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**Teens and elderly in a shopping mall environment: A test of
"Belief Space Analysis"**

Anderson, Royce Richmond, Ph.D.

City University of New York, 1989

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A

TEENS AND ELDERLY
IN A SHOPPING MALL ENVIRONMENT:
A TEST OF "BELIEF SPACE ANALYSIS"

by

ROYCE ANDERSON

A dissertation submitted to the Graduate Faculty
in Business in partial fulfillment of the require-
ments for the degree of Doctor of Philosophy, the
City University of New York.

1989

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This manuscript has been read and accepted for the Graduate Faculty in Business in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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Abstract

TEENS AND THE ELDERLY IN A SHOPPING MALL ENVIRONMENT: A TEST OF "BELIEF SPACE ANALYSIS"

by

Royce Anderson

Advisor: Professor Leon G. Schiffman

This dissertation reports on the continued development of a research methodology known as Belief Space Analysis (BSA). BSA is a three dimensional theory-based approach to analyzing both the content (what they think) and the structure (how they think) of human belief systems. Its purpose is to provide a qualitative understanding of belief systems, also using metric quantitative analysis.

In this dissertation, Belief Space Analysis (BSA) is confronted for the first time with empirical data. In the context of the shopping mall environment, BSA must describe the patronage motivations of teenagers and the elderly (i.e., each of four age-gender categories: teenage males, teenage females, elderly males, and elderly females). Analysis of the data focuses on whether BSA can meaningfully discriminate among the four age-gender groups.

Results indicate that BSA can detect the differences among the four age-gender groups with a high level of significance ($p < 0.0001$). Two significant discriminant functions (one separating teens and the elderly, and one separating males and females) explain over 90 percent of the vari-

ance, indicating that the data generated by BSA contains good quality information for statistical analysis.

More importantly, analysis of the structure of belief systems explains as much of the total variance as does analysis of their content. This indicates that analysis of structure is also a fruitful approach to understanding consumer decision-making. Belief Space Analysis appears to provide a conceptually sound approach to measuring and analyzing both the content and structure of human belief systems.

Further development of BSA is required. But this initial application of the technique indicates its potential as a research tool in a variety of consumer-relevant situations.

Acknowledgements

The rather circuitous intellectual path from which this dissertation has emerged has, over the years, led me most often toward the fringes, and away from the mainstream, of social and academic currents. I am certain that whatever positive contribution this dissertation provides is due largely to the different perspective and dynamic drawn from a unique personal history. At times, however, doubts and insecurities have made me wonder whether the direction I have chosen would eventually prove positive. The encouragement of friends has continually reassured me that my path is clearly the most gratifying one for me.

Leon Schiffman has clearly been the most important person in my professional development and the evolution of this research. His influence and counsel channeled my career in its current direction, and I am grateful to him for the tremendous satisfaction I have derived from my research and teaching. In the first marketing class I ever took, he believed that I had something to offer. As my mentor over the years since then, he has encouraged my efforts, allowed me the latitude, and provided the frank criticism necessary for academic maturity. With his guidance I have come to feel at home in the collegial community of consumer researchers.

I would like to thank Bill Dillon for enabling me to clarify the quantitative aspects of this dissertation. By

steering me toward those courses I should take or audit, he introduced me to the world of multivariate statistics and helped me struggle toward the level of understanding I seek. The research design of this dissertation grows, in part, from the creative tension between his appreciation of the quantitative aesthetic and Leon Schiffman's insistence on qualitative authenticity.

Special thanks to Robert Gilmore who, as outside reader, put a great deal of effort in evaluating the final form of the dissertation. His critiques polished several facets of the finished product and most importantly, provided direction for the future development of my research effort.

It cannot be overemphasized how important the constitution of the Examining Committee can be toward the facilitation of a dissertation effort. I would like to thank Leon Schiffman, Bill Dillon, Steve Schnaars, and Robert Gilmore together for their positive influence in moving me toward the successful completion of this project. They have been an excellent and creative committee, and I am grateful for their guidance and encouragement.

In addition, I would like to thank David Brinberg who, during his tenure at Baruch College, provided significant input and encouragement toward the initial theoretical development underlying this dissertation.

In terms of the logistics of implementing this study, I would like especially to thank The Rouse Company of Colum-

bia, Maryland, for providing the setting for the study. The friendly ear they have provided me in my several contacts with them, along with the complete cooperation of the staff of Woodbridge Mall, enhanced the value of the study. Both the realistic field setting and the ease with which the data gathering process could be controlled made the results of the study more meaningful and reliable.

The motivation and interest of my Marketing Research students at the School of Business, Rutgers University, New Brunswick, made gathering the data an efficient and pleasant process. My gratitude goes especially to my team of student managers---Julie Anderson, Susan Mastronardi, Judy Silverman, Lou Palma, and Arnold Gursaly---who provided the administrative skill to organize and motivate their teams of student interviewers.

Thanks to the Dean's Office and the Department of Marketing of the School of Business, Rutgers University, New Brunswick, for providing encouragement and support for this study.

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I would also like to thank the late Joseph Ercolano of Baruch College for teaching the course which is so crucial

to the understanding of multivariate statistics, but seldom taught: matrix math, diagonalizable matrices, and the eigenvalue problem.

The road which has led to the completion of this dissertation has been a long and winding one. In addition to those indicated above, I would like to thank my family and many friends who, during innumerable conversations over the years, have tolerated my questions and helped clarify my ideas.

Just as a scientist will work wonders out
of various applications of the law of nature,
even so a man who applies the law of love
with scientific precision can work greater
wonders.

--- Gandhi

And you who choose to lead must follow.
But if you fall, you fall alone.
If you should stand, then who's to guide you?
If I knew the way, I would take you home.

--- The Grateful Dead

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CHAPTER I

INTRODUCTION

Research Objectives

The primary goal of this dissertation is to confront a methodology called Belief Space Analysis (BSA) with empirical data. This methodology, developed by the author, is a theory-based approach to understanding how consumers organize and structure their belief systems. By envisioning an individual's belief system as projected into a three-dimensional space, it is possible to analyze not only its content, but also its structure. A three-dimensional approach offers a more meaningful understanding of the interrelationships among consumers' values, beliefs, and motivations.

This dissertation represents part of an ongoing research process aimed at the development of Belief Space Analysis. The scope of the study reported here is specifically to confront BSA with empirical data in order to test whether it works. Any further refinement of specific constructs is within the domain of future research. But the initial requirement for testing the method is to show that it can perform adequately.

In this dissertation, Belief Space Analysis (BSA) is applied in the context of shopping mall patronage motivations of teenagers and the elderly, also measuring gender. Each subject will belong to one of four age-gender catego-

ries: teen males, teen females, elderly males, elderly females. The substantive issue is whether Belief Space Analysis can provide a basis for discriminating among these four groups. In other words, can we tell the difference between teens and the elderly and between males and females based on the content and the structure of their belief systems? Can Belief Space Analysis provide an understanding of these individual differences?

This central focus is pivotal to the design of the research. The success or failure of Belief Space Analysis in the setting of the shopping mall will indicate whether the technique is worthy of further consideration. The logic of this dissertation focuses upon testing BSA against the question: "Why do teens and the elderly go to the shopping mall?"

Contribution of the Research

This study makes a contribution in two areas. The main area is in the theoretical understanding of consumer belief systems. Recent research involving the understanding of consumer emotion and cognition (see, for example, Goldberg and Gorn, 1987; Holbrook and Batra, 1987; Edell and Burke, 1987) indicates the importance of understanding how consumers make decisions based on their thoughts and feelings.

One avenue of exploration toward understanding elements of consumer decision-making has been the stream of research examining value systems (see, for example, Pitts and Wood-

side, 1984). This literature is heavily dependent upon the Rokeach Value Survey and its modifications that have become popular in the Consumer Behavior literature (Reynolds and Jolly, 1980; Munson and McIntyre, 1979; Munson, 1984; Kahle, 1983). Belief Space Analysis is designed to provide a more effective method for understanding and measuring consumption-relevant personal values.

Another avenue that is still popular (Malhotra, 1988) is the Fishbein and Ajzen's Theory of Reasoned Action. In a recent review article, Sheppard et al (1988) confirm the viability of the quantitative-compensatory approach. They conclude that this approach to understanding attitudes "should mark the starting point for important empirical and theoretical work in the field, not its end" (p. 340).

They also point out (p. 325) that the Fishbein and Ajzen model is less robust in situations that lie outside the constraints defined by the theoretical framework. Researchers frequently wish to explore situations that are difficult to mold to the requirements of the Fishbein-Ajzen model. Cumbersome methodologies are less attractive to the researcher who wishes to explore phenomena in their natural state, without the heavy impact of method. This has, perhaps, led to the decreasing popularity of the model in favor of more qualitative research approaches. Belief Space Analysis is designed to be flexible and easy to implement, while still providing a theoretical context for the understanding of how consumer attitudes, values, and beliefs are organized

into belief systems.

The task of understanding consumer decision-making is impacted by the larger philosophy of science issues currently under discussion in the consumer research literature. In recent years, two polar methodological schools of thought have emerged over the appropriate avenues for developing theories to understand consumer decision-making. This debate crystallized in the Fall, 1983 edition of the Journal of Marketing (Hunt, 1983; Anderson, 1983; Deshpande, 1983; Peter and Olson, 1983), and still continues (for example, Hudson and Ozanne, 1988; Hudson, 1989; Ozanne, 1989; Murray, 1989; Anderson, 1989). A qualitative "relativist" school argues that quantitative methodologies fail to capture the true essence or core meaning of consumer thoughts and motivations. On the other hand the quantitative "positivist" school argues that, without rigorous methodologies to validate theories, knowledge loses its meaning and applicability.

These two schools are frequently thought to be mutually incompatible. Some attempts, however, have been made to bridge this gap. For example, Anderson (1986) has proposed a "critical relativist" approach that preserves the positivist's methodological rigor, while preserving the relativist's acceptance of a wide variety of methodological approaches (Hudson and Ozanne, 1988).

Klein (1988) has provided a methodological bridge between these two schools. In a paper that created consider-

able excitement among its small audience, he presented a study in which he measured the "meaning" of various consumption objects. He does so by suggesting that their meaning can be analyzed by their relative position (distance or dissimilarity) in consumers' multi-dimensional semantic space (as per Osgood et al, 1957). Although methodologically and conceptually distinct from BSA, Klein's approach is instructive in that it analyzes a "relativistic" concept such as "meaning" via a "positivistic" analytical approach. The persistent schism between relativist and positivist schools provides an important research opportunity. Belief Space Analysis is consistent with both schools. It generates both well-grounded qualitative information and reliable quantitative data for statistical analysis.

The second area of contribution of this dissertation is providing a feasible research methodology for retailers to apply in their particular setting. It provides a theoretically comprehensive approach to understanding retail patronage motivations, and is also easy to implement in the shopping environment. Although studies of retail patronage motivations are not scarce (see, for example, compilations such as Stampfl and Hirschman 1979; Darden and Erdem 1981; Darden and Lusch 1983), rigorous theory-based field methodologies are absent. If a research methodology could evoke from the actual shopping population a set of patronage-relevant beliefs, analyzing them in a way that is easily interpreted by management; then retailers could develop more

responsive and successful strategic decisions.

The goal of this dissertation is clear: to test if Belief Space Analysis can perform as a research methodology. This requires BSA to provide an understanding of why teens and the elderly go to the shopping mall. The structure of the dissertation reflects this issue. First, in Chapter II, review the literature on the retail patronage motivations of teens and the elderly is reviewed. In Chapter III, a description of Belief Space Analysis follows, including a discussion of its theoretical basis and a description of its method of implementation. Next, in Chapter IV, is a description of the dissertation study, including research hypotheses and subhypotheses. Chapter V presents the results and limitations of the dissertation study. Finally, Chapter VI presents a summary of the dissertation study, along with conclusions, recommendations for future research, and managerial implications.

CHAPTER II

ELDERLY AND TEENS IN SHOPPING MALLS

Teens and the elderly are a constant presence in shopping malls (Graham, 1988; Anthony, 1985; Fletcher & Macaulley, 1983)). Since the development of the modern shopping mall, whose promenades provide weather-controlled landscapes complete with foliage and water fountains, teens and the elderly have adopted them as a regular haven. In some cases security problems have arisen with teens in regional shopping malls. Reports of teenage-caused crime in shopping centers, however, tend to be exaggerated (Millison, 1976). Although the primary target market for shopping malls has traditionally been the adult female shopper, teens and the elderly have become a noticeable presence that affects the atmosphere in a mall.

These two groups are also attractive shopping segments. The elderly are a fast-growing segment with significant purchasing power (Schiffman and Kanuk, 1987; Wolfe, 1987; Dwight and Urman, 1985; Folse, 1985). They have both the money and the inclination to purchase high quality, high profit products (Schneidman, 1988). They are willing to buy new products, especially if those products relate to their health (Schiffman, 1972). Health is an important issue with the elderly. Shopping malls provide a safe and climate-controlled environment in which they can not only walk and exercise, but they can also get informal peer support that contributes to their self-confidence and emotional well-

being (Fletcher and Macauley, 1983).

Although the population of teens is shrinking slightly, their share of the total shopping dollar is growing significantly (Hauser, 1986). Changing family patterns and the increase in the number of working mothers has given teens more time to spend on their own, as well as a greater responsibility for family purchasing (McCabe, 1985). A Donnelley survey indicates that, for teenage girls, shopping is a central activity, preferring it even to dating (Chain Store Age, 1987). And it has been suggested that the teen years are important in the development of brand loyalty and other shopping patterns that prevail throughout the consumer's life (Hauser, 1986; Guber, 1987; Chain Store Age, 1987). For the large number of "regulars" at shopping malls, other motivations are central to their decision to go to the Mall: playing video games and social interactions with friends and members of the opposite sex (Anthony, 1985).

Interestingly, the primary patronage motivations indicated by the literature are not shopping-specific, at least for teens and the elderly. Although they may be presumed to look for price and style as do other shoppers, the needs that determine their actual choice of a shopping environment are more personal. For both teens and the elderly, the shopping mall contributes to their sense of well-being. For teens, it is a place to have fun and meet other people. For the elderly it is a place to stay healthy and socialize with their peers.

For both groups, the shopping mall is a central place for significant human activity. The modern shopping mall has been compared to the medieval gothic cathedral, both in architectural design and in the central role it plays in the life of the community (Zepp, 1986). Since the mall is important in the lives of teens and the elderly, and since both groups provide significant profit potential for the mall, management should focus some strategic effort toward these groups.

This study asks why teens and the elderly patronize Woodbridge Mall. By measuring both age and gender, the research question is cast in terms of the differences among the four age-gender groups: male and female teens, and male and female elderly.

Group Differences

In order to specify more clearly the differences among these four age-gender groups, it is necessary to cast the discussion in terms of age and gender differences. Since age and gender are the qualifying variables for the four respondent groups, it is important to note what expected differences the literature suggests.

Age and gender---both well-established segmentation variables---appear in the literature as significant discriminating variables. Both have been used to examine youth and elderly subcultures, as well as female shopping patterns

(Schiffman and Kanuk 1983, 1987). In addition, some research has suggested that age and gender can be used to develop conceptual frameworks for analysis rather than merely as descriptive demographic variables (Sherman and Schiffman 1984, Schiffman and Sherman 1987). Such conceptual use of age and gender variables, however, is rare. Those retailing studies that do measure age and gender use them as classification variables without drawing any conceptual conclusions relating to intrinsic differences between young and old, male and female.

Due to the traditional perception that shoppers are primarily women, many shopping studies have been limited to female shoppers. In his classic study of shopping orientations, Stone (1954) selected housewives as his sample "because they do most of the buying." Although, even in 1954, Stone says "it seems that this situation is changing," many researchers still consider women to be the primary retail shoppers (see, for example, Bellenger et al 1976). Some researchers (for example, Tauber 1972) have attributed this to the traditional role women have as shoppers. Other researchers have focused upon the male shopper (Darden and Reynolds 1973; Midgley 1974; Painter and Granzin 1976). Those researchers who have studied both genders have found differences between men and womens' store patronage patterns (see, for example, Stewart and Hood 1983).

Although no studies have specifically compared teens and the elderly, age has also been found to be a significant

descriptor of different store patronage segments (Stewart and Hood 1983; Lazer and Wyckham 1969). The values literature provides a stronger foundation for expecting conceptual age and gender differences. Rokeach (1973) and others using his Survey (for example, Hogan and Mookherjee 1981) have found evidence that a person's values vary with both age and gender. Rokeach attributes the change in values with age to the psychological development of the individual, and gender differences to the different role orientations of males and females.

Age Differences

Rokeach (1973) reports a number of age differences found in several studies of American from ages 11 to over 70, using the Rokeach Value Survey. The greatest difference found between the young and the old from these studies related to the terminal value "mature love" and the instrumental value "loving," with teens ranking these values higher than do the elderly. Other values more highly ranked by teens than by the elderly were "an exciting life," "pleasure," and "a world of beauty."

Sherman and Schiffman (1984) and Schiffman and Sherman (1987) discuss "subjective well-being" as a primary concern of the elderly. One factor they discuss in connection with the subjective well-being concern is "health." The original Rokeach Value Survey did not include "health" as a terminal value, and is therefore not reported in available RVS re-

search. Rokeach did, however, include "health" in a later less used form (Form G), affirming that it is indeed a significant terminal value.

As mentioned earlier, Rokeach (1973) attributes age differences to different degrees of "moral development." He refers to Erikson's (1950) stages of human development. Of Erikson's "eight stages of man" (sic), the two that apply to teens and the elderly are "identity vs. role diffusion" and "ego integrity vs. despair," respectively. These stages both reflect a central concern with the self, as individuals go through a formative stage (teens) and a retrospective stage (the elderly).

Erikson's earlier work reflects his greater interest in the earlier developmental stages, although he and his wife have recently written at greater length on aging (Erikson, Erikson, and Kivnick, 1986). According to his perspective, the ages between teens and the elderly are more concerned with external foci---career, wealth, status---rather than ego values. The self-oriented focus of the "identity" (teens) and "ego integrity" (elderly) stages is, perhaps, a common ground between teens and the elderly. Erikson points out, however, a difference between teens and the elderly. The focus of teens is upon the emergence and definition of their identity, whereas the focus of the elderly is upon the consolidation and evaluation of their identity.

In his comprehensive review of human growth and development, Theodore Lidz (1968) divides adolescence into three

stages, the second of which is mostly identified with the teen years (between puberty and independence from family). During this second period, the cognitive capacities of adolescents are expanding at the same time as their bodies are undergoing extreme hormonal upheaval. They are beginning to think beyond the immediate moment, and are becoming more interested in ideas, ideals, and ideologies. This is consistent with Piaget's "formal operational period" of childhood cognitive development, during which adolescents develop the ability to think abstractly (Inhelder and Piaget, 1958).

This growing capacity for formal, abstract thinking leads to the development of value systems that extend beyond the values of their families. Teens are inclined toward a more rigid, passionate adherence to these newly found intellectualizations, whether or not they correspond to society or conventional perceptions of reality. This stage prepares them for the later adult stages when they incorporate reality and social values into their cognitive systems.

In a recent compilation of the literature on aging (Silverman 1987), Kramer summarizes the cognitive style of the elderly in contrast with youth:

There is reason to believe that the content which most interests older people deals with abstract generalizations, principles, and morals (Blanshard-Fields, 1981; Labouvie-Vief and Schell, 1982). If one sees cognition as adaptive, then such processing makes sense in light of the life tasks that are faced in later life...

There is a body of literature emerging that attempts to extend Piaget's stage theory to incorporate one or more stages of adult reasoning, referred to as "post-formal operations." ...adult thought [is] more prag-

matic in nature than that of youth. The latter is highly idealistic, as yet untempered by the realities and contradictions of everyday life...

Such reasoning is presumably adaptive for the adult. Ideally, it should result in greater tolerance of differences among individuals and groups, greater acceptance of the imperfections both within the self and in others, and greater skill at resolving conflict among disagreeing parties (due to a better ability to accept and integrate contradictory perspectives). (pp. 120, 126)

Teens and the elderly, it seems, differ both in the values they hold and in the manner in which those values function in their belief system. Teens adhere to those values that reflect physical excitement and pleasure, while the elderly value their health and well-being. But these values, in addition to being different between teens and the elderly, also perform different functions for the two groups. For the teen, values reflect their newly-formed ability to think abstractly. Teens are more dogmatic and passionate in their adherence to ideologies, while the value systems of the elderly are more pragmatic and flexible, tempered by a lifetime of experience.

Gender Differences

The studies reported by Rokeach (1973) also indicate significant value differences between males and females. The greatest difference relates to the value "a comfortable life," that males hold significantly higher. Females, on the other hand, hold "loving" more highly than do males.

Schiffman and Sherman (1987), in their analysis of the telephone usage of the elderly, indicate that women are more

sociable and outgoing than are males of the same age categories. The Rokeach Value Survey does not include a "sociable" value. Its "social recognition" value refers more to social status than being sociable in the sense intended here. A generalized "sociable" value, however, can be postulated indicating a general tendency to be gregarious, outgoing, and inclined toward human interaction.

Schiffman and Sherman (1987) also indicate that female telephone calling habits reflect more "emotional" values than do those of males. Males use the phone more in a practical, no-nonsense way. If this finding is generalizable to other consumption contexts, we would expect to find that females would place a greater significance on emotional motivations than would males. The primary differences between males and females lie in the latter's tendency to value emotional and interpersonal interactions more than do males. Males appear to prefer physical comfort, and prefer social interactions that are practical and functional.

Both age and gender seem to be a useful basis for delineating individual differences. They provide a basis for discriminating among the belief systems of the four age-gender groups included in this study. This provides the basis for the development of specific research hypotheses, which will be discussed in Chapter IV.

CHAPTER III

THEORY UNDERLYING BELIEF SPACE ANALYSIS

Belief Space Analysis is grounded on the premise that human beings make evaluations along three cognitive dimensions. These three dimensions are the axes of a three-dimensional "Belief Space" (Figure I), in which the processing of various types of beliefs takes place. The purpose of BSA is to understand how different people categorize and distinguish among different types of beliefs.

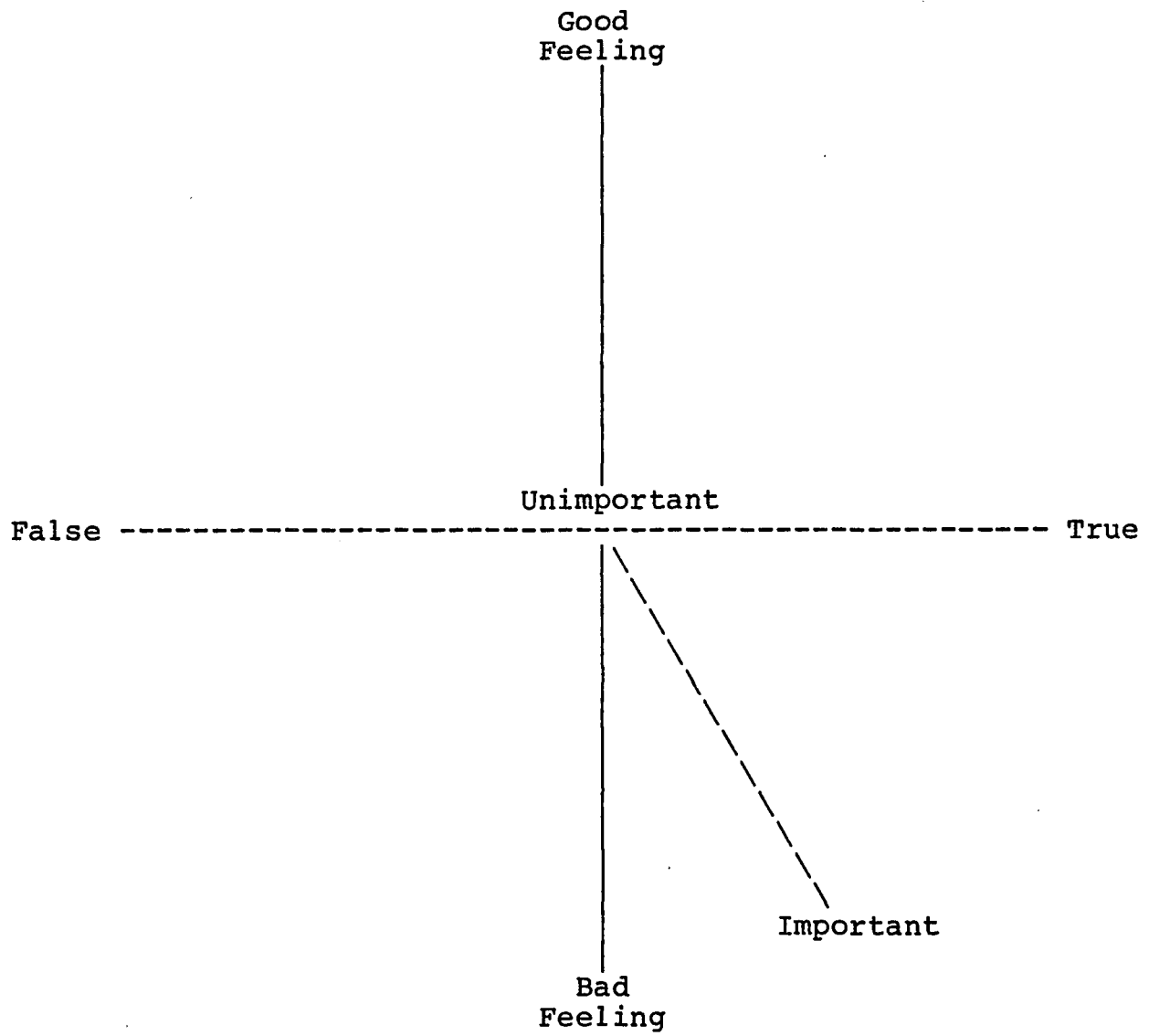
The theory underlying this study grew from Rokeach's discussion of value-attitude systems (Rokeach, 1960, 1968, 1973). In the process of developing his Rokeach Value Survey (RVS), he discussed several "dimensions" along which humans make evaluations. Through further analysis of Rokeach's theoretical discussion and the limitations of his methodology, this researcher developed the notion of a measurement approach based on three theoretically derived dimensions (Anderson and Brinberg, 1986). These three dimensions evolved through the pretesting process (see Anderson 1987, and Chapter IV, below) into those shown in Figure I.

Importance Dimension

Operationally, the Rokeach Value Survey involves an hierarchical rank-ordering of various personal values along a single "Importance" dimension. Specifically, the RVS contains two lists of 18 personal values each (The complete

FIGURE I

The Three Dimensions of Belief Space Analysis
(Anderson, 1987)



Rokeach Value Survey is included in Appendix A). These two different lists distinguish between two types of personal values: Terminal Values and Instrumental Values.

Terminal Values---ends, goals, or what Rokeach calls "desirable end-states of existence"---are conditions or situations that people strive to attain. Instrumental Values---means, or "desirable modes of conduct"---are those personal traits that regulate decision-making and behavior.

Fundamental to Rokeach's theory of belief systems is that these values are ordered hierarchically along what he calls a "Central-Peripheral Dimension." Beliefs that are more "closely held," or more "central," are further "in" on this dimension and more connected with other beliefs. Beliefs that are further "out" on the dimension are less important and believed less intensely than other beliefs.

The instructions given on the Rokeach Value Survey state that subjects should rank each list of values "...in order of their importance to YOU, as guiding principles in YOUR life." This importance ranking reflects that different beliefs have different "valences" in a person's belief system. Rokeach argues that the more important a value or belief, the more impact it is likely to have on a person's decision-making and behavior.

Belief Dimension

This single Importance dimension, however, fails to capture the nuances of Rokeach's theoretical discussion of

the structure of value-attitude systems. In his earlier development of the Dogmatism Scale (Rokeach, 1960), he argues that people evaluate beliefs along a "Belief-Disbelief Dimension." For example, closed-minded people tend to reject a larger number of beliefs as false, while more rigidly adhering to other beliefs that they consider to be true. Open-minded people, on the other hand, are more moderate and flexible in their evaluations of various belief statements along this Belief Dimension.

This second dimension relates simply to the degree to which a person evaluates a statement as true or false. This is quite distinct from the evaluation of beliefs as important or unimportant. A statement or belief can, for example, be true and still be unimportant. In the methodology for his Dogmatism Scale, Rokeach operationalizes this dimension by asking subjects to rate various beliefs on an agree-disagree scale.

Evaluative Dimension

The third dimension emerges more from Osgood, Suci, and Tannenbaum's (1957) Evaluative Dimension. Rokeach points distinctly towards such a dimension:

Thought and memory processes, however, are not the only determinants of problem-solving. There is also the basic emotional and motivational attitude of the thinker to be reckoned with. (Rokeach, 1960, p. 177)

In their theory of Semantic Space, Osgood et al speak of the measurement of "meaning." Meaning, for their purposes, is

given a "purely psychological" definition: it consists of

those cognitive states of human language users which are necessary antecedent conditions for selective encoding of lexical signs and necessary subsequent conditions in selective decoding of lexical signs in messages. (Osgood, et al, 1957, p. 318)

Their definition of meaning relates to how people process verbal or semantic information---beliefs. The dimensionality of this Semantic Space is a central feature of their Semantic Differential methodology.

The strongest and most consistent finding from the Osgood et al stream of research is that an Evaluative Dimension forms the basis along which people form their attitudes. Of course, their famous trio of "evaluative," "potency," and "activity" dimensions has provided the theoretical foundation for a large number of studies (including Klein, 1988). In their studies,

a pervasive evaluative factor in human judgment regularly appears first and accounts for approximately half to three-quarters of the extractable variance. (Osgood, et al, 1957, p. 72)

None of the remaining dimensions explains even half as much variance. Also, their studies indicate that the potency and activity dimensions are often highly correlated, and sometimes appear to collapse into a single "dynamism" factor. Conversely, in some of their studies they were able to extract up to eight factors, casting some doubt on the sanctity of the three-factor solution. In any case, it is clear from Osgood et al's research that people do make semantic judgments along an Evaluative dimension, reflec-

ting their affective response to stimuli.

Belief Space Analysis projects these three dimensions into a three-dimensional Cartesian space, as shown in Figure I. The three dimensions are labeled True-False, Good Feeling-Bad Feeling, and Important-Unimportant to reflect Belief, Evaluation, and Importance. The fundamental research question is, do these three dimensions indeed form the basic continua along which people make semantic judgments?

Implementation of Belief Space Analysis

BSA permits for a qualitative approaches to gathering data, while also generating data amenable to quantitative analysis. This is done through a two-stage data gathering process. The first stage elicits salient beliefs directly from the target population, while the second stage places these beliefs in the three-dimensional belief space.

Qualitative Stage

The goal of the first stage is to generate statements that represent the salient beliefs of an individuals or groups with respect to some specific decision-making domain. The first stage requires the use of a qualitative data-gathering technique in order to generate salient beliefs. In this study and earlier pretests of BSA, probing interviews were used. Other techniques, however, could also be

considered.

An attractive feature of BSA is the efficiency of the interviewing process. The interview process continues until subjects feel that they have fully explained their thinking on the subject being researched. That is adequate. Although some probing is necessary to provide a full array of salient beliefs, interviews can generally be completed in ten minutes or less. Interviews do not have to be "depth" interviews as are frequently associated with qualitative research.

Quantitative Stage

The second stage of BSA involves the development of a questionnaire based on the beliefs generated in the first stage. The questionnaire is unique in that it asks respondents to evaluate each salient belief along each of the three measurement scales. These three scales are global measures of the three dimensions in Figure I.

For example, if one of the beliefs generated from the first stage were "I shop where prices are low," then the questionnaire would include the item shown in Figure II. The responses shown indicate that the subject does indeed shop where prices are low, that she feels somewhat good about doing so, and that she considers low prices relatively important to where she shops.

The responses along these three scales provide a position for each belief in the subject's three-dimensional

FIGURE II

Example of BSA Questionnaire Item

I shop where prices are low.

False:	_____	:	_____	:	_____	:	_____	:	_____	:	True
Bad Feeling:	_____	:	_____	:	_____	:	_____	:	_____	:	Good Feeling
Unimportant:	_____	:	_____	:	_____	:	_____	:	_____	:	Important

Cartesian "belief space." In their responses to the items on the questionnaire, each subject would respond to those beliefs generated from the interview stage, along with any additional statements the researcher may wish to include.

Content

Analysis of the questionnaire data consists of two phases: analysis of the Content, and analysis of the Structure of the three-dimensional Belief Space. Analysis of content uses as input the raw evaluations of all questionnaire items on the three scales.

In the context of this dissertation study, these three ratings provide us with an understanding of what the four age-gender groups think about going to the mall. We can know how true, good, and important respondents think each statement is. This shows how they evaluate the content of the statements on the questionnaire. Cross comparisons among the four age-gender groups can be made, and differences can be shown on the basis of what they think about going to the Mall.

Structure

The second phase of analysis---analysis of structural differences---forms the core of BSA and provides the main frontier for this research. Rather than examining the responses to each questionnaire item across respondents, this process examines the patterns of responses for each subject across questionnaire items. Rather than analyzing what

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subjects think, it analyzed how they think about going to the Mall.

Picture for a moment the three-dimensional belief space shown in Figure I. Analysis of the structure of an individual's belief system involves seeing how all the questionnaire items are dispersed in that belief space. Each questionnaire item ends up with a position in the individual's belief space. The responses on the three BSA scales are the Cartesian coordinates for each belief in the subject's three-dimensional belief space. By examining individual differences in how all the questionnaire items are dispersed in the belief space, distinguishing characteristics of individual subjects' belief systems should emerge.

For example, highly dogmatic subjects (in the Rokeach, 1960 sense) may tend to evaluate questionnaire items as extremely true or false, marking the extreme ends of the True-False scale. Less dogmatic subjects would utilize the intermediate response categories more often. More dogmatic subjects could be distinguished from less dogmatic subjects by comparing the distribution of their responses across the scale: the responses of more dogmatic subjects showing clusters of beliefs at the extremes of the scale, with less dogmatic subjects showing a more even distribution of beliefs across the scale.

This, and other structure variables, are discussed in more detail in Chapter IV below. The fundamental idea is that analyzing the structure of belief spaces involves

seeing the patterns of responses for each subject, based on the positions of beliefs in their three-dimensional belief space. The crux of this study is to show that the structure of belief systems provides an equally useful basis for understanding consumer motivations as does their content.

This general view of the theory and application of Belief Space Analysis points toward a wide variety of research applications. A more detailed view of how BSA is applied in this dissertation is required. That is the purpose of the following chapter.

CHAPTER IV

RESEARCH METHODOLOGY

In order to understand the research design of this dissertation, it is important to restate the research objective: to challenge Belief Space Analysis by requiring it to tell the differences between teens and the elderly, between males and females. Analysis of the data must provide an understanding of both the theory underlying BSA and the phenomena of teens and the elderly in the shopping mall.

Statistical Analysis

Analysis of the data centers around a single issue: Can BSA discriminate among each of the four age-gender categories? In other words, can BSA provide a qualitatively rich description of the shopping motivations of teen and elderly males and females?

Discriminant analysis will be used to examine the individual differences among the four age-gender groups. Discriminant Analysis has been used in a number of descriptive studies to see if the ranking of specific personal values can discriminate among, for example, nationality groups, contented and discontented consumers, and successful and unsuccessful students (Munson and McIntyre 1978; Vinson 1977; Munson 1980). These studies input the rated or ranked value statements (36 for the complete Rokeach Value Survey) and calculate the discriminant function based on these res-

ponses. This function is calculated to maximize the differences among the groups based on the other measures.

In this dissertation, the dependent variable is the categorical classification variable (the four age-gender groups), and the independent variables are the BSA input variables.

Canonical Discriminant Analysis (CANDISC on the SAS statistical package) is a data-reducing procedure that also provides the "canonical structure" of the discriminant functions. CANDISC calculates, first of all, the number of significant discriminant functions (also called discriminant variables). This number of discriminant functions is similar to the number of significant factors in factor analysis, indicating how many independent linear combinations of the input variables describe the differences among (in this case) the four age-gender groups.

CANDISC then calculates the class means of each group on each of the discriminant functions. Each of the four age-gender groups in this study are positioned along each significant function extracted. We will then know which groups place high and low on each discriminant function.

Finally, the analysis calculates the simple correlations between each discriminant function and the input variables. These "discriminant loadings" (similar to the loadings in factor analysis) indicate how much each independent variable contributes to the differences among the age-gender groups. Examination of the patterns of these loadings leads

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to an interpretation of the discriminant functions. In other words, on the basis of the qualitative content of the original BSA questionnaire, we can interpret those variables that best discriminate among the four age-gender groups.

Research Hypotheses

As discussed above, analysis of the BSA data proceeds in two phases: Content and Structure. The research hypotheses also reflect this duality.

Content Hypotheses

The Content Phase focuses on the original BSA variables. The BSA Questionnaire used in the mall study contains 23 statements, each with three evaluations. Each of these $23 \times 3 = 69$ responses is a separate independent variable that is input for the discriminant analysis. This process of categorizing subjects on the basis of their ratings of salient beliefs provide the first basis for distinguishing among the four age-gender categories. The first research hypothesis is:

Hypothesis H1:

The individual BSA variables will significantly discriminate among the four age-gender groups

This hypothesis, however, does not specify precisely what kinds of differences may be anticipated to discriminate among the four age-gender groups. In order to specify the

qualitative elements that characterize the differences among the four age-gender groups, we refer to the discussion of the age-gender literature above.

The earlier discussion indicates that teens value loving, excitement and pleasure, and that they frequent the Mall primarily for fun and socializing, especially with the opposite sex. The elderly, too, go to the Mall for social contact with peers. The element of fun and excitement, however, seems to characterize the teens. Health and well-being are the primary concerns of the elderly. Hypothesis H1, then, is extended to include the following age-related sub-hypotheses:

Subhypothesis H1a:

Teens go to the Mall more for fun and excitement than do the elderly.

Subhypothesis H1b:

The elderly go to the Mall more for their health than do teens.

With regard to gender differences, males hold comfort significantly higher than do females. Females, on the other hand, seem to be driven more by social motivations than are men. Based on these suggestions, Hypothesis 1 is further extended to include the following gender-related sub-hypotheses:

Subhypothesis H1c:

Males go to the Mall more for comfort than do females.

Subhypothesis H1d:

Females go to the mall for more social reasons than do males.

Hypothesis H1, along with sub-hypotheses H1a-H1d constitute the Content Phase of the statistical analysis.

Structure Hypotheses

The second phase of the BSA technique---discriminating among the four age-gender groups based on the analysis of structure variables---constitutes the most significant challenge to BSA. This approach, as described earlier, looks at the patterns of responses per individual, and then attempts to discriminate among the age-gender categories on the basis of these patterns alone.

How are structure variables measured, and how can they be interpreted? What measures can be incorporated into the study which would capture the differences in how subjects tend to place beliefs along the three BSA dimensions? If subjects do indeed differ in their patterns of responses along the three BSA dimensions, these differences should be detected by some of the simple descriptive statistics commonly used to analyze theoretical distributions. Which statistics would capture the differences among these patterns? It might be best to continue with the example introduced earlier (p. 25).

Rokeach (1960) discusses dogmatism (closed mindedness) in structural terms. Specifically, closed minded people tend to embrace and reject beliefs more extremely than do open-minded people. On a BSA questionnaire, then, the re-

sponses of open-minded people would be expected to be more evenly distributed across the True-False scale, while the responses of dogmatic people would be more clustered at the ends of the scale. By simply summing across all responses on the True-False scale for a single respondent, the distribution of beliefs across this dimension can be described. Open-minded people would be expected to have a more "peaked" distribution of beliefs (more like a normal curve), while more dogmatic people would have a more bimodal distribution, bulging at the ends.

A measure of kurtosis can measure this structure variable Kurtosis (Freund and Williams 1969), frequently measured by the "alpha four" statistic, measures the flatness or peakedness of a distribution. Distributions may have different kurtosis even though they have equal standard deviations. A normal curve has an alpha four of about 3. A flatter distribution has a lower alpha four, while a more peaked distribution has a higher alpha four. The bimodal distribution of dogmatic respondents would be reflected by a lower alpha four than the more evenly distributed responses of open-minded subjects.

This study will discriminate among the four respondent groups on the basis of these types of structure variables, as specified by the hypotheses below. Let us examine some other structure variables. It must be made clear at the outset that the calculation of these structure variables is at the individual respondent (ideothetic) level, summing

across beliefs.

The first variables to be introduced into the analysis are the arithmetic mean and the standard deviation of each of the three scales. These describe the distribution of beliefs across each of the three scales. For example, a respondent with a mean of 4.2 on the 5-point "Feel Good" scale could be characterized as feeling better about going to Woodbridge Mall than a respondent with an average of 3.2. Likewise, a higher standard deviation on the same scale would reflect greater emotional volatility or variation than a smaller standard deviation. Average scores on the Importance dimension would show how important going to Woodbridge Mall is to subjects.

Additional structure variables to be included in the analysis are the kurtosis of each dimension (as discussed above), and the correlation coefficients among each of the three BSA scales (again, calculated ideothetically). The correlations among the three scales tap the degree to which a respondent tends to associate the importance of a statement with whether it is true or whether it makes them feel good. More affectively driven respondents would show higher correlations between the Feel Good and Importance dimensions. More rational or economic shoppers would show higher correlations between the True-False and Importance dimensions.

In order to examine the realm of structure variables, a second discriminant analysis is performed where the $n \times s$ (n -

respondent by s-structure variables) input data matrix will contain values for the mean, standard deviation, and kurtosis for each of the three BSA dimensions, as well as the correlations among the three dimensions. On the basis of this data, a second hypothesis is stated:

Hypothesis H2:

The structure BSA variables will significantly discriminate among the four age-gender groups.

Like Hypothesis H1, however, this hypothesis must be further elaborated in order to specify the kinds of qualitative differences anticipated among the four age-gender groups. What structure variables can be expected to discriminate between teens and the elderly, between males and females?

Again, in the earlier discussion of age-gender differences we suggested that teens are more dogmatic in their beliefs with more volatile emotions, while the elderly are more flexible and pragmatic. Also as discussed above, kurtosis along the belief dimension is a measure of dogmatism; and the standard deviation of the feel good dimension should reflect greater emotional volatility. Hypothesis H2 is extended, therefore, to include the following age-related structure sub-hypotheses:

Subhypothesis H2a:

Teens are more dogmatic in their reasons for coming to the Mall than are the elderly: the kurtosis of their responses on the true-false dimension will be lower for teens than for the elderly.

Subhypothesis H2b:

Teens are more emotionally volatile in their rea-

sons for coming to the mall than are the elderly: the standard deviation along the feel good dimension will be higher for teens than for the elderly.

These sub-hypotheses provide a structural basis for discriminating between teens and elderly.

It is also necessary to provide a structural basis for discriminating between males and females. Based on the earlier discussion, females' overall feeling toward shopping is more positive than males'. If this is true, women should rate the questionnaire statements more positively on the feel good dimension than would males.

Also from the earlier discussion, emotional motivations are more central for females than for males. If this is true we would expect a greater connectedness between the feel good dimension and the other dimensions for females than for males. Particularly the correlation between the feel good dimension and the important dimension should be higher for females, since importance reflects centrality in the Rokeach (1973) sense. Based on these considerations, Hypothesis 2 can be extended further to include the following gender-related structure sub-hypothesis:

Subhypothesis H2c:

Females feel more positively about coming to the Mall than do men: Their average responses on the feel good dimension will be higher than those of males.

Subhypothesis H2d:

Emotional motivations for coming to the Mall are more central to females than to males: The correlation between the feel good and important dimensions will be higher for females than for males.

FIGURE III

Research Hypotheses and Subhypotheses

Hypothesis H1:

The individual BSA variables will significantly discriminate among the four age-gender groups

Subhypothesis H1a:

Teens go to the Mall more for fun and excitement than do the elderly.

Subhypothesis H1b:

The elderly go to the Mall more for their health than do teens.

Subhypothesis H1c:

Males go to the Mall more for comfort than do females.

Subhypothesis H1d:

Females go to the mall for more social reasons than do males.

Hypothesis H2:

The structural BSA variables will significantly discriminate among the four age-gender groups.

Subhypothesis H2a:

Teens are more dogmatic in their reasons for coming to the Mall than are the elderly: the kurtosis of their responses on the belief (true/false) dimension will be lower for teens than for the elderly.

Subhypothesis H2b:

Teens are more emotionally volatile in their reasons for coming to the mall than are the elderly: the standard deviation along the evaluative (feel good) dimension will be higher for teens than for the elderly.

Subhypothesis H2c:

Females feel more positively about coming to the Mall than do men: Their average responses on the "feel good" dimension will be higher than those of males.

Subhypothesis H2d:

Emotional motivations for coming to the Mall are more central to females than to males: The correlation between the "feel good" and "important" dimensions will be higher for females than for males.

H1 and H2 form the analytical core of this study. These hypotheses require Belief Space Analysis to reveal differences among the four age-gender groups on the basis of both the content and the structure of subjects' belief systems.

Our attention, however, is on hypothesis H2. Its confirmation supports the assertion that structure variables have explanatory force. The hypotheses are summarized in Figure III.

Description and Scope of the Current Study

The current study applies Belief Space Analysis in the setting of Woodbridge Mall, a large regional shopping mall in suburban New Jersey. The consumer decision-making context is "Why did you come to the Mall today?"

Subjects are either teens or the elderly. Using the two classification variables age and gender, subjects are classified into one of four age-gender groups: teen males, teen females, elderly males, and elderly females. The fundamental challenge is whether BSA can distinguish among them on the basis of data generated by the BSA Questionnaire.

Qualitative Stage

The BSA methodology was initiated by sending student interviewers to Woodbridge Mall to perform mall intercept interviews with target subjects. Students in an under-

graduate Marketing Research class were trained as interviewers (Interview Instructions are included in Appendix B), and the implementation of the BSA procedure was their required term project. Students were organized into teams of 6 to 8 people, each one managed in turn by one of five students enrolled in an advanced Marketing Research Seminar. These five Student Managers then reported to the researcher, completing the structure of this temporary organization of about forty people.

Students were allowed to arrange their interview schedules around their academic schedules. Care was taken, however, to insure that interviews were taken at a variety of times of day, and different days of the week. The policy of the Mall was that interviews had to be scheduled in advance, and that student interviewers sign in and out with the Security Office during their interviewing periods. A glance at the interviewing schedule in Appendix B shows that interviews were held at a variety of times during the week.

Interviewers were trained in class, and given printed Interview Forms, that served as both interview protocols and reporting forms (see Appendix B). All interviews were taped on portable cassette recorders and submitted, along with Interview Forms, as the basis for the later generation of the BSA Questionnaire. As is evident from the Interview Form, interviewers were instructed first to ask qualified subjects why they came to the Mall that day, and then probe at each of the three levels discussed earlier: specific

characteristics of the Mall, underlying reasons they prefer these characteristics, and those personal values relating to their decision.

There were still some problems with subjects' understanding of the scale anchors. True-False and Important-Unimportant were not a problem. But Good Feeling-Bad Feeling still causes some confusion. Also, many subjects felt the three scales to be redundant. Although this version of the scales functioned much better than previous versions, it is still unclear what the best scale format would be.

Taped interviews and Interview Forms were then processed by student team members in order to extract from them a list of salient beliefs. Beginning with exhaustive list of all beliefs generated by the interviews, the list was reduced by eliminating redundant statements and any statements that seemed too specific to the individual subject (for example "I came to return these shoes my cousin gave me.").

Questionnaire Development

The reduced list of salient beliefs was then included in the Preliminary Questionnaire, a copy of which is in Appendix B. This questionnaire was pretested first on the members of the Marketing Research class. Then each class member was asked to pretest the questionnaire on three additional subjects chosen at their convenience (normally their friends or family). On the basis of this pretest, the scale format was altered, and the number of items included

on the questionnaire was further reduced to 23 statements.

Change of scale format was based on the indication from the pretest that subjects unfamiliar with idea behind the scales found the "numbers only" format of the preliminary questionnaire confusing (see Figure IV). Apparently it was unclear to some subjects that there were three independent horizontal scales. They saw the scales as merely a mass of numbers requiring sometimes one, sometimes more responses. Also, students in the class maintained that the 7-point scales were still too bulky, and fewer categories would provide a level of discrimination adequate to make the evaluations. The Final BSA Questionnaire used an unnumbered 5-point scale fashioned visually after the 7-point scales traditionally used with the Osgood et al (1957) Semantic Differential. The original and revised scales are depicted in Figure IV.

Reduction of the length of the Questionnaire was in response to pretest subjects' feeling that the questionnaire was still too long. Statements that still seemed redundant or had received negative comments during the pretest were eliminated. For example, the item "I come to Woodbridge Mall to pick up guys (or girls)" was excluded, leaving the more general item "I come to Woodbridge Mall to meet new people" in the final version of the questionnaire.

Questionnaire instructions were shortened and clarified to accommodate the hurried attention-span of the mall shopper. The final form of the BSA Questionnaire is shown in

FIGURE IV

Scales Used in Shopping Mall Study (Original and Revised)

Original:

False	-3	-2	-1	0	1	2	3	True
Bad	-3	-2	-1	0	1	2	3	Good
Unimportant	0	1	2	3	4	5	7	Important

Revised:

False : _____ : _____ : _____ : _____ : _____ : True
 Feel Bad : _____ : _____ : _____ : _____ : _____ : Feel Good
 Unimportant : _____ : _____ : _____ : _____ : _____ : Important

Appendix B. It was pretested again on the members of the Marketing Research class. They agreed that the scales and the instructions were clearer, but that it was still too long. It took an average of six minutes for them to fill it out, which was considered short enough especially since it was undesirable to reduce the number of items any further. Further loss may have reduced the qualitative content of the questionnaire too severely. In fact, some qualitative information may have already been lost through limiting the final questionnaire to 23 statements.

The choice of which specific items to exclude from the final version was a difficult one, especially under the constraints of this study. Mall intercept interviews suffer from limitations on length (Gates and Solomon, 1982). Another setting may allow for a longer questionnaire. Some redundancy in a questionnaire is desirable, generating a more descriptive pattern of loadings on extracted dimensions. The selection of items for the final questionnaire was driven, in this case, by judgment. The final items were meant to preserve the most qualitative information in the fewest number of items. The tradeoff was to lose some degree of specificity. For example, "I feel comfortable at Woodbridge Mall" was rejected while "I like the atmosphere here in Woodbridge Mall" remained.

It would have been possible to allow the research sub-hypotheses to drive the choice of questionnaire items. But the decision was made here, in the spirit of well-grounded

theory (Lincoln and Guba, 1985), that the choice of items be driven by a qualitative consideration of the main themes emerging from the interview process. If some of the hypotheses "fell between the cracks," it was to allow other major themes to emerge. The researcher needs to make a judgement call on the trade-off between the depth of the qualitative information contained in the questionnaire and the practical constraints of the research situation. For the purposes of this study, it was assumed that six minutes was a reasonable length of time, even though mall shoppers would be hurried and unfamiliar with the scales.

In addition to the 23 BSA scale items discussed, the Questionnaire included a measure of age and gender. An open-ended question was also provided at the end asking for any further responses subjects wished to give.

Quantitative Phase

Questionnaires were distributed using similar logistics as the interviews: students were scheduled to administer the questionnaires through mall-intercept interviews at Woodbridge Mall. Again they were required to sign in and out with the Mall Security Office. Since at least 100 subjects were required in each of the four cells in order to attain a reasonable level of statistical significance, each of the five teams of student interviewers was instructed to complete 100 questionnaires in approximately equal numbers of teen males, teen females, elderly males, and elderly fe-

males. This was intended to produce a total of 400-500 usable questionnaires, with at least 100 per age-gender category.

Actual cell counts were somewhat lower than expected, yet were adequate to provide statistically significant results. Of a total sample of 449 subjects, 126 were eliminated because of missing data. For the CANDISC (Canonical Discriminant Analysis) procedure, the SAS statistical package excludes cases that contain missing data (SAS Institute, Inc., 1985). In addition, 39 could not be included in the analysis because their ages were in the 20-54 range, disqualifying them from either the teen or elderly groups. Of the remaining 323 cases, there are 111 teen females, 67 teen males, 63 elderly females, and 82 elderly males in the final sample.

Sampling Procedure

Mall intercept interviews have been used extensively in consumer research. They have shown to be as good as telephone interviews with respect to response quality, response rates, and item omission; and better with respect to distortion of responses (Bush and Hair, 1985; Bush and Pasasuraman, 1985). They are less desirable than door-to-door interviews in that they do not allow for representative samples, and are limited in the length of interviews (Gates and Solomon, 1982). Quota samples are suggested in order to improve the quality of the data (Bush and Hair, 1985).

Also, interviews should be scheduled at various times and locations.

Mall intercept interviews are not random in any precise statistical sense. Probability samples are required when a quantitative inference is to be drawn from a sample to a larger population. If the emergence of salient qualitative phenomenon is the primary goal of the research, probability samples are unnecessary. Some, in fact, have argued that probability samples are counterproductive under certain conditions, and that "purposive" sampling (targeting the population of interest) is more effective (Lincoln and Guba 1985; Bellenger et al 1976). Qualitative sampling is justifiable as long as quantitative projection or inferences are not going to be made.

This research does not require a probability sample. The primary focus of this research is to test BSA and qualitatively to interpret the data. Any bias introduced by sampling would not confound these goals. This research aims to elicit from the target groups---teens and elderly---a qualitatively rich sample of beliefs which distinguish among the four age-gender groups. The results reported in Chapter V are intended to demonstrate the ability of BSA to distinguish among the groups in the sample. Generalizations to the larger populations of teens and the elderly are limited by the sampling method. Since the present sample is drawn for the purpose of testing the BSA methodology rather than to generalize to larger populations, mall intercept inter-

views are adequate.

Another sampling issue relates to the decision to limit the study to the four age-gender groups. First, why study exactly four groups; and, second, why not include a broader spectrum of ages?

The choice of four groups was driven by the practical limitations of the research situation. Specifically, the sample size that could be drawn from the shopping mall is limited. It would be difficult, and too obtrusive in the view of the management of the mall, to draw samples larger than a few hundred. Since cell sizes of at least 100 subjects are desirable in order to establish statistically reliable results, limiting the number of groups or cells was necessary. The four age-gender groups provide an appropriate way to develop an interesting and feasible study design given the practical limitations and the theoretical intentions of the research. Four groups permit a workable sample size of only about 400 subjects, yet enough groups to draw meaningful comparisons.

Another reason for excluding a larger range of ages was that Woodbridge Mall had just completed its annual consumer study of adult female shoppers. Mall management did not want to fatigue their clientele with additional research. They were amenable to the teen-elderly sample since most of these people would not have been included in their study. Aside from these situational considerations, however, the choice of teens and the elderly as target populations pro-

vide a fertile area of study, as elaborated above in Chapter II.

Pretests of Belief Space Analysis

Prior to the development of the BSA methodology described above, two pretests of BSA were carried out. These pretests resulted in modifications of the interviewing method, the questionnaire response scale format, and the scale anchors.

First Pretest

The goal of the first pretest (reported in Anderson, 1987) was to locate any problems in the interviewing process and the questionnaire scales. Students in a graduate (MBA) marketing class were used as interviewers. They were instructed in the interviewing process and the theoretical goals of BSA (interviewing instructions and theoretical background are included in Appendix C). They each interviewed three subjects on a variety of product purchases (interviews were taped), developed the questionnaires, and submitted reports including any difficulties or suggestions they might have had. Students interviewed subjects (selected at their convenience) on a recent automobile purchase, or some other high-involvement product or service of the subject's choice. Subjects were asked to describe why they decided to buy that item, and were further probed until they

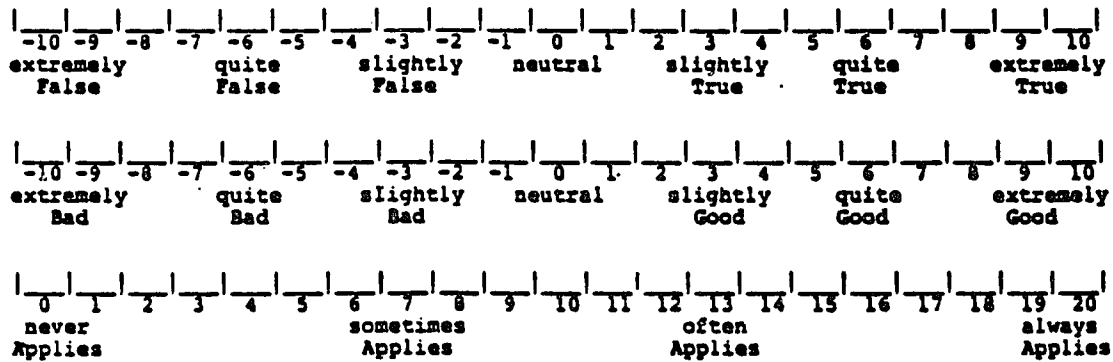
expressed a number of salient beliefs explaining their decision (interviewers were allowed the discretion of judging when an explanation was complete).

Based on each interview, student interviewers then constructed individualized questionnaires for each of the subjects, including the beliefs generated only by that one interview. The original format for the scales was three 21-point numbered scales, shown in Figure V. The design was based on the recommendations of Jaccard and Wood (1985). Following their lead, the 21-point scales were chosen on the assumption that respondents need to be able to make fine degrees of discrimination in their evaluations. This first pretest confirmed that the interview process is a feasible field methodology. Interviewers felt (and listening to the taped interviews confirmed) that even relatively inexperienced interviewers could indeed capture subjects' reasons for making a product purchase. The average interview length was just under nine minutes.

Several changes, however, resulted from this pretest. First, interviewer probing needed improvement. Interviewers were instructed to listen to subjects explain why they bought the product. Then, taking the last thing the subject had said, they were to probe with: "Why is _____ important to you?" This process tended to be awkward and confusing, disturbing the natural flow of the interview. The process was changed to probe explicitly at three levels: product characteristics, choice criteria, and personal val

FIGURE V

Scales Used in First Pretest



ues. Research into the structure of consumer value-attitude systems (Gutman 1982; Lessig, 1975; Olson and Reynolds 1983; Vinson, Scott and Lamont 1977) indicates that consumers link or "ladder" beliefs from these three levels in the process of making a product-related decision. An interview methodology that probed specifically at these three levels was used in the second pretest, described below.

Second, some respondents were confused by the scale anchors. True-False was no problem, but the other two scales were unclear. In this pretest, Good-Bad was used because that it is the set of anchors that typically load most heavily on the Osgood, Suci, and Tannenbaum (1957) evaluative dimension, and has a long tradition in the attitudes literature. Subjects found, however, that "good" can have a variety of meaning that clouded the meaning of their responses. For example, "good" can have moral, social, aesthetic, or hedonistic meanings. This scale was changed to "Like-Dislike" because, colloquially, it captures more directly the essence of an evaluative, affective response. Also, since this evaluative dimension is often regarded as a measure of attitude, the fundamental idea behind the attitudes construct is that consumers form a global liking or disliking for an attitude object (Bettinghaus 1980, Schiffman and Kanuk 1983, Engel, Blackwell, and Miniard 1986).

The third dimension was labeled "Always Applies-Never Applies" in order to capture the notion of Situational-Universal. Originally, the theoretical conception of this

third dimension derived from Rokeach's "Time-perspective Dimension" (Rokeach, 1960; see also, Kluckhohn and Strodtbeck's, 1961, concept of "time orientation"). This dimension relates to the breadth or narrowness of a person's perception of time. It evolved into a "Situational-Universal" dimension to capture the idea that some beliefs are applicable only here and now, while others are applicable in a variety of times and places. Subjects, however, had a hard time identifying the meaning of this dimension, often getting it confused with the other two dimensions: Did it mean always-never true, or always-never good? This third dimension became the stumbling block in the pretest process.

In an effort to capture more the notion of the power or potency of a belief's universality, applicability, will, and conation, the third dimension was relabeled "Powerful Force-Weak Force," based on the organization of adjectives in Roget's Thesaurus. Reflective also of Osgood et al's Potency dimension, it was intended to capture the force a statement has in a consumer's decision-making process. Although somewhat different from the original Situational-Universal dimension, the idea was that a more Powerful belief would apply more often or more universally. These revised scales are shown in Figure VI.

Another finding from the first pretest was that subjects felt that the 21-point scales used were longer than necessary. For the second pretest, the scales were shortened to the 7-point and 4-point scales depicted in Figure

FIGURE VI

Scales Used in Second Pretest

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

VI. The different length of the third scale was originally intended to signal to respondents it was different from the two other scales. The True-False and Like-Dislike scales are bipolar, while the third scale reflects a unipolar concept. For this reason, the third scale was numbered 0 to 3 rather than -3 to 3 like the first two.

This idea was later dropped, and the original equal-length scales retained for reasons of statistical analysis. If the three scales are not of equal length, then the assumption of equal variance across the three scales cannot be maintained. Without this assumption, the variety of statistical analyses that can be used are severely restricted. Unequal variance can introduce a source of bias into the the data, requiring that the data be normalized in order to equalize any difference in scale. Normalization may affect the interpretation of the data, and is therefore less desirable (Dillon, Frederick, and Tangpanichdee, 1985; Dillon, Mulani, and Frederick, 1989). A separate study is needed to compare the desirability of various scale formats.

Second Pretest

A Second Pretest was designed to overcome some of the limitations from the first pretest. Primarily, the second pretest aimed at gathering a larger body of data since the sample sizes from the first pretest did not allow for statistically significant analysis. Also, the first pretest only had subjects evaluate their own beliefs through individualized questionnaires. Rokeach (1960) states that peo-

ple's belief-disbelief systems differ according to the beliefs they reject as well as the beliefs they accept. In order to include rejected beliefs in the questionnaire, subjects would have to rate other subjects' beliefs as well as their own.

The second pretest used students in two undergraduate Marketing Research classes as subjects. Sacrificing the actual interview process for the sake of a larger sample size in limited time constraints, a "proxy" interview was held in which students were interviewed en masse. Students were asked to write down the name of the retail store where they most frequently shopped for clothing. Then they were asked to indicate which store characteristics influenced their decision to shop at that store. On the basis of these store characteristics, they were asked to indicate why these store characteristics were important to their decision to shop at that store (choice criteria). Finally, they were asked to look at their list of choice criteria, and indicate which, if any, of their personal values relate to these choice criteria (no list of values was used to prompt their response, and the response "none" was allowed).

On the basis of these written "interviews," a questionnaire was developed that included statements evoked from all of the students, excluding clearly redundant statements. 68 students were involved in this pretest, and 189 belief statements were included in the questionnaire. Since three evaluations are required per statement, a total of 567

evaluations were made by each subject. Repeated items were included in the questionnaire to check for reliability, since the questionnaire was much longer than normal for the BSA procedure (it took an average of about 40 minutes to fill out). As indicated above, the reason for the greater length of the questionnaire was to provide a single questionnaire for all the subjects to respond to, allowing them to rate not only their own beliefs, but all other subjects' beliefs as well.

Several findings emerged from this second pretest. First, the Like-Dislike anchors of the second dimension generally seem to capture the intent of the scale. Some subjects, however, had difficulty with the idea of liking or disliking a statement. When it was explained to them that the intent was to measure how the statement made them feel, it became clearer. (In the current shopping mall study, this scale was clarified by returning to the original notion of good and bad, clarified by a "Feel Good-Feel Bad" description.)

The third dimension still created a problem since "Powerful Force," although clearer than "Always Applies," still didn't capture the intent of the scale or communicate a clear meaning to subjects. BSA is based on the notion that the three scales represent fundamental dimensions along which consumers evaluate beliefs. If these scales represent basic dimensions of human thought, they must be easily grasped by the average consumer. The solution of using the

"Important-Unimportant" anchors grew from a reexamination of BSA's theoretical foundations. Finding the elusive label for the third dimension proved so difficult because the Importance dimension had already been incorporated into the probing process: "Why is _____ important to you?"

Fishbein and Ajzen (1975) distinguished between salience and importance, pointing out that salient beliefs influence attitudes. Salient beliefs, however, may vary in importance. The goal of the probing process is to evoke subjects' salient beliefs. Degree of importance is a separate dimension along which consumers evaluate statements. As pointed out in the earlier discussion, Rokeach's rank-ordering of values by importance affirms this.

A final indication from the second pretest is that the ordering of the scales may present a problem. There was a tendency for subjects to respond to a scale in the context of their response to the scale immediately preceding it. If, for example, a subject rates the statement "I live a simple lifestyle" as "false" and "disliked," does she dislike the idea of living a simple lifestyle, or does she dislike the fact that she doesn't live a simple lifestyle? To examine the effects of the order of the scales requires a separate study.

Table I summarizes the changes in the questionnaire procedures through the three pretests.

TABLE I

SUMMARY OF PRETEST CHANGES

	Pretest #1	Pretest #2	Current Study
Probing Technique	"Importance"	3-levels	3-levels
Scales A	21-point	7-point	5-point
B	"	"	"
C	"	4-point	"
Anchors A	True-False	True-False	True-False
B	Good-Bad	Like-Dislike	Feel Good- Feel Bad
C	Always Applies- Never Applies	Powerful Force- No Force	Important- Unimportant

CHAPTER V

RESULTS

Research Findings

The results of the study are presented in a format reflecting both methodological and substantive hypotheses. As already shown in Figure III, the methodological hypotheses--H1 and H2--relate to the level of significance of the canonical discriminant analysis. These hypotheses state that if the discriminant analyses are significant, then Belief Space Analysis has been successful in discriminating among the four age-gender groups.

Hypotheses H1 and H2 are necessary, but not sufficient, to the support of research subhypotheses H1a-H1d and H2a-H2d. These are the substantive hypotheses, specifying how the four age-gender groups are expected to differ. Their confirmation hinges on the confirmation of hypotheses H1 and H2.

The following discussion presents the findings in order of the hypotheses as presented (see Figure III). First, hypotheses relating to the analysis of the content of subjects' belief systems (what they think) about going to the mall are discussed. Support for hypothesis H1 are presented, along with support or disconfirmation of subhypotheses H1a-H1d. Summary descriptions of group differences are also presented based on a combination of the findings from the subhypotheses and additional findings from the

discriminant analysis.

Next follows an analysis of the structure of subjects' beliefs (how they think) about going to the mall. Support for hypothesis H2 is presented, along with support or disconfirmation of subhypotheses H2a-H2d. Again, summary descriptions of the four age-gender groups are presented.

Following the exposition of the findings, a discussion of the limitations of the research completes the chapter.

Content

Two clear canonical functions are extracted from the canonical discriminant analysis of the content variables. Remember, these input variables are the $23 \times 3 = 69$ responses to the questionnaire items. These two functions provide the basis for explaining the differences among the four age-gender groups with respect to their evaluations of the contents of the questionnaire items. Table II shows the summary statistics (the raw SAS printout) from the canonical discriminant analysis of the BSA content variables, using the four age-gender groups as the classification variable. As can be seen from the test statistics at the bottom (A, in Table II), the analysis is significant at the 0.0001 level. Hypothesis H1, therefore, is supported.

Two significant discriminant functions (canonical variables) are indicated. The first function reflects age differences and the second reflects gender differences. Each is discussed in detail below.

TABLE II
SUMMARY STATISTICS ON ANALYSIS OF CONTENT VARIABLES

CANONICAL DISCRIMINANT ANALYSIS							
323 OBSERVATIONS 69 VARIABLES 4 CLASSES				322 DF TOTAL 319 DF WITHIN CLASSES 3 DF BETWEEN CLASSES			
CANONICAL CORRELATION	ADJUSTED CANONICAL CORRELATION	APPROX STANDARD ERROR	SQUARED CANONICAL CORRELATION	EIGENVALUE	EIGENVALUES OF $INV(E)*H$ = $CANRSQ/(1-CANRSQ)$		
					DIFFERENCE	PROPORTION	CUMULATIVE
1	0.833546	0.793714	0.017008	0.694799	2.2765	1.8520	0.7603
2	0.545912	0.402739	0.039120	0.298020	0.4245	0.1314	0.1418
3	0.476107	0.322214	0.043096	0.226678	0.2931	0.0979	0.0979

TESTS OF H_0 : THE CANONICAL CORRELATION IN THE CURRENT ROW AND ALL THAT FOLLOW ARE ZERO

	LIKELIHOOD RATIO	APPROX F	NUM DF	DEN DF	PR > F
1	0.16568007	2.9898	207	753.6	0.0001
2	0.54285605	1.3239	136	504	0.0165
3	0.77332165	1.1069	67	253	0.2863

MULTIVARIATE TEST STATISTICS AND F APPROXIMATIONS
S=3 M=32.5 N=125

STATISTIC	VALUE	F	NUM DF	DEN DF	PR > F
WILKS' LAMBDA	0.1656801	2.990	207	753.6	0.0001
PILLAI'S TRACE	1.219498	2.511	207	759	0.0001
HOTELLING-LAWLEY TRACE	2.994198	3.611	207	749	0.0001
ROY'S GREATEST ROOT	2.276532	8.347	69	253	0.0001

NOTE: F STATISTIC FOR ROY'S GREATEST ROOT IS AN UPPER BOUND

Age Differences

The first discriminant function is clearly the stronger. By looking at the pattern of eigenvalues (B, in Table II), the first canonical correlation captures 76 percent of the total variance at a significance level exceeding 0.0001 (C, in Table II). The class means on the first canonical function (see Table III) clearly shows it to reflect age differences: elderly males and females are located high (1.95 and 1.22 respectively), while teen males and females are low (-1.34 and -1.33).

Inspection of the canonical structure of the first function (canonical correlations of the original variables with the first canonical function) shows which variables contribute most to the differences between teens and the elderly. Table IV summarizes these, including only those items with at least one discriminant loading greater than $|0.25|$. As a rule of thumb (again using factor analysis as the parallel), only those loadings larger than about $|0.3|$ are considered as contributing strongly to that function (Dillon and Goldstein, 1984).

As can be seen, these loading vary with the individual scale. For example, question 7, "Woodbridge Mall has good parking facilities," has the highest overall loadings. Clearly, however, the Good Feeling-Bad Feeling scale has the highest loading (.61), followed by the True-False scale and the Important-Unimportant scale with loadings of 0.53 and 0.35 respectively. The elderly feel good about the parking

TABLE III
CLASS MEANS ON CONTENT FUNCTIONS

	First Function (age)	Second Function (gender)
Teen Females	-1.3310	0.4177
Teen Males	-1.3421	-0.8665
Elderly Females	1.2227	0.8434
Elderly Males	1.9590	-0.5054

TABLE IV
CANONICAL STRUCTURE OF THE FIRST CONTENT FUNCTION
AGE DIFFERENCES

Questionnaire Item	Canonical Loadings		
	True-False	Feel Good- Feel Bad	Important- Unimportant
7. Woodbridge Mall has good parking facilities.	0.5302	0.6128	0.3595
17. I feel safe here at Woodbridge Mall.	0.5301	0.4990	0.2879
6. I come to Woodbridge to shop for my family.	0.5113	0.4046	0.3789
15. I often shop at Woodbridge Mall with other members of my family.	0.4260	0.4897	0.4549
3. Woodbridge Mall usually isn't too crowded.	0.4785	0.4601	0.2115
22. I can get healthy exercise at Woodbridge Mall.	0.3995	0.4516	0.4505
9. I can get good bargains at Woodbridge Mall.	0.3530	0.4161	0.2598

TABLE IV -- CONTINUED
 CANONICAL STRUCTURE OF THE FIRST CONTENT FUNCTION
 AGE DIFFERENCES

Questionnaire Item	Canonical Loadings		
	True-False	Feel Good- Feel Bad	Important- Unimportant
11. I like the atmosphere here in Woodbridge Mall.	0.3704	0.3830	0.3331
2. It is relaxing to come to Woodbridge Mall.	0.3703	0.3283	0.3177
20. Woodbridge Mall is clean.	0.3447	0.3718	0.3411
19. I like the people who come to Woodbridge Mall.	0.2662	0.3134	0.2184
18. I can get quality merchandise at Woodbridge Mall.	0.2685	0.2966	0.2309
10. I come to Woodbridge Mall to meet new people.	-0.2936	-0.1431	-0.2252
12. I usually get something to eat while I'm at Woodbridge Mall.	-0.0002	0.2224	0.2503

facilities at the Mall, but consider them relatively less important.

Examination of the loadings on only the Importance scale across the items reflects that items 15 ("I often shop at Woodbridge Mall with other members of my family") and 22 ("I can get healthy exercise at Woodbridge Mall") score the highest. The Importance scale reflects a different ranking of statements than the other two scales. Importance, in other words, is a different kind of evaluation than either belief or feeling.

The Importance scale is the one used in the Rokeach Value Survey to reflect the centrality of personal values. This scale clearly reflects such values--in this case, family and health. Notice, too, that in question 22, the True-False scale is relatively lower, indicating that teens and the elderly differ more with regard to the importance and liking of the statement than its truth. This suggests that perceptions differ from preferences about being able to get healthy exercise at Woodbridge Mall. The impact of this finding on managerial strategies will be examined in more detail in the final section of the next chapter.

Teens place low on this discriminant function (see the Class Means in Table III), and therefore can be described as being opposite to the elderly on the elements described above. Those elements that the elderly rate as more important, more liked, and more true by the elderly were rated as less important, less liked, and less true by teens. For

example, teens do not feel safe at the Mall; perhaps because they do not feel safe from Mall security. They are less concerned with parking, cleanliness, atmosphere, relaxation, or exercise. They shop less for and with their families.

Since there are no high negative loadings on the first discriminant function, none of the variables directly reflects the evaluations of teens in a positive way. In other words, teens' evaluations of the significant questionnaire items are merely lower than the evaluations of the elderly.

The highest negative loadings on the first function are questions 5 and 10. Question 5 ("I come to Woodbridge Mall when I have nothing else to do.") reflects a loading of -0.2037 on the True scale, but near zero on the Feel Good and Important scales. This would indicate that this statement is somewhat true for teens, but irrelevant with respect to feeling or importance. Question 10, on the other hand ("I come to Woodbridge Mall to meet new people."), is moderately true and important (loadings of -0.2936 and -0.2252 respectively), but insignificant with respect to liking (-0.1431). These numbers are weak according to our rule of thumb: they are lower than $|0.30|$. Yet they demonstrate some directionality in the evaluations of teens vis a vis the elderly.

The information derived from the quantitative evaluation of the questionnaire statements can be summarized by the following qualitative interpretation:

The most important factors that distinguish the elderly from teens who go to Woodbridge Mall is that

the elderly shop there with members of their family and can get healthy exercise there. Importance of family is also reflected by the fact that the elderly come to the Mall to shop for their families.

The elderly feel good about the Mall because it has good parking facilities, is safe, is not too crowded, and has good bargains. These elements, however, are relatively less important to them.

Several other characteristics are less important than those above. These include liking the atmosphere at the Mall, finding it relaxing and clean, and liking the people who go there.

Teens place lower evaluations on those things that the elderly rate higher. Specifically, they do not feel as safe at the mall.

Subhypothesis Hal is not supported: there is no indication that teens more than the elderly go to the mall for fun and excitement. Statement number 16 on the questionnaire, "It's fun to come to Woodbridge Mall," did not load significantly on this factor and therefore does not distinguish teens from the elderly. If anything, the elderly seem to enjoy the mall for its atmosphere and for the other people who go there even more than do teens.

Hypothesis H1b, on the other hand, is supported: the interpretation above shows clearly that the elderly come to the mall for their health. In addition to this, however, the analysis reveals another highly rated value: the family. Shopping with and for their family is a primary motivation for the elderly in their decision to come to the mall.

Gender Differences

Table II shows that the second discriminant function (canonical variable) is significant at the 0.0165 level (C,

in Table II), and reflects 14 percent of the total variance (B, in Table II). This is a weaker function, indicating that gender differences are less distinctive in the sample than age differences. To some extent this may be an artifact of the sampling plan, which accentuates age differences by including only the young and the old. Still, the second function is significant and interpretable. Along with the first slightly over 90 percent of the total variance is explained by the BSA variables (B, in Table II).

Examination of the class means on the second discriminant function (Table III) shows that elderly and teen females score high on this function (0.84 and 0.41 respectively) while teen and elderly males score low (-0.86 and -0.50). This is clearly a gender function.

The canonical structure of this second content function is shown in Table V, again including only those variables with at least one loading exceeded $|0.25|$. Clearly the highest loaded variable is item 11, "I like the atmosphere here in Woodbridge Mall," with loadings of 0.49 and 0.45 on the True and Good Feeling scales respectively. The loading on the Importance scale is low, indicating that, although females like the atmosphere much more than do males, this fact is relatively unimportant in their decision to go to the Mall. Keep in mind that we are speaking strictly of teen and elderly males and females. We can draw no conclusions about males and females in general. Females rated item 12, "I usually get something to eat while I'm at

TABLE V
CANONICAL STRUCTURE OF THE SECOND CONTENT FUNCTION
GENDER DIFFERENCES

Questionnaire Item	Canonical Loadings		
	True-False	Feel Good- Feel Bad	Important- Unimportant
11. I like the atmosphere here in Woodbridge Mall.	0.4871	0.4454	0.2849
12. I usually get something to eat while I'm at Woodbridge Mall.	0.4085	0.3579	0.3384
14. I can get the latest fashions at Woodbridge Mall.	0.3851	0.3488	0.3781
21. There is a wide variety of merchandise at Woodbridge Mall.	0.3328	0.3125	0.2985
9. I can get good bargains at Woodbridge Mall.	0.3343	0.2811	0.3032
17. I feel safe here at Woodbridge Mall.	0.2941	0.2685	0.3296

TABLE V -- CONTINUED
 CANONICAL STRUCTURE OF THE SECOND CONTENT FUNCTION
 GENDER DIFFERENCES

Questionnaire Item	Canonical Loadings		
	True-False	Feel Good- Feel Bad	Important- Unimportant
23. I come to Woodbridge Mall when I want to buy a gift.	0.3173	0.2490	0.2788
16. It's fun to come to Woodbridge Mall.	0.2495	0.2718	0.3086
18. I can get quality merchandise at Woodbridge Mall.	0.3039	0.2497	0.3008
6. I come to Woodbridge to shop for my family.	0.2367	0.3000	0.2762

Woodbridge Mall," high on all three scales. Items 14, 21, and 9 relate to the latest fashions, variety of merchandise, and good bargains at the Mall. The pattern of loadings on these items reflects that fashions are more important than bargains or variety.

Of all the items rated, "I can get the latest fashions..." reflects the greatest difference between females and males as to why they come to the Mall. Getting something to eat and feeling safe at the Mall (items 12 and 17) are the next greatest differences. Note that, although feeling safe is rated high in importance by females, it is rated as less true and gives less of a good feeling. Apparently females are not entirely confident of security at the Mall.

The rest of the items listed have loadings near |0.3|, and reflect several other less central factors that distinguish females' reasons for coming to the Mall. They come to the Mall to buy a gift. It's important to them that coming to the Mall be fun. They can get quality merchandise at the Mall and can shop for their families. These are all less the case for males.

A qualitative interpretation of these elements taken together follows:

By far the most discriminating factor in females' choice to come to Woodbridge Mall is that they can get the latest fashions there. Females feel best about the atmosphere at the Mall, and getting something to eat there.

Feeling safe at the Mall is a factor that is important to females, but they do not feel entirely safe

there. Females recognize that the Mall has a wide variety of merchandise and bargains, but these are also rated as less important.

Several other less important characteristics include gift buying, fun, quality merchandise, and shopping for the family.

These factors distinguish females from males, who rate these same attributes as less true, less good, and less important.

Hypotheses H1c and H1d are not supported: There is no indication that males go to the mall for comfort more than do females. In fact, females more than males go to the mall for reasons such as atmosphere and food. There is also no difference between females and males in the importance of socializing. Other motivations differentiate females, however, such as safety and fashions.

Fashion is, of course, a traditional retail patronage motivation. Oddly enough, most research on fashion either samples women only (for example, Leaver, 1974; Gutman and Mills, 1982), or lumps males and females together (for example, Tatzel, 1982). Male and female fashion beliefs have not been directly compared. The finding here, however, show that interest in fashion specifically distinguishes females from males.

Structure

Next we discuss the results of the canonical discriminant analysis of the structure variables. Recall that the input data set for this analysis contains the mean, standard

deviation, and kurtosis for each of the three scales for each individual subject; along with the three inter-scale correlations, again for each person (as explained in Chapter IV, pp. 33 f. above). This analysis examines the patterns of responses within individuals to see if these patterns reveal individual differences among the four age-gender groups.

As can be seen in Table VI (A), the canonical discriminant analysis was significant at the 0.0001 level, and yielded two significant discriminant functions. The first was significant at the 0.0001 level (C), capturing about 79 percent of the total variance (B). The second is significant at the 0.0344 level (C), and captures an additional 13 percent of the total variance (B).

This analysis explains an even greater proportion of the total variance than does the analysis of the content variables: 93 percent as opposed to 90 percent (B, in Tables II and VII). This lends empirical support to the notion that analysis of the structure (vis a vis the content) of belief systems is an equally significant avenue toward understanding individual differences. Hypothesis H2 is therefore confirmed.

Age Differences

The first discriminant function describes age differences. Inspection of the class means (Table VII) shows elderly females and males placing high (0.82 and 0.50 respectively), with teen males and females placing low (-0.94

TABLE VI
SUMMARY STATISTICS ON ANALYSIS OF STRUCTURE VARIABLES

CANONICAL DISCRIMINANT ANALYSIS							
348 OBSERVATIONS 12 VARIABLES 4 CLASSES				347 DF TOTAL 344 DF WITHIN CLASSES 3 DF BETWEEN CLASSES			
CANONICAL CORRELATION	ADJUSTED CANONICAL CORRELATION	APPROX STANDARD ERROR	SQUARED CANONICAL CORRELATION	EIGENVALUE	EIGENVALUES OF INV(E)*H = CANRSQ/(1-CANRSQ)		
					DIFFERENCE	PROPORTION	CUMULATIVE
1	0.541654	0.516631	0.037933	0.293389	0.4152	0.7940	0.7940
2	0.255781	0.188043	0.050171	0.065424	0.0323	0.1339	0.9279
3	0.190658	0.143853	0.051731	0.036351	0.0377	0.0721	1.0000

TESTS OF H0: THE CANONICAL CORRELATION IN THE CURRENT ROW AND ALL THAT FOLLOW ARE ZERO

	LIKELIHOOD RATIO	APPROX F	NUM DF	DEN DF	PR > F
1	0.63637649	4.5207	36	984.613	0.0001
2	0.90060384	1.6317	22	668	0.0344
3	0.96364938	1.2637	10	335	0.2498

MULTIVARIATE TEST STATISTICS AND F APPROXIMATIONS
S=3 M=4 N=166

STATISTIC	VALUE	F	NUM DF	DEN DF	PR > F
WILKS' LAMBDA	0.6363765	4.521	36	984.613	0.0001
PILLAI'S TRACE	0.3951635	4.235	36	1005	0.0001
HOTELLING-LAWLEY TRACE	0.5229315	4.818	36	995	0.0001
ROY'S GREATEST ROOT	0.415206	11.591	12	335	0.0001

NOTE: F STATISTIC FOR ROY'S GREATEST ROOT IS AN UPPER BOUND

TABLE VII
CLASS MEANS ON STRUCTURE FUNCTIONS

	First Function (age)	Second Function (gender)
Teen Females	-0.2441	0.3300
Teen Males	-0.9414	-0.3193
Elderly Females	0.8290	-0.2193
Elderly Males	0.5044	-0.0037

and -0.24).

The canonical structure of this age function (see Table VIII) reveals which structure variables best discriminate between teens and the elderly. By far the highest loadings are on the means of the three scales. The elderly rated the questionnaire items much higher than did teens on all three scales. In other words, they rated all the statements as more true, more important, and as making them feel better. Teens, overall, feel less positive about going to the Mall, and evaluated going to the Mall as less important.

The next highest loadings relate to the kurtosis of all three scales, the elderly reflecting higher alpha four values than did teens. The distribution of elderly responses are more peaked, indicating that the elderly are less extreme in their evaluations of the questionnaire items (more peaked or narrow distributions). This is especially true of their true-false evaluations, indicating that they are less dogmatic than are teens in their beliefs about Woodbridge Mall. They are also less extreme in their feelings and importance ratings.

Again, looking at Table VIII, another relatively high loading relates to the standard deviation of the Good Feeling scale. This is a negative loading, indicating that teens' feelings about the questionnaire items are much more widely distributed or scattered than are those of the elderly. This indicates that teens vary more than do the elderly in their feelings about going to the Mall.

TABLE VIII
 CANONICAL STRUCTURE OF THE FIRST STRUCTURE FUNCTION:
 AGE DIFFERENCES

Input Variable	Canonical Loading
Mean True/False	0.8835
Mean Good/Bad Feeling	0.8687
Mean Importance	0.7030
Kurt. True/False	0.4560
Kurt. Importance	0.4061
Kurt. Good/Bad Feeling	0.3857
S.D. Good/Bad Feeling	-0.3789
Corr. True/False & Importance	0.3242
Corr. Good/Bad Feeling & Importance	0.3197

The remaining high loadings relate to the correlations between the True and Important scales, and between the Good Feeling and Important scales. The correlation between the True and Good Feeling scales is low. This indicates that, for the elderly, the Important scale tends to be more central or connected to their evaluations of what is true and what makes them feel good about the Mall.

The following statement summarizes these statistics and interpretations:

The elderly rate going to the Mall more positively than do teens. Teens exhibit more extreme evaluations, indicating more extreme beliefs, feelings, and importance ratings. Teens are much more emotional than the elderly, who are more temperate in their feelings.

The elderly come to the mall because of what is important to them. Their values are more strongly connected to what they see as true and making them feel good.

Subhypothesis H2a is supported by this interpretation. Teens do indeed have lower kurtosis on the True-False scale, indicating more dogmatic responses. **Subhypothesis H2b** is also supported. The standard deviation for the Feel Good dimension loads negatively on the age function, indicating that teens (who place negatively on that function) produce higher standard deviation values. The kurtosis of the Feel Good dimension, however, is lower for teens, suggesting the same conclusion: teens are more volatile in their emotional responses.

Gender Differences

The second discriminant function extracted from the

analysis of the structure variables shows a slightly different pattern from that of the second content function. As can be seen from Table VII, teen females place high while teen males place low on this function. Contrary to expectations, however, elderly females place low, closer to teen males. Elderly males place near zero, indicating that they are relatively neutral on this function. If this is indeed a gender function, then elderly females are more "male," while elderly males are neutral. Why have elderly males and elderly females become reversed?

One explanation for this unexpected finding is the "leveling hypothesis" (Sherman and Schiffman, 1984) which suggests that gender roles tend to reverse with age. After retirement males become more passive, dependent, or "female"; while females become more assertive, dominant, or "male." Although this hypothesis requires a more refined control for age, some empirical confirmation is provided by these results. Interestingly, the data here indicate that leveling appears not in the content, but in the structure of elderly belief systems. In other words gender reversal among the elderly does not occur with respect to what they think, but rather with how they think.

Clearly, however, teen females place highest on this function while teen males place low. We can still call it a gender function, keeping in mind that elderly males are neutral and elderly females are somewhat male. Examination of the canonical structure of this function (Table IX) shows

TABLE IX
CANONICAL STRUCTURE OF THE SECOND STRUCTURE FUNCTION:
GENDER DIFFERENCES

Input Variable	Canonical Loading
Corr. True/False & Good/Bad Feeling	0.4840
Kurt. True/False	-0.3844
Kurt. Importance	-0.3606
Corr. Good/Bad Feeling & Importance	0.3063

that females are characterized by a lower kurtosis on the True and Important scales. These higher loadings can be interpreted as meaning that females are more dogmatic and ideological, in what they think is true and important about coming to the Mall. In other words, females are more dogmatic than are males. Since elderly females are more "male" in this regard, they tend to be less dogmatic than are elderly males.

Also, females' feelings are more central to why they come to the Mall. The loadings show high correlations between the Feel Good scale and the other two scales, but a low correlation between the True and Important scales. This is the opposite of what was found in the first structure discriminant function (describing age) discussed above. The importance dimension is central to elderly belief systems, while the evaluative dimension is central for females.

These findings can be summarized as follows:

Females are distinct from males in that their patronage of the Mall is motivated primarily by their feelings and emotions. They also tend to be much more dogmatic and ideological in their beliefs about going to the Mall.

Males are the opposite. They are less emotional, dogmatic, and ideological in their motivation.

Elderly females are similar to teen males with regard to these characteristics, while elderly males are relatively neutral on these characteristics.

Subhypothesis H2c is not supported: The hypothesized difference between males and females on their mean Feel Good responses is not found. In fact, its contribution to the

discriminant function was close to zero. Males, in other words, are just as positive in their emotional responses to going to the mall as are females. Subhypothesis H2d, however, is supported. The correlation between the Good Feeling and Important scales is significant. In addition, the correlation between the Good-Bad Feeling and True-False scales is also significant. This indicates that, for females, their feelings are pivotal to what they evaluate as both true and important.

These findings stimulate some interesting possibilities for theory development and future research, which are discussed in the next chapter. First, in conclusion of this chapter, several limitations of this dissertation study need to be acknowledged and discussed.

Limitations of the Study

In spite of the strengths of this study, there are several weaknesses that need to be dealt with in future research. The fundamental constructs upon which this study is based are not weak--namely, the concept of a belief system and its three-dimensional structure. The three scales representing those dimensions are the "primitives" of the theoretical structure underlying this research. They are fully supported by the theory and the data presented here.

Construct Validity

The weak constructs in this research are the individual structure variables. What constructs, in other words, do the means, standard deviations, kurtoses, and inter-scale correlations represent? Justification for these variables has been given, and clearly the results show that they explain much of the total variance. Yet there is plenty of room for more refined and carefully elaborated constructs.

For example, the earlier discussion relates kurtosis to dogmatism. Although the use of kurtosis as a measure of dogmatism was defended, other interpretations of kurtosis may be possible. Or, better measure of dogmatism could be proposed. A separate study is needed to compare the kurtosis of the BSA scales, for example, to results on the Rokeach Dogmatism scale. Such cross-validation of measure is essential to any claim that a measure is a valid representation of a theoretical construct. Likewise, the interpretation of the results found certain Rokeach-type values such as "family" and "health." Again, these finding need to be validated by a study comparing these measures to an independent value measure such as the Rokeach Value Scale or the Kahle List Of Values (LOV) scale.

Any interpretation of the measures in this study needs to be cross-validated with other, established measures. This provides many opportunities for future research (discussed in the next chapter). What is clear from this study, however, is that Belief Space Analysis is a reliable meth-

odology that captures a large proportion of the variance in the data. Simply put, although it is quite clear that BSA has uncovered real phenomena in this study, it is less clear precisely what phenomena have been uncovered.

Method Variance

Another major weakness of this study is the high correlation among the three BSA scales. This flaw was indicated in the earlier pretests: high method variance due to the juxtaposition of the three scales in the questionnaire. An examination of the complete correlation table reveals that by far the highest correlations (Pearson Product-Moment Correlation Coefficients) are among the three scales for the same questions. Intra-item correlations ranged as high as 0.83, while the largest inter-item correlation was 0.56. This indicates a strong method variance, which may make up the bulk of the 10 percent of the total unexplained variance of the study. Clearly BSA needs to be refined to insure that the three scales reflect distinct evaluations by subjects rather than a halo effect across the three scales.

The most important question in this regard is whether these high correlations challenge the theoretical foundation of BSA: Are they artifacts of the questionnaire design or do they reflect real differences among the four age-gender groups? The latter must be true to some extent. The correlations among the three scales do reveal something about the

subjects being studied. This is clear from the fact that the inter-scale correlations contribute to the discriminant functions describing both age and gender differences. This additional information could not be provided by any of the scales alone. The use of all three scales does contribute additional information to the analysis. Belief, feelings, and importance are distinct dimensions, and are correlated in different ways for different people.

Yet it is clear that method variance is still a problem. Both in the pretest stage and the final administration of the questionnaire, responses on the three scales reflect a response set or halo effect. In some cases subjects stated that they thought it was unnecessary to use all three scales. Ways to resolve this problem are discussed in the next chapter.

Scope

A final weakness of the study relates to its scope. As clearly indicated in the discussion of the sampling procedure, this study is not, and cannot be, generalizable to a larger population. It cannot be extended to all teens, all elderly, all shoppers, or all people.

This is actually not a weakness that throws the results of this study into question. But it is a limitation with respect to the usefulness of the results. These results are useful to Woodbridge Mall management only to the extent that they wish to target teen and elderly customers. Although

teens and the elderly are significant targets, they are hardly representative of all Woodbridge Mall shoppers. Limiting the sample to these groups limits the degree to which useful strategies can be suggested. The discussion of managerial implications in the next chapter suggests strategies to better accommodate teens and the elderly. Still, a broader sample would generate more valuable recommendations.

Another limitation growing from the sampling plan is that generalizations about age as a construct are limited. A wider range of ages would have to be studied in order to generalize some kind of overall "age effect." The scope of this study is too limited to draw such conclusions. Yet, given the scope of the study, the conclusions comparing teens to the elderly are quite strong. Within the limited scope of the study, the characterizations of the four age-gender groups are clear, face valid, and methodologically sound.

The length of the questionnaire is another factor limiting the scope of this study. With the time limitations inherent with mall-intercept interviews, some qualitative richness may have been lost due to statements left out of the questionnaire. It is clear, however, that much qualitative information was captured in a relatively small number of items. It would be desirable to provide settings in future research where subjects could respond to a larger battery of items.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The findings presented in the last chapter indicate that Belief Space Analysis can generate significant quantitative results, and that these results facilitate meaningful qualitative interpretation. This is the primary goal of this dissertation. The fundamental hypotheses--H1 and H2--are both confirmed: both content and structure variables discriminate among the four age-gender groups. Both analyses--of content and of structure--contribute equally to an interpretation of the data.

This chapter contains a summary of the results of the study, presenting the findings on the research hypotheses and subhypotheses. Attention is given to unexpected findings as well as additional information generated by the analyses. The purpose of elaborating these findings is to demonstrate that BSA can generate useful information. Strictly speaking, however, these results cannot be extended to a population beyond our sample, due to the fact that mall-intercept interviews are non-representative. But since our interest is on method rather than any population, any lack of representativeness does not threaten the goals of this dissertation. The findings discussed below demonstrate that BSA can generate meaningful interpretations of the information contained in a given dataset.

Summary of Findings

Table X summarizes the findings with respect to the research hypotheses and subhypotheses. As can be seen, hypotheses H1 and H2 are strongly confirmed, thereby indicating the usefulness of Belief Space Analysis as a research technique. The more interesting findings, however, relate to the findings from the substantive subhypotheses. These findings tell us the differences between teens and the elderly, males and females. Recall that subhypotheses H1a - H1d relate to content; subhypotheses H2a - H2d to structure.

Content

Of the four content subhypotheses, H1a - H1d, only one is confirmed. H1b states, and the data supports, that the elderly go to the mall for their health. BSA, however, provides further information.

In the earlier discussion it was pointed out that the value of health motivates the elderly, confirming subhypothesis H1b. Yet the larger picture shows that the values that motivate the elderly include not only health, but also family. These two values together form the constellation of values that motivates the elderly.

The other three hypotheses are not confirmed. Several characteristics that were hypothesized to distinguish teens from the elderly were found not to do so. For example, the data indicates that the elderly go to the mall for fun and

TABLE X
SUMMARY OF STUDY FINDINGS

Hypothesis	Finding	Comments
H1	supported	Content BSA variables explain 90% of total variance, significance > 0.0001
H1a	not supported	No evidence that teens go to the Mall more for fun and excitement than do the elderly.
H1b	supported	The elderly go to the Mall more for their health than do teens.
H1c	not supported	No evidence that males go to the Mall more for comfort than do females.
H1d	not supported	No evidence that females go to the mall for more social reasons than do males.
H2	supported	Structure BSA variables explain 93% of total variance, significance > 0.0001
H2a	supported	Teens are more dogmatic than are the elderly.
H2b	supported	Teens are more emotionally volatile than are the elderly.
H2c	not supported	Males as well as females feel positively about coming to the Mall
H2d	supported	Emotional motivations for coming to the Mall are more central to females than to males.

excitement just as much as do teens. Also, females value being comfortable at the mall just as do males. Finally, males go to the mall just as much for social and emotional reasons as do females.

These failed hypotheses suggest some positive findings that call for further research. What are the shopping motivations of males? They are not merely apathetic or economic shoppers but are driven also by emotional and social motivations. Another question is how the mall can be best designed for the comfort of both males and females, or to be fun for the elderly. Teens, males, and the elderly are important market groups whose shopping motivations should be understood. Managerial strategies could profit from responding to them better.

Structure

Three of the four structure subhypotheses are confirmed. Subhypothesis H2c is not supported, indicating that females do not have a higher overall evaluation of going to the mall. In other words, males are just as positive as females are about going to the mall. This supports the suggestion in the previous paragraph that male shoppers form an important segment whose motivations should be better understood.

Such a difference did show up, however, between teens and the elderly. Surprisingly, the elderly have higher overall positive ratings about going to the mall than do

teens. What was originally hypothesized to be a gender difference turns out to be an age difference -- with an additional twist: The elderly respond more positively than teens about going to the mall.

Subhypotheses H2a and H2b state that teens are more dogmatic and emotionally volatile than are the elderly. Their confirmation suggests the developmental view of age differences presented in Chapter IV. This is especially underlined by the unhypothesized findings that the elderly are primarily driven by their values. As discussed in Chapter V, the pattern of loadings on the correlations among the three dimensions reflects that, for the elderly vis a vis teens, the Importance dimension is more central: The correlations show the connection of the Importance dimension with the other two dimension which, in turn, are less connected (correlated). The elderly differ from teens in the degree to which are more driven by what is important to them.

This is especially interesting in light of the findings from subhypothesis H2d, which is also supported. For teen females (remember, the other three groups were low on this discriminant function), the evaluative (Feel Good) dimension is central: The pattern of loadings shows the connection (correlation) between the Feel Good dimension and the other two dimensions which, in turn, are less correlated.

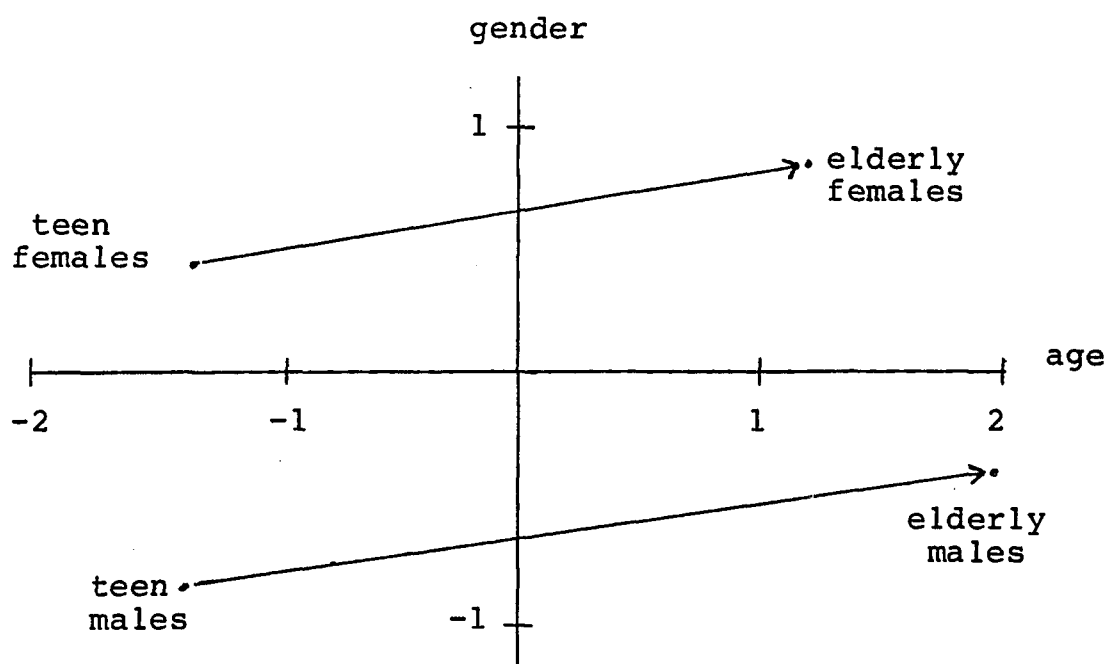
We can, therefore, identify an age effect and a gender effect with respect to the structure of belief systems. The

age effect is that the elderly are primarily motivated by their values. The gender effect is that the motivations of females, especially young females, flow from their feelings. Understanding more about these developmental issues could clarify the stages people go through as they develop their value system.

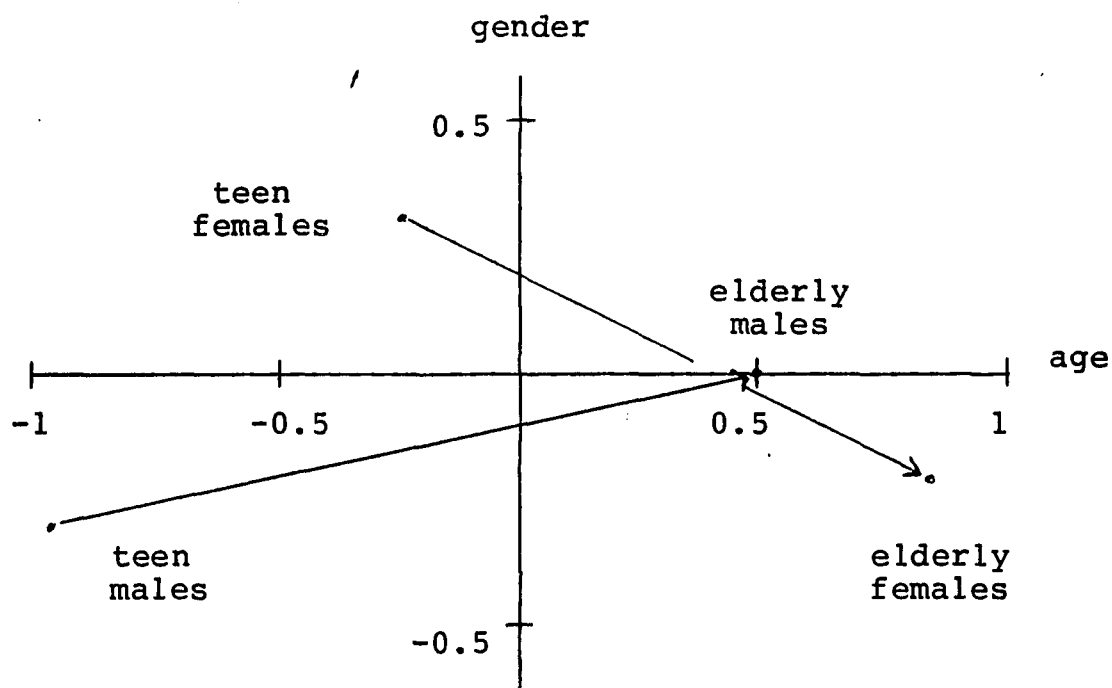
These developmental issues reflect a provocative question that requires further research: How do gender differences evolve as one moves from youth to old age? This dissertation study is not a longitudinal one, so age differences may reflect cohort and other effects. Yet, the effects of human development on both the content and the structure of human belief systems deserve a closer look. BSA is a useful tool in this context, especially since it distinguishes between the content and the structure of human belief systems. This is important since certain effects apparently differ in content and in structure.

To illustrate this point, Figure VII shows the maps of the four age-gender groups on the content and structure discriminant functions. The placement of the four groups on these maps is taken directly from their class means on the discriminant function (Tables III and VII). Figure VIIa maps the four groups on the two content functions (supported by hypothesis H1). The position for each group is taken directly from the class means on the content functions (Table III). Figure VIIb maps the four groups on the two structure functions (supported by hypothesis H2). These

FIGURE VII
MAPS OF AGE-GENDER GROUPS ON
CONTENT AND STRUCTURE FUNCTIONS



A. CONTENT FUNCTIONS



B. STRUCTURE FUNCTIONS

positions are taken from the class means on the structure function (Table VII). The arrows reflect the developmental process people may go through from teen to elderly (these changes may be linear or curvilinear).

In Figure VIIa each group falls into its own quadrant, indicating gender differences in both teens and the elderly. Development here reflects the continuity of clear gender differences from youth to old age. In terms of what they think about, both males and females change with age, but still remain different from each other.

Figure VIIb shows a different pattern. In terms of the structure of their belief systems (how they think), teen males and females show clear gender differences; but these converge and reverse by the time they are elderly. What developmental processes drive this gender reversal? And why does it appear only in the structure, not in the content, of belief systems? Earlier we discussed the leveling hypothesis as providing a theoretical explanation for this unexpected finding. It would seem that a gender gap continues throughout life in terms of the perceptions, attitudes, and values of males and females. But in terms of how they think, the gender gap narrows with age. Females become less emotionally driven while males become more so; and both focus more on their personal values as they grow older.

To examine these developmental issues properly requires another kind of research design than the one used here. It is encouraging to see, however, that BSA stimulates these

more subtle interpretations.

This summary has focused on some interesting issues arising from interpretation of the data. These issues suggest further research as well as immediate managerial recommendations. Before presenting these, however, we will draw some conclusions regarding the larger importance and contribution of this dissertation study.

Conclusions

This study has succeeded methodologically, theoretically, and substantively. Methodologically, Belief Space Analysis is a promising tool to explain consumer values and decision-making. Even with its current imperfections, BSA has significant explanatory power and yields meaningful qualitative results.

BSA also contributes to a theoretical understanding of human belief systems. The three BSA dimensions drawn from the literature are operationalized into a flexible research methodology which is consistent with a theory-driven conception of the structure of human belief systems.

This study also contributes to an understanding of teen and elderly values and motivations, subject to the limitations of the sampling procedure. For example, it highlights the dominant influence of health and the family in the elderly's decision to go to the Mall, as well as the importance of fashion and safety for female shoppers. Structure findings are also indicated, including the emotionality and

dogmatism of teen females, the elderly's open-minded and positive responses to beliefs about going to the Mall, and the tendency of elderly males and females to converge with respect to gender differences.

In addition of the conclusions already discussed, this study suggests a number of policy recommendations to the management of Woodbridge Mall, as summarized later in this chapter. The findings suggest the importance of health and family in promotion and policy directed at the elderly. For younger females the correct emphasis is on fashion more than bargains, using emotionally based appeals. But this emphasis changes by the time females become elderly. Females' shopping orientations evolve with age, and this needs to be understood if management is to correctly target females. For teens and females, security policy could be refocused to provide the kind of presence that females and teens find assuring. Finally, much more needs to be known about the needs of male shoppers, who appears to be just as motivated to go to the mall as are females.

These qualitative interpretations flow directly from the quantitative analysis. Quantitative research is often difficult for managers to interpret in strategically actionable ways. Belief Space Analysis provides meaningful qualitative interpretation based on statistically sound results. Interpretation of the data, therefore, does not depend exclusively on the intuition of the researcher. Significant findings are established by the quantitative analysis, then

presented in a format comprehensible to the average manager. Such interpretations are given at the end of this chapter.

One final observation needs to be made on the larger importance of this dissertation study. It concerns the role the research hypotheses play in the generation of the findings: research findings are not limited by the hypotheses. The logic of this research design depends on the confirmation of Hypotheses H1 and H2. These are purely statistical hypotheses, and their confirmation reflects simply that significant results are found. Interpretation of the data is a different process that flows directly from examining the significant results.

One criticism that qualitative researchers have leveled at hypothesis-driven research is that hypotheses slant the findings toward the researcher's expectations, often failing to detect unexpected phenomena not specified a priori by the hypotheses (see most recently, Thompson et al 1989). This criticism does not apply to BSA. The quantitative hypotheses (H1 and H2) must be confirmed under the methodology. But their confirmation does not affect any specific qualitative findings--the latter emerge naturalistically from the data. In BSA, the statistical hypotheses serve only their proper quantitative function: they establish the significance of the results.

In the tradition of good empirical research, qualitative subhypotheses are presented in this dissertation to specify expectations based on the literature. These subhy-

potheses serve their own qualitative function: they compare the data against the literature and provide a benchmark for the unexpected. These subhypotheses do not limit the possibility for unexpected findings. They help to highlight the surprises.

In BSA the hypotheses serve their proper role. The quantitative hypotheses (H1 and H2) establish the significance of the results, without affecting the nature of those results. The qualitative subhypotheses (H1a-H1d and H2a-H2d) are optional, but help clarify the expectations of the researcher based on the relevant literature. Hypotheses play the role they should: they help the researcher without biasing the findings.

These conclusions describe the ways Belief Space Analysis contributes to the general advance of theory and methodology in consumer research. To do this, however, requires a larger stream of research, which is described in the next section. Following this, the managerial implications of this study concludes the dissertation.

Recommendations for Future Research

This dissertation has explored the usefulness of Belief Space Analysis. The results suggest that BSA has potential as a tool to explore consumer motivations. This optimistic outlook, however, points the way to future studies that that will focus on three major concerns: the methodology itself,

comparison with other established methodologies, and application in other contexts.

Improving Internal Validity

Although the results of this study are strong, future research needs to focus on several refinements of the methodology itself. As discussed above, the probing process during the qualitative stage of BSA needs improvement. A variety of alternatives are possible, and researchers experienced in qualitative techniques may have their own preferences. The "laddering" approach (discussed above, p. 48) used in this study seemed awkward and meaningless. Those personal values that laddering is designed to elicit tended to emerge earlier in the interview, even before the final probe was given.

Future research will investigate alternative probing methods. One approach now being tried (in a study of consumer response to mandatory recycling in New Jersey) grows directly from the form of the BSA scales themselves. Subjects are asked "What is Important to you about recycling?" probing with "What else is Important to you about recycling?" This probe is repeated until subjects have fully explained what is important to them about recycling. Then subjects are asked "What do you like about recycling?" followed by the same probing process. The interview concludes with "What do you dislike about recycling?" followed by the appropriate probe.

This procedure is designed to locate those beliefs that place significantly on the BSA Important and Good Feeling scales. The True-False scale is not included explicitly because subjects' responses reveal those beliefs that they embrace and hold to be true. Asking what is "most true" or "most false" would be awkward and redundant. Presumably other people's beliefs that the subject rejects would be rated false on the True-False scale. These rejected beliefs would probably not emerge in an interview, nor would they need to emerge to fulfil the research purpose.

This format might be criticized because it loads the dice, creating in the methodology a source of variance that the methodology itself is designed to explain. This would be a valid criticism if the theoretical basis for the three scales were not firmly based. For example, if a researcher were to ask the question "What is sexy about recycling?" and then asked subjects to rate statements on a Sexy-Not Sexy scale, we might recover a statistically significant "sexy dimension." These results, however, would be theoretically sterile, and would not lead to a comprehensive understanding of why people recycle. The three BSA scales are not arbitrary. They are based on literature that explores the fundamental roots of human motivations. This theoretical foundation justifies their use.

A methodological issue that arises in the qualitative phase of BSA involves the selection of method: Which qualitative method best elicits salient beliefs from the target

population? This issue is probably a situational one, requiring a judgement call from the researcher. Yet it would be useful to compare a variety of qualitative methods, such as focus groups, projective techniques, schemata, or content analysis.

The length of the questionnaire and its level of specificity were also problems in this study. The Mall questionnaire was short and very general. Future studies should explore the tradeoff between length and qualitative content of the questionnaire.

Another area for future research is the form of the scales themselves. In this study the scales were placed together under each statement. This increased the likelihood that subjects would see them as similar, giving the same response across all three. Placing the three visually similar scales together may have inflated the inter-scale correlations. The recycling study currently under way will separate the three scales by having subjects rate all the questionnaire items first on the True-False scale, then all on the Good Feeling scale, and finally on the Important scale. The structure of the questionnaire will be scale by item rather than item by scale as in this study. This will insure that any inter-scale correlations represent the structure of belief systems rather than the design of the questionnaire.

Other issues also relate to the scale format. First, it is still unclear which anchors best measure the three

theoretically based dimensions of consumer belief systems. The results of the study strongly indicate that the essence of these dimensions are captured. Yet different anchors should be compared. A number of anchors could be combined in a semantic differential, then reduced to their underlying dimensionality to see which anchors load best on each dimension. Or an experiment in which different anchors are the treatment (independent variable), and the total variance explained is the dependent variable would show which anchors have the greatest explanatory power. An experimental design could also be used to examine other issues relating to scale format. Issues such as the directionality of scales (this study places the positive response at the right-hand end of the three scales), scale order (this study places True-False first, Importance last), and scale length (this study uses a 5-point scale). Examination of these issues would clarify the metric properties of BSA.

It is also possible to use a variety of statistical procedures in BSA studies. Discriminant Analysis is used in this study because it is appropriate to the particular research question--discriminating among groups. Yet BSA is not limited to the use of any one statistical technique. The properties of the measurement scales allow for the use of other multivariate techniques. One especially attractive statistical procedure for data such as is generated by this study is LADI, or Latent Discriminant Model (Dillon and Mulani, 1989). The advantage of LADI over canonical discri-

minant analysis is that, rather than defining a priori the four age-gender groups, underlying latent clusters of respondents would emerge. Unlike popular clustering techniques, LADI provides a statistical basis for evaluating the results. Such analysis would determine if other groupings of subjects explain the data better.

One of the important challenges in the continued development of the BSA methodology is the custom design of statistical procedures which represent the three-dimensional structure of belief systems. Although the discriminant analysis of the structure variables reflects differences in the patterns of responses across subjects, the results do not dramatize these patterns in a way that they can be easily visualized. Ideally, BSA would allow us to picture belief systems as clusters of beliefs projected into the three-dimensional Belief Space. Development of statistical analyses which capitalize on this three-dimensional construct, however, goes well beyond the scope of this dissertation. Future research must focus on such analytical approaches.

Improving Construct Validity

The issues above examine the internal validity of BSA. Other validity issues also need exploration. Construct validity is discussed in the previous chapter. Further theoretical development could produce a myriad of constructs

and measures based on the three scales. This study went as far as to suggest that dogmatism is to be measured by kurtosis. But this is a rather unrefined measure. There is a whole frontier of possible constructs based on the BSA scales, limited only by the creative imagination of the research community.

One focus that would be part of this exploration would be the examination of the correspondence validity of BSA. Can BSA, in other words, replicate those constructs measured by other well-established scales? The Rokeach Dogmatism, Open-Mindedness, and Value Scales could be examined. Also BSA could be compared with the Semantic Differential and the Extended Fishbein Model as a way to measure attitudes. Studies could examine the degree to which the BSA measure would correlate with these and any number of other measurements instruments, including the more consumption-relevant LOV Scale. Only through cross-validation using a multi-method approach can the construct and correspondence validities of BSA be evaluated.

The current study did not deal with the issue of predictive validity. A central issue of models of human motivation is the extent to which they predict behavior. Testing BSA's predictive power requires an experimental design. Any research situation where beliefs and cognition affect behavior could use the BSA technique. Contexts where belief systems undergo change and evolution should especially be studied. The theoretical basis for the Mall study

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focused on the structure of belief systems. Yet the evidence highlights developmental issues relating to teens and the elderly. Much of the motivational and attitudinal literature is concerned with the dynamics of human belief systems. How do they grow and how do they change? Can we predict changes in belief systems in response to certain stimuli? The scope of this study has only scratched the surface of a galaxy of research opportunities.

Improving External Validity

As argued earlier, the limited scope of this study fits both the situational context and the theoretical goals of this stage in the development of BSA. External validity, however, is a weakness both in its theoretical implication and its managerial relevance. These results apply to teens and the elderly in Woodbridge Mall. Application of the findings to other groups and situations are tenuous. Future research needs to examine a variety of contexts and applications.

Two studies are currently under way. One is a study of consumer and employee images of a small, local real estate company. Another is a study of consumer opinions about the new mandatory recycling laws in New Jersey. Other studies are projected, and an even greater variety of marketing and management contexts would test BSA's flexibility.

As an extension of this issue, the BSA methodology is amenable to meta-analysis. The number of meta-analytical

studies--studies of studies--is increasing in the literature (see, for example, Sheppard et al, 1988). One of the problems in comparing studies is the use of different statistics and methodologies. Methods are available to assimilate simple statistics such as simple correlations between two constructs. Yet method differences between studies confound these comparisons (Hunter, Schmidt, and Jackson 1982). BSA is applicable in a wide variety of research contexts, and provides comparable results. Cross comparison of studies is essential to a theoretical understanding of consumer belief systems because, presumably, people function out of their belief systems across decision-making contexts. Some consistency of thought is expected in different situations. The degree to which belief systems are consistent, or vary by context is important to a theory of consumer belief systems. Meta-analysis of BSA studies could reveal the answer.

Analysis of the structure of belief systems is an especially fertile area for meta-analysis. A comparison of BSA studies across different contexts would be difficult in terms of the content of subjects' belief systems. But the structure of belief systems could be compared. Structure analysis is content-free, and therefore would not be confounded by different research contexts.

A final external validity issue relates to BSA's managerial usefulness. This study sampled teens and the elderly. Management should be concerned with these groups.

But management is interested in all shoppers. It would be valuable to implement a similar study targeting all Woodbridge Mall shoppers. Management would then have results that would have an impact on a broader customer base.

Such a study would also have theoretical value. For example, a study of a wider sample of shoppers could uncover a variety of hypothesized shopper types. A number of shopper typologies have been suggested (Stone, 1954; Bellenger et al, 1977; Ress, 1987). Stone's original description of the economic, personalizing, ethical, and apathetic shopper has been modified and expanded by others. Yet no single typology has been universally accepted. BSA might help unveil these shopper types.

Another benefit from sampling a wider spectrum of consumers pertains to the earlier discussion of the leveling hypothesis as an explanation of gender reversal between elderly men and women. Our findings provide support for this hypothesis. Yet if all ages of men and women were studied, the process and timing of this gender reversal could be better understood.

The external validity of BSA requires studies across many populations. Retailing studies could compare motivations and typologies in different shopping contexts. Cross-comparisons of populations and contexts would contribute to a robust theory of human belief systems.

These suggestions focus on the primary issues arising from this dissertation. But much of the impetus for future

research grows from the concerns of retail managers. The next and final section of this dissertation discusses the research findings in a form that gives specific recommendations to management.

Managerial Implications

The most relevant findings for the development of management strategy relate to the value systems of teens and the elderly. What are their motivations for going to Woodbridge Mall?

In order to interpret the data in a form more relevant to managers, findings need to be presented differently than they are above. This dissertation focuses on the differences among the four age-gender groups. The discriminant analysis extracts those discriminant functions that best express these differences. The discriminant loadings of the BSA variables on these functions indicate which variables contribute most to the differences among the four groups. These loadings point out where the differences among the groups are, but they do not tell us what those differences are.

To illustrate this point, question 22, "I can get healthy exercise at Woodbridge Mall," showed higher loadings on the Importance scale than on the True scale (see Table IV). From this we know that the importance of healthy exercise distinguishes between teens and the elderly better than the belief that they can get healthy exercise at the mall.

But how can we interpret this in a managerially relevant way?

To do so we need only examine the means of responses to the questionnaire item, by group. Comparing the mean responses on Question 22 across groups and scales (see Table XI), we can see that subjects tend to rate healthy exercise lower on the Importance scale than on the other two scales. But although teen males rate healthy exercise lower than elderly males, both elderly and teen males rate healthy exercise equally on the True and Importance scales. Females, on the other hand, rate healthy exercise higher on the True scale than on the Importance scale. Apparently females get more than enough exercise at the mall. It is the relatively lower importance rating among teen females that accentuates the high canonical loading on the Important scale. Yet it can be seen that the loadings alone may give misleading information if not examined in conjunction with an inspection of the mean responses across groups.

In this case, a closer examination reveals that management does not need to develop any strategies to improve facilities for exercise at the mall. The needs of teens and the elderly are being met in this case. Yet health is still a primary motivation for the elderly, and should therefore play a role in promotional copy targeted at the elderly.

A different situation arises in question 17, "I feel safe at Woodbridge Mall." In this case the pattern of canonical loadings (see Table IV) reveals a much lower load-

TABLE XI

MEAN RESPONSES OF AGE-GENDER GROUPS ON QUESTION 22:

"I can get healthy exercise at Woodbridge Mall."

Group	Mean Response		
	True-False	Feel Good- Feel Bad	Important- Unimportant
All Groups	3.64	3.67	3.46
Teen Females	3.42	3.36	3.10
Teen Males	2.88	3.03	2.87
Elderly Females	4.11	4.25	3.92
Elderly Males	4.15	4.21	4.15

ing on the Important scale than on the True scale. Yet an examination of the mean responses (Table XII) shows that the overall mean Importance rating is higher than for the other two scales. Looking at the responses of each of the four groups, we see that the greater discrepancy between the rating on the Importance scale and the ratings on the other two scales is among the teens. The elderly (males more than females) seem fairly satisfied with safety at the mall. Although the elderly value safety more than do teens, teens perceive a greater problem with security, possibly because they are uncomfortable with the mall security force. They do not feel as safe as they would like to. This suggests that any refinement of security policies be directed, if anything, toward making teens feel more secure.

These two examples highlight the fact that the canonical loadings of the BSA variables may not reveal the subtleties of the comparative responses across the four age-gender groups. The loadings show us which variables to inspect, but the means show us the patterns of the group responses.

A thorough examination of the data comparing the mean responses of all significant questionnaire items by group is beyond the scope of this dissertation. This kind of presentation is appropriate for a report of the findings to management, driven by management's specific concerns and resources. Many other forms of analysis and presentation are possible with this dissertation data. Although further analysis and presentation go beyond the scope of this dis

TABLE XII
 MEAN RESPONSES OF AGE-GENDER GROUPS ON QUESTION 17:
 "I feel safe at Woodbridge Mall."

Group	Mean Response		
	True-False	Feel Good- Feel Bad	Important- Unimportant
All Groups	3.88	3.77	4.11
Teen Females	3.54	3.50	4.05
Teen Males	2.98	2.96	3.54
Elderly Females	4.51	4.36	4.55
Elderly Males	4.56	4.41	4.38

sertation, some findings have been evoked and are summarized below.

The Elderly

For the elderly, family and health are primary values. They shop both with and for other members of their families. They are greatly concerned with their health, and come to Woodbridge Mall for the healthy atmosphere and exercise. They also enjoy socializing with others.

Since the elderly tend to be more motivated by their values (what is important to them), appealing to these values would be an effective promotional appeal. Such appeals would be especially effective if supported by concrete programs. These programs do not have to be expensive or involve a change in current facilities. Yet, programs that highlight health and family would attract the elderly. Appealing to the basic values of health and family are an effective way to serve the elderly market.

The elderly feel good about the atmospherics of Woodbridge Mall. Yet these elements are less important than their basic values of family and health. The elderly might favor the Mall more if its design were geared more for exercise and socializing. Designing the mall to reflect and serve shoppers' personal values may be more effective in attracting the mature consumer than designing with a general visual aesthetic of an "attractive" mall.

The elderly feel better about going to the mall than do

teens, and consider it more important than do teens. Their overall feeling about coming to the mall is favorable. They are less concerned with parking and security, but feel good about them just the same.

To summarize, the elderly constitute an attractive target that already has a positive feeling about coming to the Mall. Their reasons for coming, however, are motivated by their basic values of family and health. Designing strategies to serve these basic values would be an effective appeal to the elderly.

Teens

Teens, especially teen females, are motivated more by their feelings than by their values. They are more dogmatic and rigid in their thinking. Promotional appeals to teen females must emphasize emotion, and must correspond absolutely with their ideologies. Teen attitudes are very experimental, changeable, and subject to their emotions. Keeping up with the trends in their thinking is the clue to successful strategies.

Interestingly, there seems to be little difference between how males and females rate the importance of coming to the Mall. The difference lies in that females are more driven by fashion, emotion, and the atmosphere of the Mall. Security and being able to eat at the Mall are also important. This is not the case for males. Although shopping is

equally important, fashion is not the key motivation for them. Nor are they as dogmatic and emotionally motivated as teen girls.

Management needs to understand more about the male shopper. Too much retailing research has ignored the male shopper. They are an increasingly important shopping segment with unique needs and motivations. They should be included in more research and targeted by more retailing strategy.

Turning now to another issue, there may be a need to refocus the security policies at the Mall. The elderly feel good about the security at the Mall, but teens do not. The elderly do not see security as much of a problem, perhaps because the job is being so well done. Unless teens prove to be a problem, security should "ease off" on them.

Females more than males report the need for greater security. Security practice could be geared more toward a woman's perceptions of assurance. Security policy should be oriented more toward making teens and females feel secure rather than creating a general police presence. A larger proportion of female security agents may provide a more supportive presence for both females and teenagers.

These recommendations need to be discussed with management. Also, a more exhaustive presentation of the data would produce a broader picture need to be discussed with management. Also, a more exhaustive presentation of the data would produce a broader picture for management. It is

clear, however, that Belief Space Analysis provides fertile soil for managerial strategy.

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These consist of pages:

Appendix A The Rokeach Value Survey

117-120

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APPENDIX B
WOODBIDGE MALL DOCUMENTS
Interview Instructions

INTERVIEW INSTRUCTIONS
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The purpose of the interview is to elicit those beliefs which are relevant to the subject's decision process. You are trying to find out "Why did you choose to come to the mall today?"

Your role is to assist in this elicitation process. You should be as passive and as non-assertive as possible, directing the interview only to the extent necessary to evoke the subject's actual thought process. Don't worry if the subject's explanation is not "complex enough" or doesn't tap some deep-seated emotion. Don't probe to the point of forcing the subject to create reasons.

The following instructions should make your job clear. The interview should be easy to do. Please report any problems you have with the interview.

Choosing Subjects

Before you begin any interview, you will know what type of subject you are looking for: teenager, elderly, male or female. You will also know what area of the mall you will be scanning for subjects. Record this information on the Reporting Form.

When you see a potential subject, approach them, identify yourself as a Rutgers University student, and explain that you would like to talk with them for ten minutes or so as part of a required class project.

Tell them that you would like to tape record the interview so you can keep an exact record of the conversation. Also tell them that their identity will remain absolutely confidential.

When they agree, find a suitable place to talk and tape the interview. Keep a count of how many subjects refuse to be interviewed. We need to be able to report our non-response rate for all four types of subjects.

Your dress, body position, and interview style should put the subject at ease. Be as neutral as possible in your dress, mannerisms, and voice. Sit upright (not leaning forward or back), at a right angle to the subject, with the tape recorder between you. Avoid any extreme gesticulations or facial expressions. You should give the impression of being attentive and interested without giving any actual reaction to what the subject says.

Conducting the Interview

Use the back of the Reporting Form as a guide during the interview. After each interview, turn the form over and complete the other side. The Reporting Form, along with the audio-tape, will be the research data source. Before the interview, make sure that your tape recorder is properly cued, with plenty of tape and battery power.

To begin the interview, TURN ON THE TAPE RECORDER and read the following statement:

The purpose of this interview is to understand why you chose to come to the mall today. I will ask you some questions to help me understand your reasons. Your answers will be completely confidential.

If the subject has any questions, answer only those which pertain specifically to the interview itself. Do NOT tell them anything about the research project in general. Explain that you can tell them about the project after the interview.

When you and the subject are ready to begin, say to them:

I'd like to know how you went about deciding to come to Woodbridge Mall today. How did you choose to come here today?

Don't rush them, but wait patiently until they have finished. Keep the tape recorder running. When they have finished with their initial explanation, say to them:

Now I'd like to know if there are any particular things about this mall which you like or which are important in your choice to come here instead of somewhere else. What attracts you to Woodbridge Mall?

Probe for all the specific things about the mall which they like, and which were important to their choice to come to the mall. Take notes on the Script side of the Reporting Form, listing all the mall characteristics they mention.

Continue to probe until you feel that the subject has mentioned all relevant characteristics. When you are satisfied that they have given a complete answer, go on to the next level of probing. Say to the subject:

Now I'd like to know some of the underlying reasons that these things you mentioned about the mall influenced your choice to come here today. For example, why does _____ influence your choice to come to Woodbridge Mall?

Fill in the blank with each of the mall characteristics they mentioned (your notes come in handy here). Ask them how that characteristic influenced their decision to come today. Probe at

this level until you feel they have revealed all their choice criteria for deciding to come to the mall today. Then go on to the third level of probing. Say to them:

Finally, I would like to know about your personal values; the guiding principles in your life. What personal values, if any, influenced your decision to come to the mall today?

Try to elicit SPECIFIC values (see Rokeach's list of 36 values, for example). If they seem confused by the question, feel free to explain to them (keep the tape running) the meaning in your own words. If they say that NO personal values influenced their decision, you may accept that answer to the question.

Before they go, ask them their age, and record it on the Reporting Form.

When you have completed the interview, thank the subject for helping with your research. Answer any questions they may have about the project. But ASK THEM NOT TO DISCUSS it with anyone for two weeks. Explain that if they discuss the project with someone who we interview later, it will contaminate our results. We will be finished with the interviews in two weeks, and then people can talk all they want.

After each interview, FILL OUT THE REPORTING FORM. Number all the forms so I know which form goes with which taped interview.

Problems With the Interview

If there are any problems with this procedure, PLEASE MAKE A NOTE OF THEM AND RECORD THEM on the Reporting Form.

The goal of the interview is to discover the subject's actual thinking about the decision to come to the mall today, including the underlying reasons for the choice. Indicate on the Reporting Form the degree to which you feel the interview was successful.

Follow the instructions given here as closely as possible. At the same time, follow your instincts. For example, if the instructions given above seem to rigid or mechanical, you may alter the procedure SLIGHTLY in order to conduct the interview more smoothly and naturally. But, if you do this, INDICATE IT on the Reporting Form. Part of the purpose for this project is to test the procedure to see how it can be improved.

Interview Reporting Form

INTERVIEW REPORTING FORM

Interviewer _____ Date _____

Location:

Time _____

Duration _____

Subject InformationAge _____ (Please indicate actual age in years. Should be
teenager or elderly.)

Sex _____

Interview EvaluationHow successful do you feel the interview was in eliciting the
real reasons the subject came to me mall today?

A B C D F

What difficulties were there with the interview?

What other observations did you make about the interview (for
example, did you change the interview format)?

TURN ON THE TAPE RECORDER

M F teen elder

The purpose of this interview is to understand why you chose to come to the mall today.
I will ask you some questions to help me understand your reasons.
Your answers will be completely confidential.

First I'd like to know how you went about deciding to come to Woodbridge Mall today.
How did you choose to come here today?

Now I'd like to know if there are any particular things about this mall which you like or which are important in your choice to come here instead of somewhere else.
What attracts you to Woodbridge Mall?

Now I'd like to know some of the underlying reasons that these things you mentioned about the mall influenced your choice to come here today.
For example, why does _____ influence your choice to come to Woodbridge Mall?

(PROBE WITH: What benefits or consequences do you get from _____?)

Finally, I would like to know about your personal values; your most strongly held beliefs and principles.
What personal values, if any, influenced your decision to come to the mall today?

Before I go, could you tell me your age? _____.

Thank you for helping us with our research.

Mall-intercept Interview Schedule

SCHEDULE: RUTGERS STUDENTS QUESTIONNAIRE DISTRIBUTION

Date	Time	No. of Interviewers	Student Manager
Wed. 18th	1:00	3	Sue Mastronardi
"	1:00	1	Lou Palma
"	6:30	2	Arnie Gursaly
"	6:30	2	Judy Silverman
Fri. 20th	1:00	3	Sue Mastronardi
"	2:00	4	Julie Anderson
"	7:00	2	" "
"	7:00	2	Arnie Gursaly
"	7:30	2	Lou Palma
Sun. 22nd	12:00	3	Arnie Gursaly
"	1:30	2	Sue Mastronardi
Mon. 23rd	2:00	2	Judy Silverman
Tues. 24th	10:00	3	Julie Anderson

Preliminary BSA Questionnaire

Rutgers University, New Brunswick
Marketing Research Project
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This questionnaire asks you to evaluate some statements about Woodbridge Mall.
 Feel free to look through the questionnaire to see what kinds of statements are included.

Your responses will be completely confidential.

Here is an example:

I like the people who come to Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

As you can see, you are asked to make three responses.

First, see if you have any emotional response to the statement.
 How does it make you FEEL?
 If the statement makes you feel VERY GOOD, circle the "3" on the first scale.
 If it makes you feel VERY BAD, circle the "-3."
 If it doesn't make you feel good or bad, circle the "0" in the middle of the scale.
 Circle the number that best expresses your feeling about the statement.

Then look at the statement again, and see how TRUE or FALSE you believe it is.
 Circle the number that expresses how strongly you believe or disbelieve the statement.
 If you have NO OPINION, circle the "0" in the middle.

Finally, look at the statement again and see how IMPORTANT the statement is for you personally.
 Circle the number that expresses the degree of importance the statement has in your life.
 Circle the "0" if it is completely UNIMPORTANT to you.

If you have any questions about how to fill out the questionnaire, please ask one of the Rutgers Student Interviewers.

If not, please continue.

1. I like the people who come to Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

2. It is relaxing to come to Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

3. Woodbridge Mall usually isn't too crowded.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

4. It is convenient for me to get to Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

5. It's like one big family at Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

6. I come to Woodbridge Mall when I have nothing else to do.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

7. There is a lot to do at Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

8. I come to Woodbridge to shop for my family.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

9. Woodbridge Mall has good parking facilities.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

10. Lots of my friends come to Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

11. I can get good bargains at Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

12. I come to Woodbridge Mall to pick up guys (or girls).

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

13. I like the atmosphere here in Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

14. I usually get something to eat while I'm at Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

15. The police keep tight security at Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

16. Woodbridge Mall is bigger than other malls.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

17. I can get the latest fashions at Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

18. I often shop at Woodbridge Mall with other members of my family.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

19. It's fun to come to Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

20. I feel safe here at Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

21. There are lots of little children here at Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

22. I can get quality merchandise at Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

23. I can meet new people at Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

24. I come to Woodbridge Mall almost every day.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

25. Woodbridge Mall is clean.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

26. I usually come to Woodbridge Mall with my wife (or husband).

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

27. There is a wide variety of merchandise at Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

28. Woodbridge Mall is beautiful.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

29. I can get healthy exercise at Woodbridge Mall.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

30. There are particular stores here that I always shop in.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

31. I come to Woodbridge Mall when I want to buy a gift.

Feel Bad	-3	-2	-1	0	1	2	3	Feel Good
False	-3	-2	-1	0	1	2	3	True
Unimportant	0	1	2	3	4	5	6	Important

Please indicate your sex: male____ female____

Please indicate your age: _____years old.

Were you interviewed in Woodbridge Mall last
month by a Rutgers University student? yes____ no____

If you have any other comments you would like to make about this
questionnaire, please write them in the space below.

THANK YOU for your help with our research!

Final BSA Questionnaire

Rutgers University, New Brunswick
Marketing Research Project
© 1987, Royce Anderson

The purpose of this questionnaire is to find out why people spend time here at Woodbridge Mall.

We will ask you to evaluate some statements about Woodbridge Mall.

There are no right or wrong answers.

Your responses will be completely confidential.

INSTRUCTIONS

You will be making THREE REPONSES to each statement.

FOR EXAMPLE:

Woodbridge Mall is an attractive place.

- a. False : ____ : ____ : X : ____ : True
- b. Bad Feeling : ____ : ____ : ____ : X : Good Feeling
- c. Unimportant : ____ : X : ____ : ____ : Important

FIRST, is the statement TRUE, FALSE, or somewhere in-between?

If you are not sure, mark the middle position.

- a. False : ____ : ____ : X : ____ : True

SECOND, how does the statement make you FEEL?

If you have no feeling about it, mark the middle position.

- b. Bad Feeling : ____ : ____ : X : ____ : Good Feeling

FINALLY, how IMPORTANT is the statement for you personally?

- c. Unimportant : ____ : X : ____ : ____ : Important

PLEASE BE SURE EACH STATEMENT HAS ALL THREE RESPONSES.

If you have any questions about how to fill out the questionnaire, please ask one of the Rutgers Student Interviewers.

If not, please continue.

1. I come to Woodbridge Mall almost every day.

- a. False : ____:____:____:____:____:True
- b. Bad Feeling:____:____:____:____:____:Good Feeling
- c. Unimportant:____:____:____:____:____:Important

2. It is relaxing to come to Woodbridge Mall.

- a. False : ____:____:____:____:____:True
- b. Bad Feeling:____:____:____:____:____:Good Feeling
- c. Unimportant:____:____:____:____:____:Important

3. Woodbridge Mall usually isn't too crowded.

- a. False : ____:____:____:____:____:True
- b. Bad Feeling:____:____:____:____:____:Good Feeling
- c. Unimportant:____:____:____:____:____:Important

4. It is easy for me to get to Woodbridge Mall.

- a. False : ____:____:____:____:____:True
- b. Bad Feeling:____:____:____:____:____:Good Feeling
- c. Unimportant:____:____:____:____:____:Important

5. I come to Woodbridge Mall when I have nothing else to do.

- a. False : ____:____:____:____:____:True
- b. Bad Feeling:____:____:____:____:____:Good Feeling
- c. Unimportant:____:____:____:____:____:Important

6. I come to Woodbridge to shop for my family.

- a. False : ____:____:____:____:____:True
- b. Bad Feeling:____:____:____:____:____:Good Feeling
- c. Unimportant:____:____:____:____:____:Important

7. Woodbridge Mall has good parking facilities.

- a. False : ____:____:____:____:____:True
- b. Bad Feeling:____:____:____:____:____:Good Feeling
- c. Unimportant:____:____:____:____:____:Important

8. Lots of my friends come to Woodbridge Mall.

- a. False : ____ : ____ : ____ : ____ : ____ : True
- b. Bad Feeling: ____ : ____ : ____ : ____ : ____ : Good Feeling
- c. Unimportant: ____ : ____ : ____ : ____ : ____ : Important

9. I can get good bargains at Woodbridge Mall.

- a. False : ____ : ____ : ____ : ____ : ____ : True
- b. Bad Feeling: ____ : ____ : ____ : ____ : ____ : Good Feeling
- c. Unimportant: ____ : ____ : ____ : ____ : ____ : Important

10. I come to Woodbridge Mall to meet new people.

- a. False : ____ : ____ : ____ : ____ : ____ : True
- b. Bad Feeling: ____ : ____ : ____ : ____ : ____ : Good Feeling
- c. Unimportant: ____ : ____ : ____ : ____ : ____ : Important

11. I like the atmosphere here in Woodbridge Mall.

- a. False : ____ : ____ : ____ : ____ : ____ : True
- b. Bad Feeling: ____ : ____ : ____ : ____ : ____ : Good Feeling
- c. Unimportant: ____ : ____ : ____ : ____ : ____ : Important

12. I usually get something to eat while I'm at Woodbridge Mall.

- a. False : ____ : ____ : ____ : ____ : ____ : True
- b. Bad Feeling: ____ : ____ : ____ : ____ : ____ : Good Feeling
- c. Unimportant: ____ : ____ : ____ : ____ : ____ : Important

13. Woodbridge Mall is bigger than other malls.

- a. False : ____ : ____ : ____ : ____ : ____ : True
- b. Bad Feeling: ____ : ____ : ____ : ____ : ____ : Good Feeling
- c. Unimportant: ____ : ____ : ____ : ____ : ____ : Important

14. I can get the latest fashions at Woodbridge Mall.

- a. False : ____ : ____ : ____ : ____ : ____ : True
- b. Bad Feeling: ____ : ____ : ____ : ____ : ____ : Good Feeling
- c. Unimportant: ____ : ____ : ____ : ____ : ____ : Important

15. I often shop at Woodbridge Mall with other members of my family.

- a. False :__:__:__:__:__:__:True
- b. Bad Feeling:__:__:__:__:__:Good Feeling
- c. Unimportant:__:__:__:__:__:Important

16. It's fun to come to Woodbridge Mall.

- a. False :__:__:__:__:__:__:True
- b. Bad Feeling:__:__:__:__:__:Good Feeling
- c. Unimportant:__:__:__:__:__:Important

17. I feel safe here at Woodbridge Mall.

- a. False :__:__:__:__:__:__:True
- b. Bad Feeling:__:__:__:__:__:Good Feeling
- c. Unimportant:__:__:__:__:__:Important

18. I can get quality merchandise at Woodbridge Mall.

- a. False :__:__:__:__:__:__:True
- b. Bad Feeling:__:__:__:__:__:Good Feeling
- c. Unimportant:__:__:__:__:__:Important

19. I like the people who come to Woodbridge Mall.

- a. False :__:__:__:__:__:__:True
- b. Bad Feeling:__:__:__:__:__:Good Feeling
- c. Unimportant:__:__:__:__:__:Important

20. Woodbridge Mall is clean.

- a. False :__:__:__:__:__:__:True
- b. Bad Feeling:__:__:__:__:__:Good Feeling
- c. Unimportant:__:__:__:__:__:Important

21. There is a wide variety of merchandise at Woodbridge Mall.

- a. False :__:__:__:__:__:__:True
- b. Bad Feeling:__:__:__:__:__:Good Feeling
- c. Unimportant:__:__:__:__:__:Important

22. I can get healthy exercise at Woodbridge Mall.

- a. False :__:__:__:__:__:True
- b. Bad Feeling:__:__:__:__:__:Good Feeling
- c. Unimportant:__:__:__:__:__:Important

23. I come to Woodbridge Mall when I want to buy a gift.

- a. False :__:__:__:__:__:True
- b. Bad Feeling:__:__:__:__:__:Good Feeling
- c. Unimportant:__:__:__:__:__:Important

Please indicate your sex: male___ female___

Please indicate your age: _____years old.

Were you interviewed in Woodbridge Mall last
month by a Rutgers University student? yes___ no___

If you have any other comments you would like to make about this
questionnaire, please write them in the space below.

THANK YOU for helping with our research!

APPENDIX C

PRETEST MATERIALS

Protocol (theoretical discussion), 1st Pretest

RESEARCH PROTOCOL

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The purpose of the research proposed here is to test the effectiveness of a technique which I call Anderson Space Analysis (ASA). ASA should prove to be an effective tool in the study of values and their relationship with other beliefs and behavior.

Essentially, Anderson Space Analysis (ASA) allows for a qualitative approach to gathering data; coupled with a quantitative, parametric approach for describing and analyzing consumers' personal value systems. Through open-ended personal interviews with consumers, relevant beliefs are elicited. Then, questionnaires are developed which allow those same consumers to place those, and possibly other relevant beliefs, into a three-dimensional "belief space" which provides a theoretical context in which to analyze how a person's belief system functions.

The format of this protocol is to provide a brief theoretical overview, then to describe in some detail the methodology, and finally to describe how the study will be implemented and the data analyzed.

PART I: Theoretical Underpinnings.

An excellent review of the consumer related research on values was recently conducted by Munson (1984). This review shows how heavily consumer research on values depends upon the measurement methodology developed by Milton Rokeach (see Rokeach, 1973 for the fullest elaboration of his theory and methodology). It is instructive, however, to examine the context out of which Rokeach's discussion of values emerged.

Rokeach's interest in values had its roots in the aftermath of World War II, when a number of researchers were trying to explain the German fascist phenomenon. Rokeach began his research career by critiquing the Adorno, Frenkel-Brunswik, Levinson, and Sanford (1950) F (fascism) Scale which had been designed to measure intolerance. Rokeach's central hypothesis with respect to the F Scale was that it failed to measure intolerance in general, but only measured right-wing intolerance. His development of the Openmindedness Scale (Rokeach, 1960) reflected his attempts to measure rigid thinking, authoritarianism, and prejudice whether left-wing or right-wing.

Rokeach based his critique of the F Scale on the argument that there should be a distinction between the content and the structure of belief systems. He argued that "what seems to be called for...is an ahistorical, contentless way of thinking about intolerance," one which is not constrained by the situation, historical period, or the particular group being discriminated against (Rokeach, 1960, p. 16). The Openmindedness Scale accomplished this by focusing on a structural variable---openmindedness---rather than a content of specific beliefs.

Rokeach categorized values as a subset of beliefs: those that fulfill a prescriptive function. Rokeach gives a more specific definition of values and value systems:

A value is an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence. A value system is an enduring organization of beliefs concerning preferable modes of conduct or end-states of existence along a continuum of relative importance. (Rokeach 1973, p. 5)

This definition identifies values as either terminal end-states of existence toward which we strive (ultimate goals), or instrumental means or modes of conduct which regulate our behavior (behavioral norms).

His primary purpose in the development of the Rokeach Value Survey (RVS) was to develop a means to identify a person's basic values, and compare them among cultures, social classes, occupations, religions, and political orientations (Rokeach, 1973, p. 26). His methodology involved asking the respondent to rank-order two lists of 18 "terminal", and 18 "instrumental" values (see Figure 1a and 1b). The data provided by this instrument consists of two sets of rank-order scores: one for terminal values, and one for instrumental values. This rank-ordering of values along a range of relative importance provided the structural dimension Rokeach saw as so important.

Although the RVS has a considerable history of empirical applications, it has not escaped criticism. Clawson and Vinson's (1978) theoretical review of the relevant consumer literature on values posited five major problems with the construct of consumer values:

1. The concept of consumer values has not yet been clearly defined.
2. No comprehensive, nonduplicative list of values has been agreed upon.
3. No generally accepted model is as yet available specifying the structural variables of an individual value, its latent or active interaction with other values, or its relations to other predispositions, environment, and behavior.
4. No standard method of measuring values has been adopted.
5. The practical value of values has yet to be demonstrated or rejected conclusively, either in real-life settings or laboratory settings.

In spite of these problems, they felt that the values construct "can perhaps equal or surpass the contributions of other major constructs including attitudes, product attributes, degree of deliberation, product classifications, and life cycles" (Clawson and Vinson, 1978. p. 400)

Vinson, Scott, and Lamont (1977) suggested that the consumer's value system consists of global (RVS-type) values, domain-specific values, and product evaluations. These beliefs range along a central-peripheral dimension, where global values are "more centrally held," and beliefs about products are "less centrally held." They also speak of more centrally held beliefs as being "more abstract" and far fewer than more peripheral beliefs.

Gutman (1982) proposed that consumer values (he uses only Rokeach's terminal values) are linked to product choices through a "means-end chain." This chain consists of values linked to desired (and undesired) consequences, product categorizations, attributes of specific products and situations, and finally specific product groupings and choice.

This concept of a hierarchy in the Consumer Belief Space is also supported by Lessig (1975), who found relationships between values and attitudes toward product attributes, and between attitudes toward product attributes and brand attitude. A weak relationship, however, was found between values and brand attitude. This "chain" effect is also reported by Pitts and Woodside (1983) as a possible explanation for why they found significant correlations between values and product choice criteria, but not between values and either brand preferences or purchase intention.

These studies are important steps in the understanding of values and their relationship to consumer belief systems. They suggest that the impact of people's values depends largely upon the degree to which they are connected with other kinds of beliefs. They also suggest that structural dimensions of value-belief systems (in this case, a hierarchy of values along a range of relative importance) can provide us with a useful approach to the study of value systems. Clawson and Vinson's (1978) appraisal still stands, however, with respect to the lack of a commonly accepted, structural model for values.

The Dimensionality of Values.

Rokeach (1973, 1974) argued that, due to the relatively low correlations among the 36 values "it is therefore unlikely that the 36 values can be effectively reduced to some smaller number of factors" (1973, p. 44). He did, however perform a factor analysis (with varimax rotation) of RVS data included in a 1968 National Opinion Research Center (NORC) survey, which produced seven factors which accounted for about 41% of the total variance. Similar results were found when the same analysis was run on a parallel 1971 NORC survey (Rokeach, 1974, p. 232).

One finding which was quite clear, however, was that the terminal and instrumental values consistently loaded on different factors, indicating that they are distinct. These findings were replicated by Munson and Posner (1980), who found little overlap between the terminal and instrumental on any of the factors which they derived from their factor analysis. They found six terminal and four instrumental values factors. Six values were also reported by Vinson, Munson, and Nakanishi, 1977.

Scott and Lamont (1973) included most of the RVS values along with a number of other variables in a single factor analysis, obtaining 13 factors; 6 of which had high loadings for the RVS items. Prakash (1984) derived seven factors from the 36 values taken together, explaining 72.7% of the total variance. He named these dimensions as follows:

	<u>Studies</u>			
	Rokeach (1973)	Scott & Lamont (1973)	Munson & Posner (1980)	Vinson et al (1977)
<u>Terminal Values</u>				
A comfortable life	.69 a	.64 p	.59 a	.59 a
An exciting life	.41 a	.39 b	.31 a .37 l	.35 r
A sense of Accomplishment			.38 a .38 j	.37 a
A world at Peace	.61 d		.76 d	.69 d
A world of beauty	.58 e	.42 e	.61 j	.59 r
Equality	.43 d .39 e	.66 e	.53 d	.58 d
Family security			.61 k	.50 t
Freedom	.40 d		.51 d .39 m	.52 d
Happiness		.62 i	.68 m	.48 v
Inner harmony			.46 j	.39 t
Mature love		.67 h	.52 l	.59 s
National security	.58 d	.46 c	.48 d	.44 d
Pleasure	.62 a	.48 i	.56 a	.61 a
Salvation		.43 c	.48 d .38 k	.33 t
Self-respect	.32 f		.44 j	.30 r
Social recognition	.49 f	.53 p	.69 a	.63 a
True friendship		.48 e	.48 l	.54 s
Wisdom		.40 h	.48 j	.50 r

Letters indicate values that load on the same factor. An attempt has been made to name those factors which have some consistency between studies:

- a: personal gratification
- b: competence (vs. morality)
- c: personal integrity
- d: social harmony

Figure 1a
Factor Loading of Values in Four Studies

1. Personal and Social Orientation.
2. Ethics and Social Achievement.
3. Internal and External Gratification.
4. Competence and Morality.
5. Aesthetic Value.
6. Social Safety and Personal Happiness.
7. Love.

Some similarity can be seen from a comparison of the factor loading patterns of the values across these studies, although no powerful conclusions emerge as to the specific dimensionality of values. Figure 1a and 1b summarizes the results of those studies which provided factor loadings.

In their multidimensional analysis of the RVS mentioned above, Jones, Sensenig, and Ashmore (1978) found four dimensions

	<u>Studies</u>			
	Rokeach (1973)	Scott & Lamont (1973)	Munson & Posner (1980)	Vinson et al (1977)
<u>Instrumental</u> <u>Values</u>				
Ambitious			.43 b	.61 u
Broadminded		.46 e		.37 s
Capable			.49 b	.35 b
Cheerful			.42 e	.37 e
Clean	.47 a	.70 c	.48 o	.46 c
Courageous			.40 b	.30 b
Forgiving		.57 e	.82 e	.75 e
Helpful	.36 e	.57 e	.67 e	.69 e
Honest	.34 c	.52 c	.44 c	.40 c
Imaginative	.45 b .30 e	.61 b	.55 b	.46 b
Independent	.43 b	.67 b	.63 b	.80 b
Intellectual	.44 b		.65 b	.53 b
Logical	.53 b		.46 b	.37 c
Loving		.45 h	.37 e	.43 s
Obedient	.52 c	.58 c	.69 o	.62 c
Polite	.50 c .34 g	.64 c	.70 o .43 c	.79 c
Responsible		.56 c	.72 c	.65 c
Self-controlled	.37 c	.46 c	.44 c	.51 c

Letters indicate values that load on the same factor. An attempt has been made to name those factors which have some consistency between studies:

- a: personal gratification
- b: competence (vs. morality)
- c: personal integrity
- d: social harmony

Figure 1b
Factor Loading of Values in Four Studies

which they called Instrumental-Terminal, Society-Self, Concerned about Interpersonal Relations, and Concerned about Things One Can Control. They had less success with the spontaneously generated data, but were able to identify a Society-Self dimension, and a relatively ambiguous dimension which they called Active-Passive. Their major conclusion was that the spontaneously generated listing of values yielded a simpler structure than that derived from the RVS.

Gutman and Vinson (1979) derived three dimensions from an INDSCAL analysis of a reduced set of terminal values. They named them personal achievement vs. social harmony, desire vs. oughts, and social rewards vs. personal balance. The theme of self vs. society does seem to be a consistent one throughout the various dimensional analyses described here.

Whether Rokeach (1973) was correct in his belief that all people everywhere share a basic set of values is an empirical question. Clawson and Vinson (1978) criticize the research for its inability to arrive at a "comprehensive, nonduplicative list of values." Although this may be an appropriate goal for empirical investigation, it may very well be that no such list is possible which would not be culture and history-bound. In my view, the position of values and beliefs along the relevant dimensions, their degrees of connectedness, and how they function as a dynamic system---these are the appropriate concerns for research.

It is critical, then, for the dimensionality of the belief-value system to be established. As seen above (Figure 1a&b), there is inadequate agreement as to what constitutes the underlying dimensions of values.

Rokeach (1960) discussed three dimensions of beliefs which relate to openmindedness---the belief-disbelief dimension, the central-peripheral dimension, and the time perspective dimension. These should provide a basis for an understanding of the dimensionality of values, since values are a subset of beliefs.

I propose that there are indeed three dimensions which are relevant to the analysis of values, but that they are not precisely the same as those proposed by Rokeach.

The first of the three dimensions is, as Rokeach says, the belief-disbelief dimension. By this he means simply the degree to which a person accepts, rejects, or is uncertain about a particular belief. I prefer, however, to think of it simply as a Belief dimension in the sense that disbelief is actually a belief that a statement is false. His notion, in other words, of belief and disbelief are actually belief in the truth and belief in the falsity of a statement. This, then, is a bipolar True/False dimension which also contains a neutral midpoint.

Rokeach's central-peripheral dimension, I feel, requires some sorting out. He described central beliefs as primitive,

axiomatic, more closely held, higher on the evaluative dimension, more salient, and more resistant to change.

It seems that two dimensions are entwined here. The first of these is a Salience dimension, which indicates the subjective importance of a belief. This measures the degree to which a belief is relevant to a subject's decision making process. Since a belief can be salient in a positive way or in a negative way (good or bad), salience should be considered a bipolar Good/Bad dimension, again with a neutral midpoint.

This substitution of a Good/Bad scale for the Importance scale has been discussed in the literature (Engel, Blackwell, and Miniard, 1986, p. 102, 103; Cohen, Fishbein, and Ahtola, 1972). The justification for it lies in the fact that the Importance measure fails to tap the reason a belief is important---whether the belief is important because it is good or bad for the subject. The Good/Bad measure provides more information regarding the reason a belief is important.

The final dimension is the Universality dimension, which refers to the proportion of situations (times and places) a belief can be applied. A universal belief is applicable in all times and places, whereas a situational belief applies in a limited number of times and places. It is a unipolar dimension ranging from "never applies" to "always applies."

The Universality dimension incorporates Rokeach's time perspective dimension, which refers to the breadth or the narrowness of a person's perception of time: the degree to which they are past, present, or future oriented. The universality dimension incorporates this dimension in the sense that the more universal a belief, the less restricted its application with respect to the past, present, or future.

One theoretical issue involved in the use of these scales is the relevance of a zero point. Two of the scales are bipolar, including a "neutral" midpoint; and the third is unipolar, with a "never applies" endpoint. Whether these points represent true zero-points is an important issue, especially in the choice of statistical methods to be used later. If, in other words, a ratio scale can be assumed, a broader range of techniques are available for statistical analysis.

The important issue at this point is what is the theoretical basis for arguing that these are ratio scales (the measurement issues will be discussed later in Part III)? Do people, in general, think in terms of these three qualities as having natural zero points?

My argument is that they do. But an important clarification must be made. Remember that what I am actually measuring with the Belief dimension is not merely truth and falsehood, but rather degrees or strength of belief. The extremes of the scale represent how much subjects believes a statement to be true, or believes it to be false. Zero belief means just that: "I don't

have a belief that the statement is either true or false." In other words, the zero point is the point of no belief or neutrality, as indicated by the scale. When a person says colloquially "That statement has absolutely no truth to it," they are actually saying that they have a very strong belief that the statement is false. The theoretically based zero point here is the point of no belief (the agnostic position, if you like). Belief, then, has two directions: truth and falsehood.

The Salience dimension also has a natural zero point (neutral), and two directions (Good and Bad). I recognize that, traditionally, salience has been measured using an Important/Unimportant scale. The various Fishbein attitude models, notably the Theory of Reasoned Action (Ajzen & Fishbein, 1980), depend heavily upon the notion of salience. Only salient beliefs are, supposedly, included in the system. Once these beliefs are elicited, however, the scale which is actually used by Fishbein to indicate the degree of salience is not an Importance measure, but an evaluative measure: Good/Bad.

Strictly speaking, this is not a salience measure, but an evaluative measure. In reality, however, it is measuring the same thing. If, for example, a statement were ranked by a subject as being exactly midpoint on the Good/Bad scale, it would drop out of the Fishbein summated attitude model. In other words, it would be unimportant to the formation of the subject's attitude---i.e., non-salient. Salient beliefs are necessarily those beliefs which are evaluated as either good or bad by the subject. As indicated above, this issue of substituting an evaluative (Good/Bad) measure for the salience (Importance) measure has been supported in the literature (Engel, Blackwell, and Miniard, 1986, p. 102, 103; Cohen, Fishbein, and Ahtola, 1972). Also, it is significant to mention that Rokeach (who worked in the area of attitudes for many years, developing his own attitude model (Rokeach, 1968; Rokeach and Kleijunas, 1972)) called the dimension along which his values are ranked the evaluative dimension. Yet, in the instructions for the Value Survey he indicates that subjects should rank the values according to their relative "importance."

The idea that the third dimension---Universality---has a natural zero point is, perhaps, easier to grasp. If a belief is never applicable, it is useful in no (zero) situations.

I argue very strongly, then, for the notion that these three dimensions have a natural zero points. This argument can be supported either by appealing to the literature or by appealing to a view of how most people actually think and make evaluations.

I propose, then, that these three dimensions:

- Belief (True/False)
- Salience (Good/Bad)
- Universality (Always/Never Applies)

are the dimensions underlying the structure of the values/belief system. The extent to which these three suggested dimensions are useful will depend on how well they clarify empirical findings when confronted by data. These dimensions are depicted in Figure 2.

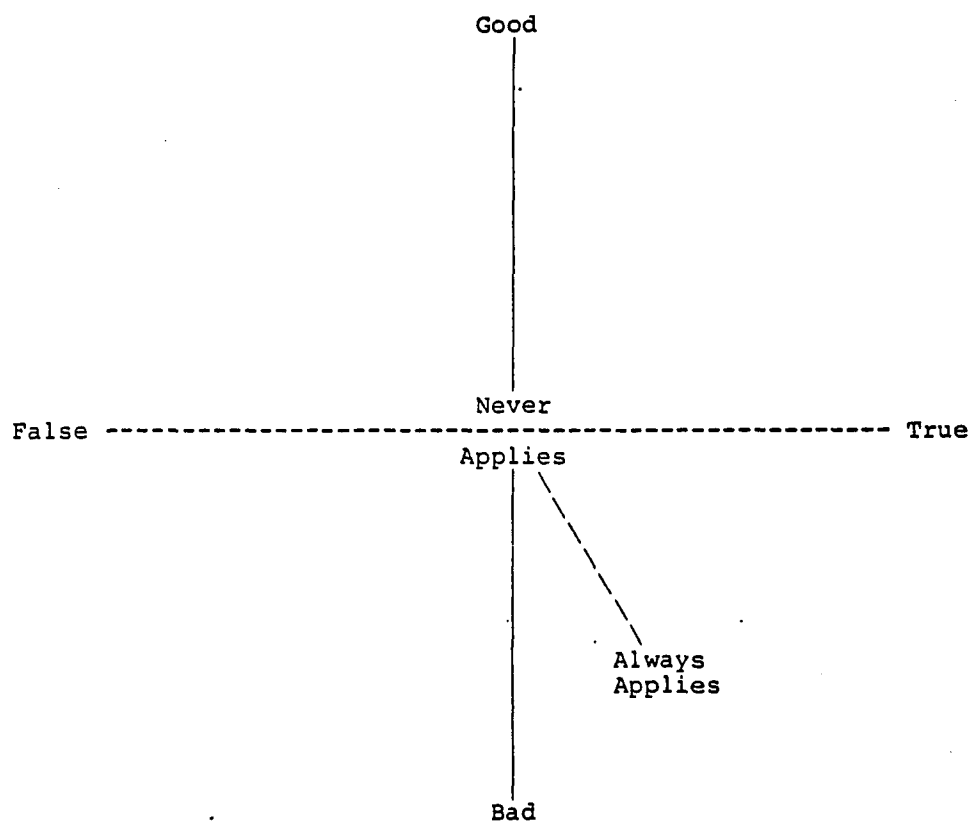


Figure 2

The Three Dimensions of the Consumer's Belief Space

PART II: Research Methodology

Anderson Space Analysis.

Anderson Space Analysis involves the placement of beliefs relevant to a decision making situation along three theoretically derived dimensions. There are two stages in the process: first, the elicitation of those beliefs relevant to the decision context; and, second, the placement of each of those beliefs in the three-dimensional "space."

The first step involves the elicitation of relevant beliefs from subjects. I plan to use personal interviews to accomplish this. In their discussion of the Theory of Reasoned Action, Ajzen & Fishbein (1980, p. 63) indicate that the "simplest and most direct procedure" for eliciting "salient beliefs" is "asking the person to describe the attitude object, using a free-response format." In our case, we are not focusing on an attitude object per se, but rather a decision making process. It is reasonable to suppose, however, that the most desirable procedure for eliciting relevant beliefs is one which imposes the fewest restrictions on the subject's response. This is the basis for choosing a verbal, free-response format.

Oral interviews are preferable even over written responses since even the process of expressing themselves in written rather than oral form may involve some cognitive recoding of beliefs. In addition, degrees of skill in writing in English may distort the representation of beliefs. Of course, there may be some variation in subjects' skills in oral self-expression as well. It is reasonable to suppose, however, that direct free-form oral response is the captures most closely the actual thinking of subjects.

Interviews will focus upon some particular decision domain of concern. Subjects will be asked "How do you go about making a decision about _____?" Each time the subject pauses as though at the end of an explanation, the interviewer will use the last statement as a probe, asking "Why do you say _____?" This probing will continue until the subject indicates that no further information is forthcoming.

It is obvious that the skill of the interviewer will have some impact on the elicitation process. Poor interviewing could miss important beliefs, elicit irrelevant beliefs, or aggravate the subject. Rather than sidestepping this issue through the use of some more strictly formatted data-gathering technique (which would surely constrict subjects' responses), my approach is simply to measure any such "interviewer effect." This can be done by including an interviewer code as a variable. If that variable is significant, then an interviewer effect is supported.

The issue of an interviewer effect is minimized, however, by the fact that the interviewing process is designed to be as non-directive as possible. Interviewers will be trained to present

numbers above these words." Jaccard and Wood also cite support in the psychophysics literature for the idea that the qualifiers "extremely, quite, and slightly" tend to produce interval judgments.

Significantly, Jaccard and Wood state that the use of the numeric scale along with the descriptors is "useful because individuals tend to think of numbers in a ratio sense (e.g., 8 is twice as much as 4)." This is important since there is a theoretical basis (as argued in Section I) for claiming that the zero points indicated in the scales are true zero points. If it is true that people think in terms of one belief being "twice as true" or "twice as bad" as another, I have reason to believe that these are, indeed, ratio scales. ASA does not stand or fall on this point. If, however, I can assume these scales to have ratio properties, I will have a broader range of more straightforward and powerful statistical techniques at my disposal in the analysis of the data.

One point of departure from the Jaccard and Wood (1985) approach is in the numeric discriminations included in the scale. They recommend the use of a 21-point scale ranging from -10 to 10 (although they discuss the use of 100-point and 9-point scales as well). They indicate that the main issue is to allow subjects to make fine enough discriminations in their judgments.

If this is the determining criterion in the choice of how many numerical distinctions the scale should include, then my use of a 19-point scale ranging from -9 to 9 is certainly equally justifiable. Their -10 to 10 scale does have a nice symmetry to it, but it seems to me that it invites an additional opportunity for keypunch errors.

When the data is keypunched, each data point in my system will be allowed two columns in the data field. This will allow for the numeric entry (0-9) and the sign (+ or -). If it were necessary to punch in an occasional -10, then a third column would be required in the data format, allowing for a greater possibility of punching an incorrect number of spaces between units of data. Plus, the physical size of the data field would then have to larger, involving more lines, more cards, etc. Whereas this is certainly a minor point, and of no theoretical consequence whatever; it can translate into hours saved in the data cleaning process later on.

The difference between a 19 and a 21-point scale does not violate Jaccard and Wood's basic guideline. I feel free, therefore, to appeal to simple personal preference in this matter if I have to.

This questionnaire, listing all elicited beliefs, is then administered to the subject. The subject is asked to evaluate each belief on the basis of each of the three dimensions. In this way, each belief on the questionnaire will receive a direct "location" in the belief space. In other words, each belief will

have a ASA "score," similar to simple three-dimensional Cartesian coordinates, based on the subject's responses to the three scales above: (5, -3, 2), for example.

This location of beliefs in the three-dimensional Anderson Space provides a basis for a variety of analyses. First, I will be able to test the independence of the three dimensions. This can be easily done by examining the simple correlation coefficients among the three dimensions. Their correlations should approach zero across all subjects.

The analysis of primary interest, however, involves the use of cluster analysis and/or multidimensional distance scaling (using direct distances), based on the simple location of beliefs in the Space. Clusters of beliefs in the Belief Space will be examined and possibly named on the basis of their content and position. For example, based on our theoretical discussion, we would expect values to cluster closest to the location indicated by the coordinates (9,9,9): i.e., highest in Truth, Goodness, and Universality.

PART III. Research Project Administration

Selection of Subjects.

###

First session.

The first session will consist of the personal interviews, in which subjects are asked to ###

Second session.

Questionnaires developed from information derived from the first session will be administered during this session. ###

Data Analysis

###

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Interview Instructions, 1st Pretest

INTERVIEW INSTRUCTIONS

The purpose of the interview is to elicit those beliefs which are relevant to the subject's decision process. Your role is to assist in this elicitation process. You should be as passive and as non-assertive as possible, directing the interview only to the extent necessary to evoke the subject's thought process.

The following instructions should make your job clear. The interview should be easy to do.

Choosing Subjects

Choose subjects that you are sure will be available later on to fill out the followup questionnaire. Avoid subjects that, for any reason, may not feel free to reveal their thoughts to you.

When you approach them, explain that you are doing a class project that requires you to interview them, and have them fill out a questionnaire a week or so later.

Tell them that their identity will remain absolutely confidential. Explain to them that you can reveal the entire project to them AFTER they fill out the questionnaire, but not before. If at any time they decide they don't want us to use their interview or questionnaire, we will not use their data.

When they understand and agree, arrange a time and place for the interview.

The Setting

The interview should be done in an environment which is comfortable for you and the subject: any place where you can both focus your attention on the interview for the half-hour or so the interview will take. Avoid any places that are noisy, too bright or dark, or where other people might be running through. Avoid interruptions or distractions of any kind.

Your dress, position, and style should put the subject at ease. Be as neutral as possible in your dress, mannerisms, and voice. Sit upright (not leaning forward or back), at a right angle to the subject, with the tape recorder between you on a table. Avoid any gesticulations or facial expressions. You should give the impression of being attentive and interested, without giving any actual reaction to what the subject says.

Conducting the Interview

For each interview, you will fill out a Reporting Form which, along with the tape, will provide a data record. Please do not fill out the Form until AFTER the interview.

Before the interview, make sure that your tape recorder is properly cued, with plenty of tape and battery power.

Bring in the subject, let them sit down and be comfortable. Then TURN ON THE TAPE RECORDER and read the following statement:

The purpose of this interview is to understand how you choose which products to buy. I will ask you questions to probe your reasons. When you feel that you have explained your reasons thoroughly, simply say so, and I will go on to the next subject.

Please give answers that reflect how you actually decide which product to buy. Remember, your answers will be absolutely confidential.

Do you have any questions?

Answer only those questions that pertain specifically to the interview process. Do NOT tell them anything about the research in general.

Next, hand the subject a blank piece of paper and a pencil, and read the following statement:

Please think of three products which you recently bought that you put quite a bit of effort into the decision to buy. These should be products that are important and interesting to you.

When you have thought of them, please write them down and hand the paper back to me.

Don't rush them, but wait patiently until they have finished. Keep the tape recorder running.

Then, when they have returned the paper to you, check to be sure they have given the specific item they bought as well as the product category (if they bought "a car," be sure they also indicate "Mazda RX7").

Look at the first item they wrote down and say:

Please describe to me how you chose to buy the (first item).

Listen to their response and, when they stop talking, think of the last thing they mentioned. Then say:

Why is (last item they mentioned) important to you?

Continue with this process until the subject indicates that they have given you a complete explanation.

If there are any problems with this procedure, PLEASE MAKE A NOTE OF THEM AND RECORD THEM on the Reporting Form.

Repeat the same procedure for the other two products.

When you have completed the interview, thank the subject, and tell them that you will be back in touch with them in about a week to fill out the questionnaire.

After each interview, FILL OUT THE REPORTING FORM. Keep the forms in order so I know which form goes with which taped interview.

Problems With the Interview

The goal of the interview is to discover the subject's actual thinking about the decision to buy the product, including the fundamental criteria for the choice.

Be as nonassertive as possible. Don't worry if the subject's explanation is not "complex enough" or doesn't tap some deep-seated emotion. Don't probe to the point of forcing the subject to create reasons.

On the other hand, follow your instincts if the instructions given above seem to rigid or mechanical. In order to elicit the subject's thoughts, feel free to alter the probes SLIGHTLY in order to direct the subject. But, if you do this, INDICATE IT IN THE Reporting Form. Part of the purpose for this project is to test the procedure to see how it can be improved.

Interview Reporting Form, 1st Pretest

INTERVIEW REPORTING FORM

Interviewer _____ Date _____

Time _____

Location (please describe):

Duration _____

Subject Information

Age _____ Sex _____ Education _____

Relationship to Interviewer:

Interview Evaluation

How successful do you feel the interview was in eliciting the thoughts of the subject?

What difficulties were there with the interview?

Questionnaire, 2nd Pretest

Name _____

On the following pages you will be asked to evaluate a number of statements about how you decide where to shop for clothes. Feel free now to look through the questionnaire to see what kind of statements are included. All your answers will be strictly confidential.

You will be asked to evaluate each statement in THREE DIFFERENT WAYS:

- How TRUE you feel the statement is,
- How much you LIKE the statement itself, and
- How POWERFULLY the statement influences your decision.

You can indicate your evaluation by using these three scales:

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

For example, if you are asked to evaluate the following statement:

"I get things done without delay."

If you believe that the statement is as true as a statement can be, then circle "3" on the first scale. If you like the statement itself as much as you can like a statement, then circle "3" on the second scale. If the statement influences your behavior as powerfully as a statement can influence you, then circle "3" on the third scale.

If you believe that the statement is as false as a statement can be, circle "-3" on the first scale. If you dislike the statement itself as much as you can dislike a statement, circle the "-3" on the second scale.

Circle "0" on any of the scales if you are uncertain, indifferent, or uninfluenced by the statement.

Now, GO AHEAD AND EVALUATE the statement using the scales below:

I get things done without delay.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

Are you comfortable with the process? If you have any questions or comments, please raise your hand now and ask.

Now, focus on where you shop for clothes. Work quickly without going back to check your work. Turn the page and begin.

1. There is a wide selection of styles where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

2. The store I shop in is small.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

3. The salespeople don't pressure me where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

4. The prices are low where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

5. I buy comfortable clothes.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

6. I buy clothes with natural fabrics.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

7. I respect the rights of animals.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

8. My inner self is more important than how I look to others.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

9. I usually get to do what I want.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

10. It is a comfortable temperature where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

11. The salespeople are helpful where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

12. The salespeople are friendly where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

13. The salespeople are good looking where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

14. There are a lot of salespeople where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

15. The salespeople are polite where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

16. I personally know the salespeople where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

17. I trust the salespeople where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

18. Many different types of people shop where I do.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

19. I can pay with a credit card where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

20. They have a good returns policy where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

21. I feel welcome where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

22. Salespeople take time with me where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

23. I dress in many different styles.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

24. It is important to be honest.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

25. It is important to be kind.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

26. It is important to help others in need.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

27. It is important to be cheerful.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

28. I shop close to home.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

29. They sell merchandise other than clothes where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

30. I know the store layout where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

31. They sell well-known brands where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

32. The merchandise is always changing where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

33. The place I shop is conveniently located.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

34. I shop for the highest quality clothes.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

35. I don't have much money.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

36. I love shopping.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

37. I always make my own decisions.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

38. I am a self-reliant person.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

39. They have large dressing rooms where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

40. I often have to wait in line when I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

41. The store where I shop is well carpeted.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

42. They play music where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

43. I listen to disco music.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

44. I listen to contemporary rock music.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

45. It is hard to find clothes that fit me well.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

46. I want to feel part of my generation.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

47. I avoid large crowds of people.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

48. I try on lots of clothes before I buy.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

49. I am a relaxed person.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

50. I prefer casual clothes.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

51. I drive to where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

52. I buy business clothes.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

53. I know what I am looking for when I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

54. I live a simple lifestyle.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

55. I shop for the latest fashions.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

56. I shop for machine washable clothes.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

57. I shop for designer brands.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

58. I shop where there are colorful displays.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

59. The store where I shop has frequent sales.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

60. I get ideas from store displays.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

61. I feel confident that the clothes I buy will last.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

62. I want the admiration of other people.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

63. It is important to be physically comfortable.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

64. It is important to be a polite person.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

65. My personal values influence where I decide to shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

66. My clothes fit my image.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

67. I wear bright colored clothes.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

68. They give free alterations where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

69. The lower the prices, the more I buy.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

70. I attract attention with the clothes I wear.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

71. My clothes make me sexually attractive.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

72. I need advice when I shop for clothes.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

73. Classy people shop where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

74. The way I dress makes me feel important.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

75. Store displays save time when I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

76. The other shoppers where I shop are about my own age.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

77. Dim lighting puts me in a good mood when I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

78. My family is important to me.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

79. Friends are important to me.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

80. I am a religious person.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

81. Intellectual things are important to me.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

82. I shop because I am curious what I will find.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

83. There is a wide range of prices where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

84. We live in a gloomy world.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

85. My clothes reflect power.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

86. The place I shop is open late at night.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

87. I can do all my shopping in one place.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

88. I don't have time to spare.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

89. I shop where there are other stores nearby.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

90. The store is clean where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

91. I avoid using mass transit.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

92. It is easy to park a car where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

93. I am an easy-going person.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

94. It is important to have fun.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

95. I shop with my friends.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

96. I am a trustworthy person.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

97. The store I shop in has many different locations.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

98. I always cooperate with other people.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

99. I don't carry cash when I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

100. Clothes tell you what a person is really like.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

101. I am a neat, tidy person.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

102. The store where I shop was recommended by other people.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

103. They have trendy lighting where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

104. I can always get a refund where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

105. It is important to try what is new.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

106. Career success is important to me.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

107. It is important to be peaceful.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

108. I am in a rush when I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

109. I wear expensive-looking clothes.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

110. My image is important to me.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

111. European clothes are of higher quality.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

112. I don't mind paying more for quality.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

113. I trust the store where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

114. I buy youthful fashions.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

115. I buy fun clothes.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

116. I work at the store where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

117. The store where I shop has clean dressing rooms.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

118. It is hard to find the styles I like.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

119. I am an organized person.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

120. I shop near school.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

121. I like myself.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

122. It's important to know yourself.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

123. I am a unique person.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

124. I value knowledge.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

125. Open-minded people buy the newest fashions.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

126. I shop near work.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

127. The salespeople where I shop have a good sense of humor.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

128. Sometimes I shop just to socialize.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

129. I respect other people's opinions.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

130. My tastes run against current fashions.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

131. I get things done without delay.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

132. I don't worry much about material things.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

133. Good looking people shop where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

134. They trust me where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

135. It is important for people to be pure and wholesome.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

136. I shop at a prestigious store.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

137. I want to be accepted by a certain crowd.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

138. I am easy to irritate.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

139. It is important to impress business associates.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

140. It is important to be respected by others.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

141. They show music videos where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

142. I can get a discount where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

143. I can stop to eat when I'm shopping.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

144. Salespeople help me when I'm in the dressing room where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

145. Clothes are marked down quickly where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

146. When I shop, my choice depends upon my mood.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

147. I spend a lot of time shopping.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

148. They have special boutiques where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

149. I buy the lesser-known brands.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

150. I browse a lot when I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

151. I always live for the moment.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

152. I am an impulsive shopper.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

153. The hustle and bustle of NY is exciting.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

154. They have convenient hours where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

155. I always look at the care labels on clothes.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

156. They have video fashion shows where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

157. They have plenty of dressing rooms where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

158. I am always looking for a good bargain.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

159. The decor changes to fit the season where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

160. There is a relaxed atmosphere where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

161. They have modern decor where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

162. I buy clothes according to the season.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1	2	3			Powerful Force

163. I shop from a catalogue.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

164. It's fun to look at catalogues.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

165. They accept my checks where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

166. I am a very efficient person.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

167. I am a very choosy person.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

168. Beautiful things are important to me.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

169. I am a perfectionist.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

170. I am impressed by how they run the business where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

171. I enjoy reading fashion magazines.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

172. I shop in a unique store.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

173. My personal values are very meaningful to me.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

174. The store where I shop has a good reputation.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

175. I shop for other people in my family.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

176. I usually buy more than I plan to.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

177. I shop for clothes frequently.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

178. They give free gifts and samples where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

179. They have clean bathrooms where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

180. I can try on clothes in private where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

181. I seldom leave the store empty-handed.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

182. They have good service where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

183. I frequently buy gifts for other people.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

184. I don't worry about what I wear.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

185. Shopping helps me feel good about myself.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

186. I get things done without delay.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

187. The store I shop in is small.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

188. The salespeople are helpful where I shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

189. My personal values influence where I decide to shop.

False	-3	-2	-1	0	1	2	3	True
Dislike	-3	-2	-1	0	1	2	3	Like
No Force		0	1		2	3		Powerful Force

Finally, please indicate the following personal information.

What is your age? _____

How many people (including you)
are in your household? _____

What is your total annual
household income? _____

What ethnic, national, or
cultural group do you
most closely identify with? _____

What religious group do you most
closely identify with? (If
none, say "none"). _____

In general, what U.S. political
party do you agree with
most often? _____

Five years from now, what job
do you think you will have? _____

If you have ANY FINAL COMMENTS about this questionnaire, please
indicate them below.

Thank you very much for your time and effort. All responses
will be kept strictly confidential.

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