with the consumer price index, probably caused the regression coefficients to turn negative in the equation.

To analyze the overall relationship between the set of economic indicator variables and the consumer economic attitudes, a canonical analysis was performed. Results are presented in Table 5. Both potential canonical roots were highly significant and were retained

TABLE 4

BIVARIATE CORRELATIONS OF VARIABLES

VARIABLE	LAVRDISP	LSPRAT	LAVSPR	LAVCPIR	LCOMPAP
LAVRDISP	1.000				
LSPRAT	-.140	1.000			
LAVSPR	.097	.392	1.000		
LAVCPIR	-.524	.061	-.065	1.000	
LCOMPAP	-.271	-.145	-.140	.778	1.000
LWW	.653	-.272	-.028	-.599	-.328
LALESSL	.653	-.375	-.015	-.573	-.336
LDNO	.168	-.170	.166	-.008	-.010
LHOUSE	.484	.029	.266	-.093	-.245
CONSENT	.334	.127	.327	-.830	-.758
CONFIND	.429	.083	.242	-.675	-.505

VARIABLE	LWW	LALESSL	LDNO	LHOUSE	CONSENT
LWW	1.000				
LALESSL	.877	1.000			
LDNO	.143	.395	1.000		
LHOUSE	.098	.273	.457	1.000	
CONSENT	.510	.392	.019	.072	1.000
CONFIND	.616	.549	.019	.064	.788

VARIABLE	CONFIND
CONFIND	1.000

for subsequent analysis. Inspection of the loadings of the variables on the variates reveals high loadings for both the Michigan index and the Conference Board index on the first variate, whereas the Conference Board index is the dominant loading dependent variable on the second variate.

Independent variables loading more highly on the first variate included the consumer price index, commercial paper rate, stock price ratio, and average stock price ratio. Variables loading more highly on the second variate included average disposable income, work week, and accession-layoff rate. Change in net orders and housing starts did not load highly on either variate.

In conjunction with the canonical analysis, redundant variance calculations were performed and are presented

TABLE 5

RESULTS OF CANONICAL ANALYSIS ON THE MICHIGAN INDEX
AND CONFERENCE BOARD INDEX

VARIABLES	VARIATES			
	ONE		TWO	
	ONE	TWO	ONE	TWO
CANONICAL CORRELATIONS	.917	.587		
CANONICAL ROOTS	.860	.344		
ASSOCIATED PROBABILITY	.001	.002		

VARIABLES	FACTOR LOADINGS		REGRESSION WEIGHTS	
	VARIATES		VARIATES	
	ONE	TWO	ONE	TWO
LAVRDISP	.324	.522	-.134	.011
LSPRAT	.139	-.021	-.033	.272
LAVSPR	.353	.021	.224	.006
LAVCPIR	-.885	-.220	-.567	.018
LCOMPAP	-.830	.104	-.238	.321
LWW	.502	.691	.511	-.145
LALESSL	.371	.738	-.524	.858
LDNO	.020	.014	.127	-.255
LHOUSE	.075	.036	-.007	-.018
CONSENT	.993	.116	.986	-.583
CONFIND	.712	.702	-.163	.813

in Table 6. Inspection of the results reveals that the Michigan index has particularly high redundant variance (.849) with the first variate whereas the Conference Board index exhibits only about half (.436) the amount. Independent variables having substantial redundant variance with the first variate include consumer price index, commercial paper rate, work week, accession-layoff rate, average stock price ratio and average disposable income.

TABLE 6

REDUNDANT VARIANCE FOR EACH VARIABLE FOR EACH
CANONICAL VARIATE

VARIABLES	VARIATES	
	ONE	TWO
LAVRDISP	.090	.094
LSPRAT	.017	.000
LAVSPR	.108	.000
LAVCPIR	.674	.017
LCOMPAP	.593	.004
LWW	.217	.165
LALESSL	.119	.188
LDNO	.000	.000
LHOUSE	.005	.000
CONSENT	.849	.005
CONFIND	.436	.170

For the second variate, effectively all (.170) of what redundant variance exists for the dependent variables comes from the Conference Board index. Independent variables having substantial redundant variance with the second variate include average disposable income, accession-layoff, and work week.

As a final aid in interpretation, the pattern matrices were rotated using varimax criterion on the dependent variables. Results of the rotation are present in Table 7.

TABLE 7

RESULTS AFTER VARIMAX ROTATION ON DEPENDENT VARIABLES

VARIABLES	FACTOR LOADINGS		REGRESSION WEIGHTS	
	VARIATES		VARIATES	
	ONE	TWO	ONE	TWO
LAVRDISP	.133	.600	-.136	.036
LSPRAT	.138	.026	-.121	.246
LAVSPR	.327	.137	.209	.080
LAVCPIR	-.762	-.501	-.541	.171
LCOMPAP	-.818	.177	-.331	.224
LWW	.245	.818	.530	.032
LALESSL	.105	.819	-.778	.636
LDNO	.014	.020	.204	-.199
LHOUSE	.059	.059	-.001	-.019
CONSENT	.899	.439	1.124	-.223
CONFIND	.439	.899	-.423	.713

Discussion

Interpreting canonical analysis is difficult at best. The tentative findings of this study were that the University of Michigan Index of Consumer Sentiment and the Conference Board Index of Consumer Confidence measure different concepts. The redundancy analysis revealed that the Michigan index exhibits its shared variance almost exclusively with the first root. The Conference Board index also shares variance with the first root, but in addition shares some variance with the second root.

Thus, it appears that the Index of Consumer Sentiment is capturing consumer reactions to what is happening with financial related factors (e.g., prices and interest rates) and to a lesser extent, such variables as the work week, the stock market, and the employment picture. In contrast, the Index of Consumer Confidence is picking up some additional information on employment related variables, such as the length of the work week, the accession-layoff rate, and disposable income.

Based on which variables loaded most highly on the two roots, the authors gave them names. The name chosen for the first root was "value of assets in the future." The name selected for the second root was "future employment optimism." The indices did reveal a moderate amount of overlap, as shown by their bivariate correlation ($r=.79$). However, their differences were captured substantially by the two roots extracted by the canonical analysis.

Thus, it would be appropriate to describe Michigan's Sentiment index as measuring predominantly consumer perceptions of their future financial assets and how they will be affected by interest rates, inflation, the stock market, the length of the work week, and so forth. In contrast, the Conference Board Index appears to be measuring predominantly consumer perceptions of their likely employment prospects and how they will be affected by the length of the work week and layoffs and hires.

Why do the indices in part reflect different constructs? A likely explanation lies in the types of questions which each ask. The Michigan index asks five basic questions (Curtin 1982). Two questions focus on the past and expected changes in personal finances, two questions target the short and long-term business outlook, and one concerns whether buying conditions are appropriate to purchase large consumer durables.

The Conference Board index also has five basic questions. Two concern current business conditions and what they will be six months into the future. Two concern current employment and employment six months hence. One asks about expected income six months from now. Quite clearly, the Conference Board index emphasizes the employment situation substantially more than does the Michigan index. In two of its questions it asks whether jobs are plentiful, not so plentiful, or hard to get. The Michigan index never mentions employment at all, other than asking whether over the next five years could there be widespread unemployment or depression.

The finding that the two indices are in part measuring different constructs has substantial implications. The media tends to view the indices as identical and uses them interchangeably. However, the Conference Board index appears to include an employment component that is independent of what is contained in the Michigan index. The Michigan index appears to focus primarily on financial asset maintenance. Importantly, employment opportunities and financial asset value may not always covary.

Fabian Linden (1982), the director of the Conference Board index, noted that during the late 1970s the indices diverged with Michigan's drifting down and the Conference Board's fluctuating. One reason could be that the high inflation of the late 1970s could have caused the downward trend of the Michigan index, while the Conference Board's index responded more to consumer perceptions of the employment picture, which was generally improving.

A second finding of the study was that the economic variables captured substantially more variance in the Michigan index than in the Conference Board index (R^2 of .84 versus .58). Two factors could account for the divergence. First, it may be that the Conference Board Index is picking up more of a "psychological" component of economic attitudes than is the Michigan index. If such a component exists, and accounts for some proportion of future spending separate from purely economic factors, the Conference Board index could be of greater utility in forecasting future consumer spending.

The other possibility is that the lower explained variance resulted from the Conference Board index having a greater error component than the Michigan index. It remains for future research to identify the reasons for the differences in the indices.

In order to accomplish this task, a theoretical model must be developed. The model should describe the relationships among the economic and psychological variables related to consumer optimism and to consumer spending patterns. A possible approach to theory development involves linking Katona's work more tightly to traditional economic analyses of consumption. For example, Friedman (1957) developed the permanent income hypothesis. This model takes into account a household's expected future income as a predictor of permanent consumption. Friedman also distinguished the concepts of permanent income and transitory income as well as permanent consumption and transitory consumption.

These ideas are generally consistent with those of Katona in which consumers adjust their spending based upon an economic forecast. Such economic optimism may be based wholly or in part on expected changes in permanent or expected income. It may be possible to bridge the ideas of Katona and Friedman or other theorists, eg., Modigliani et. al's (1966) life cycle theory, in order to add theoretical flesh and bones to Katona's work.

Future Research

The study delineated a number of future research needs. The next step in the study of the indices of consumer economic attitudes involves developing a model which depicts the structural relationships among the economic variables, the sentiment indices, and consumer buying patterns. A second area of research, not unrelated to the first, concerns finding variables to account for the remaining unexplained variance in the measures. The economic variables accounted for 84 percent of the variance in the Michigan index. The authors suspect that a part of the remaining variance may consist of a general mood factor. That is, how does the public feel about themselves, the United States, its political system, and its place in the world? As noted in the introduction, the Index of Consumer Sentiment adds to the predictive ability of econometric models of consumer spending. Thus, the index seems to be picking up something, in addition to that accounted for by economic variables. The general mood factor could account for that missing variance.

A third research need involves performing analyses to prefilter and prewhiten the data (Catalano, Dooley, and Jackson 1983). Time series data have severe autoregressive problems which future work needs to begin dealing with. For example, in the present research the signs of the coefficients for disposable income and accession-layoff are negative in the stepwise regression on the Michigan index, although their bivariate correlations are positive. It is quite likely that high multicollinearity due to underlying autocorrelation problems with the time series data is the reason for this result.

A final research need involves a further comparison of the Michigan and Conference Board indices. In particular, how does their ability to predict consumer spending compare? Given that the indices do measure different components of consumer economic attitudes, it may be necessary to use both to forecast consumer spending.

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THE IMPACT OF SOCIO-ECONOMIC VARIABLES AND AUTOMOBILE STOCK CHARACTERISTICS ON THE PURCHASE OF NEW IMPORTED AUTOMOBILES¹

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Abstract

The purpose of this paper was to investigate the impact of household characteristics and automobile stock characteristics on the purchase of new imported cars. The analysis was confined to households who purchased small cars in 1972, a year characterized by stable economic conditions and an adequate supply of small domestic automobiles. Logit analysis was used to estimate the impact of various explanatory variables. The results indicated that socio-economic characteristics, with the exception of income, had a significant impact on the probability of purchasing an imported car. In addition the origin of disposed-of-stock proved to be a major explanatory variable. Households that disposed of foreign stock were more likely to purchase imports than other households.

Introduction

Imports have taken an increasing share of the new car market in the U.S. since the 1970s. Their market share has increased from approximately 15 percent in 1971 to more than 25 percent in 1980 ("Domestic Car Sales"). The major reasons cited for this increase have included price, fuel efficiency and quality. However, information is limited concerning the preference for imported cars by households with different socio-economic characteristics. In addition the household's previous experience with imported automobiles has been neglected.

The purpose of this study was to investigate the factors influencing the demand for imported automobiles by households including socio-economic characteristics of households and characteristics of disposed-of-stock. The analysis was confined to small car purchasing households since most imported automobiles are small and it is important to distinguish between a household's preference for imported cars as opposed to small cars. Data were obtained from the 1972-73 Consumer Expenditure Survey conducted by the Bureau of Labor Statistics. This is the most recent data set concerning durable goods purchases and socio-economic characteristics of purchasing households.

Previous Research

There have been numerous studies concerning the demand for different size automobiles (Carlson 1976; Greenlees 1980; Lin 1982; Lave and Train 1979; Wetzel and Hoffer, 1982). Researchers have

cited income, family life cycle, race, sex, occupation and education of household head, location, automobile stock and gas prices as major factors influencing the demand for automobiles.

There have been a limited number of studies concerning the demand for imported automobiles and only two studies have used disaggregate household data. The first study by Peters (1970) found that age, number of children under the age of eighteen and the number of cars owned by the household had a significant impact on the probability of purchasing imported automobiles. In addition, the number of cars owned by the household was positively related to the purchase of an imported car.

The second study by Lave and Bradley (1980) used disaggregate data collected in 1978. Their dependent variable was the ownership of imported cars rather than the purchase of imported cars. Lave and Bradley found that family characteristics (principally education), proximity to the east or west coast and number of vehicles owned by the household had a positive impact on the probability of owning an imported car.

Both studies suffered from a major limitation in that all size cars were included in the analyses. Since most imported cars are small the preference for imported cars may reflect preferences for small as opposed to large cars. Thus it is not surprising that family size and number of cars owned by the household had a significant impact on the purchase or ownership of imports.

Lin (1982) rectified this omission in his study and used state data to analyze the import share of small car sales. He found that increases in real disposable income increased import sales in contrast to the findings of Lave and Bradley (1980) and Peters (1970) who found that income was insignificant. The final study was a time series analysis of the demand for various types of automobiles including imports by Wetzel and Hoffer (1982). Sales of imports were positively related to increases in disposable income. However, the role of other household characteristics could not be investigated due to the aggregate nature of the data.

Sample and Variables Selected

The data were taken from the 1972-73 Bureau of Labor Statistics (BLF) Consumer Expenditure Survey (Detailed Public Use Tape No. 2 and Durable Expenditures Tape). The analysis was confined to purchasers of new small cars in 1972 a year characterized by stable economic conditions (U.S. Board of Governors, 1973). The dependent variable was the probability of purchasing an imported automobile in 1972.

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Selection of the independent variables was based on research reported in the literature. In addition the origin of disposed-of-stock was added as an additional explanatory variable. The inclusion of this variable was designed to reflect the impact of product experience on purchase decisions. Each of the major independent variables is discussed below.

Income

Two income measures were considered in this study. The first measure was disposable personal income, while the second measure was total household expenditures. The use of total expenditures has been defended on the basis of the permanent income hypothesis and the fact that it is a better measure of the household's permanent income than disposable income which may fluctuate over short periods of time (Prais and Houthakker 1971). Total household expenditures were used in this study since it was believed that this income measure would avoid problems associated with fluctuations in income. The effect of income was not predicted in view of conflicting research results reported in the literature.

Family Life Cycle

Family life cycle variables included age of household head, marital status, family size and number of adults in household. It was hypothesized that older households would be less likely to purchase an imported car. Six categories, ranging from less than 25 years to more than 65 years were used. Dummy variables were assigned to each category with the exception of the 35-45 age category in order to avoid producing linear dependence in the data matrix (Pindyck and Rubinfeld 1981). An increase in the number of adults was hypothesized to increase the purchase probability since this type of household might be more responsive to the price/quality characteristics of imported automobiles and more willing to experiment.

Other Household Characteristics

These characteristics included race and sex of household head, employment status of spouse and housing tenure. They were included in order to provide for variations in household tastes and preferences and life styles which might affect the demand for imported cars.

Social Class

Education and occupation of household head were used to represent the social class of the household. It was hypothesized that higher levels of education would increase the probability of purchasing an imported car. Three categories ranging from not a high school graduate to education beyond high school were used for education. Dummy variables were assigned to the lower and upper categories. Five categories were used for occupation with dummy variables assigned to each category except for the blue collar category which was omitted.

Location

Four regions were reported in the survey - Western, North Eastern, North Central and Southern, necessitating the use of three dummy variables. The Southern region was the omitted region. The second location variable was the degree of urbanization i.e. whether the household lived in an urban or rural area.

Stock Characteristics

This included the number of vehicles owned and origin of disposed-of-stock. The latter variable had five classifications - disposed only of domestic stock, disposed only of foreign stock, disposed of both domestic and foreign stock, disposed of unknown stock, and did not dispose of stock. The omitted category was disposed only of domestic stock. It was hypothesized that households that disposed of foreign stock would be more likely to purchase imports than other households.

Purchase Price

The significance and sign of this coefficient were of interest. Thus a negative relationship between the purchase price and the probability of purchasing an import would suggest that imports were preferred to domestic models due to lower prices. In contrast a positive relationship would indicate a willingness to pay higher prices for imports due to perceived quality differences and lower operating costs for imported cars.

Logit Analysis

Logit analysis was used to investigate the relationship between automobile size class and socio-economic characteristics of households. This analysis is appropriate when the dependent variable is dichotomous since the predicted probabilities of purchasing a small car are bounded between 0 and 1 (Pindyck and Rubinfeld 1981). The logit probability function is given by

$$P_i = \frac{F(A + BX_i)}{1 + e^{-(A + BX_i)}}$$

where P_i = probability of purchasing an imported car and the X_i represent the various independent variables. The individual P_i are not observed (the household purchases or does not purchase an imported car) so that it is necessary to convert the equation to an estimating form as follows.

$$\begin{aligned} \text{Let } Z_i &= A + BX_i \\ \text{Then } P_i &= 1 / (1 + e^{-Z_i}) \\ 1/P_i &= 1 + e^{-Z_i} \\ P_i / (1 - P_i) &= e^{-Z_i} \\ \text{and log } (P_i / (1 - P_i)) &= Z_i \\ &= A + BX_i \end{aligned}$$

The dependent variable in this regression equation is the logarithm of the odds that a particular choice (i.e. an imported car) will be made. The purchase of an imported car by a household is coded as 1 while the purchase of a domestic car is coded as 0. The method of maximum likelihood

is then used to obtain estimates of A and B based on the purchase patterns of households and their socio-economic characteristics (Pindyck and Rubinfeld 1981).

The significance of all coefficients or a subset of coefficients in the model was tested using the following test statistic:

-2 (log likelihood of the reduced model - log likelihood of the full model).

This statistic has a Chi-Square distribution with k degrees of freedom where k equals the number of variables in the full model minus the number of variables in the reduced model. Asymptotic t -tests were used to determine the significance of the individual coefficients.

The likelihood ratio index (P^2) was also estimated to determine the degree of explanation provided by the model. It was calculated by the following formula:

$$P^2 = 1 - \frac{\text{log likelihood of the full model}}{\text{log likelihood of the reduced model}}$$

The results of the logit analysis were used to estimate purchase probabilities for different socio-economic households using the equation

$$P_i = \frac{1}{1 + e^{-(A + BX_i)}}$$

The estimated values for A and B were combined with data for various types of households to estimate the probability of purchasing an imported car by household type.

Results

Thirty-nine percent of small car purchasing households bought imported cars in 1972. The mean values and distribution of the independent variables are given in Table 1. Average household expenditures were close to \$12,000 while the average purchase price for a new small car was approximately \$3,000.

The results of the logit analysis are given in Table 2. In the case of categorical variables the omitted category is enclosed in parenthesis. The values for the remaining categories are relative to the omitted category. A positive coefficient indicates that households in this category have a greater probability of purchasing small cars than households in the omitted category. The reverse occurs in the case of a negative coefficient.

TABLE I

Mean Values and Distribution
of Variables Used in Logit Analysis

Independent Variable	(N = 334)
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Total Household Expenditures	\$11,701.50
Age of the Household Head	
Less than 25 years	11.1
25 - 35 years	23.0
35 - 45 years	18.6
45 - 55 years	26.6
55 - 65 years	14.4
Greater than 65 years	6.3
Marital Status	
Married	85.3
Not Married	14.7
Household Size (persons)	3.3
Number of Adults	
Household members age 19 or older	2.4
Race of Household Head	
Non-Black	95.5
Black	4.5
Sex of Household Head	
Male	88.9
Female	11.1
Employment Status of Spouse	
No spouse, spouse not working	52.7
Spouse works full or part time	47.3
Housing Tenure	
Homeowner	63.2
Renter	28.1
Renter and owner in survey year	8.7
Education of Household Head	
Not a high school graduate	26.6
High school graduate	29.0
Education beyond high school	44.3
Occupation of Household Head	
Professional, managerial	39.2
Sales and clerical	13.2
Blue collar	37.4
Not working, self employed	4.5
Retired	5.7
Region	
Northeast	26.6
North Central	23.1
South	29.9
West	20.4
Urbanization	
Urban	83.5
Rural	16.5
Number of net stock vehicles in household	.6
Origin of Disposed-of-Stock	
Did not dispose of vehicle	32.6
Disposed of imported stock	12.9
Disposed of domestic stock	47.3
Disposed of mixed stock	3.3
Disposed of unknown origin	3.9
Price of newly Purchased Vehicle	\$3,007.8

TABLE 2

Estimated Coefficients from Logit Analysis

Independent Variable	Coefficient	A.S.E. ^a
Total Household Expenditures	$-.225 \times 10^{-7}$	$.283 \times 10^{-6}$
Age (35 - 45 years)		
Less than 25 years	.163	.611
25 - 35 years	-.915 ^c	.485
45 - 55 years	-.325	.449
55 - 65 years	-1.195 ^b	.554
Greater than 65 years	-.801	1.039
Marital Status (married)	-1.177 ^c	.709
Household Size	-.019	.012
Number of Adults	.449 ^b	.225
Race (non-black)	.163	.763
Sex (male)	1.269 ^c	.746
Employment Status of Spouse (not-working)	.037	.308
Housing Tenure (owner)		
Renter	.901 ^b	.420
Renter and owner	.038	.521
Education (high school graduate)		
Not a high school graduate	-.747 ^c	.428
Education beyond high school	.472	.353
Occupation (blue collar worker)		
Professional	-.059	.389
Clerical and sales	.533	.462
Not working or self-employed	-.307	.724
Retired	-1.317	1.022
Region (south)		
Northeast	.525	.377
North Central	-.125	.412
West	1.399 ^b	.415
Urban (rural)	-.976 ^b	.339
Net Stock	-.110	.260
Origin of disposed-of stock (domestic)		
Did not dispose	.722 ^b	.326
Foreign stock	2.988 ^b	.544
Mixed stock	1.635 ^b	.741
Stock unknown	1.364 ^b	.667
Purchase Price	$.229 \times 10^{-3}$	$.152 \times 10^{-3}$
Likelihood Ratio Statistic	117.52 ^b	
Likelihood Ratio Index	.262	
Adjusted Likelihood Ratio Index	.189	

^a Asymptotic Standard Error^b Statistically significant at the 5% level^c Statistically significant at the 10% level

The likelihood ratio statistic which is given at the bottom of the table was significant at the 5% level. This means that the entire model was significant in explaining the probability of purchasing a small car. The likelihood ratio index and the adjusted likelihood ratio index were 0.262 and 0.189 respectively. These results might be considered as satisfactory since the

upper limit on the index is approximately 0.3 (Pindyck and Rubinfeld, 1981).

The asymptotic standard error is given in the third column of Table 2. The coefficient divided by its asymptotic standard error yields a t-statistic which may be used to test for the significance of the individual variables. Coefficients which were significant at the 5 percent and 10 percent level are indicated in the table.

Neither income nor purchase price were significant which is not too surprising when one considers that the analysis was confined to small cars. Age was significantly related to the probability of purchasing an imported car in two instances. Households headed by individuals aged 25 to 35 and 55 to 65 were less likely to purchase imported automobiles than households headed by individuals aged 35 - 45. The reluctance of older households to purchase imports is in agreement with research by Lave and Bradley (1980) and Peters (1970). An increase in the number of adults was significantly related to the probability of purchasing an imported car. Other significant household characteristics were sex of household head and housing tenure.

The results for the individual social class variables were insignificant with one exception. Households headed by individuals who were not high school graduates were less likely to purchase imports than households headed by high school graduates. This result is in agreement with the findings of Lave and Bradley (1982) and Lin (1982). Location was significant in two instances. Households living in the West or in rural areas were more likely to buy imports than other households.

The most interesting result pertains to automobile stock characteristics. The origin of disposed-of-stock variables was significant in all instances. Households that disposed of foreign stock or mixed stock were more likely to purchase imports than households that disposed only of domestic stock. This result suggests that once U.S. buyers switched to foreign automobiles they were likely to repeat their purchase of such automobiles. The number of cars owned by the household was insignificant.

It is possible that the results for sets of variables such as family life cycle and social class may reflect problems of multicollinearity since the variables within each set are inter-related. Accordingly the contribution of four sets of variables was tested. These were family life cycle, social class, location and origin of disposed-of-stock. All variables sets were significant at the 5% level of significance with the exception of family life cycle which was significant at the 10% level. The results for the four reduced models are not given here due to space constraints. However, similar results were obtained to those shown in Table 2 with respect to the sign and significance of the various coefficients.

The results of the analyses were also used to estimate the purchase probabilities for different

types of households and the data are given in Table 3. The representative household was a household headed by a non-black married male aged 35-45 with a high school education and employed in a blue collar job. The head was a homeowner, and lived in a rural area in the South and disposed only of domestic stock. Total household expenditures, household size, number of adults in the household, purchase price and net stock were the mean values given in Table 1.

The purchase probability for the sample as a whole and for the representative household were nearly identical. The results when changes in household characteristics are made are in agreement with the signs of the coefficients shown in Table 2. Age, sex, and education of household head, the number of adults, housing tenure and location all have a major impact on the probability of purchasing imports. In addition households that disposed of foreign stock have a purchase probability of 0.920 compared to a value of 0.367 for households that disposed of domestic stock.

The success of the logit model in predicting purchases may also be estimated by comparing actual and predicted probabilities. There was a total of 334 small car purchasers in 1972 of whom 202 purchased domestic cars and 132 purchased imported cars. According to the model the proportion predicted correctly was 75 percent. Based on the actual distribution of small car purchases the proportion predicted by chance was 52 percent (Morrison 1969). The difference between the two proportions was significant at the 5 percent level.

TABLE 3

Sample Probability Calculations

<u>Household Type</u>	
Full Sample	.366
Representative Household	.367
<u>Changes to Representative Household</u>	
Age less than 25 years	.344
Age 25 - 35 years	.189
Age 45 - 55 years	.295
Age 55 - 65 years	.150
Age greater than 65 years	.207
Unmarried household head	.152
Household size increased by one member	.325
Number of adults increased by one	.476
Female household head	.674
Renter	.588
Renter and owner in survey year	.376
Not a high school graduate	.216
Education beyond high school	.482
Professional, manager	.354
Clerical, sales worker	.497
Self-employed, not working	.299
Retired	.135
Urban location	.180
Northeast region	.495
North central region	.339
Western region	.702

Did not dispose of vehicle	.545
Disposed of foreign stock	.920
Disposed of mixed stock	.749

Discussion

The major findings of the study are as follows. First the origin of disposed-of-stock proved to be a major explanatory variable. Repeat purchases by households that owned foreign cars indicate that U.S. buyers were satisfied with the price quality mix offered by such automobiles in 1972.

Another major finding is the insignificance of the two economic variables - income and purchase price. The insignificance of income is in agreement with the findings of Peters (1970) and Lave and Bradley (1980). The latter concluded that income is only likely to be significant when the dependent variable is the number of automobiles owned by the household rather than the type of automobile owned (or purchased) by the household. The insignificance of purchase price indicates that imports were not purchased as inexpensive substitutes for domestic automobiles. Thus, factors other than purchase price must have influenced the purchase decision. According to Ward's Automotive Yearbook (1972) imports were valued for their higher quality and lack of planned obsolescence.

Family life cycle variables were significant in most instances. Households headed by older individuals, or single individuals were less likely to purchase an imported car than other households. Purchase probability increased as the number of adults in the household increased. In contrast family size was insignificant indicating the importance of controlling for automobile size class in an analysis of import demand. Other significant household characteristics were sex of household head, and housing tenure.

Both social class and location had a significant impact on purchase probabilities when tested as a whole. In addition, higher levels of education were positively associated with higher purchase probabilities which is in agreement with the findings of other researchers. Households living in rural areas were also more likely to purchase imports. This may reflect differences in driving distances, the availability of public transportation and the greater fuel efficiency of imported cars in 1972.

In conclusion, the results of this study indicate the importance of including household characteristics in an analysis of the demand for imported cars. Only small size cars should be included in such analysis. Provision for past experience with the product is also important since repeat purchases are likely to reflect satisfactory experience with the product. Data for 1972 indicate that consumers who had purchased imports were unlikely to switch to domestic small cars such as the Pinto and Vega which were introduced in 1971. This is not surprising since both these automobiles were rated as inferior to Japanese automobiles (Yates, 1983). The findings of this study are in agreement with the growing popular-

ity of imported cars, particularly Japanese cars, in the past 12 years. According to Yates the success of imports reflects the importance of "quality, workmanship, engineering creativity, durability, as well as low operating costs" to buyers Yates (1983, p. 140). He notes that Detroit's failure in the small car market is due to emphasis on style/marketing considerations rather than on technological change and product performance. The continued superior quality of imported small cars is shown by the fact that all but one of the small cars recommended by Consumers Union in the past three years were imports (Consumers Union, 1982, 1983, 1984). At the moment the domestic automobile industry is protected by quotas on Japanese automobiles which has resulted in long waiting lines and prices higher than list prices in many dealerships (Fisher, 1984). Many of these buyers are undoubtedly repeat purchasers who, as in 1972, are unwilling to switch to inferior domestic models. The same loyalty was shown in 1982 when sales of small imported cars remained strong while sales of new cars were the lowest in 20 years (Consumers Union, 1982).²

Finally it would also be of interest to compare the results of this study to results using data for the 1980s. Such comparison would indicate changes in purchase probabilities over time for different households and the degree to which small foreign cars in particular Japanese cars had captured the American market.

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²The distinction between domestic and foreign small cars is likely to diminish in the 1980s as U.S. companies respond to competitive pressure by buying small cars abroad or importing cars for sale under U.S. labels. In addition Japanese firms have established plants in the U.S. However, all these developments reflect the inability of domestic manufacturers to produce small cars that are competitive with those made abroad or under foreign management. Thus, competition between domestic and imported cars will continue though the classification of an import may change. Currently, Consumers Union provides information concerning country of manufacture and whether the firm is foreign or domestic.

THINGS OF HEAVEN AND EARTH: PHENOMENOLOGY,
MARKETING, AND CONSUMER RESEARCH

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Abstract

Most students and users of consumer research are likely to be interested in learning about the world as individual consumers perceive it. Accordingly, a special session was organized to introduce consumer researchers to the largely neglected domain of phenomenological psychology. This paper discusses some respects in which phenomenological interests and method may help to address aspects of marketing practice which up to now have received less than their due attention within the dominant natural scientific tradition. Topics for a continuing dialog with phenomenological psychology are also discussed.

Phenomenal Experience

HORATIO O day and night, but this is wondrous strange!
HAMLET And therefore as a stranger give it welcome.
There are more things in heaven and earth, Horatio,
Than are dreamt of in your philosophy.

Hamlet, Act I, Scene 1

The chapter headings in texts on consumer behavior attest to the broad range of topics that authors address but do not routinely include phenomenal experience. The phenomenal experience of consumers is potentially of interest to all of the diverse users of consumer research whether in the context of business or nonprofit organizations, social cause advocacy, or agencies of government. While our reasons may vary widely, many of us who are students of consumer behavior are interested in effecting real-world change in the hope of making things better for individual people. The absence of phenomenal experience as a focus of explicit treatment within the discipline is not readily explained with reference to actual or likely client interests. Its absence becomes understandable only in light of the influence of the natural scientific tradition which explicitly favors the perspective of the observer over that of the observed. Accordingly, the present session has been organized in the belief that consumer researchers would wish to explore a scholarly tradition that has challenged natural science on the issue of perspective namely, phenomenology. The session is intended as an introduction to the history, conceptualization, and methods of phenomenological psychology. The request to our panelists (Churchill and Wertz 1984, Mruk 1984, Myers 1984, Wertz and Greenhut 1984) was to introduce phenomenological psychology to an audience of consumer researchers, sophisticated in all else. There was too little time for the panelists to attempt to become familiar with the literatures of consumer behavior and marketing or, indeed, with the character of real-world marketing assignments. It was suggested to them that the audience and subsequently the reader would, in any event, prefer to learn, at first hand, about phenomenological traditions, conceptualizations, and research approaches. There will be conferences and other opportunities, later, in which our experiences as phenomenologists, consumer researchers, and marketers may be mutually enriching.

At the outset, I should clarify that I claim no expertise in phenomenology i.e., what I have called "big p" phenomenology (Fennell 1984), even though, as a marketing practitioner, I have been doing (small p) phenomenological research all my professional life. It is my hope that when the traditions of phenomenological research have be-

come integrated into our texts, literature, and degree programs that future consumer researchers will not need to make the "big p/small p" distinction. Today's program is one step toward that goal.

The patent reasonableness of studying phenomenal experience as a topic in its own right and of exploring the scholarly grounding in phenomenology for such study speaks for itself. My purpose here is not to belabor that general point but to discuss some specific issues regarding which I am hopeful that phenomenological psychology may be helpful and, perhaps, uniquely availing. My plan for this paper is first to describe some respects in which the research interests of marketing practitioners are poorly served by the currently influential natural scientific paradigm and regarding which phenomenological thought may be especially helpful. I then consider features of current marketing practice that may court phenomenological displeasure. Finally, I describe a research project to which the viewpoints of natural science, phenomenology, marketing practice, and variants may contribute.

Marketing and Natural Science

Activities that are essential to implementing marketing's assignment lack a conceptual foundation in the traditions of mainstream psychology. In contrast, within phenomenology, we find discussion and conceptualization that serve as a context for some of these activities and give marketing practitioners hope that our concerns will be heard by minds that are conceptually prepared.

The practitioner's activities in question are those that implement the distinction between marketing and selling as that distinction is articulated in the marketing concept: Don't sell what you happen to make; make what the customer wants to buy. Marketing, thus contrasted with selling, is the means by which user wants are communicated to producers. "Make what the customer wants to buy" entails accepting influence from one's prospects and, in the research context, implies a relationship between researcher and respondent, or experimenter and subject, that is not easily accommodated within the tradition of mainstream psychology. It demands, in fact, that a goal of research is to stand in the respondent's shoes and appreciate real-world influences from that perspective.

In a competitive environment, a marketing orientation is the counsel of prudence. Without it, you may spend your resources inefficiently in attempting to bring people around to your way of thinking i.e., in trying to make them buy what you "happen" to have made. Meanwhile, your marketing-oriented competitors, operating on the assumption that people are effort minimizers, have first found out what your prospects are looking for and are in a position to plan efficiently to tap into an ongoing system that moves the goods and comes back for more. The marketing concept bids marketers see to it that what is produced is what people want to buy, an assignment that requires marketers to study want-occurrence and satisfaction in its everyday manifestation. By understanding the conditions that give rise to wants, the marketer hopes to participate in want-satisfaction.

Where do marketing practitioners turn for help in the assignment? What methods or models are available? Training in mainstream psychology offers little guidance and

the marketing literature is silent. Finding no ready-made answers, marketing practitioners have developed a two (or more) phase, qualitative-quantitative research approach to describe heterogeneous demand within a market as defined and to assess the current state of want-satisfaction. Mruk's (1984) "integrated description," which grows out of a phenomenological orientation, is strikingly similar in general outline and purpose to the approach that marketing practitioners have devised. In contrast, the corresponding activities of marketing practice lack a conceptual foundation in the currently influential natural scientific tradition and are not perceived to be of systematic interest by marketing scholars. In consequence, three distinct kinds of development have not appeared: (1) Methodological research to improve qualitative technique, (2) Cumulative description of our subject matter, and (3) Basic research directed to explaining endogenous puzzles that description of our subject matter would, inevitably, lay bare. Before returning to discuss these points below, let me first consider an underlying paradox.

The marketing concept embodies the wisdom of humanity's age-old practice of harnessing energy sources found in nature, a practice whose procedures are refined and articulated in what we know as scientific method. The procedures of scientific method have proven their worth in the physical realm. Their unexamined transference to the study of human beings loses sight of their purpose in the physical domain which is to help discover how systems operate in their natural state. What characterizes the use of human energy in the natural state? In part, it is the experienced sense that things should be different, and the use of thought and/or action to bring about change. Personal and environmental forces jointly establish conditions that direct the allocation of human energy, giving rise to wants and the expenditure of effort in want-satisfaction. The allocation of human energy occurs in a variety of circumstances which vary, among others, along a dimension of automaticity-creativity and which include occasions when individuals' conscious experience of the world affects the way they use the resources at their command. Even if we knew all there is to know about the objective conditions that affect the allocation of human energies we could not directly predict behavior from this information alone without also knowing, among other information, the extent to which individual human beings experience the objectively described conditions. Very simply, experiencing the world is part of the natural state of human beings. What is experienced -- sensed, felt, believed, understood, desired, foreseen -- matters in the allocation of human energies. Accordingly, the allocation of human energy in its natural state requires a method of study that is not foreclosed from attempting to assume the subject's perspective and study phenomenal experience. There is no way that marketers may address their assignment, properly understood, without forsaking the observer's perspective and seeking to adopt that of prospective users.

In sum, on one hand, the marketing practitioner's assignment is reminiscent of the classic question of natural science: What do I need to know to harness this source of energy? On the other hand, the failure correctly to distinguish spirit from letter has denied behavioral science access to the genius of scientific method in identifying a system's essential character in its natural state. The upshot is that marketing practitioners have been left to their own devices in pursuing an assignment that should be unproblematic within the scientific tradition.

Do Philosophies Matter?

It is undoubtedly true that psychologists working within the mainstream natural scientific tradition implicitly and even explicitly take account of aspects of their subjects' phenomenal world. From the standpoint of marke-

ting research, in two respects the practice is not as helpful as it might be: (1) It is often relegated to pilot work and occurs without adequate recognition and elaboration at the conceptual level and (2) It rarely addresses the antecedents of goal selection but, typically, focuses on aspects of behavior that are downstream from the events that direct the individual's allocation of resources. This motivational issue is one I have discussed elsewhere (Fennell 1980, 1982) and shall touch on, only briefly, later in the present paper.

Implications for Marketing

Consider how different might have been the course of development of marketing scholarship and practice, if a phenomenological perspective had been dominant in the early days of the marketing concept's articulation. Phenomenologically oriented marketers would have suggested describing the consumer's perspective without theoretical presuppositions. Instead, in the 1950s and 1960s, we had "motivation research" in which researchers, with an avowed commitment to Freudian theorizing, used individual and group interviews to investigate consumer wants. After a few years, marketing practitioners learnt for themselves the phenomenological counsel against theoretical presuppositions. Discarding the theoretical overlay of Freudianism, they retained and still use today the informal individual or group interview, now called "qualitative" or "focused group" research or, more casually, "focus groups."

The fact that marketing practitioners were able to discriminate between what was and was not useful in "motivation research," is creditable but does not lead to the conclusion that conceptual argument for theory-free description of the phenomenal domain is thus shown to be redundant. Indeed, its value in this instance, goes even beyond sparing practitioners the time lost in learning the lesson for themselves. With phenomenological thinking informing the orientation of marketing scholars and practitioners alike, qualitative research and its role in the practitioner's task of want-identification would have been perceived as an integral part of the marketing enterprise. Scholars would have perceived in it a meaningful activity within their conception of science and hence worthy of their theoretical and research attention. Practitioners and, ultimately, consumers would inevitably benefit from the progressive procedural refinement that would accompany a growing understanding of our subject matter and of diverse research objectives. More generally, the marketing discipline would have benefitted from a shared understanding and common purpose between marketing academics and practitioners.

Reality has been otherwise. As Calder (1977 p. 353) noted, "The marketing literature has been of little help to qualitative marketing researchers, offering occasional descriptions of applications . . . and expositions of techniques" but failing to present a general framework based on consideration of the fundamental nature of qualitative research. Calder addresses qualitative research as a phenomenon of commercial marketing research and reports, significantly, that, "For most marketers, qualitative research is defined by the absence of numerical measurement and statistical analysis." Clearly, marketing scholars have not seen in the ubiquitous qualitative research activities of marketing practice a manifestation of one of the scientist's basic tasks namely, description of the subject matter.

Considerable benefits would accrue to the presence of a phenomenological orientation among marketing scholars: (1) Phenomenological psychologists, doubtless, would have criticisms to offer of the way practitioners conduct individual qualitative and focused group research. Their criticisms would lead, in all likelihood, to research streams that rigorously examine the implications of vari-

ation in qualitative technique thus adding to basic knowledge and benefitting practice. (2) Phenomenologically oriented marketing scholars would be interested in the substantive output of qualitative research for them, like practitioners, would be bent on describing the phenomena of interest e.g., the activities in conjunction with which people use goods/services. Our discipline would be engaged in developing a data base, in the public domain, descriptive of everyday activities and the phenomenal experience in which they are embedded: a) Marketing practitioners would be in a position to start their individual projects from a base of qualitatively rich description of the behavioral domain of interest. Collectively, we would be spared the horrendous duplication of resources that occurs in repetitively investigating basic orientations to doing the laundry, brushing one's teeth, treating a sore throat, feeding the dog. b) Better yet, we should find in our growing data base, patterns of similarity and difference calling for closer examination and explanation. In this way, our descriptive enterprise would generate its own agenda for explanatory research. (3) Our degree programs would have educated generations of prospective practitioners for whom the implications of the marketing concept would have been made explicit and who would have been exposed in the classroom not only to issues relating to hypothesis testing but to those involved in description as the research activity of prime importance to the practitioner. Information from the growing body of descriptive data would be part of their professional equipment as well as recollections of critical analyses of the data and alternative descriptive methods. (4) With the implications of the marketing concept clarified, discussions of marketing ethics could address issues appropriate to marketing as distinct from selling. For example, in the context of the ubiquitous marketplace and impersonal exchange, at what point, if any, should the marketer intervene to place restrictions on how individuals may use their resources?

Accordingly, attention to phenomenal experience, and emphasis on presuppositionless description are directly useful to the marketer's task and help, indirectly, in making clear the implications of the marketing concept. So far from its being competitive with a flourishing natural scientific orientation, the presence of phenomenology in our intellectual traditions would be enriching, bringing us in closer touch with our material and the consumers whom we study, and providing a fund of empirically-generated puzzles for further study. Curiously, in light of their concern to be scientifically respectable, the disciplines of consumer behavior, marketing, and mainstream psychology alike may be faulted for neglecting their respective descriptive assignments. We lack in each field the ever-growing data bank which natural science envisages. Phenomenology's emphasis on description is welcome as a reminder that behavioral scientists have overlooked the painstaking description of subject matter that has occurred elsewhere within the natural scientific tradition without, however, the critical reflection that phenomenology contributes.

Perspectivity and Consumer Research

The selling orientation that still pervades so much of marketing thought and writing, some thirty years after the marketing concept was articulated, may have found a phenomenological climate less congenial than a natural scientific one. Not surprisingly, the failure to appreciate the essential nature of marketing as distinct from selling, in conjunction with the prevailing natural scientific tradition of basic psychology, has had repercussions in the field of consumer research.

In the literatures of marketing and consumer behavior alike, the task and context of selling have received an undue amount of scarce research and theoretical resour-

ces to the detriment of research and theorizing in marketing, properly understood. There is ample evidence, direct and indirect, that authors have in mind a dyadic image of buyer-seller rather than user-producer (e.g., Nord and Peter 1980 p. 38), or envision a buyer in a retail outlet (e.g., Belk 1975), or consider that the choice of seller-buyer dyad is merely "arbitrary" (Hunt 1983 p.13). Indeed, so blurred have the distinctions become in some quarters that, as illustrative of the nonmarketing (sic) perspective he urges consumer researchers to adopt, Olson (1981 p. ix) asks for a theory of brand loyalty "from the perspective of consumers as effort minimizer." The particular terms used or images held in mind need not be significant, of course, but appear to have been as the field of consumer research developed. Indeed, Holbrook (1984) reports that papers submitted for publication risk reviewer displeasure when the context of use (e.g., dinner preparation activities) is in focus rather than the buying context (e.g., a shopping trip).

In economics, the term "consumer" (one who uses economic goods) contrasts with "producer" (one who grows agricultural products or manufactures raw materials into articles of use) and the term "consumers' goods" (which directly satisfy human wants or desires) contrasts with "producers' goods" (which satisfy wants only directly). Accordingly, we must look to quarters other than economics for the influences that have effectively linked "consumer," in the popular mind, to "buyer" rather than to "user."

With the advent of mass manufacturing and national advertising, new implications for society accrued to the division of labor and the user-producer transaction that it entails. In former years, producers had addressed user wants, face-to-face and in relative privacy. Now, we have remote exchange and the public and ubiquitous marketplace. The user-producer transaction has been broken down into its elements. Specifically, the tasks of ascertaining user wants, designing and making market offerings, announcing the availability of offerings, and effecting exchange, have become institutionalized as distinct business activities and professional specialties of which the public-at-large is differentially aware. Significantly, the two most visible of these elements are the ever-present, pervasive advertising of availability for sale and the actual displaying of items for sale in retail outlets. The implications of the division of labor today are vastly different by comparison with the days when many goods were brought into existence only upon a prospective user's particular request.

Simultaneously, the term "consumer" has changed its connotations. In common usage it appears that "consumer" no longer connotes, in the economist's sense, an individual who uses economic goods as contrasted with a producer who grows or manufactures goods. Instead, it conjures up a human being who is defined by activities having largely to do with the acquisition of goods/services mainly, that is, as one to whom sellers present advertising messages and displays of goods for sale. On this view, the consumer is an individual who is contrasted with salespersons rather than producers and, in a word, is thought of as buyer rather than user of market offerings.

Perhaps the layperson's sense of consumer as buyer was influential in the selection of "buyer" behavior for the title of early consumer behavioral texts. But one must suspect that the orientation of the natural scientific tradition in psychology, on which the texts drew freely, was equally, if not more, decisive. The idea of stimulus-response with emphasis on the scientist's perspective as manipulator of the environment and recorder of observable effects shares ground with the image of a seller-buyer dyad and its attendant emphasis on the seller's perspective and goods-to-be-sold. In contrast, the idea of an individual-in-the-world with emphasis on

the scientist as presuppositionless recorder of the phenomenal domain shares ground with the image of a user-producer dyad and its attendant emphasis on the user's perspective and goods-to-be-designed to bring about the user's desired states. There is a sense in which an experimenter has something to "sell" that is absent in the ideal of the presuppositionless stance of phenomenological description. Indeed, many procedures of scientific method are designed precisely to guard against experimenters "finding" what they look for when support is absent.

In this context, it is especially interesting to note that Wertz and Greenhut (1984), in graciously making their presentation relevant to our concerns, likewise made the "consumer-buyer" association. This start, inauspicious in the view of a marketing researcher, was guided in their work by a phenomenological orientation. The outcome is an account that is largely devoted to the use-context, not the buying context. To a practitioner's ear, Wertz and Greenhut's paper, in its description of the personal and environmental context that gave instrumental value to a crook lock, is evocative of the essential output of exploratory qualitative research at its very best. As Churchill and Wertz (1984) might say, perspectivity notwithstanding, the phenomenon was allowed to show itself. Similarly, Myers' (1984) descriptions of individuals' attachment to special possessions occur in a study that was undertaken with no thought of the concerns of marketing practice. Yet they are evocative of the phenomenal domain as it is sometimes captured and presented in advertising.

A distinction between buying and consuming is to be found in earlier marketing writing (e.g., Alderson 1957, Boyd and Levy 1963) and has recently been reintroduced along with the recommendation that consumer research be reoriented to consuming rather than buying (e.g., Belk 1984, Holbrook and Hirschman 1982). As I shall discuss in the next section, product consumption is not exactly the focus that is of primary interest in exploratory qualitative research,¹ a point that phenomenologists may appreciate.

Dialog with Phenomenology

Brackets and Models

In line with the marketing concept, marketing is the business, and societal, function that is charged with the task of guiding our productive endeavors to devise ever better responses to human wants. Accordingly, marketing

practitioners want to approach the task of want-identification and satisfaction as nearly as possible with clear eyes and a fresh, clean, slate. Phenomenologists are in accord. They caution us to study our subject in its own terms and to approach our topic without presuppositions. There is a special sense in which these counsels are relevant, and potentially helpful, to marketing practice.

In meeting our assignment to make what the customer wants to buy, marketing practitioners are aware of the danger that the existing array of goods/services may restrict the respondent's ability to communicate, and the researcher's to grasp, the user's wants. Accordingly, in the context of marketing, the phenomenological caution reaches to eschewing not only theoretical presuppositions but also those implicit in the current arrangements for want-satisfaction. The research methods of marketing practice reflect the practitioner's sensitivity to the danger. For example, exploratory qualitative research that is undertaken in the interest of maintaining or increasing one's share of toothpaste brand sales opens by stating the focal behavioral domain at the most general level that is relevant e.g., "Our topic for discussion today is personal hygiene routines." Information about respondents' awareness of, beliefs about, and reactions to specific brands of toothpaste is investigated only at the end of the interview, after the fullest possible exploration of the meanings of, feelings toward, beliefs and information about, and environmental contexts for, oral hygiene activities. Marketing practitioners do not, in fact, want to study the consumption of toothpaste, which is already an answer to the marketer's essential assignment. We shall want to hear further from phenomenological psychologists: How may we improve on the approaches we are currently using? What are the phenomenologists' specific suggestions to help us bracket the existing, largely arbitrary, array of products and brands as well as the consumer's, and our own, habits of everyday thought and action?

Each of two kinds of aids that a researcher might use to help in the task of want-identification may court phenomenological displeasure: (1) Some researchers start with items already in existence and, in thought or deed, methodically or otherwise, alone or with the help of colleagues, and/or consumers, change individual dimensions or characteristics of the item and then consider the result for possible usefulness. The technique comes in many forms and I mean, here, to suggest only its general nature. The existing item, even when its characteristics are deliberately varied, still rules as presupposition. (2) An alternative approach risks phenomenological displeasure on another count, since it would resort to the use of a model of sorts. In order to break out of the mindset that existing goods/services impose, the researcher may attempt to elicit accounts of the conditions that give rise to the behavior of interest. What are the conditions, personal and environmental, that performing the focal action (e.g., brushing teeth, feeding the dog) changes and puts to right? There are a number of reasons, which I have discussed elsewhere (Fennell 1982), why some people may not be especially articulate in describing the conditions in their daily lives for which marketing is to tailor the goods/services that are offered for sale. In these circumstances, it is very useful for the researcher to have some idea of the kinds of conditions that may be present. Either alone, or with the help of colleagues, and/or consumers, the researcher may use a model of these motivating conditions to generate a host of mini-scenarios, concrete in their specification of personal and environmental elements that are potentially relevant to the focal action. Respondents may then be asked to indicate their sense of the scenarios' actual appropriateness to their own circumstances.

¹The terminology of Calder's (1977) three-way classification of focused group research is not being followed here. The practitioner's use of qualitative research to which I have reference in this paper is, approximately, a mix of Calder's exploratory and phenomenological types, except that: (1) The exploratory function of the research is not, in the context of the project in hand, to generate constructs i.e., abstractions from reality, but, to the contrary, to identify the real-world, physical and psychological elements that constitute the context for the behavior of interest; (2) The sociological emphasis in Calder's phenomenology is troubling in that it suggests that practitioners expect and, indeed, strive to find a common perspective in focused group research. Again, to the contrary, qualitative work is very often undertaken precisely to ascertain the heterogeneous orientations to a behavior of interest, which practitioners expect to find within a group of prospects. A group that is homogeneous on demographic, socio-economic, or other broad population descriptors, likely contains heterogeneous orientations in regard to a focal behavior. The groupings that ultimately are of interest, emerge from research and, indeed, their identification is one of the main objectives of research.

Let me put the matter another way. If phenomenology had been influential in the scholarly training of marketers in the 1950s, by now, phenomenological research would have been conducted and published on one or two hundred of the everyday activities, along with/instead of which people use goods and services. Humanity's store of knowledge would have been enriched not only in respect of the activities, taken individually, but also in regard to information of a more universal kind. Conceivably, information relevant to the very topic at issue here would be present in the research namely, the variety of conditions, within individuals over time and across individuals, that may give rise to the "same" focal action. Not only would variety of conditions be discernible in regard to individual activities but similar variegation may be discernible across activity. Turning to activity #201, what would phenomenological psychologists do as they prepare to study the new activity? Would -- could -- they erase the cumulative knowledge contained in the accounts of individual activity and not look for the possible presence of similar features in the personal and environmental conditions in which activity #201 is embedded? Would they want to put the knowledge to one side, denying themselves the fruit of their past labors?

If the circumstances I have described had really come to pass, as psychologists we should, of course, be in a position greatly different from any we have yet experienced. We should be in possession of a body of data systematically descriptive of our subject matter. The distinctive contribution of each of the aspects of the life-world e.g., affective familial relations, action and its consequences, organizing cognition, impinging aspects of the physical and social environments (Churchill and Wertz 1984), would be seen in a more inclusive context. Conceivably, the phenomenological caution against the use of models could be relaxed because the danger of taking the part for the whole would now be greatly reduced.

For the present, marketing practitioners sorely need appropriate models including a general model of action -- models, in fact, whose scope matches that of the life-world. Differentiated reminders of the life-world's "multifaceted wholeness" and "tremendous multi-dimensionality" (Churchill and Wertz 1984) are likely to serve as a helpful antidote to one's own pet part-views and those of influential others in the work environment. As marketers, collaborating with those who understand how goods and services may be fashioned, our assignment is to register and respond to all shadings of human wants, for the satisfaction of which people are ready to allocate resources. Most assuredly, within the bounds of law and ethics, it is not for us to act as gatekeepers. Given the realities of taking action in an organizational environment, the phenomenological counsel to put aside preconceptions may be best served by the availability and use of well-articulated, truly comprehensive models.

Quantification

Let me briefly discuss one other respect in which implementing the marketing concept may risk phenomenological censure. Yet, there is ground for believing that accommodation may be reached.

The body of phenomenological research on everyday activities to which I referred above would take the form, in the context of marketing's assignment, of quantification, within individuals over time, and across individuals, of verbal statements regarding sensations, feelings, beliefs, information, candidate actions/objects, expected, desired states -- all relating to a focal behavioral domain. Phenomenologists remind us that the life-world is intrinsically spatial and temporal, a point that marketing practitioners readily accept. However, for any one assign-

ment the practitioner is interested in a small region of the life-world of many individuals e.g., the personal and environmental context for the activity of feeding the dog in some geographical space during some period of time such as twelve months. Practitioners look to qualitative research to yield two types of information that we consider important namely, specific kinds of sensations, beliefs, feelings, and so on that are relevant to the focal activity -- the "ingredients" that Mruk (1984) refers to and, secondly, all such ingredients that are to be found in a universe of interest. Qualitative research cannot give us a third kind of information that is essential for our tasks namely, incidence in the universe of interest. Hence our use of quantification. There are indications in Mruk's (1984) paper that quantification is problematic for some phenomenologists. Yet, it would seem to be entirely congruent with phenomenological thought that an account of "feeding the dog," as a human activity, is incomplete if it does not reflect the full range of orientations and circumstances, actual and possible, that are relevant to the activity. Quantification adds information that is essential to strategic real-world action and is surely not without interest to the student of the human condition.

Marketing practitioners would raise another issue for dialog with phenomenological psychologists: Can phenomenological analysis be conducted only in the qualitative phase? Practitioners use verbal statements obtained from or suggested by the qualitative research to write questionnaire items for the quantitative phase, a practice that can only fall short of the phenomenological goal of "analysis of the phenomena themselves, not of the expressions that refer to them (Spiegelberg 1983)" (Churchill and Wertz 1984). As a basis for continuing dialog, Mruk's (1984) paper is of great value in building the bridge from both ends. He has already brought a phenomenological perspective to bear in approaching a task that is very similar to the marketer's task of want-identification and satisfaction and he clearly appreciates the importance of quantification. On a point of minor disagreement, marketing practitioners do not see the value of qualitative-quantitative description as being limited to new, emerging, and complex domains, in Mruk's (1984) sense. If one has not previously researched any particular human activity, it is new and, following completion of the research, it is seen as ambiguous, and multifaceted. Mruk's finding of heterogeneity in his universe of interest is no surprise to marketers who are well used to finding heterogeneity for the most mundane of activities.

A Proposal for Research

As a way of helping to bring into focus some issues that emerge from the present dialog between phenomenology and marketing practice, I suggest that we discuss and eventually seek funding for a project to investigate descriptive research along the following lines.

First, we select one focal activity e.g., learning to use a personal computer, attending live theatre, treating a sore throat, and a universe of interest e.g., some or all individuals who perform the focal activity in a certain geographic area and time period. We then formulate a research objective as it might be stated in a business or nonprofit context, directed to (1) Describing the current state of want-satisfaction as regards the focal activity and (2) Making recommendations for remedial action where unmet wants are identified. The research is to be carried out, separately, by phenomenological psychologists and marketing practitioners, and any others who wish to join in, on the understanding that each contribution is to be exemplary of a particular discipline or approach.

The following outputs are mandatory: A final report with recommendations and supporting data and analysis and, if

qualitative and quantitative phases are included, separate reports for each phase, and copies of the research instruments used in each. As part of the project, we shall ask some phenomenological psychologists, marketing practitioners, and other behavioral scientists to bring to bear their special training to comment on the method, findings, and action recommendations of each set of participants. Meanwhile, we shall have put the recommendations into effect with accompanying research appropriate to assessing change attributable to the recommendations.

Concluding Remarks

In the writings of phenomenological psychologists, marketing practitioners find scholarly discussion of issues that are directly relevant to our daily activities. We are happy to discover that the problems we confront as we seek to "make what the customer wants to buy" have been, or may readily be, considered within the phenomenologist's existing sphere of interest. Up to now, circumstances have compelled us to take our (small p) phenomenology into what has been, for us, uncharted waters. Having sparked the interest of some phenomenologists in our tasks, we look forward to continuing the dialog.

My reflections, in this paper, on the potential contributions of phenomenological psychology to consumer research do less than justice in a number of respects. Among those of which I am aware are: (1) I have selected for comment only a few of the many substantive issues that phenomenology addresses, (2) My choice has been guided by issues that seem to be of particular relevance to marketing practice, thus neglecting the perspectives of other users of consumer research, (3) Most grave, perhaps, is that, in suggesting at the outset that our texts in consumer behavior should find room for a chapter devoted to phenomenal experience and the scholarly traditions of phenomenological psychology, I may have seemed to overlook the contributions of phenomenological psychologists in each of the domains currently included in our texts. Realism rather than lack of appreciation dictated my emphasis. Holbrook and Hirschman (1982) have already shown the pervasive relevance of an experiential perspective. Indeed, in the hands of phenomenological psychologists, the natural subdivisions of the field of consumer behavior may turn out to be different from those we have taken over from mainstream psychology. Refreshingly, phenomenological psychologists offer a truly distinctive perspective on our subject matter that can only enrich our thought and inform our research.

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AN INTRODUCTION TO PHENOMENOLOGICAL PSYCHOLOGY FOR
CONSUMER RESEARCH: HISTORICAL, CONCEPTUAL,
AND METHODOLOGICAL FOUNDATIONS

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Abstract

Phenomenological psychology's approach and its relationship to contemporary philosophy and psychology are briefly reviewed. The key concepts of "intentionality" and "the life-world" are discussed and related to consumership. Three moments of intuitive methodology--experiential contact, reflective analysis, and psychological description--are outlined and their relevance for consumer research is suggested.

Historical Introduction

Phenomenology began as a movement in contemporary philosophy. Its foundations were originally laid by Edmund Husserl (1913/1983) and subsequently developed by his followers Martin Heidegger (1927/1962), Jean-Paul Sartre (1943/1956), Maurice Merleau-Ponty (1945/1962), and Alfred Schütz (1962). Husserl first called his new discipline "descriptive psychology," and although he was later to distinguish the properly philosophical discipline of transcendental phenomenology from the positive science of psychology, the fundaments of the latter have never ceased to be a central interest of the movement.

The contribution of phenomenology to the foundations of the positive sciences followed from Husserl's (1900/1970) passionate call, "We must go back to the 'things themselves!'" One implication of this statement is that the basic concepts and methodology of each science must rigorously target the essential characteristics of its subject matter. Indeed, one of the original aims of phenomenology was to complement and contextualize empirical scientific investigations by clarifying the "essence" of such regions of study as nature, animal life, and human psychic life. Such a clarification, Husserl reasoned, would be propaedeutic to any inquiries made at the empirical level. Each of the different subject matters make specific demands on science, which therefore must be developed differentially, each discipline in accord with its own phenomena. Along these lines, phenomenologists have insisted that human beings are a radically different kind of "thing" from physical and animal nature and therefore to treat them according to the concepts and methods of natural science is grossly unscientific, however appropriate and successful this approach has proven in the areas of its rightful application.

Within the German intellectual climate, phenomenology carried on a sympathetic dialog with the Gestalt school of psychology and incorporated many of their findings. Another kindred movement, which also devoted interest to the development of descriptive human sciences (Geisteswissenschaften) in contradistinction to the experimental sciences of nature, originated in the work of Wilhelm Dilthey (1894/1977).

In his view, human and cultural phenomena manifested neither the exactness nor the mechanical regularity of physical nature, and consequently did not lend themselves well to quantification and causal explanation. Indeed, the human realm was considered to be distorted rather than truthfully disclosed by exact mathematical language and naturalistic reductionism. Dilthey foresaw the need for an approach that would be adequate to the structural complexity of the human order and character-

ized the orientation of the human sciences with the simple remark: "We explain nature; we understand psychic life."

Though much of psychology remains based on the approach of the natural sciences, the human science Dilthey envisioned a century ago as descriptive psychology exists today as a rather broad-based movement consisting of several strains. Characteristic of the diversity of research methodologies in this area is the work of Garfinkel (1967), Keen (1975), de Rivera (1981), and Polkinghorne (1983). Among these, the phenomenological approach developed over the past twenty-five years at Duquesne University and articulated by Giorgi (1970) has become a major force. Former students and associates of the Duquesne Circle now teach and carry on research at some twenty-five colleges and Universities throughout the United States and Canada (Smith 1984). Prototypic and exemplary research from this group can be found in the work of Van Kaam (1959, 1966), Colaizzi (1973), Fischer (1974), Giorgi (1975, 1984), and von Eckartsberg (1975, in press), and in edited volumes by Giorgi et al. (1971, 1975, 1979, 1983), Valle and King (1978), and Aanstoos (1984).

While learning, perception, motivation, emotion, thinking, language, remembering, development, personality, psychopathology, and an array of social phenomena have been investigated by phenomenological psychology, consumer research has remained only a potential area of its application. In the present paper we will discuss some basic concepts and methods of phenomenological psychology and begin to suggest their relevance for consumer research.

Conceptual Foundations

The questions we raise about persons, not to mention the answers, are shaped on one hand by our everyday or "pre-scientific" encounters with people, and on the other, by notions about them that we have come to accept in the course of our scientific endeavors. Not only do we "know more than we can tell" with respect to our pre-comprehension of human phenomena (Polanyi 1966), but we are immersed in a world of experience in which the lived is always greater than the known (Merleau-Ponty 1945/1962). That is, life both precedes and exceeds our very efforts to grasp it. Accordingly, the moment we refer to human beings as "consumers," we do so on the basis of a profound, deeply rooted, lived sense of the meaning of being a consumer. Although this "sense" is not a well articulated knowledge, it is an ineluctable foundation of scientific inquiry which merits consideration, and indeed clarification, in its own right.

The ambiguous, multifaceted and variegated presence of human life is the origin of the diversity of conceptual orientations that guide research efforts. For instance, a behavioristic approach would view the consumer as a repertoire of instrumental behaviors which have been shaped by environmental contingencies, while a psycho-analytic model would regard the consumer as activated by unconscious psychosexual wishes. The cognitive paradigm might see consumer behavior as an output traceable to intervening variables involved in processing input information. In contrast, a socio-economic perspective might conceive the consumer as a member of a class of

individuals whose needs and actions have been collectively defined by the mass production and distribution of goods and services.

Phenomenological psychologists, in fact, characteristically say "yes and no" to each and all of these guiding notions. They say "yes" to the extent that these concepts are faithfully descriptive of and intuitively evident in prescientific phenomenal reality. They say "no" to the extent that these concepts involve inferences or constructions which, despite their explanatory or predictive power, are not directly reflective of the immanent quality of consumer life. They also say "no" to the extent that a concept, even if it refers faithfully to "the lived," abstracts a part of the whole and is used to deduce or reduce the rest according to that part. The constituents of the phenomenal domain are not related in mutual externality of causality as are physical objects but rather meaningfully implicate each other internally in a structural unity. Since we live immediately in this realm, we need not explain it according to hypothetical/theoretical models but can understand its meaning directly (as it resides in its own framework).

Thus, if by theory one means "model building" or "explanation by abstracted principles," phenomenological psychology is atheoretical. This does not mean that it eschews conceptuality but only that its guiding notions have a rigorously distinctive status: They have arisen from an attempt not to get behind human life or to explain it but rather to faithfully explicate its multifaceted wholeness, retaining the essentially lived-through character of human reality (over and against nature-in-itself). The phenomenological approach is unique, then, in that it begins and ends with "the things themselves" (*die Sachen selbst*), i.e., with the affairs of the phenomenal realm considered in their own terms.

Intentionality

Fundamental for any research that attempts to address everyday life is an adequate conception of consciousness, which Husserl (1913/1983) put forward in the notion of "intentionality." While a nonhuman thing has a "nature" or a kind of being that resides within itself (and thus the whole is often reducible to its parts), consciousness is always consciousness of something other than itself, and thus must be grasped holistically as a relationship of subject and object. Perceiving involves a perceiver relating to a perceived: What one sees is a function of how one is looking. The "what" (objective characteristic) and the "how" (subjective presence) are dynamically and dialectically related. It is this relational phenomenon, wherein consciousness and object together constitute one irreducible totality, that is meant by the term "intentionality."

Phenomenological psychology recognizes the intentionality of all lived experiences, including perception, imagination, expectation, remembering, thinking, feeling, and social behavior. These are so many human potentials for relating to the surroundings which they target. The concept of intentionality does not imply that these various modes of experience are lived through in a clear and explicit way, let alone reflected upon by the person; on the contrary, it faithfully emphasizes the unreflective vagueness of much of the individual's relations with his or her multi-colored situation. "The precise function of intentionality is to characterize consciousness as a primary and original phenomenon, from which the subject and object of traditional philosophy are only abstractions" (Levinas 1973, p. 48). This understanding of experience as a primordial contact with the world bridges the gap between traditional concepts of subject and object so that the very unit of investigation becomes the person-in-the-situation. With the

concept of intentionality, psychic life is thus released from traditional philosophical prejudices which place it 'inside' the individual, separate from an 'outside' objective reality. Sartre (1947/1970) expresses this point rather dramatically: "If, impossible though it be, you could enter 'into' a consciousness you would be seized by a whirlwind and thrown back outside, in the thick of the dust, near the tree, for consciousness has no 'inside.' It is just this being beyond itself . . . this refusal to be a substance which makes it a consciousness" (pp. 3-4).

In order to carry the guidance of phenomenological conceptuality further, we must extend our grasp of the sphere of intentionality to its fuller structure.

The Life-World

As we move from simple perceptual contexts to more existentially-expanded social realities, we continue to find that the perceived is a function of both the world as given and the person as an illuminating presence to the world. This world of everyday life is a personal world that differs for each unique individual even while it shares many common social structures. Indeed, the very presence of the person to situation that constitutes a "world" is itself in part socially constituted, insofar as one of the ways that we understand our situation is by means of a shared system of meanings we call language. A faithful interrogation of any human experience thus shows that it is not an isolated event, but is, according to its immanent structure, a moment of the ongoing relation between a whole "personality" and the "world." This larger order unity outside of which no single human activity can be understood is generally referred to by phenomenologists as "the life-world." Indeed, this world as directly experienced provides the foundation for all scientific inquiries. "To return to things themselves is to return to that world which precedes knowledge, of which knowledge always speaks, and in relation to which every scientific schematization is an abstract and derivative sign-language, as is geography in relation to the countryside in which we have learnt beforehand what a forest, a prairie or a river is" (Merleau-Ponty 1945/1962, p. ix).

An intrinsically spatial expanse, the life-world as experienced by persons consists of a "referential totality" of equipment, cultural objects, natural objects, other people, and institutions, each of which mutually implies and is inextricably bound up with all the others (Heidegger 1927/1962). It is the ultimate horizon, or context, within which persons unfold collectively and individually through sharing and each forging his or her own way. This world also inseparably involves temporality, an immanent teleology in which, rooted in and retaining a determinate past, the present determines, acts into, and opens onto an ever uncertain future. From birth to death, human beings participate actively in and are also vulnerable to and passively caught up in this world which so profoundly transcends them. And yet this world is experienced in its individual relevance as each person, through the play of his or her "projects" (personal goals, interests, and desires), makes it an 'owned' world (*Eigenwelt*). We are therefore thrown into the world, into the hands of other people, and yet called to make our own way through it.

It is the tremendous multidimensionality of this life-world as the broader nexus of intentionality that on one hand allows for the diversity of guiding theories and on the other renders each partial. Psychoanalysis emphasizes the rootedness of existence in past affective familial relations; behaviorism emphasizes the instrumentality of embodied comportment and its contingent consequences; cognitive psychology emphasizes the calculatively organizing contribution of the individual;

socio-economic theory emphasizes the collective forces of production. Each of these features of the life-world is powerful enough to give the impression of a sole determinant, yet the holistic phenomenological conceptuality shows that each secretly draws its power from its implicit dependence on and internal residence in each of the others. Priority must be given to the total life situation over any of these partial aspects, which could hardly subsist in isolation. Watching television or buying and using a product always involves the taking up of a determinate past, extending the stock of knowledge into situations of present relevance, and projecting oneself towards a future through the possibilities offered in cultural life. Thanks to the equally intrinsic residence of language in the world that envelops the consumer, this whole involvement can be genuinely described.

A Phenomenological Reflection on Product Desirability

Given the phenomenological conception of human beings as nothing apart from their relations with others and objects, it is to be expected that the phenomenological literature touches upon the consumption of goods and services. Some of the most directly relevant and characteristic are the descriptions of "having" provided by Marcel and Sartre, and we will briefly consider the latter's views with some of the implications for consumer psychology.

For Sartre (1943/1956), "desire expresses a man's relation to one or several objects in the world" (p. 735). The fundamental intention of desire is to appropriate, in and through the possession of a certain product, some kind of being we lack. Since the product's meaning is constituted by its world relations, desire is understood as a desire to appropriate a certain kind of world, the referential totality within which the particular item desired is placed. It is not just the isolated "thisness" of a particular thing that I desire; rather, "to possess is to wish to possess the world across a particular object" (p. 762). Thus a product becomes significant not in itself, with regard merely to its own merits, but rather with respect to its place within the world of the consumer, or, more specifically, with respect to its role in enabling the consumer to appropriate the world of his or her desires. One desires a pair of skis not merely for themselves but to conquer the mountain, impress one's peers, participate in anecdotes around the fire, to be a skier with all that entails. Indeed, this may entail no isolated purchase, but a 'family' including gloves, goggles, poles, ski wear, lessons, and a room at the lodge.

Although each individual appropriates a world in his or her own unique way, there are cultural commonalities that include, for instance, the very desire to be perceived as unique, successful, healthy, desirable, and so on. It is these collective aims for which manufacturing and advertising seek to provide vehicles. Each product is the embodiment of a "greater reality" that supersedes and incorporates an ensemble of products which constitute a particular way of life that appeals as a world one may inhabit. Appropriative behavior, understood existentially, is instrumental in the fulfillment of the individual's intention to enter a particular relation with the world. One "does things" in order to possess what has not yet been attained, and this very movement immediately implicates the being of the consumer. "The totality of my possessions reflects the totality of my being. I am what I have" (Sartre 1943/1956, p. 754). Thus we understand the consumer's "identification" with the products he buys.

The internal connection of being between the product and its world, including the very self of the consumer, is implicit in those ads that set the product, by language

and pictures, against the background of a world which resonates with a complex ensemble of desires. It is not the bottle of perfume, or of cola, but rather the possibility of becoming a chic, sensual, intriguing person in a glamorous world, or of being a fun loving, socially active part of the proverbial "pepsi generation," that the ad holds out through this brand, which is merely "a node in the woof" of a certain existence. "The desire of a particular object is not the simple desire of this object; it is the desire to be united with the object in an internal relation, in the mode of constituting with it the unity 'possessor-possessed'" (Sartre 1943/1956, p. 751).

It is by no accident, then, that advertisers, collectively, are seen to manifest the "desired life" of the targeted population in all its multifaceted complexity and, inevitably, to evoke new senses of lack by presenting worlds, in juxtaposition to which, one's own may appear relatively impoverished. Berger (1972) suggests that advertisements offer the promise of either the possession of a desirable object or the realization of a particular state of being, which he calls "the happiness of being envied" or, more simply, "glamour" (p. 132). Advertising is understood as a language "which is always being used to make the same general proposal . . . that we transform ourselves, our lives, by buying something more Publicity persuades us of such a transformation by showing us people who have apparently been transformed and are, as a result, enviable" (p. 131). He continues, "the purpose of publicity is to make the spectator marginally dissatisfied with his present way of life . . . it suggests that if he buys what it is offering, his life will become better" (p. 142). One may transform oneself from being envious to being enviable by buying. It is in this sense that we can say, with Williamson (1977), that advertisements are selling us not only material possessions but that "they are selling us ourselves" (p. 13). We would add, with Sartre, that even more, they are selling us a whole world.

How can consumer psychology benefit from the framework of phenomenology, with its guiding notions of intentionality and the life-world? Perhaps more obviously than many areas of human science, consumer research focuses on people's relations with objects that are meaningful and appealing by virtue of their use, their beauty, and what people can "make of themselves" in concrete relations with these objects. Consumer research investigates human beings relating to the world in such concrete forms as watching television, reading magazines, calculating finances, walking to the store, deciding what to buy, bargaining with salespersons, expecting satisfaction, and cooking and eating dinner. All of these acts amount to intentional relations with real things. How would phenomenological psychology seek to further knowledge of the consumer's intentionality and its life-world context?

Methodological Foundations

Phenomenological research can be characterized as consisting of three discernible moments: experiential contact with prescientific psychic life, reflective analysis, and psychological description. Before briefly discussing each of these moments, we will focus on the distinctively intuitive style that runs through each.

Intuition

Phenomenology has been defined etymologically by Heidegger (1927/1962) as letting "that which shows itself be seen from itself in the very way in which it shows itself from itself" (p. 58). This "letting show itself" is a way of speaking of the researcher's posture towards the phenomenon which can be described as one of

open-minded generosity and non-interference. In phenomenological research, preconceived notions about a phenomenon are at once put aside in order to allow the researcher to experience first hand the process of discovery of the phenomenon through direct contact or "intuition." Of course, it is impossible to completely suspend all of one's assumptions, for that would amount to a denial of perspectivity, the latter being an essential feature of any act of consciousness. Indeed, the moment one attempts to articulate an experience, one draws upon language, which already contains many implicit assumptions. The idea, then, is for the researcher to let his or her conceptuality be informed by the phenomenon rather than dictating on the basis of assumptions and preconceptions.

The "bracketing" or putting aside of preconceptions does not mean, however, that what has thus been "placed in abeyance" is forgotten, let alone denied. Certainly, the researcher is oriented toward the data from the point of view of general guiding notions. The rigor of phenomenological intuition simply consists in "the effort to make no use whatever" of other researchers' or theorists' specifications of psychic life in the course of one's own confrontation with the givenness of experience (Natanson 1973, p. 60). Meanwhile, as the analysis proceeds, "the phenomenologist remains as much in the world as he ever was, retains all of his interests and knowledge, and persists in his human concerns" (Natanson 1973, p. 59).

The phenomenological method is empirical, then, in the root sense of the term which refers to that kind of evidence that is given through experience. The researcher allows the phenomenon to appear concretely in its own self-givenness and proceeds to reflect on and describe its appearance as best he or she can without the intermediacy of theories or hypotheses. While the latter are appropriate and indeed more operative with respect to knowledge of nature, which can be revealed only mediately, existence is precisely what is immediately given. Intuition, of which perception is the primary and privileged case by virtue of its presence to objects in their flesh and bones, apprehends the object in a direct, concrete, face-to-face way. It reaches and possesses what actually exists in its own fullness and quests after ever greater extension, vividness, and reality in its determinations. Such an achievement of explicating what actually exists precisely as it is lived may also be achieved by memory, feeling, or even imagination to the extent that they apprehend the matters under concern in their fullness.

Contact with Prescientific Life

Although early phenomenological investigations consisted of the researchers' reflection on their own experience, more recent efforts have devised procedures for making other people's phenomenal life accessible to the researcher. For instance, subjects may be invited to express an event that they have already actually lived through. Researchers may emptily specify a type of life-event according to their research interest and ask the subject to provide a descriptive account of an actual example. It is important that these descriptions hug the contours of the original experience, as it may be relived in remembering, with a minimum of scientific rubric, speculation, explanation or anything not immanent to the original event. This becomes part of what Giorgi (1976) refers to as "the ideal of presuppositionless description," which implies that "one does not use language derived from explanatory systems or models in the initial description, but precisely everyday, naive language" (p. 311). Generally, an open-ended contact with everyday life is preferred over experiments or questionnaires. The researcher might ask subjects to "describe a situation in which you were attracted to a

product you saw advertised in a magazine" or "describe your last visit to a supermarket." In order to evoke the greatest possible fidelity, researchers often explicitly ask for the full detail of the event as well as what led up to and followed it. Further description may be gained through interviewing, for a description which does not include the whole existential context may conceal the very significance of the phenomenon (see Kvale 1984).

It is then the researcher's reading of these protocols that initiates phenomenological reflection; the researcher reads and rereads the description and begins to gain a sense of the whole. This empathic intuition and intensive amplification of the reality described by the subject, in which the researcher calls upon all of his or her powers--cognitive, affective, and conative--to share the subject's living, is the first moment of phenomenological method. "It is one of the most demanding operations, which requires utter concentration on the object intuited without becoming absorbed in it to the point of no longer looking critically" (Spiegelberg 1983, p. 682). In the reading of protocols, the object reached is the situation lived by the subject. It is the aim of phenomenologists to make the subject's involvement their own by taking it up themselves, co-performing it in the reading. While striving to project themselves into the situation described in order to "re-experience" it (Dilthey 1927/1977), researchers maintain a critical presence, which will serve the subsequent reflective analysis.

Reflective Analysis

This phase of the research consists of a more penetrating presence to the subject's description that allows segments of the description to stand out as discernible (but not separable) moments within the subject's experience. Unlike any analysis which seeks to divide the phenomenon into its presumably separate parts and then to reassemble the whole from the parts, the phenomenological method is an attempt to apprehend the parts from the point of view of the whole. Such an analysis consists of "the distinguishing of the constituents of the phenomenon as well as the exploration of their relations to and connections with adjacent phenomena" (Spiegelberg 1983, p. 691). There is a dialectical movement in the researcher's consciousness from part to whole, and back to part, as the researcher proceeds from the initial reading of the description, gaining an intuition of the whole from the flowing coherence of the parts, and then returns to the description in an effort to discern and comprehend part/whole relationships. It is in the relation which is intuited between one moment of the subject's experience and all other moments within the "whole" of the experience, that psychological significance is to be found.

It is important to emphasize here, again, that phenomenological analysis is the "analysis of the phenomena themselves, not of the expressions that refer to them" (Spiegelberg 1983, p. 690). The subject's description functions as a medium through which, as the meanings of the subject's experience begin to resonate within the researcher's own experience, the researcher gains access to the world of the subject and at the same time grasps this world as a function of the subject's presence, or intentionality. "What had hitherto been simply accepted as 'obvious'--so obvious, in fact, that it went beyond the barest notice or mention--is now recognized reflectively as a performance of consciousness and subjected to analysis" (Natanson 1973, p. 59).

To the extent that the constituent immanent meanings apprehended in reflection are not necessarily obvious or clearly stated in the original description, the process of analysis is an "explicitation" (Giorgi 1970). For

instance, a subject unreflectively absorbed in the process of selecting the "right" bathing suit may not state directly or even be actually aware of basing her selection on the comments of the salesperson, yet a careful intuition of the described dialog may show its significant shaping power. It is also an intrinsic characteristic of phenomenological analysis that its intuition strives to be eidetic, that is, to distinguish the essential from the accidental or incidental. It is not just any constituent, implicit dimension, relation among aspects, or pervasive orientation that analysis seeks to discern but those which constitute the essential or invariant structure of the experience. For instance, that a bathing suit was purchased at a particular time of day may not be essential, and even the particular department store might allow variation without altering the integral meaning of the experience; but perhaps it is the fact that the purchase occurred late, after a long, hard day, and in a big crowded department store, that is necessary for insight into the harried resignation of the subject's participation.

Phenomenological analysis may strive for varying levels of generality ranging from a unique individual to the universal. Constituent meanings essential to a particular experience, say the harried resignation of the above example, may not be essential to all buying, but characteristic of a certain "type." The attainment of higher levels of generality requires qualitative comparisons of different individual cases, real and imagined, in which the researcher strives to intuit convergences and divergences and thereby gains insight into relative generality, i.e., universality, typicality and idiosyncrasy.

Psychological Description

Having intuited a sense of the subject's lived experience, and having then gone back to the particulars of the description in order to flesh out a sense of the psychological significance and coherence of the experience, the researcher then proceeds to the final task, psychological description, which expresses the understanding that has been achieved and constitutes the actual findings of the research. In this phase, researchers arrange their insights into an integrative statement that conveys the more or less coherent structure of the psychic life under consideration--its various constituents (e.g., temporal phases) and their relations within the whole. Here one may use psychological language to the extent that it discloses intuitable realities. This phase actually begins when the researcher starts to reflect on the situations described. By taking notes as the analysis proceeds, researchers may keep track of their ongoing thoughts, and these informal, tentative reflections are the roots of the final understanding to which they ultimately commit themselves. What is distinctive of this phase is the researcher's attempt to speak and illustrate the full organization of what remains salient in light of the relatively complete analysis. What is central and decisive is critically brought to the fore, without any statements in the subject's description which are relevant to the research interest remaining unreflected in the psychological discourse.

Verification of Findings

In scientific research, verification is established when another researcher follows the original procedure, utilizes the specified measures, applies them to the data, and confirms the results. This task is made relatively simple when the measures are mathematical formulas. In phenomenological research, the "measure" is the researcher's perspective on the data, namely, the questions raised and the guiding assumptions applied. Verifiability, then, depends on whether another researcher can

assume the perspective of the present investigator, review the original protocol data, and see that the proposed insights are indeed possibilities of interpretation that illuminate the situations under study. "Thus the chief point to be remembered with this type of research is not so much whether another position could be adopted (this point is granted beforehand) but whether a reader, adopting the same viewpoints as articulated by the researcher, can also see what the researcher saw, whether or not he agrees with it. That is the key criterion for qualitative research" (Giorgi 1975, p. 96). Verification here is not simply a matter of repeatability, for the logic of the movement from data to results does not proceed in a linear fashion and thus cannot be "tracked." Rather, there is a hermeneutic "circling" in which the reader tries to assume the perspective of the researcher and moves back and forth from findings to data in an effort to 'retrieve a sense of' (rather than to 'repeat') the researcher's own movement through the analysis.

The distinction between validity and verification becomes blurred in qualitative research precisely to the extent that, in the process of determining whether or not a set of findings can be verified by other researchers, the latter must make their own assessment of how well (if at all) the findings have reached their target. Thus, the question of validity (i.e., the adequacy of a description with respect to the phenomenon which it characterizes) is already invoked in raising the question of whether or not one can affirm the description. This is uncharacteristic of quantitative research and assessment techniques, where the two issues are treated separately in view of the fact that an act of measurement can be verifiable while of dubious validity.

In the case of phenomenological research, it would seem ludicrous to find oneself verifying another's results while at the same time deeming them invalid. The two issues are intimately related insofar as the procedure for assessing the findings is at the same time an assessment of the "measure" (the researcher's perspective). There may certainly be times when one might only partially (or even marginally) agree with other researchers' characterizations of their phenomena, even while being able to affirm their findings in view of the data collected and the perspective adopted in the analysis. Here we would simply speak of a "limited validity" of the findings.

In general, then, posing the question of validity in absolute terms ("is this study valid or invalid") is erroneous. Rather, descriptive research may be more valid, less valid, or better valid in different ways, depending upon one's perspective, for research always discloses a limited truth. The validity of one's findings is therefore not contingent upon whether they are consistent with other viewpoints; for, according to the phenomenological approach, it is not possible to exhaustively know any phenomenon. In other words, other perspectives--perhaps rooted in different research interests and their corresponding intuitions--are always possible.

In the end, the value of the findings depends on their ability to help others gain insight into what has been lived unreflectively. "The main function of phenomenological description is to serve as a reliable guide to the listener's own actual or potential experience of the phenomena" (Spiegelberg 1983, p. 694). Further description from different viewpoints may then supplement, thereby extend, and possibly even radically decenter what remains a forever partial knowledge of human life.

Concluding Remarks

As a complex social reality, the consumer's world offers multiple directions for phenomenological research. Inasmuch as the psychological study of this domain opens upon human existence holistically and contextually, it inevitably encroaches upon and gains its bearing from such other human sciences as anthropology, economics, history, and sociology. Moreover, these disciplines which together constitute a nexus of human-scientific investigation are united by common interests concerning questions of methodology and, ultimately, questions about the very purpose of science itself. The human sciences have historically oriented themselves toward emancipatory concerns, and in this context phenomenological research requires a constant mindfulness of its value orientation with all its social implications. This would include the important, however difficult, task of reflectively examining the presuppositions operative in research that are taken over from everyday and scientific life, personally and collectively, by researchers.

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INTEGRATED DESCRIPTION: A PHENOMENOLOGICALLY ORIENTED TECHNIQUE
FOR RESEARCHING LARGE SCALE, EMERGING HUMAN EXPERIENCE AND TRENDS

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Abstract

This article presents a phenomenologically oriented research technique that is suited to dealing with new, complex, broad based, or emergent human experience and activities. This technique combines basic qualitative and quantitative methods to result in an "integrated description" that may be especially useful for analyzing potential market trends and needs.

Introduction

The following pages concern the development of a phenomenologically oriented research technique that is well suited to dealing with new, complex, broad based, or emergent forms of human activity and experience. This technique is unique in that it combines established research methods which are often seen as being at odds with one another. That is, well established, basic qualitative and quantitative methods are combined to develop an integrated description of a particular human experience or activity. The qualitative aspect of the technique focuses on describing the underlying psychological structure of the target phenomenon. The quantitative description serves to balance the structure.

This discussion is situated within the context of a year long federally funded research project entitled, "Facilitating the Acquisition of Basic Computer Skills for the Older and/or Job Retraining Learner," sponsored by the US Department of Health and Human Services, and St. Francis College of Loretto, Pennsylvania. There is little need to discuss the importance of computer education or literacy for modern society. The social and economic significance of computerization is well documented in many quarters, and thoroughly popularized by the media. However, a brief account of the large context of the research project may help to communicate why the technique was developed, how it can be applied, and where its true value lies.

So great is the need that computer education has already been called "the next crisis in education" (Guvlette 1982, p. 107). Advanced massive computer literacy educational efforts are well underway in the secondary and college educational settings. However, it is ironic that if basic computer abilities are rapidly taking on the character of a survival skill in our culture, then those who need them the most seem to receive the least educational and market attention. Aside from those who are supported by their employers, millions of adult learners are left to fend for themselves in dealing with a very complex, poorly understood, high level learning process.

At least three factors complicate the situation. First, adults constitute an extremely large and very diverse learning (and market) population. There is no "one" adult learner or single adult learner profile (Cross 1981). Rather, we are dealing with a range of subjects that is characterized by incredible variation of background, ability, age, motivation, and economic support. Second, job security is becoming an increasingly important social issue because of the revolution in information. One aspect of the impact of computerization is an unprecedented problem of job displacement and need for retraining. Third, while researchers, educators and policy makers do have a handle on the structure and needs

of computer education for the other learner populations, they do not for adults. One reason for this situation is that computer education is an emergent phenomenon less than a decade old. Educational knowledge is limited for this area in general. Additionally, those of us who are adults received our formal educations long before the computer was on the scene in a large scale way.

Because of these and other factors, the aim of our work was to develop a "first clear look" at computer education for adults in America. The project resulted in the development of a manual of empirically based findings and practical suggestions for teachers, learners, and policy makers aimed at facilitating the acquisition of basic computer skills by adults.

While the results of the project are interesting in themselves and include practical marketing implications, in this article we are primarily concerned with the question of method. Through the research, it became increasingly clear that our assignment demanded the use of both qualitative and quantitative methods, what we are calling here an integrated description. First, the method is capable of dealing with the problem of ambiguity that always surrounds new, or emergent, social phenomena. Second, the qualitative aspect of the research allows us to understand events from the perspective of the experiencing subject who also is the potential consumer. Third, the quantitative research activities permit us to address the development of a reliable sense of the so called "objective" aspects of the phenomenon, which is especially useful for identifying major needs or trends. As such, integrated description can be useful for identifying primary consumer characteristics, needs, and potential market trends.

Qualitative Activities

One way of understanding the qualitative research activities is to view them as being concerned with discovering the "general structure" of an event or phenomenon. For those who are not well initiated in the language and techniques of phenomenology, by general structure we mean that which creates, constitutes and unifies any human experience as a particular or specific type. Very basically, the general structure of an experience is composed of two parts. One part of the structure is the "ingredients" such as the situation effect, behavior, and meaning that are necessary to allow the experience to occur. The second aspect is the relationship among these elements. These relations are the "glue" of an experience. They interact to hold an experience together in a relatively stable pattern, thereby providing identifiable form and meaning.

The academic discipline that is concerned with determining structures of experience is called phenomenological psychology. The aim of this approach is to use established phenomenological methods of description to determine the structure of any given human experience or phenomenon. To paraphrase Martin Heidegger (1962), the goal of phenomenological methods is to "let that which shows itself" (any particular phenomenon) "be seen from itself" (from its own side or structure) "in the very way in which it shows itself from itself" (or with a high degree of descriptive fidelity). To be succinct, to do a phe-

nomenological analysis means to identify the essential aspects of a phenomenon, and to fully articulate their character and relationship with one another until the entire phenomenon is laid bare.

It is very important to realize that while the subject's experience is paramount in this process, it is only the beginning, the data for analysis. Actual phenomenological analysis involves an extremely detailed, rigorous movement between experience and reflection aimed at uncovering what is "beneath" empirical regularities and observations. This activity is scientific in the truest sense of the word. The process begins with the empirical data of experience or observation as does any other kind of scientific activity. We also use established principles of description and analysis to identify regularities. The research activity ends in a presentation of results which can be duplicated for verification or "proof". To be sure, while phenomenology is a human and not a natural science, there is nothing in the method itself that is questionable from the viewpoint of science. Here as in other fields of endeavor, including natural science, a researcher's fidelity to the method may, of course, vary.

Our particular application of the phenomenological method resulted in describing the essential elements of three major aspects of the acquisition by adults of basic skill in computer use. Describing what was learned, how it was learned, and who was learning were the major qualitative activities. However, since the point of integrated description is that it combines the best of qualitative and quantitative description, we will examine the actual steps of the research after we consider the role of the quantitative activities.

Quantitative Activities

Every method has its strengths and weaknesses. Qualitative research is penetrating or depth oriented. One of the chief advantages of such an approach is that it allows us to access the internal make-up of a phenomenon. Another strength is the ability to deal with ambiguity. The development of a general structure "clears" the field, so to speak, by providing a map of the terrain. In short, through the methods of psychology practiced as a human rather than natural science, the researcher can attain a reasonably solid, scientific platform that can also act as a framework for understanding.

Of course, it must be said that the quantitative orientation of psychology practiced as a natural science usually critiques phenomenological methods as not being sufficiently "objective". For those who understand the structure of science as a human activity, this criticism does not present a problem. For it is already understood that objectivity actually is consensual validity. The discovery of truth in science is an ongoing social activity which transcends the limitations of both time and culture. As such, objectivity is at the very heart of phenomenology. If the substance of the quantitative criticism is taken to mean that qualitative research is limited, then it is quite correct.

For example while qualitative research is unparalleled at the analysis of structure, it does suffer from the simple limitation of sample size. It is true that there are phenomenologists who feel that it should be possible to reach the structure of an experience through a careful analysis of a single instance of a phenomenon. However, most of us realize this limitation. Typically, we use small numbers of subjects, knowing full well that while each experience has its general underlying structure, this structure is lived a little differently each time it is experienced.

Most phenomenologists are familiar with more tradition-

al methods either through prior training or the need for self-defense. Therefore, we are also very much aware of the value of quantitative findings. The measurement of the range of variation, the frequency and intensity of an experience, and the presence of the physiological aspects of human behaviors are all important and necessary. The phenomenologist's criticism of traditional psychology is not directed to the value of its methods but to the danger that quantification becomes the end and not a means.

Integration

The sophisticated reader will see that not only are the qualitative and quantitative approaches useful but they also hold the potential to be complementary. It is this advanced concept that became so interesting and appropriate in our work. For we found it to be possible, even necessary, to integrate qualitative descriptions of structure with quantitative information concerning frequency and variation. The result of this activity was a balanced description of the three major, interactive components of the general structure of acquiring basic computer skills for adults. These include the major learning tasks, educational context and adult experience. Let us illustrate the technique by briefly presenting how it was executed in the study (Mruk 1984):

Describing What Was Learned. The first research issue concerned identifying basic computer skills, or "computer literacy". A standard review of the literature indicated that defining computer literacy itself has become a significant problem in the field of computer education. For instance, some people argue that computer literacy should mean the ability to do programming. Others take a more liberal view, suggesting that the ability to appreciate computers constitutes a basic degree of literacy. Another group speaks about "domains" of literacy. After examining some fifty articles on the subject, we decided on the following approach. First, since computer skills and education are so new, there are few facts, established standards or other sources of empirical information concerning the nature of computer literacy. Therefore, the articles themselves were treated as data: they were viewed as a source of information concerning the phenomenon.

Next, the articles were examined for empirical regularities. Those that seemed to have the same perspective concerning what kinds of skills were necessary to achieve "computer literacy" were considered as a group, suggesting a "type" or school of thought. In this sense our activity resembles a form of "content analysis". However, the next step involved using phenomenological methods to analyze the regularities in terms of their underlying structure. The result was the identification of four major types of computer literacy; the particular kinds of skills that distinguish each; and a description of their relationships to one another. In turn, these activities sensitized us to the general structure of the learning process that one must experience to achieve any particular type or degree of literacy.

Describing How The Learning Occurs. Since we were also concerned with developing teaching and learning suggestions for adults and their teachers, the structure of the educational context of acquiring computer skills was also important. Data sources for this phase of the research included articles on educational techniques and formats currently being used to teach computer skills to adults, the examination of text books, discussion with teachers of computer skills, and the observation of several classroom and learning situations.

When the same procedures were applied to analyze these data, it was found that there are two basic learning pathways (the academic and training routes) that adults

travel in order to learn how to use computers. Likewise, it was also found that within this general orderliness, there were also four types of teaching models that were most commonly used. The results of the descriptive activities included a first articulation of the general structure of computer education for adults. In other words, once we found the major types of computer literacy or skills, as well as the major teaching models, settings, and learning pathways, it became possible to describe the whole configuration. The result was a rough or "working" general structure of what adults learn in acquiring computer skills of all types, and how they learn.

The Who Of The Experience. The working structure provided the background for the final research activity. Once the "what" and "how" of the phenomenon became apparent, it was time to focus on the experience of the individual adult learner. The final research activity may also raise a few phenomenological eyebrows, a response we have, no doubt, already elicited from their traditionally oriented quantitative counterparts. After a lengthy review of the adult learning literature and the psychology of the human-computer interface (so called "user psychology"), we found that little work had been done researching the experience of average, i.e. non-specialized (Gilbert 1984), adults. Almost nothing was to be found on researching the experience of such adults as they were actually involved in the process of learning to do programming for professionals; how children learn to use a computer; and even on introductory level college courses for non-computer science majors. More recently, there is some evidence that this situation is changing in a favorable direction for adults (Harris and Anderson 1984).

In order to make the most widely applicable and efficient recommendations, our primary aim in researching the "who" of the structure was to identify the most significant adult learning patterns and needs. We found the survey to be among the standard tools for researching the human-computer interface (qualitative description and behavioral measurement are the other two), and decided to conduct one of our own. Surprisingly, a relevant comparison had not previously been made. Accordingly, our survey questions, which were based on our earlier work, were administered to both regular college students (age 18 to 24) in an introductory college computer course, and to a fairly equal number of adult learners (age 25 to 64) who were enrolled in a typical night school class. There were about sixty subjects in each group.

While the quantitative methods of analysis were limited to simple percentages, the procedure was useful in a number of ways. First, it allowed us to test our earlier results quantitatively. For instance, we asked participants questions concerning basic types of computer literacy or skill. Their responses helped to substantiate our findings concerning the existence of four types of computer literacy. Second, we were pleased to find that the survey surprised us. Using a larger number of subjects than generally found in qualitative studies opened the door to new insights that interview or description alone might not have reached. For instance, when asked if learning to operate a computer increased their self-esteem in any way, approximately 64% of the adults said yes, while only 40% of the regular students responded positively. The implication is that the psychological impact of acquiring computer skill could itself become a subject of interest. Finally, the results of the survey allowed us to "flesh in" our general structure, so to speak. The survey of a larger number of people allowed us to identify the most important aspects of the adult experience more easily. Since many people in our society believe in numbers, the use of even basic statistical information,

speaking in terms of percentages may also increase the credibility and potential final impact of the project.

Discussion

Those who are familiar with phenomenological methods might ask why we chose to focus on the experiencing subject last in our research, when the usual procedure is to begin there. The answer to this question is that unlike researching an effect like anger or making a decision, computer education is a very new human activity. In fact, this learning process did not even occur on a large scale until the advent of the microcomputer, which just appeared in the late seventies. While the contexts of other forms of experience are well understood, we are dealing with a very new area that is still emerging. Additionally, the pace of the computer revolution is astronomical. If airplanes had been developed at the same rate as computers, today we would be flying jets that traveled over 250,000 miles on a single gallon of fuel! One implication is that even the most recent knowledge concerning computers will often be outdated before it is published.

Of course, it should be said that considerable experimentally oriented pilot work was done in the very early stages of the project. This activity included enrolling in computer courses, observing a number of teachers, and informal discussion with regular and older students. However, it was the development of a working general structure that gave the researchers a firm place to stand while examining this new, emergent kind of human activity. The initial but empirically stable platform allowed us to have a grounded, ongoing perspective and sense of direction in an otherwise extremely fluid and complex field.

Anyone who really understands phenomenological research already knows that the particular route the researcher takes depends upon his or her training, perspective, and, of course, the phenomenon itself. It is only necessary that the path be documented for others to see and evaluate for themselves. Another thing to consider is that our phenomenon showed itself as a new phenomenon; one that was genuinely emergent, or half-buried among a number of related events concerning computers, computer science, education and psychology. In other words, by combining qualitative and quantitative methods, integrated description truly enabled us to pursue the phenomenon as it "showed itself from itself". While it may have been possible to follow the descriptive trail from a small number of subjects, it certainly would have taken much more time. Although it is true that we could have done a much more sophisticated survey and analysis, a survey alone can not hope to reveal the learning process involved in acquiring computer skills for adults.

As we move toward closure, we can say two things concerning integrated description to those who dismiss qualitative methods, or who feel alienated by our simple use of very basic quantitative methods. First, we have no desire to produce another collection of facts so discrete that they are devoid of context or meaning. Psychology has been abused by this practice long enough. The entire phenomenological tradition has already addressed these issues and the basic argument is available elsewhere e.g., Edmund Husserl's (1954) The Crisis of European Sciences and Andy Giorgi's (1970) Psychology as a Human Science are representative. Second, the practical possibilities offered by combining qualitative and quantitative methods in this way far outweigh any philosophical bias. Let us turn to a brief consideration of how this is so.

Implications

The ultimate value of any applied science like psychology

is its ability to improve the quality of human life. In this case facilitating the acquisition of basic computer skills for adults was the ultimate objective. The qualitative aspect of our work allowed us to see the structure of what was being learned and how. Such things as teaching techniques, learning environments, and what kinds of educational materials were being used, which ones were seen as helpful, and what was needed or being asked for, were identified. In short, because our description included both qualitative and quantitative information, we were better able to develop concrete research, teaching, learning and policy making suggestions that were firmly situated within the structure of learning computer skills.

Earlier we saw that one chief value of the qualitative work was the development of a general structure to organize information. Likewise, a survey of the specific target population in the actual learning situation, gave us a sense of priorities for adult learners. The integration of basic qualitative and quantitative descriptive methods into one technique allowed us to make practical recommendations to the areas of greatest need, and highest potential return. For instance, we were able to target aspects of computer educating adults that seem most viable in the competition for state or federal funding. Private sector applications include such possibilities as identifying areas of the greatest market potential for publishing companies that write textbooks, or for computer manufacturers and dealers interested in meeting the hardware and software needs of this large, growing market.

In short, the final value of developing an integrated description is that it is eminently practical. The teaching, learning, and policy making suggestions that we developed were designed not only to enhance the learner's movement through the learning structure, but also to further our suggestions through the highly competitive worlds of public sector funding and through the even more highly selective private sector or market situations! Practically speaking, the research dialectic that arises by integrating an appreciation of quantity into the qualitative framework of the phenomenological perspective takes the work much further than it could otherwise go. Being phenomenologically oriented, we definitely have a preference for qualitative research. However, there can be no doubt those who work from the quantitative perspective would also benefit from the balance that would be created by building in a concern for the qualitative. In either case, it is the integration of methods into a single technique, and not mere combination, that we emphasize here for its descriptive power and practical utility.

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PHENOMENOLOGICAL ANALYSIS OF THE IMPORTANCE OF SPECIAL POSSESSIONS:
AN EXPLORATORY STUDY

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Abstract

Objectives of this study were to find out more about individuals' experience of attachment to emotionally significant possessions at different ages. Although some research on individuals' general possessions and worldly goods has been done, little research has focused primarily on attachment to special possessions beyond childhood. A phenomenological research approach was chosen as most suited to the exploratory nature and descriptive goals of the study. Twelve mature, articulate, well-educated individuals were interviewed in depth concerning their "possessions of special importance," both past and present. Most research participants described attachment to special possessions at all ages. Patterns in the developmental function served by special possessions at different ages were found, and these patterns, as well as the importance of special possessions in the process of growth is discussed.

Introduction

The importance of possessions of special emotional significance and their meaning to individuals has long been popularly recognized. A child's cuddling of a blanket or teddy bear, a teenager's obsession with his automobile, an adult's attachment to a worn but valued jacket or shoes; such examples occur constantly in the media and in everyday life. It is clear that such attachments occur at all ages, and with all different types of possessions, from cowboy boots to convertibles, though little research has been done in this area. The literature focuses almost exclusively on special possessions in early childhood (Hong 1978), or on possessions and possessiveness in general (Belk 1983; Furby 1978). The objectives of this study were to learn more about well-adjusted individuals' experience of their relatively few such specially treasured possessions, and the function such significant objects might play in a person's life and growth.

As a psychodynamically oriented clinician, I initially become interested in individuals' attachment to special possessions through observation of patients and through the work of D. W. Winnicott. Winnicott was a pediatrician and psychoanalyst who first observed and described well-adjusted children's attachment to a first treasured possession, e.g. a doll or "security blanket"; he also discussed the role special possessions play in normal development (1953). He stressed that these attachments are expected and usually benign, unlike previous researchers who had seen such attachments as pathological; Wulff (1946), for example, went so far as to call such objects "infantile fetishes." Winnicott, however, saw special possessions as serving a crucial soothing function, and facilitating growth during the earliest phase of development. This period of development extends from about six months to six years of age and is one in which the child becomes a separate person and then begins to turn to others outside the family (Mahler 1975). During this time the child's internal equilibrium is easily upset--witness the "terrible twos"--and the treasured possession is understood to augment the necessary calm and comfort the mother lends to an upset, overtired or disoriented child.

Later researchers and theorists have largely concurred with Winnicott's formulation that a child's attachment

to a first special possession facilitates and is a sign of growth. Metcalf and Spitz (1978) have described the earliest special possession as a "psychic organizer," a signifier of certain essential developmental processes, such as memory, creativity and imagination. Tolpin (1971) points out that not only does the first treasured possession provide soothing, but that through its use a person gradually develops the ability to soothe himself, and the child "grows beyond" the need for a special external soother; this would account for the facts that attachment to teddy bears and blankets fade out between about six and ten years of age, and that presumably few adults sleep with a stuffed toy. They have successfully negotiated the early stages of development.

Research on young children's attachment to special possessions has provided a great deal of information about early development (Hong 1978). A problem remains, however, in that although Winnicott and subsequent researchers have focused on the first special possession which occurs during the early phases of development and growth, Winnicott himself and others have pointed out that growth continues throughout life (Erikson 1950). Also, it is apparent that attachment to special possessions occurs at all ages, although the possessions themselves and their importance is of course different for an adult, an adolescent, or a child. These significant possessions are not confined to early life any more than all developmental issues are confined to early life.

Until recently, the attitude towards adults' attachment to special possessions has been much like that towards children's attachment to special possessions prior to Winnicott; that is, adults' special possessions are usually viewed as pathological or rather fetishistic. However, fetishes block or fixate growth and are different from the kind of possessions considered here. Recent theorists have begun to view adults' emotionally significant possessions as potentially growth-promoting (Kahne 1967; Halpern 1968). One study found that well-functioning adults do in fact report significant emotional attachment to special possessions (Vlosky 1979). However, the study was a quantitative one, and other findings from this study were judged overly theoretical, premature, and not particularly helpful at a stage when more exploratory, hypothesis-generating research is needed in this area.

The goal of the present research was to explore and obtain as full a description as possible of individuals' experience of special possessions at various ages. A phenomenological research approach was used, as the objective of the phenomenological method is to describe experience rather than to test hypotheses (Giorgi 1970). Such an approach allows one the opportunity to examine each individual's experience of special possessions in depth and without prior assumptions, and puts an emphasis on the qualitative rather than the quantitative. Since a basic phenomenological assumption is that all human experience is structured and has meaning, the need to force or impose a priori structure is eliminated. A semi-structured interview method, as described by Colaizzi (1978) and de Rivera and Kreilkamp (1981), was selected as that most appropriate,

sensitive, and powerful for obtaining current and retrospective data from articulate adults.

Method

Twelve volunteers, 7 women and 5 men, were interviewed at a location of their choosing. Participants were all middle class Caucasian adults between 35 and 59 years of age. The majority of individuals were college-educated, employed, married and had one or more children living in the home. An attempt was made to enlist articulate adults who have had a variety of life experiences in order to find out if such well-functioning individuals report attachment to special possessions.

All individuals participated in an audiotaped, semi-structured interview of between one to three hours in length. An interview guide which appeared to best elicit an adequate description of individuals' experience with special possessions was developed during a pilot study (Myers 1984); questions were generated and refined during the pilot study using information from a combination of sources: previous research on special possessions, phenomenological research, personal introspection, and constant feedback from pilot study participants.

The interviewer's goal was to allow each person to describe her or his experience with as little prompting or interference as possible, while still maintaining a focus on the study of emotionally significant possessions. A flexible, sensitive approach was used, which fostered a sense of mutual interest in and curiosity about the person's experience; it was here that development of clinical interviewing skills over several years' time was of great importance. Spontaneous comments about special possessions were followed and explored. If the participant did not volunteer information initially, a temporal format was used, beginning with the question, "Many people have a blanket or teddy bear or some other thing that is of extra special importance to them when they are young. Did you have something like that?" Various qualities of the possession--what ages used, what it was like, how it was used, how often used, how it was acquired, what eventually happened to it, what its importance was, and etc.--were asked if not spontaneously addressed by the participant. Later periods in the person's life were subsequently covered in a like fashion, until both interviewer and participant felt the subject had been discussed fully and a sense of satisfaction and completion was apparent.

Although most participants conveyed a strong sense of involvement and enthusiasm during the interview, several expressed initial reservations about exploring their experience, for example stating that possessions "shouldn't be important," or were embarrassing to talk about because they were so important. Such expressed or implied reservations were always discussed without delay, and participants were most often easily able to continue with the interview. In a similar vein, beginning the interview with a person's early life often worked best, apparently because it was seen as more distant and therefore less revealing, and because talking about one's early bear, blanket or doll seemed to help the participant get in touch with his or her experience of special possessions in an emotionally immediate way.

Each interview was analyzed for thematic categories following a revision of the procedure described by Jones (1984). After transcription, each manuscript was carefully read numerous times, and possible themes and regularities noted. Thematic units were then grouped into clusters, and tallied for frequency of occurrence. A circular and painstaking process requiring continuing

revision, checking back and attention to the exact descriptions given by each participant was used. In addition, reported special possessions were organized in various ways to facilitate further depth of understanding. For example, the succession of all special possessions and some of their reported importance was charted for each participant from birth through the present, as in the figure shown below. Such charting facilitated comparison of patterns within and between individuals. However, it is important to bear in mind that many different approaches appropriate to the material were used in order to obtain a fuller description of individuals' experience of special possessions.

FIGURE 1

Example of One Individual's Special Possessions And Their Reported Importance

<u>Age</u>	<u>Object</u>	<u>Importance</u>
2-5 or 6	Blanket	-Security, something to hang on to; there were a lot of changes then.
3-on	Books	-Window on the world. I always have to know, always have to find out what makes people tick, what makes events tick.
8-12	Doll	-She represented the role to which I aspired. She was free, she could do what she wanted as a woman.
12-18	Art Box	-It was an affirmation of my self and my ability. My father was artistic and he made it for me. Very useful. It is still a potential.
17-21	Wedding Ring & Presents	-That was the badge, you belonged. It was an intense, special time. Setting up your own household.
20-on	Jewelry from Husband	-It's special, makes me think of him.
20-30	Children's Childhood	-Mothering is a very important part of my being. I possess their childhoods in a way they never will, cause I've got all the memories of them as little kids. It's just inside me; it always will be. I would like to share it.

Results

It was found that well-functioning adults do indeed report attachment to a wide variety of special possessions at all ages, through the present. This finding would seem to indicate that such attachment is expectable and nonpathological, and confirms more recent theory and research. The median number of special possessions reported was 9, with only one person reporting almost no special possessions.

Of course, most of the emotionally significant possessions discussed differed in many ways from the child's earliest toy or blanket. Just as the teenager's or adult's body, intellect, developmental issues, and inner complexity change with maturation, so do their special possessions and the importance ascribed to those possessions. The term "special possession" was found to cover many kinds of experience for people, ranging from the more typical toys, books, clothing, vehicles and tools to pets and intangibles such as travel, music and relationships, e.g. her "children's childhood" cited by the woman in Figure 1, which she carries within. In addition, adults often reported attachment to more than one special possession at a time; this is in contrast to young children whose attachment is usually

to only one particular possession, as parents have often learned to their chagrin, when the possession is lost or misplaced. Adults' multiple attachments are again seen to reflect their greater complexity relative to young children.

What does not come through in the word "attachment" is the intense, emotionally rich quality conveyed by those interviewed. They were generally eager to talk about their special possessions, often reacting with warm laughter, or at times with tears or sadness, which led to further discussion. Even those with reservations, expressed either directly or through anxious laughter, became very involved when talking about certain cherished possessions. Participants made clear the unique and deeply felt personal meaning with which they imbued their special possessions. It was obvious that such possessions are not static memorabilia, that they do not merely catch a moment for nostalgic reflection; at the time of their greatest importance, such emotionally significant possessions appear to reflect and influence the individual's growth, in a dynamic process. Perhaps an example will illustrate this process more clearly.

Example 1: A teenager's father died at the end of her junior year of high school. Shortly thereafter she decided to save her money and buy herself a rather unusual sweater. Although she did not realize it at the time, this sweater had buttons similar to those on the dress worn by her favorite childhood doll. The girl wore or carried her sweater with her everywhere, regardless of the weather or occasion, for about one year. She then took it to college, but began to feel somewhat embarrassed about the sweater, which seemed a bit out of place in her new environment. She eventually put the sweater away and became absorbed in academic and social activities. Of the sweater's importance to her she says:

"It was my special cloak, my special shield, something that made me feel very safe, very caught up in something else, very connected to something else, something very warm. I clung to that sweater; it was there all the time. It was big, you could wrap yourself up in it. At the time I really needed to have people around me, and needed to shield myself from a lot of emotion. My friends were unemotive, wrapped up in school. Afraid I was going to 'lose it' if I started to get upset, overwhelmed. It was a tough sweater: 'I can deal with anything if I have my sweater.'"

One gets a sense of the complexities involved. Like a young child, this girl responded to feeling overwhelmed and alone in a crisis by clinging to something soft, warm, and imbued with soothing qualities. Some of the sweater's physical characteristics even harked back to her earliest special possessions, which served a soothing function long ago. Yet, like the increasingly autonomous adolescent that she now was, this girl saved for and bought the sweater herself. She picked a sweater that was "different," that let her stand out from the others, yet was comforting. It was "there all the time" as her father was not, and wrapped around her as her father's arms were not. Yet gradually her attachment to the sweater faded to the point that it was no longer needed; she "grew beyond" the sweater, as she could now cope with her loss and comfort herself, and she went on with school and friendships.

The example illustrates well that a person's attachment to special possessions is a dynamic process. This process involves, first, the object; second, the individual and her or his situation and history; and finally, the interaction of the two, an individual's

investment in a special possession. Winnicott used a special metaphor to describe this investment as occurring in "the third area of experience," which includes fantasy, creativity, play and imagination: those qualities which make us both unique and uniquely human (1953). The sweater was a sweater, and also more than a sweater. It had for this girl certain qualities it would have for no one else but her alone in her particular circumstances and time of life.

In addition, a pattern of shifts in the intensity of an individual's attachment to special possessions is a hallmark of the dynamic process described above. It is a process whereby the possession at first increases in importance and specialness for the individual, then maintains a certain importance for a period, and gradually fades or changes in importance to a greater or lesser degree. This pattern is also reflected in a reported change in attitude towards the special possession, often either one of "It means something different to me now" or of "I've gotten beyond that." Such is the case in the examples above and below.

Example 2: A man in early middle age bought the convertible he had always dreamed of, with money gained from an award for professional excellence. Although possessing the car was initially thrilling and satisfying, he eventually came to feel that it was "a pain in the neck," what with its leaks and drafts, poorly fitting top, cramped seating, and etc.; these difficulties had at first influenced his attachment to the car not at all. His attitude towards the convertible changed, and by the time he eventually sold it, he felt glad he had owned it, but glad to see it go and a bit rueful about his former enthusiasm. As he did before buying the convertible, he has driven a sedan ever since. In his words, "I went through that stage. Maybe when you're young you can put up with that, but after all those years you're ready to try something else."

Example 3: A man in his late twenties decided to buy a convertible. Up until that time he had driven conservative cars, but decided to change and get something flashy and fun--as he described it, "a real sensation; everybody would turn and look at your car." His decision to buy the convertible happened during the same time as his decision to begin seriously courting women, as opposed to the casual dating he had done for the last several years; one could almost equate the car with "courting plumage." However, he eventually noticed that it was other young men who noticed and were impressed by the car, and that "the girls I knew were interested in me as a person; the car was no big deal to them." After marriage, he found the convertible did not fit with the demands of married life or his new job, and that he was no longer willing to spend time "fussing with the other guys, washing it, polishing it, fixing minor repairs, and a lot of little things like that. As your life changes, why your values change. It was just a phase I was going through. When I finally went to get rid of it I wasn't disappointed to see it go."

The two examples above also demonstrate that it is not the similarity of the object--in this case convertibles--but the similarity of the importance of the object in the individual's experience which is primary. One man was dealing with the change of entry to young adulthood, another with the issues of middle age. The dynamic process of attachment and eventual decrease in attachment occurs for each, yet the issues involved are very different. Similarly, two other individuals discussed very different possessions which dealt with the same issues at the same age: one woman valued an art box as a teenager which was made for her by her father;

a man cherished his homemade racers, and working on them, at times with his brother and father, during his adolescence. For these two individuals, both possessions signified and participated in development of competence, and a confirmation of self and one's developing skills during the crucial stage of adolescence. Again, different possessions, similar importance and function.

In examining individuals' attachment to special possessions, and the pattern and process of that attachment, it appears that emotionally significant possessions are a sign of and participant in a person's growth and change, as in the examples above. Such change can take two major forms. It can be situational, as in the trauma of a parent's death (Example 1), the changing circumstances of going to boarding school, and so on. Or the change can be developmental, occurring as a consequence of maturation, as when an individual enters adolescence, middle age (Example 2), young adulthood (Example 3), etc. And of course, the two types of change, personal and developmental, often are intertwined, as when an adolescent on the verge of young adulthood goes off to college. The latter type of developmental change continues throughout life, with certain predictable crises of growth occurring in sequential and sometimes recurring stages for all well-functioning individuals (Erikson 1950). Since special possessions signify and influence growth, an individual's special possessions show the sequential regularities and at the same time the uniqueness of a person's maturation and development. Thus, the importance research participants ascribed to special possessions showed developmental similarities between individuals, as certain issues and changes occur fairly predictably at particular life stages. These patterns in individuals' attachment to special possessions are seen as reflecting the different developmental tasks and changing complexity and circumstances of the individual over time: a teddy bear would not satisfy the needs of the average adult, and a three-year-old cannot spend free time tinkering with a cherished European sports car. The patterns and similarities in the function and importance of individuals' special possessions will be described below.

The earliest stage of development, from about age six months to six years, has been described by Winnicott (1953), as discussed earlier. Much research has been done on children's attachment to special possessions. As noted, the first special possession serves a classic soothing, comforting function which is widely and popularly known. Most adults in this study could not recall their experience with their first special possession directly, which is not surprising given their age at the time. Individuals frequently reported detailed information and anecdotes about the first special possession which had been told to them by a parent, usually mother. The possessions described were, in order of frequency, blankets, stuffed toys, and dolls. The importance ascribed to all these early significant possessions was that of comfort and security through a constant sense of a friendly presence. The special possession's function as described by research participants therefore agrees with that described in the literature (Hong 1971).

The possessions reported by research participants during elementary school years varied a good deal, as shown in Figure 2. Also, individuals began to report having more than one special possession at a time at this age, and to report some possessions with multiple meanings. What does not vary is the importance ascribed to possessions reported at this age. The watchwords are: go anywhere, do anything, pretend, and do together. People reported engaging in a great deal of fantasy play. There was also a trend

for sharing and the ability to cooperate and do things with others to first become important at this time and to gain in importance with age.

The above fits well with what is known about the developmental tasks of elementary-school children. With a more secure and constant sense of self, the elementary school age child's focus changes. Erikson terms the main issue of this age one of "industry vs. inferiority" (1950). To successfully negotiate this stage, the child concentrates on learning, doing culturally prescribed tasks well, and learning to do things with others. It is also an age of "doing things in fantasy," due to the restrictions of age; thus the popularity of larger-than-life heroes, who can certainly accomplish whatever task is set for them. This is also an age when children try out roles and possibilities, and develop identification with significant adults and role models.

FIGURE 2

Special Possessions and Their Importance Reported for School-Age Children

<u>Object</u>	<u>Importance</u>
Toy Cars	-It was fantasy, you could go anywhere you wanted to go, do anything you wanted to do with them.
Doll	-Pretending to be a mother.
Dolls	-I was trying to learn how to grow up to be a woman. We would play together, play acting grown-up.
Doll	-She represented the role to which I aspired. She was free, she could do what she wanted as a woman.
Instrument	-Having a musical instrument is an important part of being a member of my family. I accepted this feeling.
Books	-They opened doors to learning about mysterious other people and ideas. Through books I can go to a place or a group of people.
Aviator Suit	-I thought it was wonderful to pretend to be an aviator.
Bicycle	-We would ride all over together, play and go very far.
Toy Gun	-We would get together and play cowboys and Indians.

Examples of special possessions and their importance for adolescents is shown in Figure 3. Again individuals report a striking similarity in the importance of their special possession during this period, although the types of possessions themselves vary greatly. At this age important issues shift towards establishing one's autonomy, self reliance and confidence in one's abilities, while yet maintaining ties with family and developing peer relationships. Within this context, people spoke of developing real, unique, and self-chosen skills, and of accomplishing things in the real world of others. Recognition from and socializing with others was thus also reported as very important. The above themes and issues agree well with Erikson's formulation of the major task of adolescence as one of establishing a clear sense of one's independent identity and role in life in relation to others.

For young adults, gaining in independence and autonomy, the primary reported importance of special possessions changes to an emphasis on closeness and intimacy. Special possessions chosen reflect individuals' search for and commitment to another, and the awakening desire for growth through sharing one's life.

It is interesting to note the continuing importance of

FIGURE 3

Special Possessions and Their Reported Importance for Adolescents

<u>Object</u>	<u>Importance</u>
Bicycles	-It meant that you could get away, go further.
Art Box	-It was an affirmation of my self and my ability. My father was artistic and he made it for me. Very useful.
Instrument	-It was a good way to make friends and earn a place. It earned me respect. It was a door opener, and still is today.
Boyfriend	-It gave me a boost, gave me a sense of being attractive to males.
Book	
Car	-Independence. We'd all go places. It meant a certain amount of freedom to do some of the things I wanted to do. I wanted to get out and see what the world was like.
Soapbox Cars	
Building and Racing	-It was the highlight of my youth socially. I learned many things through my accomplishments which have helped me in later life. It made me more confident of achieving. I was proud for myself and my family.

some of these special possessions through the present, signifying the continuing importance of that individual's relationship with another. This continuity contrasts with the relatively short-lived era of such possessions as the sports car and first necklace listed in Figure 4. The importance of the two contains elements of the teenage need for "daring" and "flashiness" to set one apart, which is missing in the remaining examples, and which latter examples are hypothetically later and more "mature" manifestations of the period. Also worth noting is that the need for intimacy can become an issue again at almost any time following young adulthood, and the ascendance of this issue is often mirrored in attachment to a new special possession, or the increased importance of an already valued possession. Finally, several people spoke of changing feelings toward a special possession with a change--for better or worse--in their most important relationship, underlining the way in which attachment to special possessions mediates and is a part of an individual's most significant experiences.

FIGURE 4

Special Possessions and Their Reported Importance for Young Adults

<u>Object</u>	<u>Importance</u>
Necklace	-It meant my boyfriend cared for me enough to give me something that I could display and say it was from him. To this day that holds true with some things. It was also a bit daring to wear and get away with it.
Necklace	-The right thing at the right time to show me I was special to him. The first thing he gave me.
Lingerie	-A luxury to look my best in. Partly to please another person. I felt this was what a woman did before they were married.
Jewelry from Husband	-It's special, makes me think of him.
Sports Car	-It was fun, flashy, people noticed it. It was a way to impress the girls; to try to send a message that you might become a little more outgoing. It was just a phase.

For adults, new possessions of importance and new issues arise, often concurrently with other existing possessions and issues. Erikson notes that for the well-functioning adult what he terms "generativity" becomes important--productivity, creativity, developing something of worth to pass on to others. From individuals' self-report, as listed in Figure 5, it is clear that such concerns are primary for them at present, as is fitting for those in the midst of life. Here one notes a higher proportion of possessions which are currently of primary emotional significance to the research participants, again as would be expected.

FIGURE 5

Special Possessions and Their Reported Importance for Adults

<u>Object</u>	<u>Importance</u>
Instrument	-Means of potential livelihood, as well as something I enjoy. I want to accomplish something enduring to pass on.
Children's Childhood	-Mothering is a very important part of my being. I possess their childhoods in a way they never will, cause I've got all the memories of them as little kids. It's just inside me; it always will be. I would like to share it with them.
Articles	-I write them with students. A really close father and son relationship with them. I'm at the stage now where I like to share things and help them along. I always will; it will be there for me.
Award	-It means my students thought enough of me and my teaching to give it to me.
Coat	-It means I'm working, I'm productive, I've got a good income.

In completing this listing, it seems appropriate to comment on a final stage of life which research participants could not yet discuss, that of old age. Some recent research has been done on special possessions of older people (Sherman and Newman 1977-78). Their work provides confirmation that attachment to special possessions is indeed growth-promoting, as they found that "lack of a cherished possession was associated with lower life satisfaction scores" (p. 181). Besides listing the types of possessions cherished by the elderly, they report a phenomenon found rather puzzling: that fewer old-old individuals report attachment to special possessions than young-old individuals. Such a decrease in attachment would fit with the dynamic process of attachment to significant possessions here described, and perhaps a signal that one has come to terms with one's life in general and one's approaching death, a "growing beyond" the need for a tangible referent in this last stage of life.

Discussion

Although this article has focused on the patterns noted in individuals' attachment to special possessions, it is imperative to point out that the patterns are neither as rigid nor as fixed as they might seem from this presentation. It should be kept in mind that all summations of a special possession's importance used here, though they are in the participant's own words, are nevertheless much briefer and less full and complex than in the original text, threads pulled from the tapestry of the whole. The frequent intertwining, the waxing and waning, of several issues and/or special possessions at any one time in a person's life, are the background against which patterns appear. Special possessions may reflect and participate in the process of growth and contribute to certain developmental issues in a fairly regular fashion. However, the

particular possession chosen by an individual is not predictable, as it is part of that person's unique experience at any given time.

There is much individual variation in the attachment to and importance of special possessions for individuals. There were wide variations in the intensity of feeling for special possessions, from quite shallow to very deep. Moreover, the manner in which significant issues can be expressed through possessions also varies. For example, some individuals attach exclusively to one special possession during a certain period, while others have several special possessions at one time, through which several issues or several aspects of one figural issue are expressed. Other individuals remain attached to one special possession for very long periods, that possession serving many different functions over time as the individual's development progresses; conversely, many people become attached to a series of special possessions, one per developmental issue or significant change, as it were. This paper has merely tried to point to some similarities evident in the many unique variations in individuals' attachment to special possessions.

A phenomenological approach to research need not rule out other approaches when appropriate, but rather can expand the researcher's options. For the type of exploratory study attempted here, a phenomenological approach was the one best suited. Indications for further research derived from the present study could take many forms. First, the limitations of retrospective data with a restricted population are acknowledged, and studies of individuals of various ages re their current possessions of special importance would be of interest. Such research would lead to more detailed understanding of special possessions. Studies examining individuals' behavior, as opposed to their reflection on behavior and experience would also add to knowledge in this area of research.

Concluding Remarks

In summation, the ubiquity and dynamic nature of individuals' attachment to special possessions has been discussed, as have patterns in the importance ascribed to such special possessions. Again, it is important to point out that it is not the possession per se which is necessarily important, but the unique importance that it has for the individual at a given time in his or her development and experience. It would seem that the present research provides some confirmation that special possessions tap into the neverending process of human development and growth.

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A PSYCHOLOGY OF BUYING: DEMONSTRATION OF A PHENOMENOLOGICAL
APPROACH IN CONSUMER RESEARCH

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Abstract

Our aim is to exemplify a phenomenological approach to consumer research by investigating buying from the first-person angle. Twelve descriptions of buying were provided by six subjects. One such protocol, an analysis of that instance and a general qualitative explicitation of buying are presented.

Since phenomenological psychology has used diverse methods in accordance with the variety of its phenomena and research interests, the present effort is characteristic but not paradigmatic. In researching buying, we have focused exclusively on the psychology of the buyer and within that limit attempted to keep our interests fairly open-ended. We investigated a representative instance in some depth and attempted an analysis of buying in general, at least as a heuristic for further research. We wished to learn about the situation in which buying is undertaken, the meaning, purpose and structure of buying, and how the value of a purchase is constituted.

Method

Six individuals, including the two researchers, volunteered to participate in the research. These included both genders, ages ranging from twenty to thirty six, professionals and non-professionals, and a variety of socio-economic positions.

Each subject was given the following instructions: "Please describe as fully as possible a situation in which you bought something. Be sure to include whatever led up to the purchase and what followed it." Four subjects provided more than one description upon our requesting examples of "good" and "bad" purchases. We obtained twelve written descriptions in all, each ranging from one to five pages. The items purchased included an automobile lock, emergency room health care, a hair-styling "mousse", groceries, perfume, rolling papers and pipe screens, a hotel room, gasoline, a concert ticket, a clock radio, and a bathing suit.

One description was chosen on the criterion of completeness in order to demonstrate the analysis of an individual instance. The analysis proceeded sentence by sentence in an attempt to explicitate the psychology of this particular case. This required an empathic immersion in the situations described, an attentiveness to their meaning for the subject, distinguishing the various constituents of the buying process (e.g. temporal phases), relating these moments to each other and to the whole, and integratively expressing the findings.

The general analysis included a reflection on general features of the individual case analyzed, comparisons of our twelve examples of buying in which commonalities and divergences were distinguished, further comparisons involving cases recollected and imagined by the researchers, and finally an integrative expression of insights.

An Individual Description: "A Worthwhile Purchase"

I was offered a car by my girlfriend's parents, who had bought a new one and were willing to give the old one to us. It seemed like a great idea since summer was coming and it would provide a way to get out of New

York City to the beaches and mountains. It's so hot in the city, and oppressive. More importantly, I'm changing jobs and am going to have to travel about a half hour up into Westchester County in September onward for my new job. The train would eat up three or four hours a day, and a car could get there in a half hour. That will allow me to do work I could never get done on the train. There were two main problems, the main one being parking. Indoor lots are too expensive. So I looked and the cheapest I found was at the Pan Am heliport near the river, for \$115 per month. At first I thought "great" because it's right near home but then I wondered if the car would be safe there--the second problem. I asked the attendant but he didn't know, and neither did the police.

It was a Sunday that I drove the car, in right to the heliport. I pulled in next to a guy washing his car and asked him if he parked there, if he thought it was safe, etc. He said he didn't park there--had time to park it in the street. He doubted that it was safe, said the whole city isn't safe. I'd vaguely realized that already but his comment aroused more fear. My car could really be stolen. He said he had one of those hooks to connect the brake and wheel and took out a little black one. I'd seen them before but they always seemed kind of foreign, mysterious, mechanical, and even needlessly paranoid. But this time I thought immediately I'd try to get one. He said, "it won't stop anyone who really wants the car, but it is another obstacle in their way." I thought that's probably right. I immediately thought of getting one right then, but I wasn't sure if stores were open. I hate auto stores because that equipment is so foreign to me and I've spent a lot of money for things that never worked. I wondered what the best kind was, if they'd have one that would fit my car, if I'd be able to install and use it, if it would cost a fortune (though I was glad to pay). I went home and called, and the auto store was closed. I felt I really needed this thing, as if my car could be stolen without it. We'd miss the car, be stuck in the city, I'd have to ride the train, and my girlfriend's parents would be upset and embittered about this city, whose dangers they already think about too much. It was funny, because before this I hardly even knew these things existed, and now I was becoming more and more obsessed with buying one.

The next day I asked around and found an auto store in Fort Lee, explained what I wanted. The owner, there with his wife, were parent-types and pointed to the wall. It was a small store and seemed like a very reliable one, down to basics rather than a lot of commercialism. The lady said there were two kinds and one is the best made, adding that the \$25 price was really good and how they sell them for more somewhere else. Her husband agreed. It looked odd--I was definitely going for "the best." The metal looked a little flimsy I must admit, and that made me nervous. It had a red day glow plastic part for the wheel and brake rather than black like the other guy's. That made it seem a little less serious. I went to the bank, got a cash advance, went back and got the hook. I felt relieved to have one and rushed to my car to check it out. It felt more solid than it looked, had all kinds of reassuring things written on the package, like "they'll never break this one." I ripped it out of the package and to my surprise, I figured out how to work it quickly and it was easy. The key worked good. It was adjustable--for any car, and fit mine fine. I got to like the idea of the florescent red when I real-

ized it warns burglars that they're in for a hassle before they break the car window. I was really happy with my purchase. I felt safe. So I put it aside and went on my way.

Then I started to use it almost every time I parked the car, even places I'd never have worried about having my car stolen before. You never know--cars are stolen everywhere, so why not? It works easy and gives me confidence because if you want to steal a car, why not take an easy one. Who carries a hack saw anyway? If they do, they'll probably get your car no matter what you do. Somehow I feel they'll leave me alone with that thing on the wheel--the car's not new or expensive. One time I had to have the attendant park my car after I left and since I took my keys, they couldn't lock the hook on. It was out there for two days without it and I was a little worried, but when I got back I saw the attendant had put the hook on even though he couldn't lock it, and I thought that was good of him and smart. It could deter even if it wasn't locked! The only thing I don't like about it is that it is a bit of a hassle to unlock it and also it hits your knees when you slide out. It could be more unobtrusive and easier to lock, but I'm really happy with it. It's always there, keeping my car there. When I'm in the car I feel like it's mine permanently, not tenuous or threatened or here today maybe gone tomorrow. I never felt so secure.

So by now I've been to the beach several times and have used the car for all kinds of things. It makes everything run more smoothly and leaves me more time to work, which I love. I've since kind of forgotten about the hook, and I guess I use it a bit less. I don't like the idea of feeling I have to use it all the time, being in a constant state of fear. I read an article on preventing car theft in New York magazine and they'd have you get all kinds of expensive chains, sirens, etc. That's crazy, too cumbersome and involved. I always use it in the parking lot--automatically--and if I'm in a place that seems like it could be stolen, I'll use it, but that's rare. I often park without even noticing the lock. I know the car could be stolen, but I feel like I've taken reasonable steps. The hook is no production--it's sort of cute. If the car's stolen, so be it. Of course I'd be angry, but that's life.

An Individual Analysis: Buying An Automobile Wheel/Brake Lock

In this case buying is a transaction wherein the subject gives up valuable resources to an other in order to appropriate a car-lock. It is the pivotal point through which the subject overcomes an array of fearful anticipations and establishes greater security in a newly undertaken life-style. In its successful maintenance of relative or limited safety and facilitation of enriching endeavors, the lock is considered well worth the price. In this structure or flow, we distinguish the problematic situation, the discovery of a buyable solution, the act of purchase, and the transformative integration of ownership.

The Problematic Situation

The subject is attempting to preserve possession of a car, which is a gift from supportive others and instrumental in desired work and play activities. The car allows access to the beach and mountains, and to a new loved job. Just as these activities depend on the "vehicle," this material support in turn depends on a safe place with convenient access, so the subject interrogates the city environment. He finds a convenient and affordable parking lot but for the first time views the city in its possibilities for car theft. The problem is that the subject's grip on the car in the affordable lot is tenuous--the car must be left unattend-

ed--which allows for an other to snatch it from his possession. This anticipation is at first shrouded in uncertainty but the dawning sense of vulnerability and jeopardy, vaguely given, is clarified in dialog with others. The police and parking lot attendants do not offer any perspective on the likelihood of theft, but the subject finds a fellow owner, with whom the problem is articulated. The subject identifies with the other, who is in the same position, and believes his assertion of the presence of thieves, doubtful safety, and ever-present uncertainty. The subject's fears thereby deepen, gain reality, and widen beyond his parking lot to the whole city. However specific, the meaning of the problem is not limited to the demise of the desired life-style by the loss of its material means. The threatening probability also includes irresponsibility and powerlessness on the part of the self, the effacement of the bond with supportive others embodied in the gift, disappointment and intensified fear on the part of the concerned others, and a global change in the experienced quality of city life towards an admission of its dangerousness, which the subject has hitherto minimized.

The Object: A Buyable Solution

The subject pushes for a solution from his more worldly "twin," who helps not only by articulating this diffuse problem but who shares his solution, an ingenious wheel/brake lock which has kept his car immobilized except to him who has the key. The subject recognizes the shown object with an "Aha!" experience whereby what had been previously seen occasionally and viewed as "theirs," unnecessary, alien, strange, foreign as well as mysteriously mechanical and even crazy (paranoid), immediately appears as "just the thing for me." This click into the subject's world rests in the object's material embodiment of the subject's own human intentions and purposes, namely to get a tight grip on and hold onto the car when not present "in person," without incurring too much expense. This object has a purpose, an intention--a tight, vigilant and enduring grip. It is a steel stand-in for the subject's body. This reification of the intention to hold onto the car transcends the body's natural powers; the lock is stronger than and separable from the body so that the person is free to go while the object "does his work." And it is "cheaper" than an indoor garage with live attendants, which the subject cannot afford. It is this internal link that connects this inert object with the subject and makes it desirable as his. Hence the sense of appropriating this object is an extension of his hold on the car to everywhere and always such that he can leave the car without giving up his hold on it. The object cheaply yet strongly grips, secures and transforms safety from doubtful to probable, as the comrade says. The subject agrees with the comrade's evaluation that the object does not guarantee security in an absolutely certain way, which makes the latter seem sober and credible rather than self-deluded and thereby makes object more trustworthy.

The Act of Purchasing

The intention to buy the object immediately regestalts the subject's surroundings as they refer to the availability of the object. His stock of knowledge supplies him with a sense of which type of store--auto stores--sell this object. Several spatial directions leading to these stores light up and the time--Sunday--is viewed as meaning they might be closed. Also in play comes the subject's historically sedimented relationship with auto stores, which seem foreign, unfamiliar and have sold unfitting, inconvenient, and expensive items to this non-mechanically inclined buyer. This appropriative order also includes the subject's financial resources, which are sufficient and the cost of the item is considered well worth it, i.e. far less than the cost of indoor parking, let alone the car itself. As the subject be-

gins to gear into this buying totality, both his desire for the object and his anxiety over his expertise at purchasing this type of thing increase. Behavior--reading the phone book, making calls, and driving to New Jersey are instrumental in the attempt to punctuate the growing fearful fantasies of theft by buying the lock.

The store partially transforms the subject's anxious expectation of a difficult and possibly unsuccessful purchase. It is not big, anonymous, commercial, and run by unconcerned mechanics but small, personal, providing-oriented, and run by a parental couple. The ambiance of a home-like, effective, mechanical world makes it seem reliable. What is at stake here is getting an object which solves the problem rather than one that doesn't work or is less than optimal. The owners are helpful and encourage with their fuller knowledge without being pushy, manipulative or too apparently self-interested. This is how the store begins to alleviate the subject's fear. After the owners point out two brands of locks and give advice on "the best" with its "good price," the subject focuses perceptually and sets out to assess and choose. The product pointed to looks "odd"--different from the other one, and flimsy. Here the subject views the object from expectations of something strong, hard, and big, against which the flimsy, breakable character of the object stands out. The subject implicitly takes the role of the thief, and the red, day glow color makes the lock look plastic and "showy," as opposed to the comrade's "serious" lock. However, the subject implicitly trusts the word of the owners on the lock's value.

The act of purchase is itself essentially a transaction, a trade of valuable resources--money--for an object of greater worth, but the value of the object is not fully determinate at this moment. The subject is taking a risk by trusting the salespeople and giving over a possession of unequivocal value and multiple uses for an object that may not even fulfill its one limited use. Buying--anxiety pertains to the everpresent horizon (i.e. implication/potentiality) of depleting one's resources, the polymorphous power of money, for something of less worth. Buying involves an uncertain reciprocity with other people in which one stands to lose or gain without yet knowing which. Hence the significance of the act of buying, inasmuch as it aims beyond a store-situation containing decontextualized idle objects, is not disclosed all at once and remains to be determined in the unfolding relation of ownership.

Owning the Bought: Successful Integration

Buying leads to an extended process of having which begins with the anticipation of a usefulness which will lessen the subject's fearful anticipations of theft. By transposing the object from the store context into the subject's personal world, the latter is transformed. This is initiated by the subject's excited journey back to the car, in which he immediately tears it out of the package and begins a personal relationship with it. The producers, who have made the object and fashioned it according to the subject's intention, symbolically reassure him that it will effectively preclude theft, like a strong slave at his disposal. It embodies power that will now be his. Touch confirms this--the lock feels more solid than it looked in the plastic. The feel and the writing secrete a whole new scenario that gradually replaces the fantasy of theft. It works easily, conveniently, is simple to handle, and adapts itself to fit the car perfectly. In this process of unfolding the object's meaning, new purposes or intentions are discovered in its materiality; the red day-glow plastic is recognized as a warning which will stop thieves in their tracks from a distance, before they break a window or even enter the car. The key is an extension of the subject's hands, which thereby acquire

the unique power to unlock the car's mobile potential. The object's value is adumbrated in its relational fit with the subject's hand, the key, the car, and the eye of the thief. The nascent evaluation is therefore positive, even better than those lacking the visual-warning feature.

But virtue of its peculiar use, this object autonomously exerts an efficacy or power over the situation including its owner. It makes its own demands and dictates (as the car itself had previously done in its bid for a safe space). As the object is integrated into the circuit of existence through further use, it not only masters the lurking threat of theft but evokes an ever widening sense of threat, only to outstrip it. Each time the subject parks his car, the lock lying on the floor functions as a new eye on danger, announcing the unguarded character of the car and demanding to be engaged to do its work. Far from being idly inert, this little guard suggests the presence of danger where it had never been anticipated prior to ownership. Despite its manner of tyranny, the lock is also a protective friend always ready to lend a helping hand by vigilantly retaining the car for its owner and giving its florescent announcement of security, confidence and strength. Inseparable in its meaning from the intentionality of the subject, its strength of steel and vigilant gaze are transferred to the owner through the possessive relation. He, who is reminded of his weakness, naivete, and fear by the object, is also strengthened, wiser, and more confident with it. This object is so infectious that it calls out (without a word from the subject) to other drivers of the car (e.g. lot attendants) to join in and become part of the new "security force" by using it. The lock's presence thereby transforms previously unhelpful others into servants who in this new capacity appear as "good," "smart," and "on his side." Further use also brings out discordant features of the object to which its owner must uncomfortably adapt--the inconvenient locking mechanism and an intrusion into the driver's knees as he slides out. But the owner complies willingly since bodily convenience is a priority second to protection from theft.

With this suggestion of will, we must return to the originality or creative participation of the subject, who is far from wholly enslaved by this possession. Inasmuch as ownership involves the subject's sovereignty and larger existence, it is an integrative movement beyond the narrow contours of the problem in which the petty tyranny of the possession would have our subject absorbed. Ownership entails an emergence out of this bondage which after all the subject has created by possessing the object. Paradoxically, submitting to the demands of the lock holds the danger of theft at bay, and in this zone of safety the subject evaluates the lock. He resists on one hand its overuse and on the other hand the desperate expansion of buying (e.g. alarm systems, hood locks) that would compensate for its insufficiency in the face of the fearsome world it evokes and combats. The subject resists these not only because of the effort and expense but the "constant state of fear" and virtual "insanity" they imply. While the object evokes spreading fear and infinite possibilities of buying, the subject reverses his stance by loosening his hold on his possessions, and striking a balance between protectiveness and acceptable fallability in his handling of the lock. The lock then comes to embody and anchor this balance of limited safety. Eventually, the lock is only employed in the parking lot and rare situations that seem especially dangerous, and this is "safe enough." In this way the object is put in its place and its role is modified by an openness to a measure of uncertainty about the continued possession of the car. The subject thereby escapes being reduced to fear and possessed by the lock

and the car, with a little help from his acquired lock. As the subject becomes freed from fear, the obtrusive presence of the lock fades and the subject pursues his work and play abandoned from preoccupations with the safety of their material support. In the new order in which the lock is a mainstay, the responsibility and power of the self are enhanced; concerned others are saved from disappointment and fear; the subject is faithful to their support embodied in the gift; the new life-style is established and new areas of play and work open up; the city is experienced as safe enough. All of these changes are relative, within limits for life, with its dangers, is accepted. This success, however bittersweet, bestows a distinctive meaning back on the buying situation--the store, the owners, the manufacturer, the packaging, and the subject's own ability to buy--namely, the genuine provision of a trustworthy support for the maintenance and enrichment of existence.

Toward a General Understanding of Buying

As an extension of my personal quest, buying transforms an other's possession into mine at the cost of valuable economic resources. Buying moves from a future possibility through an actual activity to a past accomplishment, each phase implying the other two. Within each we may distinguish the following irreducible and yet mutually implicated and dependent aspects: the subject's quest, an other's relevant offering, and the subject's economic means. The intention of the buying act is to appropriate, by means of giving over one's own resources, a possession of the other who, in spite of his being a potential source of adversity, is relatively trusted. The purpose is to further one's own quest in a valuable way through ownership. The full meaning of the transaction, which is ambiguous, risky, and always involves both gain and loss, is wholly settled in neither its anticipation nor its actual accomplishment but unfolds later in the vicissitudes of possession. In time, a dynamic, reciprocal action or interchange between the subject and the bought constitutes the latter's contribution to and significance in existence. The meaning of this possessive relation then retroflects over the entire buying activity and situation, which thereby establishes its value in the ongoing history of the buyer.

The Quest for the Other's Priced Possession

Coming into the world with almost nothing, the person's life is forever incomplete, in question, at issue, and oriented toward an uncertain future. We have called this prospective teleological flow from deficiency to plenitude a quest in order to stress the spanning intention whereby existential boundaries are extended. In the face of the possibilities of inertia, decay, loss, and death, the person seeks to maintain, restore, and enrich his existence through appropriative acts. The intentions that make up the appropriative moment of each person's quest range from being reflectively known to mutely lived, active to latent, spontaneous to routine, and determinate to indeterminate. One subject actively searches for her first sofa bed, looking specifically for a certain tan corduroy at a predetermined price. Another subject browses openly through a department store and the smell and sight of a perfume display calls out of latency her desire for a new scent. Comfortable, fun, useful, and alluring things stand in the shadows of our world as quests lie hidden in the depths of our selves. Given or sought, things resonate with our needs, wishes, problems, practical projects, appreciations, preferences, inspirations, and social aims. This mutual implication of the quest and an object, the enhancing fit of an object in the person's ongoing existence, constitutes its relevance. Together with its being made available by an other and its affordability, its relevance to the quest makes it a prime

target for the buying intention. The buying intention is often complex, at once practical, aesthetic, and social in its historical nexus (i.e. relatedness, context). One subject has had difficulty controlling her unruly hair all her life. It is hard to comb and looks horrible to herself and others, hence the relevance of a magazine ad which shows a woman with hair like hers made totally controllable and beautiful by a hitherto unknown hairstyling mousse. This object could be a node in the woof of a whole new life. The subject's history of buying colors the anticipated worth of the buyable. Some are taken for granted as positive thanks to routine, past success--like the gasoline that relieves one subject's desperate search. Others are of questionable value. The emergency room subject who had often been disappointed with medical services, put off going until she couldn't urinate for eight hours and felt her bladder was about to burst. The qualitative structure of buying intrinsically involves one's specific appropriative intentions in the context of the overall quest, the spendability of the subject's economic resources, and the potentially fulfilling possessions of others that are offered as buyable. None of the three is static or fixed, but dynamically shifting and affecting each other underground. One subject struggles not to be seduced by the groceries into paying more than she intended, but another lets the perfume invade her wallet. How much can I spend, is this thing really for me?

The Buying Act

The act of buying is an instrumental behavior which converts a buyable and spendable into a purchase and spending. It involves a real commitment on the part of the buyer to a particular purchase in the midst of all possibles, for one's means are limited and the other will give over a possession only at a price. Thus a tension or opposition of self and other is at the heart of buying. This opens the way for bargaining, power struggles, disrespect, and deceit but the act of buying, to the extent that it is voluntary, requires relative trust in this other, which of course may prove misplaced. On the part of the self, one has the power of available financing and expertise including knowledge of the product, the buying situation, and social skills. A given purchase is not isolated but undertaken in light of the greater totality of economic means and the wider realm of buyables to be targeted. One subject looks for an inexpensive couch in order to leave enough money for food, rent, and school. Buying often entails a horizon of disappointment; one may be committing oneself to something that will not be valuable, i.e. worthy of the expense. Things seen in stores and "talked up" by sales people have a different meaning there than as possessions in the subject's life. Hence the buying act targets an object estranged from its intended nexus. The store in which one "tries out" a bat is not the same as a game situation. One subject persistently buys perfume which smells good in the store and looks attractive in the display but proves unappealing at home. Another tried on a bathing suit and took the salesperson's word for its good fit but didn't like it at home. Another subject tried to overcome this difficulty by taking the clock radio out of the box and plugging it in to make sure it worked. Advertising media and stores, however helpfully informative about buyables, fall short of the subject's life-world, which is the ultimate aim of the appropriative act. As its crystallization, the buying act manifests the multicolored fabric of the overarching quest. Buying cleaning fluid may reach for purity, strength, mystery, ease, status, esteem, and beauty. The secret truth of buying, which appears on the surface to entail a specifically limited character and target, is that one grasps not merely the object but the existence it opportunes or participates in.

Thus the total quest forms the implicit background of the act. The emergency room subject wants a solution to her problem, to be recognized as a person, reciprocal dialog, indeed power, equality, love and respect. The person buying the bat in the store is not simply buying a bat but so many hits, a better batting average, social recognition, and all it entails secretly resides in the act of purchase. Therefore there is much to be gained, but also the possibility of spending for something that falls short of these gains.

Ownership

Ownership is the test of adumbration, consumation, and integration. The grocery shopper returns home to make dinner. The "mousse" subject tries it out on her hair. The alarm clock is put on the bedside table. Others comment on the new bathing suit. The new possession is a certain power, an extension of the buyer's embodied existence, and only outside of the appropriative space, in the subject's own space, does value come to pass. In ownership, the meaning and worth of the object is constituted by the extent to which it fulfills the quest in light of what has now been spent the subject's depletedness. Owning involves a reciprocal action in which both the buyer and the bought are transformed in relation with each other, and it is in this transformation that solution, enrichment, and plenitude or failure, impoverishment and deficiency are found. While the lock owner's purchase solved his problem, the "mousse" made its owner's hair more unruly than ever, leading her to doubt her hair styling abilities and deepening her sense of inferiority to others like the ad's model. The buyer belongs to the thing as much as vice versa, for what is bought demands and engenders a particular kind of presence on the owner's part, which may become sedimented (i.e. habitualized) as a way of life or rejected. The shopper now has to cook fish before it spoils. The clock radio owner is now responsible for waking herself up rather than relying on friends. The perfume buyer smells differently. The bathing suit owner exposes parts of her body not previously visible. The possessor and possessed are external to each other only in a superficial sense, for each animates and takes form in relation to the other in a single identity. The possessor must responsibly embrace and sustain the possessive relation lest the bought be lost, decline, slip away, into misuse or disuse, or be destroyed. The possessed reflects his treatment--care and neglect--in its concrete substance and milieu. Things oblige, but they may also inspire. The possessed need not dominate the possessor completely, for the latter remains a potential source of initiative. One may participate creatively with the thing, be enslaved by it, or disown it. When our subject doesn't like the new smell on her skin, she uses it up on the cat litter or her underwear. The bathing suit owner goes so far as to return the purchase and undo or reverse the buying act, an option on which the buying itself was contingent. Some vegetables rot in the refrigerator. The bought may be given up, used as planned, or used in creative ways, all involving different levels and types of integration. Thus the bought assumes a place in the buyer's existence, often in its relation to the subject, others, and its surrounding objects, with the most complex and profound depth and radiance of meaning.

Some Directions for Further Research

One dimension of buying which has been announced but not explicated here is the historical. Buying involves a certain autonomy on the part of the self that must have its developmental precursor in the infant's relationship with the mother, in which each possesses the other. Such early family relations must provide the historical ground out in which the self-other trans-

action has its roots. Parents buy things for their children, children buy things with parents' money, and eventually with their own. In this developmental process must reside a learning of skills, knowledge and expertise whose organization becomes quite differentiated and complex. Each purchase has a place in the longitudinal series that allows for a fine-grained interrogation of person-centered research.

Research could also branch out in a product-centered fashion. For instance, one could research buying the wheel brake lock for one's car to discover the meaning of this particular purchase at individual, typical and general levels. Any object or service could be elaborated in terms of the intentions it fulfills and frustrates, the demands it makes on spending, the kinds of expertise needed to make a good purchase, and its place in the owner's life.

The dimension of spending requires closer attention. The respective meanings of money, check writing, credit cards, food stamps, and expense accounts in their bearing on what is bought and its worth is a major area in need of explication.

The place of media and advertising in the world of buying merits much closer scrutiny. Our research indicates that the media can be helpfully informative, evoke latent intentions, and perhaps even create new lived senses of deficiency that lead to buying. Of great interest is the gap between such representations and actual ownership, which allows for deception in advertising and may lead to skepticism, infatuation, and even self-depreciation on the part of the buyer.

We have been very struck by the uncertainties pervading the phenomenon of buying, which are themselves rooted in the uncertainties of life itself. Buying is risky and ambiguous indeed in its attempt to shift the tense boundaries between the self and the other in one's favor. Yet it is perhaps less risky in many ways than other frontiers on which one's life is at stake. Hence the saying: "when the going gets tough, the tough go shopping." By virtue of its capacity to embody and fulfill the most diverse intentions, buying may become a primary way in which one attempts to resolve the intrinsic deficiency and incompleteness of life. Research is needed to address this orientation in order to resist a reduction of living to buying.

Finally, we have discovered that the meaning of buying ultimately rests in owning. This complex and subtly transformative phenomenon of owning calls for intensive study in its own right, and this would certainly shed a fuller light on buying.

TWO-WAY SPATIAL METHODS FOR MODELING INDIVIDUAL DIFFERENCES IN PREFERENCE

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Abstract

Our paper surveys the literature on two-way multidimensional scaling models for representing individual differences in preferential choice or other "dominance" data (to use Coombs' generic term for data in which observations relate to the dominance of one object or entity over another). This paper represents an update of the Carroll (1972, 1980) papers. The models range from the simple (linear) vector model, in which preferences for a given subject are assumed to relate to projections of stimulus points onto a vector representing that subject, through the (quadratic) unfolding model and generalizations of that model. In the unfolding model, a subject's preference is assumed to relate in a simple fashion (e.g., linearly or monotonically) to distance from an ideal stimulus point for that subject. This "ideal point" represents that subject's most preferred stimulus and may or may not correspond to an actual stimulus point. Generalizations allow each subject to have differential weights for dimensions (as well as a different ideal point) or a possible idiosyncratic orientation of the coordinate system (to which differential weights are applied).

Introduction

We consider various two-way multidimensional (or multi-attribute) models for preferential choice data (although these models could be applied to any type of what Coombs (1964) has called "dominance data"). With one or two exceptions, these models apply to situations in which preference (or dominance) data are available for a number of subjects (or other data sources) on a number of different stimuli (e.g., products), while the multidimensionality emerges from systematic individual differences among subjects or other data sources. Clearly, the multidimensional structure could be extracted from such data by, for example, calculating some form of "profile similarity" or "profile dissimilarity" measure among stimuli (over subjects or other data sources) and then applying standard methods of multidimensional (proximity) scaling to these derived dyadic proximities data — or applying, say, non-hierarchical or hierarchical clustering methods to obtain discrete multiattribute representations. We focus rather on explicitly formulated spatial models aimed at accounting for such systematic individual differences, and methods of analysis appropriate to such models. In general we shall be interested in deriving parameters representing subjects or other data sources as well as parameters defining stimuli as points in multidimensional space. While recognizing that dominance data other than preferential choice data could be involved, and that data sources other than subjects may be utilized, we henceforth will assume that preference judgments by each of a number of subjects for each of a number of objects define the basic data.

Individual Differences in Preference

A number of different models have been proposed to account for individual differences in preference. Foremost among these are the *vector* model, first proposed by Tucker (1960), and the simple *unfolding* model, proposed in the unidimensional form by Coombs (1964) and generalized to the multidimensional case by Bennett and Hays (1960). We shall consider a hierarchy of models (Carroll 1972, 1980) beginning with these two and continuing to further generalizations of the unfolding model in which differential weights or saliences are allowed for different individuals, or an even more general model in which the possibility of differential rotation of the system of coordinate axes as well as differential weighting is allowed.

Models for Multidimensional Preference Analysis

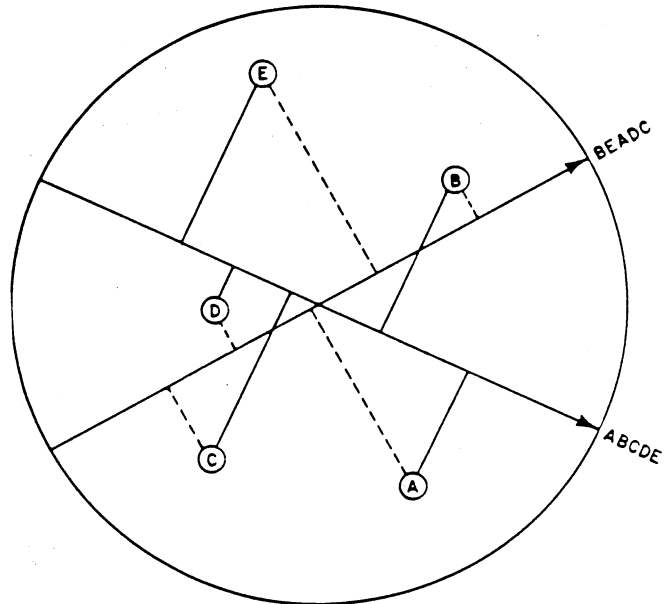
We now consider these models, which Carroll (1972, 1980) calls the *linear-quadratic* hierarchy of models in order of their complexity.

The Vector Model

The vector model, illustrated in Figure 1, assumes (in common with practically all the models to be discussed here) a set of stimulus points (such as A-E) embedded in a multidimensional space.

FIGURE 1

Vector model illustrated.
Source: Carroll (1972)



In this model, different subjects are represented by distinct *vectors*, or directed line segments. Two of these vectors are shown in Figure 1. The preference order for a given subject is assumed to be given by the projection of stimuli onto the vector representing that subject. As can be seen in the figure, quite different preference orders can be accommodated in such a model.

One way of interpreting vectors in this model is in terms of the relative *importance* of the dimensions to the preference judgment. The cosines of the angles the vector forms with the coordinate axes directly measure these relative importances. In the case of the vector model, these *importances* act like coefficients in a linear combination of dimensions. Its algebraic structure is defined below in equation (1):

$$\pi_{ij} = F_i(p_{ij}) \cong \sum_{t=1}^T b_{it}x_{jt} \quad (1)$$

where:

p_{ij} = the observed preference scale value of j^{th} stimulus for i^{th} subject

x_{jt} = the value of j^{th} stimulus on t^{th} dimension

b_{it} = the *importance* of dimension t for subject i (it is proportional to the direction cosine of the angle subject i 's vector makes with the dimension t coordinate axis);

$t = 1 \dots T$ dimensions;

$i = 1 \dots I$ subjects;

$j = 1 \dots J$ stimuli.

In matrix form:

$$\Pi \cong BS' \quad (2)$$

where $\Pi \cong \|\pi_{ij}\|$ is the matrix of transformed preference values, π_{ij} , transformed by the function F_i , which takes observed preference scale values (p) into underlying "true" values (π). F_i will generally be

assumed to be known in the case of "metric" analyses, and monotonic in the case of "nonmetric" analyses. B is the $I \times T$ matrix $\|b_{it}\|$ of importances and X is the $J \times T$ matrix $\|x_{jt}\|$ of coordinates of the stimulus space. (In the above, equations " \approx " is taken to mean "equals except for unspecified error terms," or that a least squares solution for unknown model parameters is sought.) Also, except where explicitly specified to the contrary, we assume complete preference scale values are obtained for all subjects, as specified by the matrix P . Carroll's (1972, 1980) PREFMAP and PREFMAP2 allows for the metric or non-metric estimation of this model as does his MDPREF (Carroll 1964) procedure.

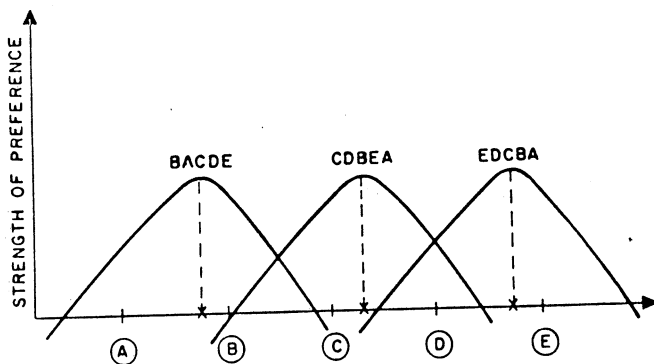
An intuitively unattractive property of the vector model is that it assumes preference to change monotonically with all dimensions. That is to say, it assumes that if a certain amount of a given thing is good, even more must be better (*ad infinitum*). We know that this is not realistic for most quantities or attributes in the real world.

The Simple Unfolding Model

Coombs (1964) first introduced the unidimensional unfolding model which is illustrated in Figure 2.

FIGURE 2

Unidimensional unfolding model illustrated.
Source: Carroll (1972)

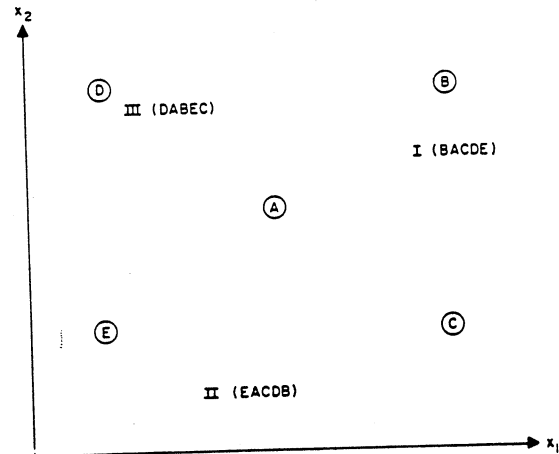


Here the stimuli can be described in one dimension, as represented by their positions along the abscissa in the figure. Different subjects correspond to different "ideal points" which represent their respective optimal values on that stimulus continuum. In the unidimensional unfolding model, the farther a stimulus is from a subject's ideal point, the less the subject will like that stimulus. In Figure 2, three hypothetical subjects are represented by ideal points, and the preference order generated by these different ideal points is indicated. It is clear that, even in one dimension, quite different orders can be generated by this model. Coombs called this the "unfolding" model because the preference order for a given individual can be generated by *folding* the stimulus scale at that individual's ideal point. To recover the stimulus scale from the preference data, then, it is necessary simultaneously to *unfold all these preference scales for individuals* (what Coombs calls the I scales) to find the common, or joint, stimulus scale (the J scale). The three curves drawn above the abscissa in Figure 2 show hypothetical *preference functions* that go with the three individuals represented here. Of major importance is that they are, to use Coombs' term, single peaked (have a single maximum, which occurs of course at the ideal point) and symmetric. The particular shape is not important, so long as these two conditions are met, nor do they all have to have the same shape.

Bennett and Hays (1960) generalized this model to the multidimensional case. The two-dimensional case of this "multidimensional unfolding" model is illustrated in Figure 3.

FIGURE 3

Multidimensional unfolding model illustrated.
Source: Carroll (1972)

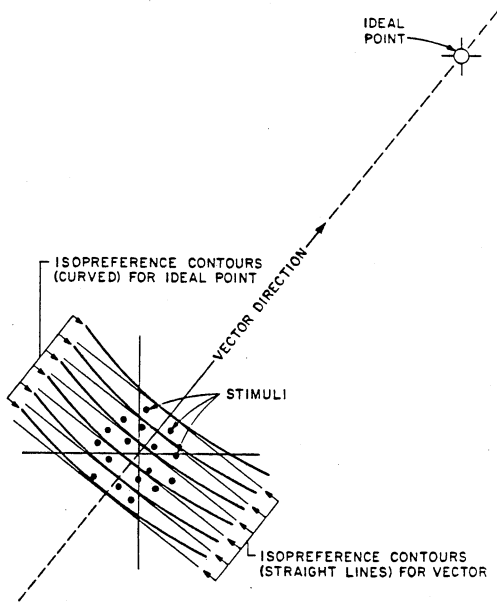


Here the stimuli and subjects are both represented as points in the same multidimensional space. The points for individuals represent ideal stimuli, or optimal sets of stimulus values, for those individuals. In the Bennett and Hays model, the farther a given stimulus point is from an individual's ideal point, the less that individual likes that stimulus. This notion of relative distance implies a metric on the space. Bennett and Hays assumed this to be Euclidean, an assumption we shall share. The assumption of the Euclidean metric means that the "isopreference contours" (or loci of equal preference) are, in two dimensions, a family of concentric circles centered at the individual's ideal point. In three dimensions, they are concentric spheres, and hyperspheres in higher dimensions. Several authors have proposed algorithms for estimating stimulus scale values and ideal point coordinates from preference judgments assumed to follow the unfolding model (Lingoes 1972, 1973; Bennett and Hays 1960; Roskam 1973; Young and Torgerson 1967; Kruskal et al. 1977; Kruskal 1964a,b; Schönemann 1970; Carroll 1972, 1980; Takane, Young, and deLeeuw 1977; Heiser 1981; Spence 1980; Greenacre and Browne 1982; DeSarbo and Rao 1983, 1984). This approach of estimating both ideal points and stimulus coordinates is known as internal analysis (Carroll 1972), as opposed to external analysis methods which estimate only ideal points *given* fixed stimulus coordinates (obtained from perhaps an MDS analysis of similarities).

While the unfolding model and the vector model seem, superficially, to be quite different, it is in fact the case that the vector model is a *special case* of the unfolding model. One can see this by conceptually moving the ideal point for an individual farther and farther out along a fixed line from the origin, while holding the stimuli constant. As one does this, the rank order of distances from the ideal will approach that of *projections* of stimuli onto a vector whose direction is the same as that of the line along which the ideal point is moved. One can see it geometrically by noting that, as the ideal point is moved farther and farther out, the family of circular isopreference contours looks (in the region occupied by the stimuli) more and more like a family of parallel straight lines perpendicular to the line joining the centroid to the ideal point, and asymptotically would be precisely such a family of straight lines. But the isopreference contours for the vector model comprise just such a family of parallel straight lines perpendicular to the vector. This geometric argument is illustrated in Figure 4.

FIGURE 4

Isopreference contours for vector (straight lines) and for ideal point (circles) models.
Source: Carroll (1980)



The basic algebraic structure of the simple unfolding (or ideal point) model is contained in equations (3) and (4) below:

$$\pi_{ij} = F_i(p_{ij}) \cong d_{ij}^2, \quad (3)$$

where:

$$d_{ij}^2 = \sum_{t=1}^T (y_{it} - x_{jt})^2; \quad (4)$$

y_{it} = the t^{th} coordinate of the "ideal point" for the i^{th} subject;

x_{jt} is as before (as are π_{ij} , F_i, p_{ij} and T).

Note that the simple (linear) vector model is indeed *linear* in its variables (the x 's, or stimulus coordinates) while the unfolding model is *quadratic*, (since it adds to the linear terms one term that involves the sum of squares of stimulus coordinates — i.e., a quadratic term). Schönemann (1970) presents an analytic internal solution for a strong case (treating the data as unconditional) of this unfolding model. Ross and Cliff (1964) provide methods for obtaining a stimulus configuration through a singular value decomposition of the double centered $\mathbf{P} = ((P_{ij}))$ matrix under suitable assumptions. Schönemann and Wang (1972) combine this metric unfolding model with the Bradley-Terry-Luce choice model (Luce 1959), to produce a stochastic unfolding approach that is applicable to paired comparisons data. Zinnes and Griggs (1974) present a probabilistic multidimensional analogue of this model. Davidson (1972, 1973) presents a geometrical analysis for this type of unfolding model. Carroll's (1972, 1980) PREFMAP and PREFMAP2 allows for the estimation of this model using either an external or internal analysis. DeSarbo and Rao's (1984) GENFOLD2 allows for options for internal or external metric or nonmetric, and/or constrained or unconstrained analyses.

While the *simple* unfolding model assumes that a given difference (on a dimension) makes as much difference to one subject as to another, as well as assuming that all individuals relate to the *same* set of dimensions within the space, we now consider two generalizations of this model that allow one or both of these assumptions to be dropped.

The Weighted Unfolding Model

In this first generalization of the unfolding model (Carroll 1972, 1980) we continue, as in the simple unfolding model, to assume different ideal points for different individuals, but also allow distinct individuals to weight the dimensions differently. That is, in place of the usual Euclidean distance formula of the form

$$d_{ij} = \left[\sum_{t=1}^T (y_{it} - x_{jt})^2 \right]^{1/2} \quad (5)$$

(where y_{it} is the t^{th} coordinate of individual i 's ideal point, x_{jt} is the t^{th} coordinate of the j^{th} stimulus point, and d_{ij} is the distance between ideal point i and stimulus point j in a space of T dimensions), we substitute the formula

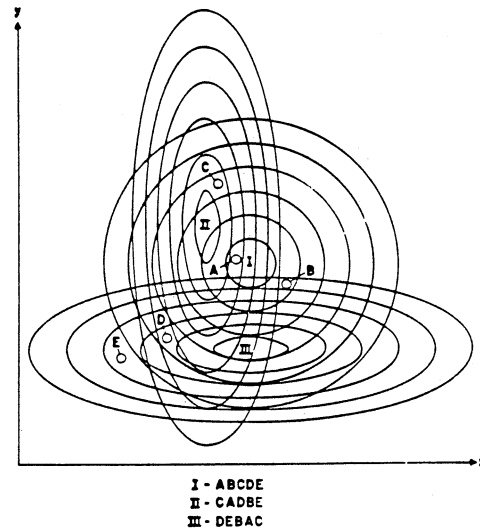
$$d_{ij} = \left[\sum_{t=1}^T w_{it} (y_{it} - x_{jt})^2 \right]^{1/2}, \quad (6)$$

where the weighting factor w_{it} can be thought of as the "salience" or "importance" of the t^{th} dimension for subject i . For the moment we will assume the w_{it} 's are all positive or zero, but we will later consider the case where they may be negative. The generalized version of the unfolding model following expression (6) above assumes that one man's meat may be another man's irrelevancy; a dimension that is very important to one individual may be of no significance to another. It should be stressed that one need *not* assume these weights to reflect any differential *perceptual* discrimination of the dimensions. While a man may clearly perceive the difference between women who are blondes and those who are redheads, this perceptual dimension may be irrelevant to his choice of or preference for dating (or mating) partners. To another, of no greater perceptual acumen, this dimension may make all the difference in the world in making such judgments. Of course, the weighted distance formula of equation (6) does not distinguish between differential weights due to differences in perception, and those due to different "saliences" for preference of equally well discriminated dimensions.

This weighted unfolding model is illustrated in Figure 5.

FIGURE 5

Illustration of the multidimensional unfolding model with differential weights.
Source: Carroll (1972)



The only difference is that now the isopreference contours are ellipses, ellipsoids, or hyperellipsoids instead of circles, spheres, or hyperspheres. The larger the weight, the *smaller* the corresponding axis of the isopreference ellipse or ellipsoid, reflecting the fact that it takes a smaller change to make the same amount of difference (to be precise the ratios of the axes of the ellipsoids are reciprocally related to the square roots of the ratios of the weights that appear in equation (6)). In Figure 5, Subject I weights the two dimensions equally, Subject II weights dimension one more than two, while III weights dimension two more than one. The preference orders for the three hypothetical subjects are also shown. These are generated by applying the generalized Euclidean distance defined in equation (6), which can be characterized roughly as the number of rings of concentric ellipsoids out from the center (or ideal point).

Srinivasan and Shocker (1973) present a nonmetric external unfolding analysis with this model using linear programming methods including nonnegativity constraints for the dimension weights. The same constraints

are provided in a metric procedure using quadratic programming described by Davison (1976). Spence (1980) presents an interesting generalization of this model allowing for linear constraints on $X = \|x_{ji}\|$ and/or $Y = \|y_{ji}\|$. DeSarbo and Rao's (1984) GENFOLD2 allows for all of these options in the estimation of the model.

The General Unfolding Model (Differential Rotations and Weights)

In this first generalization we have assumed that, while individuals may differ both in ideal point and weighting of dimensions, the same basic set of dimensions are involved in the judgments of all individuals. The second generalization allows us to relax this assumption. While we shall assume all individuals to share in common a single perceptual space, we allow distinct individuals additional freedom in choosing a set of "reference axes" within that space (Carroll 1972, 1980). Thus each individual is allowed to rotate the reference frame of the perceptual spaces and then to weight differentially the dimensions defined by this rotated reference frame (in addition to being permitted an idiosyncratic ideal point).

Here, the formula for Euclidean distance can be written as:

$$d_{ij} = [(y_i - x_j) W^i (y_i - x_j)]^{1/2} \tag{7}$$

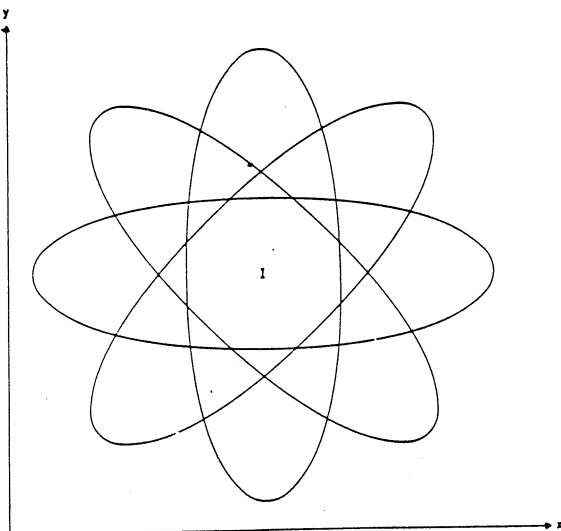
where

- y_i = the $1 \times T$ vector of ideal point coordinates for subject i ,
- x_j = the $1 \times T$ vector of coordinates for stimulus j ,
- W^i = the i -th subject's $T \times T$ symmetric transformation matrix.

One point that should be made with respect to this model is that the rotation alone does not make the model different from the simple unfolding model (since orthogonal rotations leave Euclidean distances unchanged). It is only the rotation in combination with differential weighting of dimensions that makes this a genuinely new model. Bechtel (1976), and DeSarbo and Rao (1984) also present a related general powered distance model for unfolding. Ramsay (1982), and deLeeuw and Heiser (1979) also consider such metrics for dissimilarity data.

Figure 6 illustrates isopreference contours that could arise from this most general unfolding model.

FIGURE 6
Illustration of the generalized unfolding model.
Source: Carroll (1972)



For simplicity, only a single ideal point is shown, and all isopreference ellipses have the same eccentricities, but neither of these conditions would necessarily hold in general.

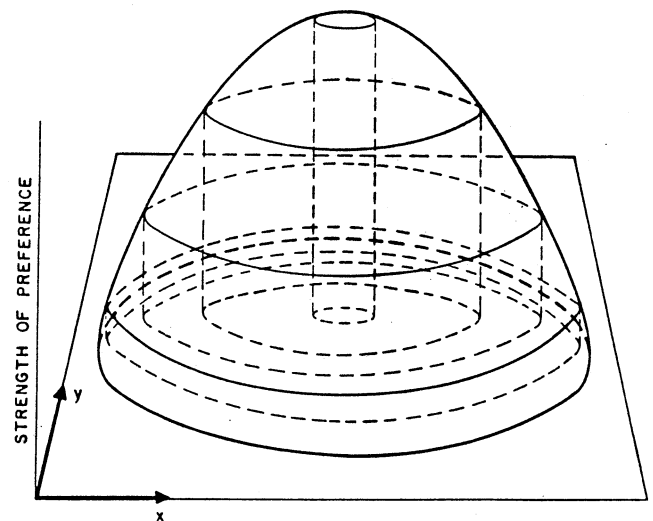
The Possibility of Negative Weights

While the weights (w 's) have heretofore been spoken of as though they were assumed to be positive, in the preference domain it is possible to argue that we may sometimes want to allow negative weights. A negative weight, in this context, means that there is a *minimally* (rather than maximally) preferred value for that dimension, as is certainly true for some dimensions. It has been argued (Carroll 1972) that such a minimally preferred value characterizes many subjects in the case of the temperature dimension for tea (i.e., many subjects like hot and cold but not lukewarm tea). In the unidimensional case a negative weight simply means that the preference functions are inverted, or that the folding of the J scale produces the *negative* of the I scale. In the multidimensional case, however, negative weights may lead to more interesting consequences. Of course, if *all* dimensions have negative weights it is just as though the preference scales were inverted in direction (so that the "ideal point" is transformed into an "anti-deal"). If, however, some dimensions have positive and others have negative weights, the situation is more complex. Instead of either an "ideal point" or an "anti-deal point" we now have a saddle point, that is a point that is optimal with respect to some dimensions, and "pessimal" with respect to others.

This is shown more graphically in Figures 7, 8, and 9. Figure 7 shows a prototypical preference function for the usual case of both weights positive in the two-dimensional case.

FIGURE 7

Typical preference function for the two-dimensional unfolding model with both weights positive.
Source: Carroll (1972)



(Horizontal slices are taken through this response surface, and the intersections projected down onto the two dimensional plane to generate the elliptical isopreference contours). Figure 8 shows a section of a typical saddle-shaped preference function for the case in which one dimension (dimension one) is negatively weighted while the other (dimension two) has a positive weight.

FIGURE 8

Saddle-shaped preference function when one dimension has negative and the other has positive weight.
Source: Carroll (1972)

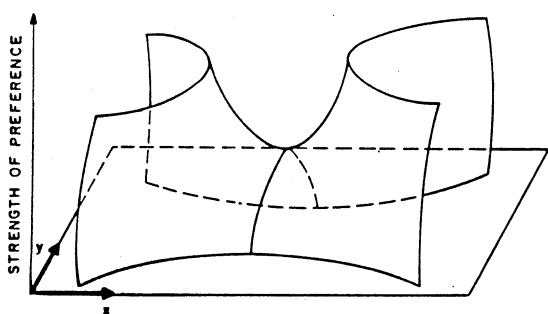
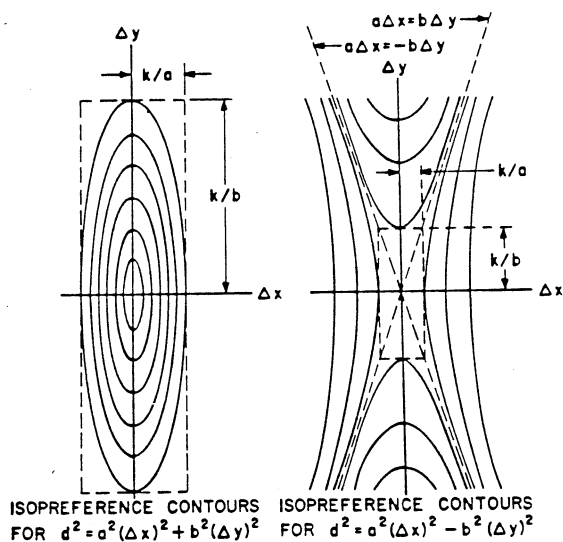


Figure 9 contrasts the isopreference contours appropriate for the two cases.

FIGURE 9

Isopreference contours contrasted for positive-positive versus positive-negative weights.
Source: Carroll (1972)



In the case of the positive-negative pattern of weights, the isopreference contours comprise a family of hyperbolas. The two straight lines which are asymptotes of the hyperbolas define the locus of points equal in preference to the saddle point, which is the point at which the two lines intersect.

While there may well be a justification (both theoretical and empirical) for such negative weights in at least some cases, it is very often the case that they occur because of chance fluctuations in parameter estimates due to noise in the data. In such cases it may be desirable to constrain the

weights to be non-negative. One way to do this is to use quadratic programming methods (see Davison 1976). Another way involves the reformulation of the problem as a linear programming problem proposed by Srinivasan and Shocker (1973). DeSarbo and Rao (1984) allow for options to constrain these weights to be positive or to be estimated freely.

The Hierarchical Structure of Preference Models

It has already been argued that the vector model is a special case of the simple unfolding model. It is clear that this simple unfolding model in turn is a special case of the weighted unfolding model (since the weights can, as a special case, be all equal to one), while the weighted model is a special case of the general unfolding model (since the rotation matrix may be an identity). By transitivity, each simpler model is a special case of all the more general ones — hence the hierarchy of models alluded to earlier.

Discussion

We have presented a review of four general classes of spatial multidimensional scaling models used in the analysis of preference and/or dominance data: the vector model, the simple unfolding model, the weighted unfolding model, and the general unfolding model. The assumptions and implications of each type of model have been illustrated and discussed, as well as the nested features of these four models. The use of such models in marketing has had pronounced effects in the areas of market segmentation, product positioning, and consumer behavior.

There are other areas in multidimensional scaling that have not been discussed in this paper. Topics such as three-way analyses, discrete network models, reparameterization models, problems of solution degeneracy, different types of analyses, preprocessing effects, property fitting and interpretations of solutions, etc., are all relevant areas that should be addressed in future endeavors. In conclusion, we feel that marketing has only begun to benefit from the applications of such psychometric procedures, and that the future looks quite bright concerning the integration of these techniques into general marketing practice.

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MATHEMATICAL APPROACHES TO THE
STUDY OF POWER IN GROUP DECISION
MAKING: A REVIEW

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Abstract

This paper attempts to synthesize published mathematical approaches to the study of power in a variety of disciplines from the viewpoint of consumer research. We demonstrate the graph and game theory approaches, Coleman's theory of collective decisions, and weighted linear models. The focus is on explanation and discussion of why these approaches have not contributed greatly to consumer research. The paper identifies some directions for future research.

Introduction

Purchasing behavior often involves group decision making. In consumer settings, the family is an important decision making unit (DMU). In industrial purchasing, the "buying center" has been recognized as the relevant unit of analysis. Even decisions which appear to be individual in nature (both consumer and industrial buying) can involve group decision making in that the preferences of relevant others are recognized by the individual decision maker (Wind 1976).

Power is a major concept in group decision making. There are many situations in which individuals in a group may have conflicting preferences for potential outcomes; yet decisions do get made. Power is a concept which is often used to explain how one individual overcomes the resistance of others. It is often conceptualized as a force one applies to break down this resistance.

Three major research traditions in power have emerged; the experimental study (c.f. Hovland, Janis, and Kelly 1953), the case study (c.f. Rossi 1957), and the mathematical model (c.f. Shapley and Shubik 1954). From the perspective of consumer research, the mathematical approach has contributed the least to the understanding of group choice. This paper reviews the major efforts in an attempt to find out why.

We begin by demonstrating the major mathematical approaches that have appeared in other literatures. From this discussion we then deduce that the two major obstacles have been data availability and a lack of conceptual understanding of the phenomenon in question. This is in direct contrast to the literature on individual choice which has long employed surveys and a multi-attribute framework. We conclude the paper by pointing out some directions for future development.

Current Approaches

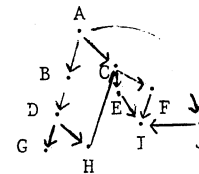
This section briefly describes four well known approaches to the measurement of power in other literatures. They are

- 1) Graph Theory
- 2) Game Theory
- 3) Coleman's Theory of Collective Action
- 4) Weighted Linear Models.

Graph Theory

The graph theory approach is based on the representation of the group and its 'authority' structure as a set of points with lines connecting some pairs of these points. The points represent the group members and the lines have specified direction which describe the binary relation 'is superior to'. An example, adapted from Kemeny and Snell (1962, p. 103), is shown in Figure 1.

FIGURE 1
A Graphical Representation of a Group



In the figure, for example, A is a direct superior of B, C, and J; I has E, F, and J as direct superiors. In order for the 'is superior to' relation to make sense, three properties must be satisfied (Kemeny and Snell 1962):

- (1) Irreflexivity: No one is his own superior.
- (2) Asymmetry: A person cannot be superior to another while the other is superior to him.
- (3) Transitivity: A superior of a superior is a superior.

These are illustrated in Figure 1 in the following contexts: A is not his own superior (irreflexivity); B is superior to D but D is not superior to B (asymmetry); and A is superior to C who is superior to E so A is superior to E (transitivity).

Harary (1959) introduced a measure of power which utilizes the concept of the level of superiority. This is the number of lines in the shortest path from the superior to the 'subordinate'. Thus in Figure 1, J is one level below A while H is two and G is three. Harary's measure, denoted by $h(\cdot)$ is equal to

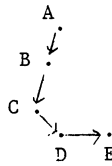
$$h(p) = \sum_k n_k$$

where p is said to have n_k subordinates at level k . $h(p)$ represents the number of levels between p and his subordinates. In Figure 1 $h(A) = 1:3 + 2:5 + 3:1 = 16$. Similarly $h(B) = h(E) = 5$, $h(D) = 2$, $h(F) = h(J) = 1$, and $h(G) = h(H) = h(I) = 0$.

Harary's measure has several limitations. First, it is not necessary that if P is superior to Q then $h(P) > h(Q)$. In Figure 2, for example, $h(A) = h(B) = 6$ despite the fact

that A is superior to B. As Kemeny and

FIGURE 2
A Paradox in Harary's Measure



Snell (1962) point out, this is rectified if we change the definition of "level" from the number of lines in the shortest path to the number in the longest. Then $h(A) = 10$ and $h(B) = 6$. Second, Harary's measure (even with Kemeny and Snell's modification) is best suited only to groups that can be inferred to have formal or informal superior-subordinate relationships. It does not apply as well to informal groups with informal processes.

Game Theory

A large number of power indicies have arisen in the game theory literature (c.f. Banzhaf 1965; Brams 1975, Deegan and Packel 1978, 1983; Dubey 1975; Lucas 1983; Shapley and Shubik 1954). Each of these efforts depends on certain assumptions about coalition formation within a group and the importance of an individual to such coalitions. The central concept in these measures is that of a winning coalition, one which is large enough to ensure its desired outcome. The list of these coalitions can be quite long for a given group. Therefore, an efficient summary concept is the minimal winning coalition, one that contains no other winning coalitions as proper subsets.

The two most well-known game theoretic indicies are those of Shapley and Shubik (1954) and Banzhaf (1965). Shapley and Shubik (1954; p. 788) propose the following scheme:

There is a group of individuals all willing to vote for some bill. They vote in order. As soon as enough members have voted for it, it is declared passed and the member who voted last is given credit for having passed it. Let us choose the order of the members randomly. Then we may compute how often a given individual is pivotal. This latter number serves to give us our index.

A computational procedure is implicit in the above discussion. Write down all $n!$ orders of the n group members. In each ordering, underline the individual whose addition makes the set of members up to and including himself a winning coalition. The Shapley-Shubik index ϕ_i for individual i is equal to the fraction of times that i is that pivotal member.

Consider the following example, adapted from Straffin (1983, p. 259), of a group with four members A, B, C, and D. The minimal winning coalitions are {AB}, {BC}, and {CD}. There

are 24 possible orderings of the members. These are listed below with the pivotal member underlined:

ABCD	BACD	CABD	DABC
<u>AB</u> DC	<u>B</u> ADC	C <u>AB</u> D	D <u>AC</u> B
AC <u>B</u> D	BC <u>A</u> D	CB <u>A</u> D	DB <u>A</u> C
AC <u>D</u> B	BC <u>D</u> A	CB <u>D</u> A	DB <u>C</u> A
AD <u>B</u> C	BD <u>A</u> C	CD <u>A</u> B	DC <u>A</u> B
AD <u>C</u> B	BD <u>C</u> A	CD <u>B</u> A	DC <u>B</u> A

Hence,

$$\phi_A = \frac{4}{24} = \frac{1}{6}, \quad \phi_B = \frac{8}{24} = \frac{1}{3}, \quad \phi_C = \frac{8}{24} = \frac{1}{3}, \quad \phi_D = \frac{4}{24} = \frac{1}{6}.$$

Our second power index was originally proposed by Banzhaf (1965). He argues (p. 331):

The appropriate measure of a legislator's power is simply the number of different situations in which he is able to determine outcome. More explicitly, in a case in which there are n legislators, each acting independently and each capable of influencing the outcome only by means of his votes, the ratio of the power of legislator X to the power of legislator Y is the same as the ratio of the number of possible voting combinations of the entire legislature in which X can alter the outcome by changing his vote, to the number of combinations in which Y can alter the outcome by changing his vote.

Implicit in this excerpt is the following operational procedure. Write down all the winning coalitions. In each one underline the swing members, those whose defection would cause the coalition no longer to be winning. If we let n_i be the number of winning coalitions for which i is a swing member, then the Banzhaf power index β_i is given by

$$\beta_i = \frac{n_i}{\sum_{i=1}^n n_i}.$$

In the previous example, the winning coalitions are all subsets of the group which contain {AB}, {BC}, or {CD}. They are

<u>AB</u>	<u>CD</u>	<u>ABD</u>	<u>BCD</u>
<u>BC</u>	<u>ABC</u>	<u>ACD</u>	<u>ABCD</u>

where the swing members have been underlined. It is trivial to show now that

$$\beta_A = \frac{1}{6}, \quad \beta_B = \frac{1}{3}, \quad \beta_C = \frac{1}{3}, \quad \text{and} \quad \beta_D = \frac{1}{6}.$$

In this example, the Banzhaf and Shapley-Shubik indices agree. This is by no means always true. Straffin (1983) presents a series of examples where the differences are quite startling. The difference between the two indices is analogous to the difference between permutations and combinations. Shapley-Shubik reasoning considers the probability that a member will be "pivotal" if all permutations of the members are equally

likely while Banzhaf reasoning hinges on the probability of a member being "swing" if all combinations are equally likely.

A great deal of ingenious mathematics has emerged from the study of these two indices (c.f. Dubey 1975a,b; Dubey and Shapley 1979; Papayanopoulos 1973; Roth 1977). This work investigates sets of axioms which apply each index, asymptotic properties of the indices as the group gets arbitrarily large, and topological representations of these indices. The direct relevance to consumer research of much of this work is unclear. The axioms are usually stated in algebraic terms with little attention to behavior, and consumer research is usually concerned with finite groups.

The entire game theoretic research stream on power stems from political science and consequently has been based upon legislative bodies and voting groups. The winning and minimal winning coalitions in these are well specified often by either majority rule, weighted majority rule, or an electoral college type rule. Despite this, n-person games are a reality in much organizational decision making where such rules are not evident.

If we were to apply this research to organizational buying behavior we would need a way to determine which of the 2ⁿ coalitions are in fact winning. This remains a barrier to implementing the theory. Some previous research has shown that ad-hoc groups with an odd number of members tend to form winning coalitions based on simple majorities (Riker 1962; Shull, Delbecq, and Cummings 1970). While this may be useful in predicting group choice (Steckel 1984), the symmetry of the finding provides little insight into assessing an individual's power.

Coleman's Theory of Collective Decisions

In 1966, James S. Coleman published his now classic paper, "Foundations for a Theory of Collective Decisions". The foundations were later built upon in a book (Coleman 1973). Coleman approaches power from the standpoint of social exchange theory (Blau 1964; Homans 1974; Thibaut and Kelley 1959).

Two assumptions of social exchange theory are that inter-dependence is an inherent feature of group formation and exchanges are intrinsic aspects of any group relationship. Therefore, a given individual will support a second one in one decision in exchange for the second's support at some other time. Power then would relate to an individual's ability to obtain favorable consequences in the decisions most important to him. This line of reasoning leads Coleman to examine power as a property relating to a complete system of decisions rather than to group structure or a single decision.

The major mathematical constructs in Coleman's theory are two matrices, control and interest. The control matrix C shows the amount of control each group member has over each decision. The entry c_{ij} is the direct control that member j has over decision i . The sum of c_{ij}

over i is less than or equal to one. It is less than one if the decision outcome is partly controlled by unknown factors. The interest matrix X has entries x_{ij} that reflect the interest of each individual in each decision. The x_{ij} are functions of absolute utility differences for outcomes. The motivation for the interest matrix springs from the notion that control of a decision is irrelevant if the outcomes do not mean anything to anybody.

It is clear, then, that an individual's power, or ability to obtain desired outcomes, depends not only on what he controls, but on what others who have interest in what he controls control themselves and can give in exchange. It follows then that the value of controlling a given decision is dependent on the interests of others in that decision and their power. On the other hand, individuals are powerful if they control actions with a high value. Therefore, neither value nor power can be calibrated without regard to the other. Coleman writes (p. 627):

The value of control over action i is equal to the sum of interests of i of each actor times the total power of that actor. In turn, the total power of actor j is equal to the power of j over each action k times the value of action k , summed over all actions k .

Mathematically, these relationships are summarized by

$$v_i = \sum_j x_{ij} \sum_k c_{kj} v_k$$

or equivalently

$$V = X C' V$$

where V is a vector of values for the various actions (decisions). The power of the j^{th} group member is $\sum_k c_{kj} v_k$, or equivalently the powers can be summarized by $C' V$.

Consider the following example taken from Coleman (1973, p. 83). There are two members and two decisions with control and interest matrices as shown in Figure 3. The system $V = X C' V$ is also shown on the following page.

FIGURE 3
EXAMPLE FOR COLEMAN'S THEORY

		Control Individual		Interest Individual	
		1	2	1	2
Decision	1	1	0	.4	.8
	2	0	1	.6	.2

v_1, v_2 unknown

$$V = X C^{-1} V$$

$$v_1 = .4 v_1 + .8 v_2$$

$$v_2 = .6 v_1 + .2 v_2$$

If we add the constraint that $v_1 + v_2 = 1$, the solution is

$$v_1 = \frac{4}{7}, v_2 = \frac{3}{7}$$

This approach is different from the others in that power relates to a system of decisions and cannot be viewed in the context of single one. Families and buying centers do make series of decisions. Coleman (1973) does proceed to drive a measure for 'partial' control of a decision assuming that the participants perform strategic exchanges of control for events that have more interest for them. However, this still depends on a series of decisions.

What we must ask is whether consumer research is more interested in global system-wide measures of power or the relative power of the participants in particular decisions. Most of the behavioral research on family decision making (e.g. Davis 1970) and organizational buying behavior (e.g. Silk and Kalwani 1982) would suggest the latter. But, one should note that, this view has led to very specific research and may, in the long run, inhibit the development of a general theory.

Weighted Linear Models

The approach most familiar to consumer researchers involves weighted linear models (WLM's). These models conceptualize a group value (e.g. attitude, utility, or choice probability) as being a weighted sum of corresponding individual values where the weights are indicators of power. Consumer research has used WLM's in modelling family (Curry and Menasco 1979) and organizational buying behavior (Choffray and Lilien 1980). In addition, decision analysts (Keeney and Kirkwood 1975), political scientists (March 1966), and psychologists (Davis 1973) have all used them.

The models are identical in structure to the linear multiattribute models. The individual weights used in individual decision making for the group are analogous to attribute weights for the individual. Unfortunately, researchers have not met with as much success in estimating the individual weights as they have with the attribute ones. Davis and March both attribute this to unrealistic data requirements. In particular, Davis (1973, p. 115) writes:

... experiments on group decision making have not employed a task appropriate to the application of the social decision scheme estimation procedure... In most cases, a single group decision or at most two or three decisions have been observed during the experimental session. Moreover, the task or social issue sometimes varies so much from decision to decision, it is difficult to imagine that the social decision scheme to be estimated remains generally constant.

March (1966) does present a number of variations on the basic model in which the weights vary from decision to decision. In one of them, the force depletion model, power is considered a scarce resource. The exercise of power depletes that resource. We can write that the (unnormalized) weight of the i^{th} individual in the j^{th} decision in a series, w_{ij} is equal to

$$w_{io} (1 - x_{i1}) (1 - x_{i2}) \dots (1 - x_{i, j-1})$$

where the x_{ik} represent the proportion of i 's total power exercised in the k^{th} decision, w_{io} is the total 'weight' available to i at the beginning. An individual will then choose to act (i.e. choose values of the x_{ik}) depending on his interest in the various actions. In this respect the force depletion model is very similar to Coleman's theory. While March's variations may add many realistic features, they tremendously exacerbate the already present data problems.

In addition, WLM's have the reverse problem of graph and game theory. They are especially well suited to informal decision making. It is the formal process where they fall short in capturing the phenomena.

Problems

We have already cited some of the problems in applying each approach to consumer research. Two problems, however, are common to all approaches; data requirements and the lack of a conceptual understanding of exactly what power is.

Data and estimation problems have already been discussed in conjunction with weighted linear models. Unfortunately, the problems are worse in the other approaches. Appropriate data for the WLM are hard to collect but at least we know what they are. It is not nearly as clear what types of data would be necessary to determine Coleman's control matrix, winning coalitions, or 'superior' relations unless they were explicit in a formal decision making process (e.g. majority rule). Informal processes would be extremely difficult to deal with.

A second more serious factor is a lack of conceptual understanding of the phenomena. No two parties agree on what we should be interested in. Is power a property of the group and its total activities as Coleman contends or is it meaningful only with respect to a specific decision? Advocates of the graph theory approach would describe power as it relates a formal hierarchy while game theorists would say power can be described by an individual's membership in winning coalitions. This inconsistency is in itself a cause for concern. As Bierstedt (1950) notes, the more things a term can be applied to the less precise is its meaning.

Even those authors who specify the context of the term do not precisely define it. The weighted linear model, game, and graph theory approaches all describe some index, parameter, or number. Power is then defined to be that quantity with little regard for conceptual

clarity. This is a strong hinderence to the true understanding of behavior.

Directions For Future Research

Implicit in the above problems are a set of opportunities for resolving the data problems and conceptualizing the phenomenon.

In order to solve the data problem one must devise procedures for either collecting more observations per group or aggregating data across groups. Promising work has begun in both directions. Krishnamurthi (1983) increased the effective number of observations by using conjoint analysis on household partners' job preference data (spouse or spouse equivalent), both individually and jointly, in order to test hypotheses on joint decision making. A simple extension of his procedure would be to apply conjoint analysis to the joint preference data with individual preferences as the independent variables instead of attributes. The resulting part worths would be akin to the weights of a WLM. In contrast, Steckel, Lehmann, and Corfman (1984) show how data can be aggregated across groups in a WLM by making the weights functions of personal and situational variables.

Progress in the conceptual area is not as encouraging. There are "innumerable theories, clarifications, and reclarifications" (Bacharach and Lawler 1981, p. 10). Those that emphasize probabilities (e.g. Kaplan 1964, Weber 1947) may lend themselves best to mathematical analysis. In any case, a behaviorally significant mathematical contribution cannot be made to the study of power until someone presents a mathematically tractible, meaningful definition of the concept.

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EXPLAINING DIFFERENCES IN CONSUMPTION BY WORKING AND NON-WORKING WIVES

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Abstract

The rapid increase in the number of women in the work force has affected society greatly. The growth in the number of two-income families has resulted in changing lifestyles, and many marketers have expected to find corresponding differences between the consumption patterns of working and non-working wives. However, most studies have not found those patterns to be significantly different. This study investigates the explanatory value of one of the recent refinements in the concept of "working wives"--the delineation of the high-occupational-status working wife from the low-occupational-status working wife (Schaninger and Allen 1981)--in a study of the consumption of a service. While the results indicate some support for the approach, we find it to be somewhat limited. Thus we propose that a broader perspective be used in further studies, one that incorporates Reilly's (1982) concept of role overload along with the wife's occupational status. We discuss the expected relationship between the match (mismatch) of a wife's work role with her work goal and her consumptive behavior.

Introduction

Due to increased time constraints, changes in sex role norms, role overload, and increased monetary resources, the impact of the wife's working status has become a major variable in the prediction and understanding of family behavior. Not only have women increased their participation in the workforce, but their reasons for working have also changed. Work is viewed by many women as a means to gain prestige, esteem, and independence in addition to monetary rewards (Scanzoni 1977).

The large number of females in the workforce provided incentive for marketers to investigate differences in the consumption patterns of non-working and working women. The basic premise of most of the research was that role overload would occur among working women, which would bring about more convenience-oriented consumption behavior than with non-working females. That is, it was hypothesized that the wife's employment would take away a share of her time and energy from home production activities and thus result in increased purchase of time-saving products and services. Another explanation for the expectation of differences comes from economic theory based on the notion that the wife's income is treated as transitory in nature. Mincer (1960a, 1960b) argued that households with working wives are more likely to purchase durables as a form of saving the transitory income. Similarly, Drucker (1976) suggested that such durables would be bought as an extraordinary purchase from extra income. Strober and Weinberg (1977) argued, however, that with time, the wife's attachment to the labor force has become more permanent and the income is no longer treated as transitory.

Most of the studies that have investigated differences in working and non-working wives have found very few differences in consumption patterns. In a study by Anderson (1972), no difference was found in the consumption of convenience food items among working and non-working women, although working women were found to be more brand loyal and make fewer grocery shopping trips than non-working wives. In an investigation of expen-

ditures on time-saving durables, Strober and Weinberg (1977) found that the wife's labor force participation was not important in the purchase of time-saving durables, although the size of the family's income was significant in explaining expenditures on time-saving durables. In a replication of the Strober and Weinberg (1977) study, Weinberg and Weiner (1983) concluded that the results of their study also supported the hypothesis that the wife's employment status is not significantly related to a family's purchase of time-saving durables.

Although the hypothesis that the wife's employment was related to the purchase of time-saving durables and consumption of convenience products has not been well supported by most studies, researchers have begun to look for additional variables and constructs to explain the differences in consumption patterns of working and non-working wives. Two major concepts have been introduced that have contributed to the support of the hypothesis of differences in the consumption behaviors of working and non-working wives. Schaninger and Allen's (1981) approach included the development of a three-way classification scheme based upon the occupational status of the wife. Reilly (1982) introduced the importance of role overload and role conflict in the working wives' family and job position duties. Both Reilly (1982) and Schaninger and Allen (1981) stated the importance of the differences in levels of role overload experienced by working wives.

Schaninger and Allen's (1981) approach was based upon the Rapoport's (1971) distinction between dual income and dual career families. Allen and Schaninger (1980) viewed dual income working women as being employed in not permanent or less meaningful work. Dual career wives were seen as having a high degree of commitment to their careers. The three-way scheme developed by Schaninger and Allen (1981) included non-working wife, low-occupational-status working wife, and high-occupational-status working wife. It was hypothesized that the high-occupational-status working wife would experience the greatest role overload due to her dedication to her career. The results of the study indicated that the three-way classification scheme explained some differences in food, beverage and alcohol consumption, makeup usage, clothing purchases, shopping behavior and deal proneness, media wage, and major and minor appliance ownership. Nichols and Fox (1983) used the Schaninger and Allen (1981) three-way occupational status scheme in their investigation of time-saving and time-buying strategies. In general, they found income to be a better explanatory variable than the occupational status of the wife. The greatest differences were found in high status working wives. They found that high status working wives were more likely to use time-saving strategies of preparing fewer meals at home, having less leisure time, and reducing their time in household production. Time-buying strategies used by the high status working wives included buying more child care, eating meals away from home, and purchasing disposable diapers for children.

Reilly (1982) investigated convenience consumption by working wives. He proposed that role overload results in role conflict which occurs when demands on the working wife's family position exceed the amount of time and energy available. Thus the role overload

should lead to more convenience-oriented consumption. Although role overload and the purchase of time-saving durables was found to be causally related to the wife's employment and convenience consumption, the amount of variance explained was very small. Reilly (1982) also pointed out that other ways of reducing demands of the family position include redivision of household labor assignments, eating out frequently, buying fast food for home consumption, and hiring household help as possible alternatives. This study will investigate the use of some of those alternatives; specifically, the study will investigate the ability of Schaninger and Allen's (1981) classification scheme in explaining differences in the frequency of dining out and the use of food delivery services. Kinsey (1983) found that the income earned by women working full time did not increase the marginal propensity to consume food away from home. However, she noted that she did not measure the frequency of eating out (but rather the dollars spent on meals away from home) and that, if the reason for dining out is to save time, working women may eat more frequently at faster (and relatively cheaper) eating establishments.

Hypotheses

The study will investigate the following hypotheses (stated in alternative form):

- H₁: Households with high-occupational-status wives (HSW) will dine out more frequently than those with low-occupational-status wives (LSW) or nonworking wives (NWW). It is expected that wives in more traditional households will feel more obligation to perform duties such as cooking.
- H₂: HSW households will have food delivered more frequently than NWW and LSW households. Since having food delivered is an alternative to cooking (as is dining out), the same rationale exists for this hypothesis as was expressed in H₁.
- H₃: HSW households will be more patient than LSW or NWW households should the food delivery service be slow. The desire to be removed from household duties such as cooking should be greater in HSWs, since their dedication to the workplace has supplanted their total dedication to the home environment somewhat.

Methodology

A survey of food delivery service usage was conducted in a college town of approximately 40,000 residents. An area sample was designed, using a traffic zone map and population-per-traffic-zone data. Thirty areas of the city with approximately equal population were identified and then points were chosen randomly within the areas as starting points. Thus households were selected in proportion to the city's population distribution. The questionnaires were distributed by interviewers, but left with the respondents to complete within a short time period. This hand-delivered, self-administered questionnaire approach has been used successfully in a variety of studies. (Dunning and Calahan 1974; Lovelock et al. 1976; Stover and Stone 1974).

A total sample of 696 households was obtained. The respondents were grouped as to their marital status: 32 non-response; 391 single; 38 divorced, separated or widowed, and 235 married. The high percentage of single households was due to the fact that the survey was conducted in a college town.¹ Those respondents

who were not married were deleted from the sample. The married households were separated into three groups based on the occupational status of the wife. There were 132 households in which the wife was not working (NWW), 52 LSW households in which the wife held a job in one of the lower categories of the Hollingshead Index of Social Position (Hollingshead and Redlich 1958), and 51 HSW in which the wife held a position in one of the top three white-collar categories of the Hollingshead Index. This approach is the same as the one taken by Schaninger and Allen (1981).

The family classification scheme discussed above was related to a variety of variables dealing with the frequency of dining out and the use of fast-food delivery services. Given the limited number of households in the LSW and HSW categories and given the ordinal (and occasionally nominal) nature of the scales used to measure the dependent variables, chi-square analyses were performed. When the dependent variable had several possible responses (for example, when a five-point scale was used), the data were collapsed into two or three possible response categories so as to insure that the minimum expected in frequencies were not close to zero.²

RESULTS

Table 1 presents the results of the chi-square analyses. Hypothesis 1, that HSW households will dine out more frequently, is supported as 73% of them dine out at least once a week compared to 54% of the LSW households and 42% of the NWW households. The higher frequency of dining out for HSW households is significantly greater than that for LSW households (χ^2 (1df) = 3.9, $p < .05$). However, the type of occupation is not important when one considers the frequency of dining out for pizza. More than 50% of the households with working wives (regardless of occupation) dine out for pizza more than once a month, compared to 33% of the nonworking wives. One implication of these findings may be that HSW dine out more frequently at a higher class of restaurant than do LSW households.

¹The fact that the survey was taken in a college town also was responsible for the failure to include a measure of income in the study. Pretesting indicated that "income" was interpreted by some students to mean their own while others interpreted it to mean their parents' income. Consequently, the sponsor of the study decided that no measure of income was necessary.

²For example, the question dealing with frequency of dining out had six possible responses (less than once a month, 1-3 times a month, once a week, 2-3 times a week, 4-6 times a week, 7 or more times a week). The following crosstabulation resulted:

	1	2	3	4	5	6	
NWW	17	57	30	19	6	0	127
LSW	4	20	12	11	4	1	52
HSW	4	10	17	16	1	3	51
	25	87	59	46	11	4	230

Due to the sparseness of the cells associated with dining out more frequently, the tables were collapsed in order to compare those who dine out less than once a week (columns 1 and 2) to those who dine out more frequently (columns 3-6).

TABLE 1

Crosstabulations Between Family Classification Schemes and Dining Out and Food Delivery Variables

Dependent Variable	Family Classification Scheme	Percentage of Households in the Given Category	Chi-Square	Degrees of Freedom	Significance
Dine Out Once a Week or More	NW	42%	14.2	2	.001
	LSW	54%			
	HSW	73%			
Dine Out for Pizza Once a Month or More	NW	33%	10.5	2	.005
	LSW	54%			
	HSW	55%			
Have Used a Food Delivery Service in this Town	NW	51%	12.2	2	.02
	LSW	68%			
	NSW	75%			
Use a Food Delivery Service More than Once a Month	NW	11%	2.3	2	.31
	LSW	17%			
	HSW	18%			
Willing to Wait More than 30 Min. for a Food Delivery	NW	31%	14.7	2	.001
	LSW	48%			
	HSW	61%			
If Told Wait Will Be Longer than Expected, Those Willing to Wait Rather than Canceling	NW	40%	3.3	2	.20
	LSW	34%			
	HSW	51%			
Willing to Wait More than Five Rings on the Phone	NW	54%	.5	2	.70
	LSW	53%			
	HSW	54%			

Hypothesis 2, that HSW households will order food to be delivered more frequently, is not supported. Households with working wives were more likely to have ordered a food delivery, but the higher percentage (75%) of HSW households doing so is not significantly different from the percentage (68%) of LSW households doing so ($p > .1$). Further, there were no differences in the frequency of ordering food deliveries among households regardless of family classification, as only 18% of the HSW households ordered more than once a month compared to 17% of the LSW households and 11% of the NW households.

Hypothesis 3 deals with the actual process of ordering the food. It is hypothesized that HSW households will show more patience should problems arise during this process, since the alternative of cooking the meal themselves (once they have decided not to cook) is less appealing to them than it is to more traditionally-oriented households. The results provide modest support for this hypothesis. Households with working wives express greater willingness to wait longer for a food delivery than do households with nonworking wives. The difference between HSW households (61% willing to wait more than 30 minutes) and LSW households (48%) is not significant ($p > .1$) however. The relationship between the family classifications and their willingness to wait (rather than to cancel the order) if the estimated delivery time exceeds their expectations is not significant when all these classifications are examined. However, HSW households are more willing to wait (rather than cancel) than are LSW households (χ^2 (1df) = 3.2, $p = .08$). No differences were observed in terms of how many times a household would let the phone ring before calling another establishment.

DISCUSSION

Schaninger and Allen (1981) found that HSW households differ from LSW and NW households in their consumption of a wide variety of goods. The results of this study

indicate that the type of occupation helps to explain differences in the consumption of services as well. HSW households dine out more frequently than LSW and NW households and they are somewhat more patient when it comes to waiting for a food delivery. Delineating between LSW and HSW households was not found to be important for the frequency of eating pizza at a restaurant or having used a food delivery service; for these variables, a delineation of working vs. nonworking wives explained the differences.

Overall, the results support the use of the wife's occupational status in investigating differences in dining out and in ordering food deliveries. As Allen, Deberec and Chan (1983) point out, the family classification scheme used in this study is a relatively crude one. The separation of working wives into HSW and LSW households based upon occupation is quite simple and, as our results indicate, useful. However, it is necessary to infer that commitment to the wife's job in the HSW household is greater (as was done in the rationale of our hypothesis) since no direct measure of labor force attachment was obtained. Thus, any relationship between Reilly's (1982) concept of role overload and occupational status is based on the very tenuous assumption that role overload increases with the status of one's occupation. Sieber (1974) observed that the positive outcomes of outside employment may outweigh the role conflict and role overload and, as such, the working wife may not perceive role overload. Thus, the use of a demographic variable (occupational status) is insufficient, as it is the perception of the role overload by the individual herself that would affect her behavior and not the overload by itself.

What constitutes "role overload" varies, as the overall capacity of an individual to meet various time and energy demands is not a fixed quantity. This capacity is flexible, and it may depend upon the individual's motivation for performing these roles. Several researchers have attempted to capture the "work motivation" construct by using various classification schemes. Bartos (1977) discusses a Yankelovich survey that asked working women: "Do you consider the work you do 'just a job' or a career?" In her own research, Bartos (1977, 1978) defined four groups of women--stay at home, plan to work, just a job, and career-oriented. Langer (1982) suggested the use of four categories of working women, as based on their attitude toward their work: high energy achiever, involved worker, conscientious worker, toiler. Hafstrom and Dunsing (1978) used monetarily-motivated and non-monetarily motivated classifications, and suggested that those who work for monetary reasons may view their purchases as ends in themselves while those who work for non-monetary purposes may be more likely to regard their purchases of consumptive items as means to ends at the time of purchase. Similarly, Rosen and Granbois (1983) found that the wives' motivation for working (for monetary reasons or not) affects the husband's and wife's roles in the family's financial decision making.

Previous research efforts that have examined consumption differences between working and non-working wives have focused on the wife's occupation, and recently, role overload as primary explanatory variables. The results of these studies have provided some insight into the consumption differences in married women, but have failed to explain comprehensively convenience consumption differences in working and non-working wives. We propose to integrate the wife's work role (occupational status) with the wife's work goal (her motivation for working) in a broader model that will provide a new basis for the examination of convenience and time-saving consumption behaviors of working and non-working wives.

A Broader Model

Most conceptualizations of a working wife's purchase behavior take a snapshot view and are essentially static in nature. It is important, however, to recognize the dynamic nature of the phenomenon. Our approach will be to present first our representation of how the interaction between roles and goals affects consumer behavior at any one point in time, and then to discuss how the nature of this interaction between roles and goals will change over time.

Our view is that role overload is not just a function of the demands of a total position set as Reilly (1982) suggests, but rather a function of the match (or mismatch) of the wife's roles and goals. Her perception of role conflict and role overload would not result merely from conflicting and competing demands and pressures caused by different roles in her position set. Rather the match (or mismatch) between her goals (which define her desired state) and her roles (which define her actual state) would determine her motivation to carry out the various roles and, in turn, have an impact on her purchase behavior. A working wife with a career as her goal may perceive role overload in housework, while one whose goal is that of being a good homemaker may perceive role overload in her job. Therefore the actions taken by the two in reducing their perceived overload may be totally different, with one trying to minimize her commitments at home and the other office commitments.

Our model will incorporate a very simplified view of one's work motivation, using the labels "Home/Inward Oriented" and "Work/Outward Oriented." In some respects these are somewhat similar to the concepts of "modern" and "traditional" used by Reynolds, Crask, and Wells (1977) or the "feminist," "moderate," and "traditional" classification used by Venkatesh (1980). However, we acknowledge that what we are dealing with is a continuum, as many wives are both home-oriented and work-oriented. Similarly, there are wives who do not work for a wage, but who are not home-oriented as they spend much of their time and energy outside the home in civic, social, or self-developmental activities. Hence we use the broader label "work/outward oriented" to portray the career-oriented extreme. Our model thus should be interpreted as indicating that those wives who tend to be more work-oriented than home-oriented, for example, will be more likely to make the types of purchases indicated in Figure 1.

Also we need to clarify our labels for the work roles: "non-working," "working-stagnant career," and "working-progressive career." To a large extent, this categorization is very similar to the Schaninger and Allen (1981) categorization (non-working, low-occupational status, high-occupational status). However, the use of the terms "stagnant" and "progressive" reflects our desire to include the nature of responsibility faced by the wife. If she can move up the organizational ladder as a result of her performance in decision-making tasks, then we would classify her role as "working-progressive career." On the other hand, if her reward structure is more-or-less independent of her performance but depends on the decision-making of others, then we would classify her role as "working-stagnant career."

We combine the roles and goals in Figure 1 to provide some testable propositions as to how the match/mismatch of those roles and goals will affect their consumption patterns. At the extremes of this table we find situations in which there is harmony between the wife's role and her goals. In box A, for example, we find non-working, home/inward oriented wives. To the extent that role overload is experienced, it will be in outward

roles. These wives are not as likely to purchase home-oriented convenience items, as their self-concept is dependent upon providing home production and services with a personal touch. Thus, other things being equal, this segment would be more likely to purchase items related to the personal touch in home-making: cookbooks, sewing materials, more traditional household appliances, etc.

FIGURE 1

The Interaction of Work Role and Goal as Perceived Role Overload

		Goal	
		Home/Inward Oriented	Career/Outward Oriented
Role	Non-working	A Harmony of home role and goals. Outward roles, if any, are perceived to be overloaded. More likely to consume traditional home-oriented products.	D Disharmony between home role and goals. Home role perceived to be overloaded.
	Working-Stagnant Career	B Disharmony between career role and goals. Career role is perceived to be overloaded.	E Increased consumption of home convenience products.
	Working-Progressive Career	C Increased consumption of job-oriented convenience products.	F Harmony of career role and goals. Home role perceived to be overloaded. Increased consumption of home convenience products and of career-oriented items.

At the other extreme (box F) we find harmony between the wife working in a progressive job who is career/outward oriented. Her perception of role overload will probably be related to her home role. As such, she will be more likely to purchase home-oriented time-saving goods and services (microwave oven, housecleaning service, food delivery service, dining out more, etc.) Her dedication to her career may also be reflected in such purchases as a work wardrobe, a briefcase, and technological aids (such as a home computer, a telephone-answering service, or a call waiting/call forwarding system).

In the remaining boxes we find disharmony between the wife's roles and goals, and we propose that this disharmony may result in purchase behavior that would not be consistent with the wife's role or goals by themselves. For example, boxes B and C both relate to working wives who are home/inward oriented. The perceived overload would be directed at the career role, and we would expect to find these wives more likely to purchase job-related convenience products. To the extent that there are income differences between those wives in a progressive career (box C) as opposed to those in a stagnant career (box B), we would expect to see more convenience-oriented durables (for example, a home-computer with word processing capabilities) purchased by the wives in box C.

The disharmony noted in boxes D and E will result in a different perception of role overload (the home role is perceived to be overloaded) and in a different type of purchasing behavior. These wives will be more likely to purchase home convenience items. Again, income differences due to the work status of those in box E compared to those in box D may result in the purchase of more time-saving consumer durables.

Our model indicates that a wife who is working in a stagnant career is going to be in disharmony with her goals. Given our use of the extremes of the home versus career continuum, this is true. However, wives who have a combination of home and career goals may

well be content in a work role that offers little opportunity for self-advancement.

The propositions generated in Figure 1 tend to indicate that goals are better predictors than roles. For example, we hypothesize that wives in the same work roles but with different goals (within the same row in Figure 1) will tend to purchase goods and services aimed at reducing different types of role overload: home/inward oriented wives would reduce the job-oriented overload while career/outward oriented wives would reduce the home-oriented overload. On the other hand, the primary type of role overload reduction is consistent within different goal structures (within the same column in Figure 1): again, home-oriented wives tend to reduce job/outward role overload while career-oriented wives would tend to reduce home-oriented overload. However, as discussed above, we do expect differences in the types of purchasing strategies used by wives in different work roles even though they have a common goal.

The proposed broader model is not all inclusive. The model's limitations include the deletion of other variables that may also influence wives' consumption behaviors. The impact of children, the wife's commitment to the family, and the wife's educational level are among the variables which may be included in future revisions of the model. A more fundamental limitation of the model is its implicit assumption that the wife is the family member responsible for most household purchases. As Burns, Foxman, and Myers (1984) note, both husbands and wives can face role overload in our society and an emphasis solely on the wife's roles and goals may well result in an incomplete representation of the household's purchase of time-saving and time-buying items.

A test of the model presented in Figure 1 would require only marginal additions to the standard research instrument used in working/non-working wife research. In addition to the wife's occupation question (and the subsequent use of the Hollinghead Index as was used in this study), one should also ask a question relating to her ability to determine her own career path in her current position. Further, it would be advisable to determine if the position is a part-time or a full-time one. The "goal" construct may be captured by some of the instruments used to measure the modern/traditional delineation, through an instrument designed to measure labor force attachment such as the Maret-Havens index (Maret-Havens 1977), or through a simpler process such as asking whether the work is just a job or a career (Bartos 1977).

A Dynamic Model of the Role/Goal Interface

Figure 1 represents the relationship between the role/goal match (mismatch) and consumer behavior at any one point in time. However, a wife's goals and roles may change as she passes through the life cycle and experiences success and failure. In the long run, it is not just the goal versus role dyad that plays a major role in the wife's perception of role overload; the perceived chances of changing roles and of achieving the goals are also of vital importance.

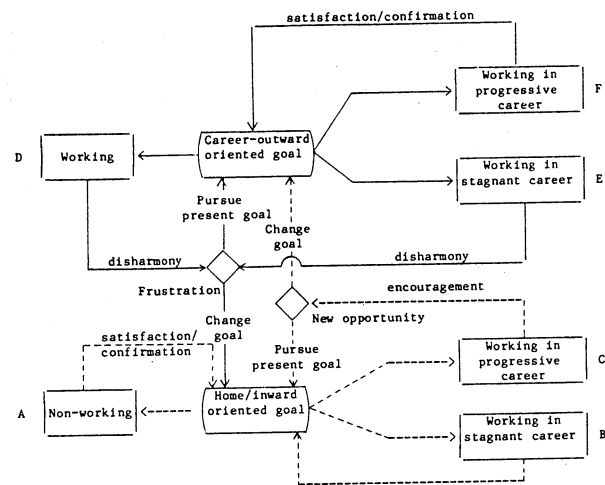
Figure 2 presents a model depicting the dynamics of the wife's goals and roles. The model categorizes wives by the goals held to be most important at a point in time. Career/outward oriented wives consider a career as their goal, while home/inward oriented wives consider being a good homemaker as their primary goal. Satisfaction with the status quo exists when the role and the goal are in harmony. However, when there is disharmony due to a mismatch of role and goal, the wife may experience stress. Further, she may try to relieve this stress by either trying alternative job roles or by changing her goal. Thus, over time, the roles and the goals inter-

act and change. Further the model proposes that the direction of change will be toward the two extremes (boxes A and F) shown in Figure 1. Evidence supporting the existence of role/goal stress is provided by Albrecht (1978), who found that one-third of the 147 "promotable" women in her study would reject a possible promotion. The most common reason cited was related to the fear of added responsibility, while family considerations were also cited frequently. In order to reduce the potential role/goal stress, Albrecht (1978) suggested that training emphasize the woman's social orientation toward the job (in other words, emphasize changing the woman's goals) rather than training that emphasizes technical skills.

The model proposes that most of the changes in the roles or goals are due to the desire to remove disharmony between them. One other type of incentive for change is included; we hypothesize that there may be an encouragement loop as well. The situation in which the encouragement loop would be most likely to occur is the case of a home-oriented wife working in a progressive career. In such a situation, we hypothesize that the wife will be encouraged to change her goal to conform with her role. An example of this encouragement loop was discussed by McCall (1977), when she projected that future workwives may identify more closely with the consumer behavior patterns associated with the social class of their employers than with that of their husbands.

FIGURE 2

Working Wives' Roles, Goals & Buying Behavior: A Dynamic Model



The most important implication of this model is that, at any point in time, work status alone may not correctly reflect the perceptions of the wife. However, if the work role has been the same over time, then we should be able to assume that the wife's work role and her goals are in harmony. Thus, for those individuals who have maintained the same work role for a number of years, the measurement of occupational status by itself may serve as a proxy for both role and goal. On the other hand, measurement of both work role and goal, as discussed in the previous section, will be necessary for those wives who have not been able as yet to match theirs.

SUMMARY

The original purpose of this paper was to investigate further Schaninger and Allen's (1981) use of occupational status to explain differences in the consumption of convenience products. We investigated the use of

time-saving alternatives such as dining out and the use of a home-delivery food service, and found that the delineation of high-occupational-status working wives from low-occupational-status working wives was able to explain differences in behavior for some, but certainly not all, of the dependent variables.

Our results suggested to us that one could develop a richer independent variable by incorporating Schaninger and Allen's (1981) approach with the role overload concept proposed by Reilly (1982). As such, we developed a model (shown in Figure 1) that discusses the interaction of the wife's work role with her goals and their impact on her perception of role overload. Further, we discuss the expected nature of the consumer behavior resulting from the desire to reduce the role overload. Finally, we acknowledge that this model is static in nature. Then we discuss the expected interaction between the wife's roles and goals over time, and the implication which the long run interactions have on the choice of the independent variables selected for use in investigating differences in the purchase behavior of working and non-working wives.

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ASSOCIATIONAL INVOLVEMENT: AN INTERVENING CONCEPT
BETWEEN SOCIAL CLASS AND PATRONAGE BEHAVIOR

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Abstract

Social class differences in consumer behavior have been suggested to be a function of differing life styles. Yet, few scholars have devoted attention to what aspects of these life styles are responsible for the observed differences in consumer behavior. This study introduces associational involvement as one aspect of life style. Results indicate that associational involvement is significantly better than social class indicators in predicting patronage of specialty stores for clothing purchases.

Introduction

Seminal work by Martineau (1958a, 1958b) stimulated a stream of research investigating the causal mechanisms linking social class with store choice or patronage behaviors. Facilitated by the availability of an easily applied social class index (e.g., Warner's ISC, 1949), numerous authors further investigated this relationship. Both Martineau and Levy indicated there was a correspondence between patron and store status, Martineau concluding that:

"The woman shopper has a considerable range of ideas about department stores: but these generally become organized on a scale ranking from very high-social status to the lowest-status and prestige. The social status of the department store becomes the primary basis for its definition by the shopper... The shopper is not going to take a chance of going to a store where she might not fit in." (1958a, p. 127)

Levy (1968) further clarified this causal linkage by taking into account the characteristics of store choice decisions. He noted that for merchandise low in risk, upper class individuals would be willing to shop at a lower status store such as Sears, while lower class people were likely to shop at higher status stores such as Marshall Fields only when purchasing gifts. Ryans (1979) found a similar relationship to exist in gift-giving purchase occasions. By utilizing Bauer's (1961) distinction between economic and social risk, Prasad (1975) found social risk to be the most important characteristic of a purchase situation affecting store choice. Regardless of the level of economic risk, when social risk was high, Prasad found high social class respondents unlikely to patronize discount stores.

Other studies have had mixed results concerning the relationship between social class and store choice. For instance, Rich and Jain (1968) obtained a significant and positive association between social class and store preference. In another study, preferences for discount, chain, department, specialty, and boutique stores were compared across women of differing occupational statuses. Housewives, working women, and career women had similar preferences for each store type with the exception of specialty stores (Hirschman 1980). Schaninger (1981) found upper class people patronizing specialty stores more than lower class people when shopping for furniture and clothing. Finally, Bellinger et al. (1976) found income and education to be better predictors than social class of store choice for several types of clothing purchases.

In sum, the literature concerned with social class and patronage behaviors has not produced a conclusive and

unified theoretical linkage between these two concepts. To progress further in building such a theory, more explication of why social class should affect store choice is necessary. Yet a concept indicating the potential for further explication emerges from the empirical results of the study by Bellinger et al. (1976). These authors entered membership in several types of organizations into a discriminant analysis of store choice. Whether or not female respondents belonged to a bridge club was the first variable entering the discriminant function for store choice when purchasing suits or dresses. The same type of club membership was also a significant predictor of store choice for women's sportswear.

The irony of the Bellinger et al. study is that the results are consistent with a theoretical explanation of why social class should be indirectly, rather than directly, related to store choice. As the results of this study will show, associational behavior has an intervening effect between social class and store choice. A review of these two conceptual linkages follows.

Conceptual Linkages

Social Class and Associational Involvement

Recently, Coleman (1983) reviewed two of the most current views of the American status structure, namely the Gilbert-Kahl New Synthesis Class Structure, and the Coleman-Rainwater Social Standing Class Hierarchy. In contrast to the political-social structure basis of the Gilbert-Kahl model (1982), the Coleman-Rainwater (1978) classification is based on patterns of interaction among members of society. The Coleman-Rainwater approach is a broader conception of class structure that not only considers the common indicators of education and occupation, but also the more subjective aspects of individuals' life positions including social skills, status aspirations, recreational habits, and community participation. Coleman (1983) concludes that "ultimately, the proper index of status is a person's social circle of acceptance." (p. 267)

Given that the types of people in social networks effectively define levels of social class, considerable attention has focused on associational behaviors across social classes. Studies have consistently found a strong positive relation between social class and the number of groups to which individuals belong (Kahl 1957, Hodges 1964, Curtis and Jackson 1977). Upper- and Middle-class people are significantly more active in formal and informal organizations than are members of working and lower classes. This difference in extent of social participation by class indicates an overlap in the business and social spheres of upper- and middle-class individuals and a clear separation between the two spheres for lower class individuals. For members of the middle- and upper-classes, business relationships spill over into the social arena, and these two spheres are not recognized as at all distinct. This life style is in sharp contrast to that of the lower and working classes who have fewer intimate friends outside of the extended family. They are less likely to participate socially with their working mates and more likely to interact frequently with siblings (Dotson 1951).

Similar findings have been produced by authors interested in life style, or patterns of cultural choice. This body of literature tends to separate the several components of social class as distinct conceptual entities, rather than combining them into a single index. As such, the results are slightly different for each of the separate components of standard measures of social class. Several studies have demonstrated that education, in comparison to other indicators of status or class taken separately, has the strongest positive relation to number of group memberships, social friends, and neighboring activities (Davis 1982, Greenberg 1983). Conceptually, this relationship exists because greater educational status is associated with a greater breadth of interest. Since these interests are likely to be more abstract, the development of knowledge concerning these interests is more dependent on organizational entities such as journals, conferences, and formal group meetings. Further, education is also positively related to the sophistication of social skills which may make participating in groups less intimidating. Davis (1982) also found occupational prestige significantly and positively related to number of group memberships. Perhaps verifying the difficulties inherent in the use of income as a component of social class (e.g., Coleman 1983), income has not been shown to be significantly related to associational behavior.

In sum, the prestige associated with an individual is primarily a function of his or her circle of friends. The higher an individual is in the social class hierarchy, the greater the extent to which this circle of friends is acquired through multiple associational memberships.

Associational Involvement and Store Choice

Results from the Bellenger et al. (1976) study indicated that membership in a specific group was the most significant predictor of preference for a specific type of store. The prior discussion established that social class is positively related to the extent of associational memberships. The concern here is not with why membership in one specific group should affect choice of a specific store (an appropriate concern of reference group theory), but with why the total number of group memberships, or associational involvement, should affect choice of a category of stores.

Hirschman (1978) described retail structure with a typology that included specialty stores, department stores, mass merchandisers, and discount stores. This typology approximates a price-quality continuum. Further, Jain and Etgar (1976) obtained a multidimensional store map in which the most salient dimension, store status, contained the same continuum. Using the same methodology, Singson (1975) produced a nearly identical store map with a primary dimension which he labelled price/quality. Thus, a general observation is that Hirschman's store typology is one of decreasing status.

As indicated previously, Prasad (1975) found that individuals of higher social class were less likely to patronize discount stores under purchase situations of high social risk. Similarly, when quality of a visible product is the most salient attribute for a consumer, he or she is less positive toward purchasing that product at a discount store than at a department store (Wheatley and Chiu 1974). In sum, this literature suggests that the greater the social risk of a purchasing situation, the greater the patronage of higher status stores. Further, this relationship is more likely for individuals of higher social class than for those of lower social class.

If all members of all social classes faced an equal number of purchasing occasions of high social risk, the

proposition just stated concerning store patronage would be observed equally across social classes. Yet, research shows that these differences are more than minimal (e.g., Schaninger 1981). In effect, members of higher social classes may face more purchase situations of high social risk than members of lower social classes. One source for this difference in social risk exposure might be the extent of associational behavior of individuals higher in social class.

Social participation is positively related to the degree to which an individual is exposed to the expectations and norms of referents. As exposure to others through participation in groups increases, so does the chance of it being observed that an individual owns a product which is considered inappropriate. Similarly, an informal meeting at a country club or a formal meeting of the Chamber of Commerce are both situations in which ownership of a visible or symbolic product, such as clothing, is a crucial determinant of an individual's acceptance by others within the particular group setting. A gathering in one's home of a business, social, or community group increases risk of others noticing that furniture, a highly visible product, is inappropriate to the expectations of members of the gathering.

In summary, people of higher status interact in groups to a greater extent than do people of lower status. In so doing, they are subject to greater amounts of social risk in their ownership of highly visible and symbolic products. In attempting to meet the expectations of referents of a similar higher status concerning such products, individuals may be more likely to patronize specialty or local department stores.

The Present Study

The research conducted here is an initial attempt to test the previously suggested theoretical linkages. The research question is whether or not introducing amount of associational behavior as an intervening variable will lead to a better explanation of store choices by members of different social classes. As suggested, the greater the number of associations belonged to, the greater the exposure to social risk for visible and symbolic products. When faced with the purchase of such products, individuals are more likely to patronize stores of higher status.

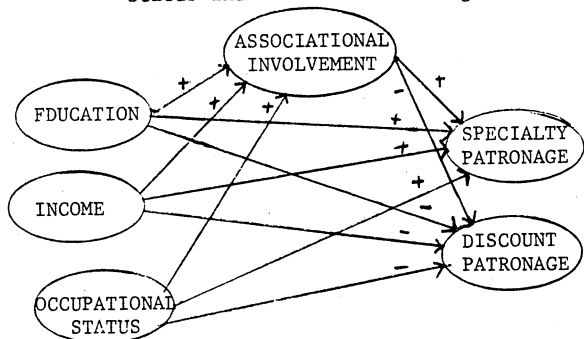
In the current research, these issues are addressed by examining the proportion of clothing purchases made at specialty and at discount stores. Clothing has been widely suggested and used by researchers as a product which is highly symbolic and visible (Belk 1978; Holman 1980, 1981; Belk, Bahn and Mayer 1982; Schaninger 1981; Douglas and Solomon 1983). Specialty and discount stores represent opposite ends of the status and price-quality continuum as indicated previously.

The research question may be addressed by empirically testing the path diagram in Figure 1. In that diagram, direct and indirect effects of occupational status, education, and income on choice of specialty and discount stores are hypothesized. If associational involvement does have the suggested effect, the indirect effects of this model should exceed the direct effects.

Occupational status, education, and income were treated as separate constructs, rather than combining them into a single social class index. Research concerned with life styles, of which associational behavior is one facet, has more prevalently treated the components of social class as separate constructs (Sobel 1981, 1983; Gruenberg 1983; Davis 1982). For instance, a recent study found almost no consistency between measures of education, occupational status, and predicted attitudes such as morals, attachments, politics, values,

FIGURE 1

Total Possible Effects of Class and Status Indicators on Patronage



and social issues (Davis 1982). While education may cause an increasing amount of associational behavior through the mechanisms cited earlier, occupational status may lead to such behavior through a separate mechanism. For instance, an elder CEO at a large firm may have begun his or her way up from the bottom with little educational credentials, yet belong to several organizations by the time the CEO status is achieved. Finally, income may very well not have a consistent effect on associational behavior. Two individuals could have identical incomes, yet one could be an overprivileged blue-collar worker and the other a fledgling university professor. The differences in the associational behavior could be pronounced. As Coleman (1982) notes: "Class and income are not really very well correlated. They index two quite different aspects of life circumstances." (p. 272).

Measures

A valid argument raised by several marketing scholars has been that studies of class and status in consumer behavior should focus on the household rather than the individual as the unit of analysis (Shrimp and Yokum 1981; Zaltman and Wallendorf 1983). Yet, with the exception of the Coleman-Rainwater (1978) social class index, the rest of the social class indexes utilize only husband's levels of class and status indicators (Warner 1949; Hollingshead 1949).

Although it is clear that husband and wife indicators of occupation, education, and income should both be used in measuring theoretical effects, it is not clear as to how to treat these indicators as a unit. Three intuitively appealing heuristics would be averaging across indicators, taking the highest indicator for each class or status dimension, or adding indicators. However, it is not clear which of these processes would best describe the merging which occurs in a household. This issue was empirically resolved in this research by observing the correlations obtained between each of these three alternatives and the dependent variables. Pursual of these correlations indicated that adding occupational status (seven-point scale), education (interval scale), and income (interval scale) of husband and wife resulted in marginally greater magnitudes. Thus, this heuristic was used for husband-wife households.

Associational involvement was operationalized by asking respondents to name all organizations in which household members participated. Store choice was operationalized by asking respondents to state three stores where the majority of household clothing purchases were made and the percentage of purchases made at each. These stores were classified as specialty, department, and discount. As department stores were not separated into national (mass merchandisers) or local, this category was excluded from the analysis.

The status or prestige of the stores where respondents purchased clothing was not measured. A key assumption made in this study is that specialty and discount stores represent opposite ends of a status continuum. Although the store maps produced by Singson (1975) and Jain and Etgar (1976) indicate this assumption to hold in general, there are store types which may violate the assumption. For instance, it is not clear where off-price merchandisers or catalog showrooms fit on the status continuum. Yet, it is unlikely that these anomalies contaminate the results of this investigation. Catalog showrooms were coded in a separate category and off-price merchandisers were infrequently if at all encountered in the responses. Indeed, this latter type of retail institution is in its infancy in the market where the data was collected.

Data

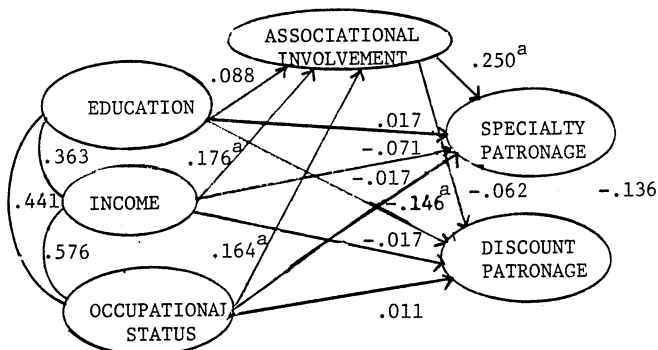
In-home personal interviews were conducted in a Southwestern city using a multi-stage sampling plan. Verification of the interviews was indirectly assessed by having interviewers photograph each respondent. As the household was the sampling unit, respondents less than 18 years of age were eliminated from the sample. A total of 346 interviews were completed. A preliminary examination of age and income distributions indicated the sample to be representative of the local population.

Results

The path model was submitted to a submodel of Jorskog and Sorbom's (1981) LISREL V, producing the coefficients shown in Figure 2. The majority of the coefficients are not significant at the $p < .05$ level. Partial support is received for the positive relation between social class indicators and amount of associational behavior. While occupational status and income are significant causal variables of amount of associational behavior, education is surprisingly insignificant.

FIGURE 2

Path Coefficients in the Hypothesized Model^b



a. $p < .05$

b. standardized coefficients derived from a covariance model

Encouragingly, the data strongly supports the new causal linkage introduced in this study. That is, amount of associational behavior is a significant and positive predictor of proportion of clothing purchases made at specialty stores. Yet, while associational behavior does appear to increase specialty store patronage, it does not affect discount store patronage in an opposite manner as might be expected. Amount of associational behavior does not appear to be related to discount store patronage in the context of clothing purchases. Nevertheless, the predicted relationship with specialty store purchases is the strongest coefficient in the entire model.

Two other general observations are noteworthy. First, of all variables examined here, only education is a moderately significant determinant of clothing purchases at discount stores. Neither social participation, income, nor occupational status is a significant predictor of discount patronage. Apparently those variables that cause individuals to patronize this type of store have not been tapped. In fact, the equations in the model explain a trivial 3% of the variance of clothing purchases made at discount stores.

The second observation is that, with the single exception of education as mentioned above, the social class variables considered here have no significant direct effects on patronage of either specialty or discount stores. For that matter, Table 1 indicates that neither direct or indirect effects are significant in predicting specialty store patronage for any of the three variables. In all cases, however, the indirect effects are greater than the direct effects. This result leads to the tempered conclusion that class or status variables do not directly affect patronage behaviors. Rather, it appears that these variables cause other life style behaviors which in turn affect patronage. It is in this sense that amount of associational behavior acts as an intervening variable between social class and store choice for products of a visible and symbolic nature.

TABLE 1

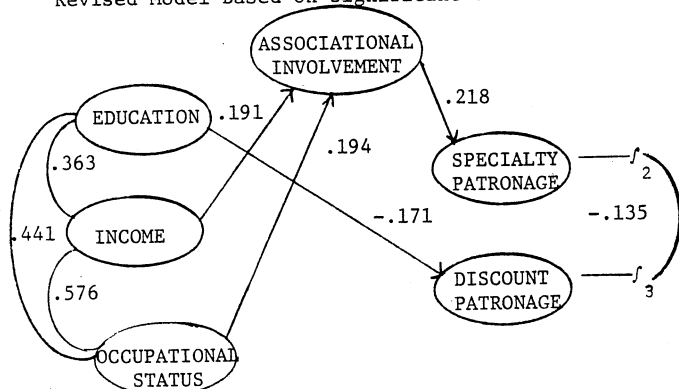
Direct and Indirect Effects of Status and Class on Specialty Patronage

	CLASS OR STATUS CONCEPT		
	Education	Income	Occupational Status
Direct Effects	.07	-.071	-.017
Indirect Effects	.022	.044	.041

On the basis of the significant coefficients reported in Table 1, the revised model illustrated in Figure 3 was submitted to the structural equations routine. This model is readily accepted according to the current criteria for accepting covariance models (χ^2 with 7 degrees of freedom = 6.69, $p = .461$). The results reaffirm the interpretations just made. The class variables of income and occupation are positively associated with group activity, which in turn is positively related to specialty store patronage. Education is a significant predictor of not patronizing discount stores.

FIGURE 3

Revised Model Based on Significant Causal Paths



An attempt to lend better clarity to the somewhat mixed results was made by separating total associational memberships into a typology that included business, recreational, social, and religious memberships. This

typology was chosen as it had been used successfully by Hirschman and Wallendorf (1979) in the context of stimulus variation.

Several conclusions may be drawn from the correlations between the social class variables and memberships in the different types of associations displayed in Table 2. First, business and community associations are by far the most prevalent types of memberships. Few individuals participate in social or religious groups and this participation is poorly predicted by any of the social class variables. Secondly, as earlier studies indicate (e.g., Davis 1982; Greenberg 1983) business and community group involvement is strongly predicted by occupational status, education and income.

The correlations of Table 3 illustrate the contribution offered by this study. With the exception of social group memberships, all of the types of associational involvement are significantly and positively correlated with specialty store patronage. In fact, purchases of clothing at specialty stores is more highly correlated with each associational indicator (except for social) than it is with occupational status, education, or income. Conversely, none of the associational memberships is more significantly correlated with clothing purchases at discount stores than any of the social class variables.

Discussion and Conclusions

Marketing scholars have claimed that "The concept of life style is the essence of social class..." (Myers and Gutman 1974, p. 236). One aspect of life style that differs across social classes is the degree of involvement in different types of associations. This study provides initial evidence that this component of life style intervenes in the relationship between social class and patronage of specialty stores for a visible and symbolic product. As such, the theoretical argument and results concerning amount of associational behavior provide one answer to the question of why social classes should differ in patronage behaviors. Individuals higher in social class, as part of their life style, tend to belong to more associations than individuals of lower social class. For products which are symbolic and visible, such as clothing or furniture, individuals with greater associational involvement are subject to greater social risk. When purchasing occasions arise for such products, people of high associational involvement are likely to alleviate social risk by making purchases at higher status, specialty stores.

Although the results of this study are encouraging, they are subject to limitations and, thus, point to several avenues for future research. Perhaps most importantly, the theoretical argument has centered around the concept of social risk, while not directly measuring this concept. The greatest contribution toward establishing the validity of this argument would be direct measurement of social risk for clothing or furniture purchases, in addition to the variables considered here. As the validity of measuring all forms of risk is in question (e.g., Ross 1975), using product involvement or importance may produce better results. These concepts are closely related to social risk and have enjoyed the development of valid and reliable scales (Bloch 1981; Bloch and Richins 1983). If associational involvement is a significant predictor of high social risk and/or product involvement purchases, the relationship between this concept and patronage of specialty stores could be made with a higher degree of confidence.

A second limitation of this study concerns the procedures used for operationalizing patronage. The results could be generalized further by measuring dollar purchases made at each of the four store categories put

TABLE 2

Correlations Between Indicators of Social Class
and Types of Associations

Social Indicators	Association Types				
	Business	Community	Recreational	Social	Religious
Occupational Status	.37 ^a	.14 ^b	.11 ^c	-.01	-.002
Education	.28 ^a	.14 ^b	.03	.02	-.03
Income	.26 ^a	.12 ^c	.16 ^a	.11 ^c	.01
Mean Number of Memberships	.36	.47	.32	.26	.12

a. $p < .001$ b. $p < .005$ c. $p < .10$

TABLE 3

Correlations of Associational and Social Class Concepts
with Specialty and Discount Store Purchasing

Association Types	Store Types	
	Specialty	Discount
Business	.10 ^c	-.10 ^c
Community	.14 ^b	-.10 ^c
Recreational	.12 ^b	-.04
Social	.03	.02
Religious	.14 ^b	.02

Social Class Indicators

Occupational Status	.02	-.10 ^c
Education	.04	-.17 ^a
Income	.001	-.10 ^c

a. $p < .001$ b. $p < .005$ c. $p < .10$

forth by Hirschman (1978). A crucial point in the theory posited here was that high social risk purchases would be made at high status stores. While the approximate price-quality continuum in Hirschman's typology does provide a useful surrogate of store status, a more valid procedure would be to measure the status of stores in which respondents made purchases. This measurement could be accomplished by the ranking or rating of stores in terms of status by a separate sample.

Finally, practitioners can benefit from the results of this study in developing segmentation and promotional strategies. For retailers who seek a merchandise mix consisting of highly visible and symbolic products,

further development of that mix and promotion ought to be directed at those who belong to many business, community, religious, and recreational groups. The most salient outcome of this study is that concentrating on these entities, rather than directly on individuals defined according to indicators of social class, is a more efficient and perhaps effective use of managerial resources. The suggestion is the opposite for discount retailers. Given the results of this study, these retailers would be better off concentrating marketing efforts on those individuals lower in occupational status, education, and income.

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PATRONAGE BEHAVIOUR TOWARD SHOPPING AREAS:
A PROPOSED MODEL BASED ON HUFF'S MODEL OF RETAIL GRAVITATION

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Abstract

Among various gravitational models, Huff's probabilistic model of retail gravitation is probably the most widely used model. Its ability as an explanatory tool, however, is handicapped by the fact that it includes all potential shopping areas in its competitive system. This paper proposes a new model based on the concept of choice set. Results from a large scale study in a Canadian city indicate that the proposed model substantially outperforms Huff's model, and can be used for both predictive and explanatory purposes.

Introduction

Since the emergence of shopping centres in the 1950's and 1960's, retail sales have been shifting increasingly toward such centres. Estimates indicate that shopping centres will account for 50% of all retail sales by 1990 (Dickinson 1981, p.57). In a recent study (Prestwick 1980), 47% of the sampled shoppers in a major shopping mall reported that they were there because of the mall itself. Thus, almost half of the shoppers did not make their shopping locational choice because of the attraction of specific stores or products and services, but instead were attracted by some aspects of the mall and its complex of units. Related to the development of shopping centres is the conscious attempts by many downtown retail areas to get organized as "business entities" to react to the increasingly threats posed by shopping centres (Spalding 1981; Petto 1983).

The evolution of planned and organized shopping areas such as shopping centres and revitalized downtown areas has several implications. To the consumer, the evolution represents another level of patronage decision in the form of increased choices between different shopping areas. To the marketer, it means an increasing need to attract the consumer to the shopping area, and not just to a particular store. The importance of promoting the whole shopping area thus takes on more significance than promoting a particular store. Related to this, therefore, is the need to understand the main factors that affect the choice of shopping areas by consumers, and how they can be attracted.

Patronage Behaviour Toward Shopping Areas

There is no doubt that organized shopping areas will take on increasing significance in the decision-making process of consumers in the future. Unfortunately, there have not been much research in understanding consumer patronage behaviour toward shopping areas. Within the retailing area, the gravitational type of models have been traditionally used by researchers and retail managers to predict retail trade areas and consumer patronage patterns (Bucklin 1971a and b; Converse 1949; Huff 1962). Among the various gravitational models, Huff's probabilistic model of retail gravitation is probably the most well-known and used (Huff 1962, 1963, 1964, 1981). The mathematical formulation of Huff's model is expressed as follows:

$$P_{ij} = \frac{S_j}{T_{ij}^\lambda} \bigg/ \sum_{j=1}^n \frac{S_j}{T_{ij}^\lambda}$$

where:

- P_{ij} = the probability of a consumer at a given point of origin i travelling to a given shopping centre j ;
- S_j = the square footage of selling space devoted to the sale of a particular class of goods by shopping centre j ;
- T_{ij} = the travel time or distance or costs involved in getting from a consumer's travel base to shopping centre j ; and
- λ = a parameter which is to be estimated empirically to reflect the effect of travel time or distance on various kinds of shopping trips.

In essence, the model states that the probability of any shopper choosing a particular retail centre is equal to the ratio of the utility of that centre to the sum of utilities of all potential competing centres in the system (Huff 1964, p.37). Specifically, the utility or attractiveness of a centre is directly related to the size of the centre and inversely related to the distance separating consumers from the centre.

Strengths and Weaknesses of Huff's Model

Huff's model is probably the most parsimonious specification of modern theory-based approaches to the study of consumer spatial behaviour. Earlier gravity models (Reilly 1929; Converse 1949) were specified at an aggregate level and were deterministic in nature. In contrast, Huff specified a multiplicative utility function with two variables, selling space and travel time. These two variables clearly act as proxies for the principal constructs of Central Place Theory (Christaller 1933; Losch 1954 -- the importance of a centre and economic distance. Thus, the theoretical justification of Huff's model can be found in Central Place Theory (Huff 1981).

Another major strength of the model is its inclusion of the effects of competition on the behaviour of the shopper. This, by itself, adds much credibility to the model. By constructing probability contours, Huff's model also explicitly allows for the occurrence of irregularities of trading areas (Huff 1964).

Huff's model also survived much empirical testing since its formulation (Huff 1962; Lakshmanan and Hansen 1965; Bucklin 1967a,b; Brunner and Mason 1968; Pacione 1974; Thomas 1976; Stanley and Sewall 1976; Lieber 1977; Turner and Cole 1980; Nevin and Houston 1980; Gautschi 1981). It is also interesting to note that in spite of the problems surrounding the calibration of the model, the λ value in Huff's model has been empirically verified in many studies (Carrothers 1956; Huff 1962; Forbes 1968; Bucklin 1971a,b; Haines et al. 1972; Young 1975; Stanley and Sewall 1976). In general, they tend to support an empirical value of about 2.0 for normal household shopping despite various calibration methods used (Wee and Pearce 1984).

Huff's model is not without weaknesses. First, the model assumes that consumers with comparable socioeconomic characteristics will depict similar retail centre patronage and that there are no internal differences of significance within the area of analysis.

Second, it is interesting to note that Huff's competitive system includes all potential retail centres in that system (Huff 1964, p.37). In other words, the basic set of shopping area choice alternatives is assumed to be spatially accessible to all consumers without taking into account possible other factors that might affect the choice of shopping areas. Thus, the use of the basic set in the model is similar to what urban geographers labelled as "store opportunity set" in store choice behaviour (Marble and Bowlby 1968) and what marketers labelled as "awareness set" in brand choice behaviour (Campbell 1973; Narayana and Markin 1975; Hawkins et al 1980). Subsequent studies have continued to apply Huff's model in the same way (Stanley and Sewall 1976; Nevin and Houston 1980). While this approach may be appealing when there are only a few recognizable shopping centres within a city, the situation becomes less defensible when there are many shopping centres with varying degrees of consumer patronization. Thus, should a shopping area which a consumer patronizes once a year or even once in two years be included with another which he patronizes once every month? What criteria should be used for inclusion or exclusion of shopping centres in the competitive system? Clearly, if all shopping areas are included, the model may bear little relationship to actual consumer patronage patterns. This is because consumers may patronize different subsets of shopping areas within the basic set or they may patronize shopping areas that have not been included in the set. Using a priori assumption that the same set of area choice alternatives apply to all consumers may be necessary if one is interested to use the model in relation to predicting patronage behaviour or estimating the size of trading area for a new centre. The same assumption becomes highly questionable when one is also interested to explain patronage behaviour among an existing set of shopping areas.

The problem of specification of what centres to be included in the set is well articulated by Gautschi (1981):

"In addition to the potential bias resulting from omitted variables, bias may stem from an improperly specified choice set ... "

This problem is further compounded by socioeconomic factors. Mobile shoppers, for example, may visit many centres within the city, or take advantage of car-oriented out-of-town centres if available, whereas other shoppers who are spatially relatively confined will be more dependent on local shopping facilities. In essence, Huff's model is still applied from a retailer's point of view.

A Proposed Model

One way of overcoming the specification problem in the competitive system of Huff's model is to allow the consumer to specify his/her choice set of shopping centres, as opposed to an arbitrary imposed set from the retailer's perspective. The choice set can be defined as those shopping areas that the consumer chooses to patronize over a certain period of time. Thus, it will resemble the evoked set concept that is used in brand choice research. The proposed model that incorporates the concept of choice set may be expressed in the general form:

$$P_{ij} = \frac{S_j}{D_{ij}^\lambda} / \sum_{j \in \{J\}^i} \frac{S_j}{D_{ij}^\lambda}$$

where:

- P_{ij} = the drawing power of shopping area j to consumer i ;
- S_j = the attraction of shopping area j ;
- D_{ij} = the disincentive of travelling to shopping centre j for consumer i ;

$\{J\}^i$ = the index or choice set for consumer i , where $\{J\}^i \in \{1,2,3, \dots n\}$;

λ = an exponent value.

The Study

The purpose of this study is to empirically test whether the proposed model will outperform Huff's model.

Research Site and Shopping Areas

A city in southwestern Ontario was used as the research site. The size of the city (population of 284,000) plus its traditional role as a test city for many market research studies makes it ideal for the nature of this study. Besides, in terms of membership, the city has the largest Downtown Business Improvement Area in Canada.

In total, 15 shopping areas have been included for this study. The criteria for inclusion were that the area should have at least 100,000 square feet of retail selling space and that it must have some form of management promoting it as a business entity. It was not necessary that the area be a planned centre. The choice of 100,000 square feet as the cut-off for size was consistent with the findings of Turner and Cole (1980) who concluded that gravity models are more suitable for large and medium shopping areas.

Basic data on each of the shopping areas, including their retail selling space, were obtained from several secondary sources. The 1980 Canadian Directory of Shopping Centres provided the basic data for each of the shopping areas in this study, except for two areas. These data were verified and updated with the respective management of each shopping area and planning officials of the city.

It is important to emphasize that the city stretches only 9.3 miles from east to west and 7.2 miles from north to south. Most of the shopping areas in the study have competitors within a two-mile range, and the majority of them are located within a 3.5 mile range of downtown. Even the two farthest shopping areas are within 4.5 miles of the core of downtown.

Applebaum (1966) in his study of supermarket trade areas showed that the drawing power of a store could extend beyond 2 miles. Brunner and Mason (1968) found that the most significant and consistent driving time dimension in delineating shopping centre trading areas was at the 15-minute driving points, as 75% of each centre's shoppers resided within this range. Interesting, though, was the fact that 25% of the shoppers were willing to drive more than 15 minutes to the centre. In fact, their study showed that where suburban centres were concerned, a higher percentage of shoppers (almost 30%) drove more than 15 minutes to the centre.

Considering the results of the two studies, and taking into account the relatively small size of the city, the very accessible transportation system, and that this study was concerned with shopping areas as opposed to individual stores, all 15 shopping areas could be considered as potential competitors to one another.

Operationalization of Variables

The proposed model was tested against Huff's model with regard to the shopper's behaviour toward the downtown area for non-grocery shopping. The dependent variable was operationalized as the number of actual trips (and dollars) that was made in downtown as a proportion of the total trips (and dollars) to all shopping areas in the consumer's choice set over a two-week diary period.

Square footage of selling space was often used as a

surrogate measure for attraction of the shopping area (Huff 1962, 1963, 1964, 1981; Bucklin 1971a, b) and had applied in many studies, including Stanley and Sewall (1976) and Nevin and Houston (1980), and was applied in in this study as well.

For the disincentive variable (D_{ij}), distance was used instead of travelling time as it was felt that the former was a more objective measure. Specifically, crow-flight (straightline) distance was adopted after close study of the map of the research site which showed that there were no major obstacles within the city. The distance was measured from the consumer's place of work if the majority of trips originated from and ended at the place of work. Otherwise, it was measured from the consumer's home. Thus this method of measurement took into account, in aggregate, trips' origin and end.

Finally, the λ value was fixed at 2.0. In doing so, the authors had chosen not to consider the calibration issue, in light of the fact that there are many different methods of calibration and that the issue is still fraught with problems (Wee and Pearce 1984). There is considerable empirical support for using a λ value of 2.0 for ordinary household goods shopping when the distance between competing shopping areas is not very great, and when shopping trips involve travelling to community or regional shopping areas (Reilly 1929; Carrothers 1956; Huff 1962; Forbes 1968; Bucklin 1971a, b; Young 1975; Stanley and Sewall 1976). Other researchers have also used the value of 2.0 in their studies (Huff and Lutz 1979; Nevin and Houston 1980). Thus, this study has opted to apply a model that has more operational and practical relevance to the manager, rather than engage in an academic pursuit that may have little value to practitioners.

Data Collection and Response Rates

The data for this research were obtained as part of a large scale survey designed to obtain various information that helped to provide a better understanding of consumer spatial shopping behaviour.

The survey required the respondent to complete an eight-page questionnaire and keep a two-week diary that recorded information on shopping trips and expenditure. Dillman's (1978) "Total Design Method" was closely followed in designing and implementing the survey. Initial contact letters, personally addressed to the female heads of households whenever possible, were mailed to 2070 residences in the city. A telephone call followed a few days after the letter. Of the 1269 principal shoppers reached by telephone, 823 agreed to participate in the study. A total of 679 returns, representing 82.5% of those who agreed to participate, were received. Of these, 482 respondents completed both the questionnaires and diaries and they formed the usable data-base sample. The return rate was equivalent to 58.6% of those who agreed to participate or 38.0% of those reached by telephone. Considering the level of difficulty of the survey instruments, the return rates were considered very satisfying.

Non-Response Bias

Owing to the use of two research instruments in this research, non-response bias was determined in two ways. For those people who refused to participate in the study, three demographic questions on age group, educational level and years living in the city were asked over the telephone. The results of the difference of means test of the non-participants against the data-base sample showed that there were no significant differences with regard to the length of residence in the city and the education level. The only significant difference was that of age. Considering the nature of this study, the results were not surprising as older people tend to have

more difficulties with their seeing and writing capabilities and thus tend to shun away from participating (Dillman 1978, p.53). In fact, the refusal rate was 42.1% for those people over 55 years of age.

As this study involved completion of both the questionnaire and diary, non-response bias was further assessed between those respondents who completed only the questionnaire and the data-base sample. Comparison between these two groups were made along 7 criteria -- age, education, Siegel's (NORC) job prestige scale, income, years living in the city, years living at the present address, and the number of shopping areas visited over the last three months. The only significant difference, using the difference of means test, between these two groups, at the conventional 5% level of significance, was that of educational level. Again, this result was not unexpected. It was possible that those participants with lower level of education had more difficulty in responding to both the questionnaire and diary.

Taking into account that there were no significant differences within each of the two sets of comparisons that were discussed above, it was concluded that non-response bias was definitely not a problem in this study.

Analysis and Results

Since all the variables were measured at least on interval scales, multiple regression was selected as the appropriate analytical technique.

Two common criteria were used for the selection of the better model. These were the value of R-square achieved by the least squares fit and the value of the residual mean square. In addition, a third statistic which has gained popularity in recent years, the Mallows' C_p statistic (Mallows 1973; Draper and Smith 1981, pp.229-302) was also used. Basically, the Mallows' C_p statistic involves comparing the actual C_p value with the expected C_p value. The criterion for deciding the better model is the C_p value that is closer to the $E(C_p)$ value as it would indicate an unbiased model in which the equation fits the actual data better.

The results are shown in Table 1. With regard to the trip data, Huff's model attained an adjusted R-square of 0.178, a residual mean square of 0.0719 and a very high C_p statistic of 56.57. In contrast, the proposed model had a vastly improved adjusted R-square of 0.253, a lower residual mean square of 0.0654, and a much lower C_p statistic of 8.00 which was closer to the $E(C_p)$ value of 2.00. The proposed model thus outperformed Huff's model on all three criteria. The superiority of the proposed model was also clearly reflected when the two regression equations were compared. The proposed model had a higher beta value of 0.504 compared to 0.424 for Huff's model.

Similar patterns of results were shown for the expenditure data on downtown. Huff's model showed an adjusted R-square of 0.138, a residual mean square of 0.1021 and a C_p value of 41.18. The proposed model recorded an increase of about 0.06 for the adjusted R-square to 0.197, a lower residual mean square of 0.0952, and a much lower C_p value of 6.07. The beta coefficient of the proposed model was also much higher.

Examinations of the residual plots show that while both Huff's and the proposed models were slightly skewed positively, they did not affect the robustness of the regression analysis (Snedecor and Cochran 1967; Bohrnstedt and Carter 1971; Pedhazur 1982, p.34-36).

Double cross-validation of the best fit regression model (Lord and Novick 1968, p.285; Mosier 1951) was carried out to determine the stability of the proposed model and to ascertain whether the shrinkage in R-square was

TABLE 1
Comparison of Huff's and Proposed Models

	1. <u>Trips</u>	
	Huff's Model	Proposed Model
R-square	0.180	0.254
Adjusted R-square	0.178	0.253
F	105.121	163.599
Significance F	0.0000	0.0000
Residual Mean Square	0.0719	0.0654
Mallows' Cp Statistic*	56.568	7.996
Number of Cases	482	482

Regression Equations

Variable	B	SE B	Beta	T	Sig. T
HUFF'S MODEL:					
Mass-Distance	0.513	0.050	0.424	10.25	0.0000
Constant	0.143	0.020		7.21	0.0000
PROPOSED MODEL:					
Mass-Distance	0.489	0.038	0.504	12.79	0.0000
Constant	0.129	0.018		7.17	0.0000

2. Expenditure

	Huff's Model		Proposed Model	
R-square	0.140		0.198	
Adjusted R-square	0.138		0.197	
F	78.280		118.770	
Significance F	0.0000		0.0000	
Residual Mean Square	0.1021		0.0952	
Mallows' Cp Statistic*	41.178		6.070	
Number of Cases	482		482	

Regression Equations

Variable	B	SE B	Beta	T	Sig. T
HUFF'S MODEL:					
Mass-Distance	0.527	0.060	0.375	8.85	0.0000
Constant	0.184	0.024		7.79	0.0000
PROPOSED MODEL:					
Mass-Distance	0.502	0.046	0.445	10.90	0.0000
Constant	0.170	0.022		7.82	0.0000

* E(Cp) = 2.0

serious. The regression equations derived from the split samples are shown in Table 2. The results show that the Beta values, significance levels and R-squares are very similar for the trip data, attesting to the stability of the proposed model. While some shrinkage is noted for the regression on the expenditure data in terms of double cross-validation, the model still performs very well in terms of cross-validation.

Discussion and Conclusion

In their review of urban consumer behaviour, Shepherd and Thomas (1980, p.27) said of Huff's model:

"... given the potential practical value of the model, it is rather surprising that little research effort has gone into attempts to refine the original formulation in the practical context of retail planning within the city. Perhaps this represents a worthwhile direction for further research effort."

This study, besides responding to the above comment, serves to provide empirical evidence supporting the use of the concept of choice set in predicting and explaining consumer shopping behaviour.

In order to better understand the problem of identifying potential competing shopping centres in Huff's model, the number and type of shopping areas visited by the princi-

TABLE 2
Results of Double Cross-Validation

Variable	Eqtn. 1 B Value*	Eqtn. 2 B value*	Eqtn. 1 on Eqtn 2	Eqtn. 2 on Eqtn 1
TRIPS				
Mass-Distance	0.497	0.480		
Constant	0.123	0.135		
Pearson's r			0.493	0.514
R-square			0.243	0.264
Adjusted R ²	0.261	0.240		
F	85.94 (0.000)	76.80 (0.000)		
EXPENDITURE				
Mass-Distance	0.518	0.485		
Constant	0.157	0.182		
Pearson's r			0.422	0.468
R-square			0.178	0.219
Adjusted R ²	0.216	0.175		
F	66.70 (0.000)	51.79 (0.000)		

* All B values were significant at 0.0000

pal shoppers during the entire study period were tabulated. Table 3 shows that consumers did not patronize all the potential competing shopping areas. Judging by the range and variance of the number of shopping areas visited, and the frequency in which each shopping area was included in the consumer's choice set, it was apparent that the set of shopping areas visited (choice set) varied from consumer to consumer. In general, the number of shopping areas within the consumer's choice set appeared to be around 6.0, as indicated by the mean of 6.55, mode of 6.0, and median of 6.36.

TABLE 3

Number of Shopping Areas in Choice Set		
No. in Set	Abs. Freq.	Relative Freq.
1	2	0.4
2	11	2.3
3	35	7.3
4	57	11.8
5	62	12.9
6	86	17.8
7	72	14.9
8	53	11.0
9	44	9.1
10	32	6.6
11	16	3.3
12	5	1.0
13	5	1.0
14	2	0.4
	<hr/> 482	<hr/> 100.0%

Std. Dev. = 2.43 Mean = 6.55 Median = 6.36
Variance = 5.89 Mode = 6.00 Range = 13.0

Many factors such as individual socio-demographic and psychographic differences, and the consumer's mobility and accessibility to shopping areas, could all have affected how and where the consumer shopped. While this research did not attempt to identify which of these factors did have an impact on the selection of shopping areas, the choice set intuitively acted as a surrogate measure that took into account such differences among individuals and other factors that could have affected their shopping behaviour.

It was also interesting to note that the larger the mass of the shopping area, the more likely would it be included in the consumer's choice set (Spearman correlation

coefficient of 0.7131, significance = 0.001; Kendall correlation coefficient of 0.5550, significance = 0.002). In addition, there was also a highly significant association between the frequency in which a shopping area was included in the consumer's choice set and the frequency in which the area was identified as a most-shopped area (Spearman correlation coefficient of 0.7464, significance = 0.001; Kendall correlation coefficient of 0.6381, significance = 0.001).

While using the proposed model may require more research, especially in terms of collecting data directly from the consumers, the process is not as complicated and difficult as it may seem. The research instruments can be simplified to that of a questionnaire alone. In fact, based on this study, using the proposed model even had a distinct advantage over using Huff's model as far as the distance measurement was concerned. Fewer distance measurements were needed for the proposed model as the respondent did not patronize all potential shopping areas. The average was six shopping areas in the choice set while there were 15 shopping areas in Huff's model.

Using the proposed model has two other advantages. First, it allows the user of the model to clearly identify which are the actual competing centres from the consumer's point of view. The user of the model will also be able to isolate the more "serious" competing centres in that such centres would be included more often in the consumer's choice set.

Second, the inability to identify actual competing centres has very much restricted the use of Huff's model to predictive purposes only. In contrast, the proposed model, as operationalized in this study, not only can be used as a predictive tool, but also for explaining consumer patronage behaviour toward existing shopping areas. The stability of the proposed model in terms of predictive and explanatory purposes was clearly established when the model was tested by double cross-validation.

In view that the future trend is toward building more shopping centres and that traditional shopping belts or areas are increasingly getting organized as integrated business entities, the problem of identification of potential competing shopping areas will become very difficult if Huff's model were to be applied without any modifications. Huff's model will also become more tedious to use when the number of shopping areas increases, for example, imagine the number of distance measurements needed if there are 20 potential competing centres. In contrast, the proposed model uses the choice set concept and is likely to be unaffected by the increasingly number of shopping areas.

Finally, it is important to point out that the model, as tested, has been deliberately confined in a parsimonious way in order to compare it against Huff's model. Further refinements to the proposed model can still be made. Possible variables that could be added to the proposed model may include the effects of specific stores and products (or services) on the choice of shopping areas, and more elaborate constructs such as image of the shopping area.

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CASEY AT THE CONFERENCE:
SOME REFLECTIONS ON THE ACR EXPERIENCE

Morris B. Holbrook, Columbia University
Ernest Lawrence Thayer, Deceased

It looked extremely rocky for the Mudville nine
that day,
The score stood four to six with but an inning left
to play.
And so, when Cooney died at first, and Burrows
did the same,
A pallor wreathed the features of the patrons
of the game.

Many of us approach academic conferences with a trepidation that might produce ghostlike pallors in less rugged individuals. First, the selection of the conference site--usually some unmentionable Mudville that no one except a native son or daughter could conceivably want to visit--invariably seems calculated more to minimize hotel costs than to inspire our nobler instincts toward travel and tourism. Second, because of gaps in the promotional communication system, many of us hear about conferences (especially the ones held in posh European seaside resorts) at the last inning, too late to prepare and submit a paper for consideration. Some of those foresighted enough to plan ahead and to enter a submission may suffer fates comparable to the misfortunes of the hapless Cooney and Burrows when their manuscripts are mercilessly rejected by tyrannical conference chairpeople. In either event, those without scheduled presentations must grovel in humble supplication for a spot on the program as a session chairman or discussant so that their universities will agree to pay their way to the conference--or, barring their willingness to face that embarrassment, must suffer the even greater spiritual and financial humiliation of buying their own tickets. Faced with these psychological barriers, some lapses in conference attendance may occur.

A stragglng few got up to go, leaving there
the rest,
With that hope which springs eternal within
the human breast.
For they thought if only Casey could get a whack
at that,
They'd put up even money with Casey
at the bat.

Conference attendees (like the patrons of other entertainment and sports events) are at heart consumers. They seek experiences that they will find pleasurable or informative or, even better, both. The expectation of such rewards keeps them in the audience, returning year after year, forever in search of truth and enlightenment. They wait expectantly, like hungry cocker spaniels, with eternal hope for the appearance of some speaker on the program (some intellectual Casey) to give them "a whack on the side of the head" by presenting some super-provocative thought or some hyper-suggestive finding. In anticipation of such revelations, they may even put up their own money to cover travel expenses.

But Flynn preceded Casey, and likewise
so did Blake,
And the former was a pudding and the latter
was a fake;
So on that stricken multitude a death-like
silence sat,
For there seemed but little chance of Casey's
getting to the bat.

At the conference, these noble fans of scientific re-

search and scholarship receive their programs and find themselves confronted by a seemingly endless series of boring sessions sprung together from dreary papers that somehow passed the reviewers' careless scrutiny. For every paper of potential interest, they must endure two of no conceivable relevance to their own carefully programmed stream of research. They must suffer the unbearable tedium of listening to still one more extension of Flynn's trivial study on preferences toward different brands of gelatin desserts. Worse, they must tolerate an unintelligible discussion by Blake of a method for data reduction that contains innumerable glaring methodological flaws and probably works only on doctored data. In the face of such stultifying mediocrity, they sit silently, stricken by the near abandonment of any prospect that something interesting might happen.

But Flynn let drive a single to the wonderment
of all,
And the much despised Blakey tore the cover
off the ball,
And when the dust had lifted and they saw what had
occurred,
There was Blakey safe on second, and Flynn
a-hugging third.

Sometimes they get caught by surprise to discover fascinating and even wondrous ramifications in work that at first seemed irrelevant to their own interests. Perhaps Flynn has cleverly devised a unidimensional scale of taste satisfaction that they can use in their own research on soft drinks and cigarettes. Maybe Blake has torn away the surface mystification that formerly shrouded his complex procedure and has finally laid bare its essence for all to marvel at and admire. For the first time, both scholars have swept away clouds of dust and opened up new research horizons.

Then from the gladdened multitude went up
a joyous yell,
It bounded from the mountain top and rattled
in the dell,
It struck upon the hillside, and rebounded
on the flat,
For Casey, mighty Casey, was advancing to the bat.

These discoveries of Flynn and Blake prepare the way for the appearance of the speaker that they really came to hear--Casey, the one played in our mind's eye by Gary Cooper or Robert Redford; mighty Casey, the one who faces nearly intolerable pressure to be creative, to be relevant, to say something insightful, to speak profoundly every time he steps to the podium.

There was ease in Casey's manner as he stepped
into his place,
There was pride in Casey's bearing and a smile on
Casey's face,
And when responding to the cheers he lightly doffed
his hat,
No stranger in the crowd could doubt, 'twas Casey
at the bat.

Casey responds to this pressure, this weight of expectation and obligation, by affecting a few seemingly careless mannerisms of the absent-minded professor. Even while trembling and fluttering inside, he makes it all look easy. He strolls nonchalantly but confidently to

the microphone. He adjusts the overhead projector. He smiles charmingly. He removes his jacket.

Ten thousand eyes were on him as he rubbed
his hands with dirt,
Five thousand tongues applauded as he
wiped them on his shirt;
And while the writhing pitcher ground the ball
into his hip--
Defiance gleamed from Casey's eye--a sneer
curled Casey's lip.

The audience applauds and eagerly watches as Casey makes a few more ritualistic adjustments to his apparel. He rolls up his sleeves. He loosens his tie. Just now, to his ineffable consternation, he spots sitting in the crowd the editor of a prestigious journal that recently rejected from publication the very paper which he is about to deliver. He inwardly recoils with defiant bitterness over his callous treatment by this journal and can hardly suppress a sneer in the direction of its editor.

And now the leather-covered sphere came
hurtling through the air,
And Casey stood a-watching it
in haughty grandeur there;
Close by the sturdy batsman
the ball unheeded sped--
"That hain't my style" said Casey--
"Strike one," the Umpire said.

Casey begins his talk by pointing out that his research style involves the unobtrusive observation of consumption behavior with no particular regard for any managerial implications that his findings might hold for marketing practitioners. Indeed, he deals primarily with rarified theory and typically employs student subjects with haughty disregard for issues concerning the generalization of his results to the real marketplace. At the back of the room, the director of marketing research for a large corporation lurks furtively in the shadows and wonders why his extremely negative review of Casey's initial manuscript did not kill the paper forever as he had hoped and thereby spare him this further indignity. Querulously, he now thrusts out his right hand, proclaims his status as a referee on an earlier draft of the paper, pronounces it worthless, and publicly scolds Casey for not exploring its managerial implications.

From the bleachers black with people there rose
a sullen roar,
Like the beating of the storm waves on a stern and
distant shore,
"Kill him! Kill the Umpire!" shouted some one
from the stand--
And it's likely they'd have done it had not Casey
raised his hand.

Casey has friends and supporters in the audience. They groan sullenly at the practitioner's tiresome tirade about usefulness and applicability. A pure theorist who spends most of his time writing voluminous literature reviews and concocting the most fanciful of hypotheses and propositions shouts his enraged objection to the reviewer's rude intrusion. Nearby spectators fear that a fist-fight might ensue until Casey interrupts by resuming his presentation.

With a smile of Christian charity great Casey's
visage shone,
He stilled the rising tumult and he bade the game
go on;
He signalled to the pitcher and again the spheroid
flew,
But Casey still ignored it and the Umpire said

"Strike two."

Casey smiles politely and points out that, for him, consumer research is like a game which he plays for its own sake as an end in itself. He mentions that he regards his research efforts as a gift to the academic community and that his own rewards stem primarily from the intrinsic satisfactions derived from the scholarly activities involved. He ignores managerial applications not as any concession to convenience, but as a matter of nearly religious principle. This time, the section editor who managed the review process for the paper feels called upon to abandon his silence. He throws up his right hand and says that, even if Casey's paper did have practical relevance (which it doesn't), it would remain worthless because it fails to satisfy several key requirements of the positivistic approach to science. Only several revisions--each accompanied by detailed replies to the reviewers' constructive if mutually inconsistent criticisms could possibly save the paper. Casey's obdurate slothfulness in ignoring the reviewers' many helpful suggestions has rendered the paper unacceptable to this referee and suitable only for presentation at a conference. This referee cannot resist adding that even the latter ignominious disposition remains dubious at best.

"Fraud!" yelled the maddened thousands, and the
echo answered "Fraud."
But one scornful look from Casey and the audience
was awed;
They saw his face grow stern and cold; they saw his
muscles strain,
And they knew that Casey would not let that ball
go by again.

Casey's friends again object, this time by citing arguments for personal creativity and interpersonal relativism in science. Angrily, they yell out claims that science does not proceed in the orderly progression envisioned by the positivists. They echo one another's examples of subjectivity and intuition in scientific endeavor. But, to their awed amazement, Casey reacts with scorn. Casey sternly rejects any attempt to escape positivism's cold dictates by retreating into the comfortable apologies of relativism. Casey distinguishes between theory development and theory testing. He embraces subjectivity in the former, but remains an empiricist in the latter. He knows that, for him, science proceeds by the recurrent cycles of developing and testing theory and that he must consequently endure the strain of pitting hypotheses against data. Casey knows that he is playing hardball. The ball represents the target of valid empirical research. Hitting that target, like batting a baseball, is one of the most difficult acts that humans have invented. But Casey cannot help himself. He feels compelled to try to do it.

The sneer is gone from Casey's lip; his teeth are
clenched with hate,
He pounds with cruel violence his bat upon the
plate;
And now the pitcher holds the ball, and now
he lets it go,
And now the air is shattered by the
force of Casey's blow.

Caught in these cross-currents of conflicting intellectual and emotional pressures, Casey feels bewildered, frustrated, and ultimately furious. He feels anger toward the umpires who call his best shots foul and toward the fans whose cheers lull him into complacency and toward himself for not always striving hard enough to do his best work. He expresses his momentary hate by violently pounding his hand on the lectern. He grits his teeth, sneaks a cruel look at the unsympathetic editor, and summons all his strength for a more forceful

attempt to clarify his position. He breathes deeply and prepares mentally for one last heroic exertion.

But, in his wise heart if not his numbed mind, Casey knows that his pitiable attempts to penetrate the mysteries of consumer behavior will exert little effect on the world around him. His discovery of today may entertain scholars or challenge reviewers or alienate managers for a few brief moments, but will be enlarged upon, extended, and eventually eclipsed by the findings of more sophisticated consumer researchers. And, all the while, men and women and children will continue to consume, to bask in the sun and listen to music and travel to exotic lands, and to express their joy in these consumption experiences by laughter and shouting and light hearts. And his work--in its mighty, heroic fallibility--will not have mattered very much at all.

Oh! somewhere in this favored land
the sun is shining bright,
The band is playing somewhere, and somewhere
hearts are light,
And somewhere men are laughing, and somewhere
children shout;
But there is no joy in Mudville--mighty Casey
has "Struck Out."

AUTHOR INDEX

Alba Joseph W.	410	Kehret-Ward Trudy	79,319
Aldershoff Danielle E	209	Kernan Jerome B.	450
Allen Harris M. Jr.	258	Kisielius Jolita	325
Altemeir William	252	Lammers Bruce H.	164,426
Anand Punam	315	Laurent Gilles	290
Anderson Donald A.	220	Lawson Robert	399
Athola Olli T.	7	Lepisto Lawrence R.	47
Baldwin Lori	476	Louie Therese A.	319
Bamossy Gary	334	Louviere Jordan J.	220
Barak Benny	53	MacAdams Elizabeth A.	71
Batra Rejeev	362	MacInnis Deborah H.	102
Bechtel Gordon G.	215	Macklin Carole M.	37
Beik Russell W.	42,394	Marquis Susan M.	263
Berkowitz Eric N.	461	McCrohan Kevin	204
Beatty, Sharon	91	McCullough James	122,126
Biehal Gabriel J.	414	McLung Gordon W.	351
Bonner Greg P.	368	Meyers Patricia W.	273
Brinberg David	487	Mizerski Richard	476
Bristor Julia M.	300	Monroe Kent B.	85
Brucks Merrie	437	Moore Roy L.	525
Carrol Douglas J.	571	Moorman Christine	312
Chan Kenny K.	273	Moschis George P.	525
Churchill Scott D.	550	Mowen John C.	471,532
Chattopadhyay Amitava	410	Mruk Christopher J.	556
Cote Joseph A. Jr.	374	Muderrisoglu Aydin	356
Coughlin Maureen	238	Munson Michael J.	108
Dardis Rachel	538	Myers Elizabeth	560
Davies Allyson R.	263	Nedungadi Prakash	498
Dawson Scott	586	Obermiller Carl	75,420
Debec Kathleen	273	O'Connor P. J.	59,238
Deighton John	432	O'Guinn Thomas C.	71,113
DeSarbo Wayne S.	571	Olshavsky Richard W.	465
Dodds William B.	85	Olson Clark D.	388
Domzal Teresa	268	O'Shaughnessy John	305
Ellis Seth	126	Park C. Whan	351
Etzel Michael J.	65,97	Parkinson Thomas L.	492
Faber Ronald J.	113	Pearce Michael R.	592
Feick Lawrence F.	226	Pechmann Cornelia	252
Fennell Geraldine	544	Percy Larry	510
Fisk Ramond P.	340	Pollay Richard	394
Firat Fuat A.	3	Pogorzelski Dana A.	59
Flores Caeli R.	231	Prakash Ved	231
Fox Karen F.	79	Puto Christopher P.	404
Friedman Monroe	385	Rathje William L.	129
Gaski John F.	65	Reilly Michael D.	129,492
Gardial Sarah Fisher	414	Rice Clifford	42
Gentry Wayne	582	Robertson Thomas S.	279
Gould Steven	53	Rook Dennis W.	23
Greenhut Joan M.	566	Rossiter John R.	279,510
Gupta Sunil	177	Rothaus Stacy E.	133
Magerty Michael R.	173	Sanders Clinton R.	17
Handelsman Moshe	108	Sauer William J.	32,351
Helgeson James G.	91	Scammon Debra L.	334
Henderson Caroline M.	138	Schindler Robert M.	133
Hickson Gerald B.	247, 252	Schurr Paul H.	437
Hoch Stephen J.	23	Schwenk Nancy	487
Holbrook Morris B.	28,145,598	Sherman Elaine	204
Homer Pamela	242	Sheth Jagdish N.	1,375
Hopper Joanne	582	Silpakit Patriya	532
Hornik Jacob	200	Smith James D.	204
Hrozencik Diane	538	Smith Michael F.	450
Hunt James M.	450	Soldow Gary F.	482
Hutchinson Wesley J.	498	Solomon Michael R.	315
Imperia Giovana	71	Spiggle Susan	11
Jacoby Jack	144,157	Stayman Douglas M.	173
Jaworski Bernard	32	Steckel Joel H.	577
Joag Shreekant G.	582	Stephens Debra	285
Jolly David W.	471	Stewart David W.	252
John Debora R.	329	Sullivan Gary L.	59
Johnson Marcia W.	319	Tan Chin Tiong	122,126
Johnson Michael D.	325	Tatneshwar Srinivasan	252
Kahle Lynn R.	242	Taylor James L.	265,443
Kapfere Jean-Noel	290	Thayer Ernest Lawrence	598

Thomas Gloria P.	482
Tsal Yehoushua	265
Unger Lynette S.	195,268
Valencia Humberto	118
Vann John W.	183
Venkatesh Alladi	189
Venkatraman Meera P.	102
Villareal-Camacho Angelina	504
Wahlers Russell G.	97
Wallendorf Melanie	126,586
Walton John R.	461
Ware John E.	263
Ward Scott	279
Wee Chow Hou	592
Wertz Frederick J.	566
Wheatley John J.	75
Wiley James B.	215
Wilton Peter C.	455
Wong John K.	374,375
Woodside Arch G.	443
Wrtz Frederick J.	550
Young Clifford E.	340,532
Zaltman Gerald	312
Zaichkowsky Judith Lynne.....	296
Zinkhan George M.	356

Erratum: Due to an editors' error (i.e., Beth and Morris), MARY J. BITNER was omitted from the Index.
Her paper appears on page 420.