This is to certify that the

thesis entitled

GENERALIZED MARKET SEGMENT:
A STUDY USING SELECTED CONVENIENCE GOODS
IN VIGO COUNTY, INDIANA

presented by

Terry M. Weisenberger

has been accepted towards fulfillment
of the requirements for

Ph. D. degree in Marketing

Major professor

Date October 31, 1977

GENERALIZED MARKET SEGMENTS: A STUDY USING SELECTED CONVENIENCE GOODS IN VIGO COUNTY, INDIANA

By

Terry Mathew Weisenberger

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Marketing and
Transportation Administration

1977

ABSTRACT

GENERALIZED MARKET SEGMENTS: A STUDY USING
SELECTED CONVENIENCE GOODS IN
VIGO COUNTY, INDIANA

By

Terry Mathew Weisenberger

The purpose of this study was to investigate the existence of generalized, or nonproduct-specific, market segments. While there are references in the literature that would indicate that these segments probably don't exist, there is no empirical evidence given to support these assertions. The specific thrust of this study, therefore, was to generate empirical evidence on this question using segments developed on general life style criteria.

Data were collected using a questionnaire personally distributed to a non-probability sample of women from a variety of organizations. The questionnaire contained life style, demographic, product usage, and product perception items. The life style information was factor analyzed and hierarchical clusters were developed using the factor scores. Equal sized segments were produced by random sampling within these clusters; and the segments were analyzed for differences using a number of statistical techniques, primarily ANOVA and MANOVA.

The segments were found to be quite different in their life styles, but very similar demographically. Further, an exhaustive analysis of the product usage data showed little significant differences in manifested behavior.

In terms of consistency of segment perceptions across product categories, in no case was this demonstrated. That is, the results of this study show that the people in these generally derived segments are not consistent in their evaluation of a variety of products.

Further, in analyzing the data for differences between segments in their perceptions, mixed results were obtained. When the data are scored in a non-traditional manner wherein attribute association is considered uni-polar, the segments show no difference in their perceptions of the various products. When, however, the same data are analyzed having scored the attribute associations in a more traditional manner, the segments are shown to have significantly different perceptions of the same products.

A conclusion drawn from the study is that segmentation, within the confines of this study, must be considered an ad hoc phenomenon. That is, there is empirical support for the assertions of non-universality in the literature and, therefore, markets would be best segmented on a product-specific basis. Also, whereas the same products may be used for a variety of reasons, there is some evidence of the need for product positioning. Finally, this study would call for still more investigation into the mechanics of attitudinal and perceptual research.

ACKNOWLEDGMENTS

The cooperation, encouragement, and support offered by Dr. Donald A. Taylor during the development and completion of this dissertation is acknowledged with deep appreciation. A further note of thanks goes to Dr. Leo G. Erickson and Dr. Gilbert D. Harrell for their many contributions during the conduct of this research.

Others deserving of recognition include Dr. E. Jerome McCarthy and Dr. Leighton A. Price of Michigan State University who provided me guidance during the early stages of this dissertation. Also, I would like to recognize the technical support of Dr. Harry Krueckeberg and Mr. Milton Firestone of Indiana State University who provided me with questionnaire production and distribution help and computer aid, respectively.

Special acknowledgment is made to my wife, Barbara, and my sons, David and Jon, who have provided me with the cooperation, patience, understanding and encouragement essential to the sustained effort required to complete a dissertation.

With such strong support, this dissertation should be flawless; but any errors uncovered are, of course, my own.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

CHAPTER I

PROBLEM DEFINITION AND JUSTIFICATION

General Statement of the Problem

> The concept of market segmentation is one of the marketing profession's "hottest" products. During the last ten years it has had as great an impact on marketing thought as any other theoretical construct that has served as a tool for organizing thinking about the nature of the marketplace.[1]

Market segmentation has captured and will continue to capture the imagination and attention of marketing practitioners and theorists. The concept is an excellent basis for theoretical understanding of the market (Engel, Fiorillo, and Cayley, 1972; Frank, Massy, and Wind, 1972) as well as a useful basis for managerial thinking and marketing strategy development (Sheth, 1972; Kotler, 1976). Not surprisingly, market segmentation is the subject of two recent textbooks (Engel et al., 1972; Frank et al., 1972) and numerous articles and is prominently mentioned in two popular texts in managerial marketing (McCarthy, 1975; Kotler, 1976).

A question raised in the literature, but never resolved (e.g., Yoell, 1972; Dhalla and Mahatoo, 1976), concerns the application of the results of a segmentation analysis to more than one product. The purpose of this study was to investigate the possibility of the existence of generalized or relatively universal market segments. It is intuitively appealing to hold that if a segment of the market is in fact a homogeneous group of consumers,

those consumers should desire relatively homogeneous offerings regardless of product category. If, however, a segment structured on general criteria does not desire common attributes in several products, the inference is that every attempt at segmentation is a new beginning. Therefore, the thrust of this research was to generate market segments using general segmentation criteria and to investigate the degree of cohesiveness of those segments as different products are examined.[2]

Subordinate issues in this study include the following:

1. Development of general market segments based on nonsituation-specific measures of consumer life style;

2. Determination for each segment generated a group of common attributes which profile a given product category;

3. Determination of whether this profile differs from segment to segment;

4. Determination of whether this profile remains constant for the given segments as the products examined change within a product class and across product classes.

The purpose for investigating these different issues was to determine if there are segments in the consumer market as opposed to a series of product markets; if these segments desire similar attributes in a product category within a segment, but desire different attributes between segments; if these desired attributes are stable for a segment as different products are considered, both within and across product classes.

Justification for the Study

As stated in the first section, market segmentation has been and will continue to be an area of investigation and development in marketing theory; it will also continue to be an area of concern for marketing management. In a survey of top marketing executives, Waldo (1973) found that they considered "recognizing, defining, understanding, and segmenting markets" the most important problem facing decision-makers. This finding is seconded by Springer (1975), who asserts that "segmentation is the key" for the future for marketers. Moreover, analysis of recent issues of Journal of Marketing and Journal of Marketing Research, as well as recent proceedings of conferences of such groups as the American Marketing Association and the Southern Marketing Association, attests to the continued interest in segmentation research among marketing theorists and academicians.

Within all this past and ongoing research and discussion, a pattern of thought emerges which indicates that market segments are not generalized phenomena but are, instead, a function of a given product category. Plummer (1974), for example, states this premise:

> So often, however, segments developed from a study on one product category have little or no relevance to another product category.[3]

Young (1970), too, emphasizes it:

> The only way to insure that measurements of . . . life style are relevant to the marketing problem is to analyze them within the context of a particular product category.[4]

And Dhalla and Mahatoo (1976) state the premise very strongly:

> The poor performance of many segmentation criteria tested so far can be attributed to the fact that too often researchers are anxious to find a magic formula that will profitably segment the market in all cases and under all circumstances. As with the medieval alchemist looking for the philosopher's stone, this search is bound to end in vain. There is no single algorithm that can be employed across all market studies. Each case must be viewed as a unique and potentially different situation.[5]

If this should prove, in fact, to be the case, then the concept of segmentation would have to be reconsidered. At the very least it would be necessary to think in terms of each segmentation study as an ad hoc, isolated exercise requiring repetition for each new problem (Wind and Green, 1972). Perhaps more attention would have to be given to Reynolds' (1965, 1969) assertion that the importance of segmentation is vastly overstated and relatively unusable managerially.

On the other hand, if it could be demonstrated that segments of homogeneous consumers do exist in the marketplace, the utility of segmentation as a theoretical concept might be dramatically enhanced. Some of the published research indicates that segments exist in the market; for example, Haley (1968) and Ziff (1971), in separate studies, using different methods, each present six segments which appear to have a high degree of overlap in the segment descriptions. Nevertheless, a review of the literature indicates that the existence of generalized segments has not been established.

Methodological Summary and Rationale

While a full treatment of the research method is presented in Chapter III, Research Method, a brief summary is necessary at

this point. The data were collected using a judgment sample of consumers from a variety of social and civic organizations in the Terre Haute, Indiana, area. Cooperation was solicited from the subjects through the officers of the organizations, who were asked to approach their respective memberships.

All subjects received identical questionnaire packets, which included (1) a cover letter broadly describing the nature of the study, requesting cooperation, and assuring confidentiality; (2) instructions to enable the subject to understand and to complete the questionnaire; (3) the questionnaire itself, which was one of eight versions using different orders of presenting; (4) a stamped return envelope.

The questionnaire consisted of the following:

1. Seventy-five Activity, Interest, and Opinion (AIO) items. These items were scored on a five-point scale from 1 (Definitely Disagree) to 5 (Definitely Agree).

2. Four product categories for which the respondents, one category at a time, indicated their degree of usage of three types of products within each category, using a five-point scale from 1 (Very Often) to 5 (Don't Use).

3. An object description task, performed by each respondent, immediately after having stated degree of usage, on the product type she most often used. The object description task is a method by which respondents are forced to externalize their perceptions of their most used products. In this task the respondent indicated if, and to what degree, she perceived a product to contain an attribute

and if she felt positively or negatively about the association between the product and the attribute.

This method is further explained and elaborated in Chapter III. As a summary rationale at this time, a brief comment on each item of data and its use is called for. First, the AIO items were taken from often-used, tested items presented in the life style literature. While studies reviewed used widely varying numbers of AIO items, it was felt that using a limited number of items which have proved reliable in the past was sufficient for the current research and also would not fatigue the subjects.

Second, the products chosen for the study were two categories of food products (soft drinks and breakfast cereals) and two categories of health and beauty aid products (bath soap and pain relievers). These products were chosen because, among other reasons to be discussed later, they are frequently purchased consumer products; in this regard the study follows the main stream of segmentation research (Frank et al., 1972).

Third, the attributes used are general, "people" dimensions as opposed to specific, "product" dimensions to enable comparison of responses across product categories and classes.

Figure 1 is a flow chart illustrating the data analyses used in the study. After selected AIO items were summed into life style scales, clusters were generated using a computer program, "Fortran IV Program for Q-Mode Cluster Analysis on Distance Function with Printed Dendogram," developed by James M. Parks at Lehigh

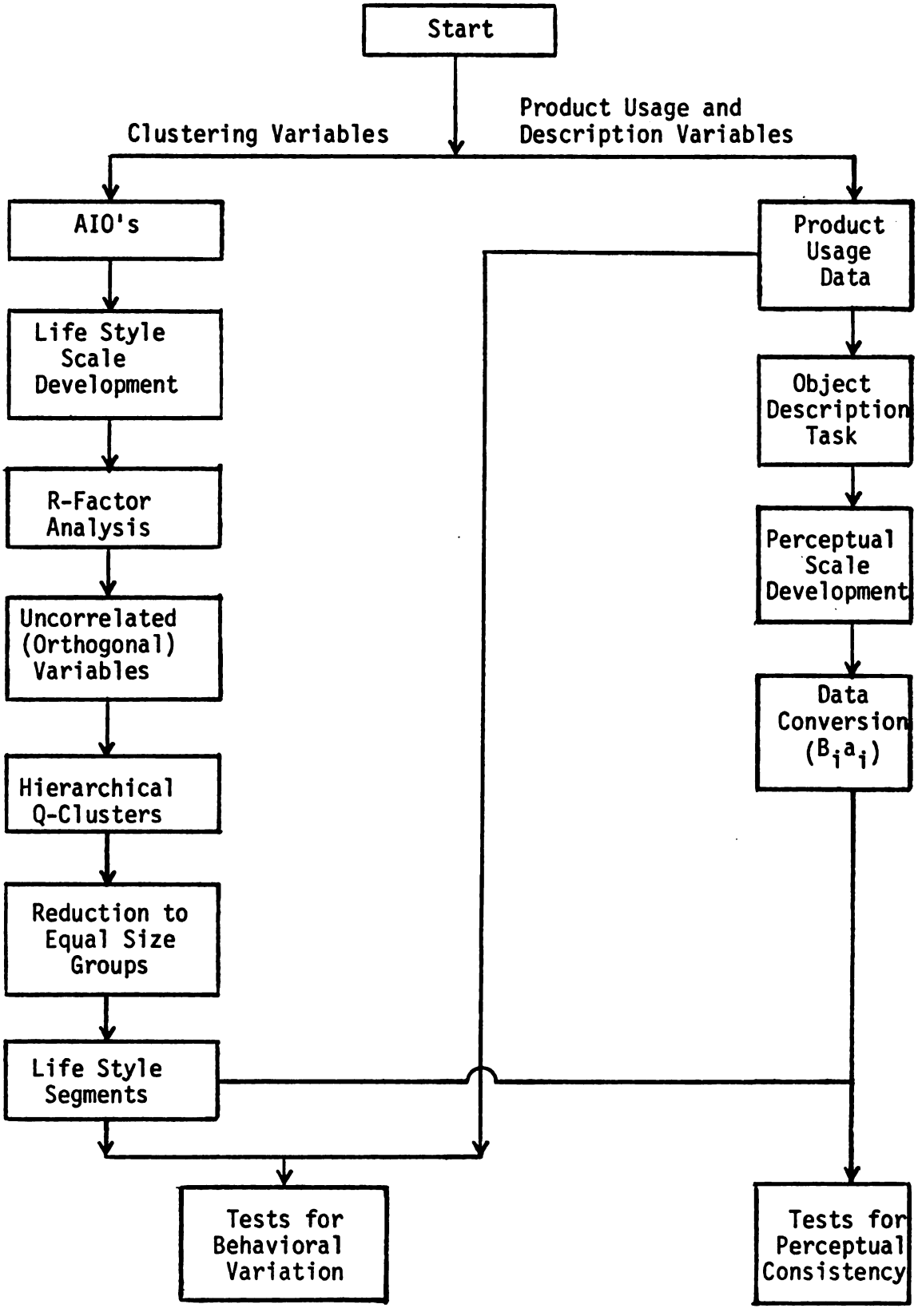


Figure 1.--Flow Chart of Data Analyses.

University. The clusters thus generated were reduced by additional sampling to provide equal-sized segments for further analysis.

Although it was not the prime thrust of the research, an analysis was conducted of the product usage information provided by each subject to ascertain if there was a significant difference in the patterns of use of types of products by the different segments for each product category. If a significant difference had existed, the result would have been evidence of manifested behavioral variation among segments, a matter of concern to theorists and practitioners alike. This analysis was accomplished through a series of two-factor analysis of variance, with repeated measures on the second factor, designs. With appropriate data manipulations, further analysis was conducted on this point, using chi-square, multivariate analysis of variance, and t-test designs. Using such designs, differences in the relative use of product types across segments were tested.[6]

Then the data generated by the object description task were transformed into a single variable for each attribute by multiplying the association measure by the desirability measure to produce a composite score for each attribute for each product for each subject. This transformed variable is a measure of the expectancy-value for each attribute applied to each product category by each respondent (Cohen, Fishbein, and Ahtola, 1972). The number of attributes was reduced from the thirty used in the object description task to a smaller number of generalizable dimensions using principal components and alpha factoring. While principal

components seeks the underlying dimensions in a set of variables, alpha factor analysis maximizes the alpha (Cronback, 1951), or Kuder-Richardson, reliabilities of the common factors (Gorsuch, 1974). In alpha-factoring, variables included in the analysis are considered to be a sample from the universe of variables. In this method, factors are defined that have maximum generalizability (Kim, 1975). The factors thus defined reduce and summarize the many variables used in the object description task to a few interpretable constructs (Aaker, 1971) in a manner that provides the best parallel forms of the underlying dimensions in the universe of variables (Gorsuch, 1974). The factors are rotated to simplify the structure in the factor pattern, i.e., to make them more interpretable (Kim, 1975). While rotation is generally to orthogonal, or uncorrelated factors, the use of MANOVA assumes that the variables in the criterion vector are correlated (Winer, 1971). For this reason, the factor scores are not used in subsequent analysis. The factor analysis is merely used as a filtering mechanism to determine which attributes would be used and into which scales they would be summed.[7]

The mean scores for each attribute scale applied to each product category by each segment form a dimensional profile, or perceptual map, of that product category by the given segment. The main effects and interactions in these profiles are investigated by way of a two-factor multivariate analysis of variance (MANOVA) with repeated measures on the second factor design.[8] MANOVA is a multivariate form of analysis of variance, ANOVA. In essence,

where ANOVA tests for differences between group means on a single criterion variable, MANOVA utilized a vector-valued variable for the criterion variable (Green and Tull, 1975). It is this ability to utilize a vector which made MANOVA necessary. A simple example, shown in Figure 2, illustrates this point.

In Figure 2, the mean factor score profiles for Products 1 and 2 are mirror images within each segment. When the profiles are available for analysis, it is easily seen that the products are perceived differently both across segments and across products within segments. If a sum score within each cell of the design were

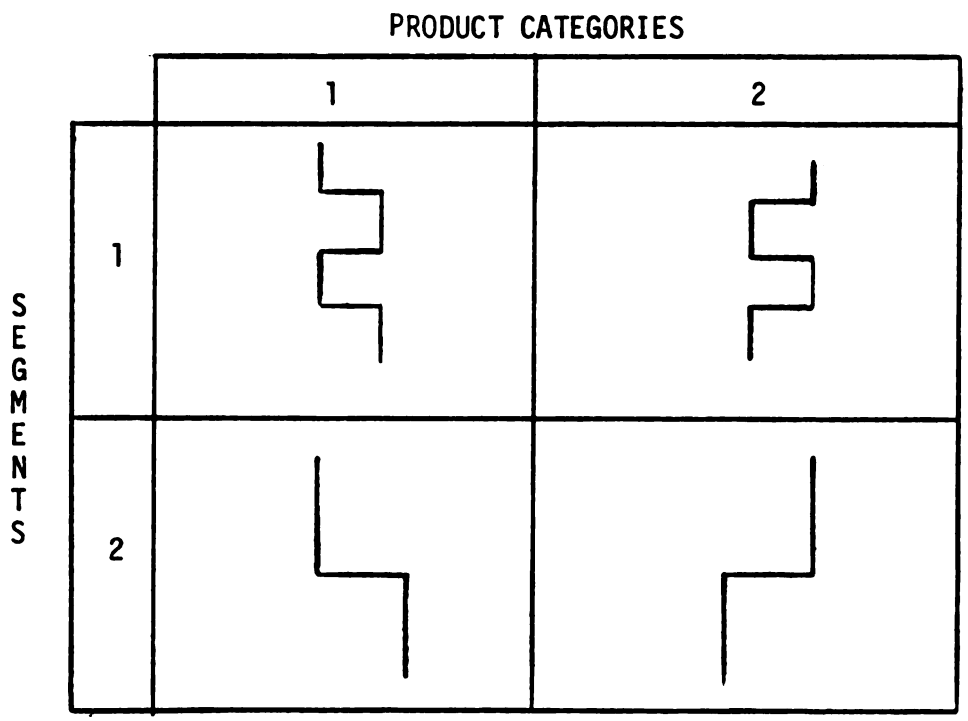


Figure 2.--Sample Comparison of Attribute Profiles.

obtained in order to use ANOVA, all the cell entries would be equal at some value, such as zero, and vital information would be lost. This point is elaborated in Chapter III.

The statistical analyses make possible an investigation of consistency of market segments developed using general measures of consumer life style. In this part of the research, a comparison is made of the perceptions of the various product categories by the different segments. This provides information on a number of questions:

1. Are the segments significantly different over all?
2. Are the products significantly different over all?
3. Do the profiles, or segments' perceptions, of the product categories change from product to product or segment to segment?

The answers to these questions directly address the main thrust of this study, the universality of market segments.

Limitations

There are three limitations in this study that require mention. First, while it might have been advantageous to have had a national probability sample of several thousand subjects, limitations of time, money, and other resources make it necessary to limit the sample to one of a smaller, more local nature. Second, the products studied are limited to two classes of frequently purchased consumer goods. Although other product classes are not investigated, this study follows the current emphasis in the

literature. Third, there are no established, widely accepted scales to measure life styles. While future research might be fruitfully directed at developing and refining these scales, the primary focus of this dissertation is not on measurement methodology. However, the items used in this study have been shown reliable in previous research and have face validity.

FOOTNOTES: CHAPTER I

[1]Ronald E. Frank, William F. Massy, and Yoram Wind, Market Segmentation (Englewood Cliffs: Prentice-Hall, Inc., 1972), p. 246.

[2]As used in this study, "product class" refers to a broad classification of similar products--foods, for instance. A "product category" is a somewhat narrower classification. For example, soft drinks as a product category are a subset of the product class foods. "Product type," on the other hand, refers to a very narrow classification. For example, colas as a product type constitute a subset of the product category soft drinks.

[3]Joseph T. Plummer, "The Concept and Application of Life Style Segmentation," Journal of Marketing 38 (January 1974): 35.

[4]Shirley Young, "Psychographics: Are They Relevant to Marketing?" Speech delivered to the Third Annual Attitude Research Conference (Mexico City: American Marketing Association, 1970), p. 2.

[5]N. K. Dhalla and W. H. Mahatoo, "Expanding the Scope of Segmentation Research," Journal of Marketing 40 (April 1976): 36.

[6]This series of tests was performed using ISU04, a two-factor ANOVA with repeated measures computer program available at the Indiana State University Computer Center.

[7]These calculations were performed using the factor analysis routines available in the SPSS (N. Nie, C. H. Hull, G. D. Jenkins, K. Steinbrenner, and D. Bent, 1975) package available at the Indiana State University Computer Center.

[8]The MANOVA analysis was made using the BMD-X69 (Dixon, 1969) computer program available at the Indiana State University Computer Center.

CHAPTER II

REVIEW OF MARKET SEGMENTATION LITERATURE

Definition of Market Segmentation

Philosophy of Segmentation

The twin objectives of survival and growth are so basic that all other objectives are completely dependent on them. Obviously, if an organization ceases to exist it can do nothing; yet, even with continued existence, a weak or weakened organization will have difficulty meeting any other objectives until its survival is more secure. In fact, "the drive for growth is often reinforced by the conviction that growth is necessary for survival."[1]

In striving to survive and grow, a competitive organization undertakes activities designed to generate a competitive differential advantage. This gives rise to a concept which Alderson (1957) refers to as a "power principle." In brief:

> An individual or an organization, in order to prevail in the struggle for survival must act in such a way as to promote the power to act. The power principle is especially important in relation to the expansion of a growing system. As a system grows, it is increasing its power or capacity to carry on its regular processes on a greater scale. The existence of power is a necessary condition for the continuance of many of these activities. Therefore, the maintenance and enhancement of power is an inherent goal for any organized behavior system.[2]

So, consistent with the basic objectives and the power principle, a firm must find some way to position itself in the market so

that it can withstand the onslaughts of competition as well as the uncertainties and vagaries of the market itself. The organization must find and develop a position of unassailable power to insure its survival.

In accordance with his biological conception of the market, Alderson (1957) characterizes this position of safety and power as an "ecological niche." The ecological niche has two components, the core and the fringe. The core is that part of the environment which is most ideally suited to the activities of the organization. It is the heart of the organization's position of power and safety. The fringe is the area where the organization can continue to operate with increasingly less safety and power until it ultimately meets the fringe of a competitor's niche, whereupon the organization cannot operate further without being at a relative competitive disadvantage.

A firm develops a niche in the market and insures its survival by justifying its existence to a selected core. This idea of finding and satisfying a selected core leads to the concept of market segmentation. As stated by Hansen and Bak-Jensen:

> If you can divide a larger (heterogeneous) market into smaller (homogeneous) segments with different preferences and subsequently adjust your product to the preferences in the different segments, then you reduce the overall distance between what you are offering to the market and what the market requires. By doing so, the marketer improves his competitive position.[3]

So market segmentation is the development, through the analysis of relevant criteria, of relatively homogeneous groups of customers who are differentially responsive to alternative product strategies

and promotional strategies (Hansen and Bak-Jensen, 1972; Lunn, 1972; Sheth, 1972; Smith, 1956).

The concept of segmentation is based on the propositions that (1) consumers in the mass market are different, (2) differences in consumers are related to differences in market demand, and (3) segments of consumers can be isolated in the overall market (Engel et al., 1972). Therefore, in utilizing a segmentation strategy an organization consciously develops and pursues separate marketing mix programs for essentially the same product or service in order to reach different segments of customers in the market (Bass, King, and Pessemier, 1968; Sheth, 1972).

Economic Theory and Segmentation

The theory of market segmentation is grounded in price theory, a branch of microeconomics. Not surprisingly, price theory focuses solely on the setting of prices to the exclusion of other variables in the marketing mix. It is concerned primarily with the efficient allocation of resources to known segments in the market, not the problem of determining those segments. It takes as a fact different demand schedules in different segments and seeks no explanation of these differences, which could arise from a variety of factors, such as available substitutes, use opportunities, or personal preferences; the latter two are sometimes related to surrogates like income, education, social class, and life cycle (Frank et al., 1972).

Market segmentation is usually introduced as a variation in the theory of monopoly price setting, called price discrimination. This theory demonstrates how, with a heterogeneous market and a homogeneous product, the monopolist can maximize profits (Claycamp and Massy, 1968).

Whereas traditional economic theory was useful as a framework for economic analysis, by the 1930s it had become inadequate to explain the contemporary business scene. At that time Robinson (1933) and Chamberlain (1933) brought about major changes in economic theory. While pure or perfect competition assumes homogeneity on the part of both the supply and demand sides of the market, diversity or heterogeneity has become the rule, not the exception (Smith, 1956).

Marketing History of Segmentation

Although segmentation is firmly rooted in economics, its development as a viable strategy is largely the result of work by marketing theorists. Even though formal models relating profit maximization to multiple demand functions in a heterogeneous market have been around since the early work of Robinson and Chamberlain, they are always couched in terms of price discrimination. Thus segmentation is viewed as disaggregative, as an imperfection in market structure (Frank et al., 1972), rather than as a "rational and more precise adjustment of product and marketing effort to consumer or user requirements."[4]

Brandt (1961) says that the strategy of segmenting a market has been a natural activity for managers since the advent of mass production early in this century. He discusses the natural progression from "Open Markets" (basically geographical segmentation; see Haley, 1968) to "Fragmented Markets" wherein advances in transportation and communication made necessary more sophistication in selecting and evaluating various segments of the market for attention.

As an area of formal study in marketing, however, segmentation did not really develop until publication of Wendell R. Smith's seminal work in 1956. Six years later, Kenneth Schwartz (1962) was moved to say:

> It is nothing less than a revolutionary transformation which has come over the mass market during the past five years. From a single homogeneous unit, the mass market has exploded into a series of segmented, fragmented markets, each with its own needs, tastes, and way of life.[5]

Probably the most significant theoretical contribution to the general area of segmentation since Smith was the publication of Claycamp and Massy's (1968) article detailing a multistage theory of market segmentation.

To better understand multistage theory it is necessary to first look at alternative views of the market (Engel et al., 1972):

1. Market Aggregation: All consumers are treated similarly.[6] In this case, a homogeneous product is presented to a mass market with the firm making heavy use of promotion to distinguish its entry. This is basically "product differentiation," as proposed by Smith (1956).

2. Extreme Market Segmentation: All customers are treated uniquely.[7] This is the ultimate in disaggregation of the market with each customer being presented his own unique marketing mix.

3. Partial Market Segmentation: Clusters or segments of the market are assumed to exist with high intra-cluster similarity and low inter-cluster similarity.[8] In this view, the market is not seen as all similar or all different, but is basically aggregative in the sense that relatively similar groups of customers are dealt with.

It is this latter view which is taken to some extent by Smith (1956) but which is strongly embraced by Claycamp and Massy (1968). They examine the segmentation process using a five-stage model:

Stage 1: Segmentation by perfect discrimination among customers: In this stage, the concern is "Extreme Market Segmentation," which is probably an accurate estimate of reality; that is, individuals are unique. As a practical matter, though, an organization is seldom able to cater to each individual in the market.

Stage 2: Customer segmentation with institutional constraints: In this stage, the extreme segmentation strategy is modified due to institutional constraints (available media, etc.) which hamper the marketer.

Stage 3: Microsegmentation: In this stage, "Partial Market Segmentation" is operational. The marketer is clustering together all customers who are similar on various criteria.

Stage 4: Macrosegmentation: In this stage, the marketer aggregates microsegments, joining only the most similar. The process continues with the macrosegments growing larger and less homogeneous until the marketer has a segment which he can market to economically. The purpose is to stop as soon as practicable to optimize intra-group homogeneity and inter-group heterogeneity.

Stage 5: The "mass market" concept: If no viable segments are developed in the Macrosegmentation stage, the marketer eventually ends up with one large market composed of all the diverse microsegments. This conforms with "Market Aggregation" and "Product Differentiation."

Most market segmentation studies implicitly follow the aggregation process as proposed by Claycamp and Massy. This is accomplished through the use of various multivariate statistical tools used by researchers to process and analyze data.

Use and Benefits of Segmentation

Criteria for Segmentation

In discussing the relevant criteria to be met for an effective segmentation strategy, Kotler (1976) has proposed that the customer characteristics used should be as follows:

1. Measurable. That is, information on the characteristic should be available or obtainable.
2. Accessible. That is, the segment should be reachable using available marketing tools such as media, distribution channels, promotional messages, product variation, etc.
3. Substantial. That is, the segment should be large enough for the marketer to economically and effectively focus his efforts on.

Other researchers--notably Baumwoll (1974); Engel, Fiorillo, and Cayley (1972); Engel, Kollat, and Blackwell (1969); and Frank (1968)--have stated additionally that the segments defined should demonstrate another quality:

> 4. Behavioral Variation. That is, there should be variation in market response between segments as elements in the marketing mix are manipulated.

In their discussion of the managerial functions of marketing, Staudt and Taylor (1970) set forth two functions which bear directly on usefulness in segmentation. They feel that every marketer must perform the following:

> 1. Market Delineation: "the determination of potential purchasers and their identifying characteristics."[9]
>
> 2. Purchase Motivation: "the assessment of those direct and indirect factors which underlie, impinge upon, and influence purchase behavior."[10]

These two functions would seem to address the "who" and "why" of segmentation, respectively. That is, determining who is in the segment seems to follow from the marketer fulfilling the criteria of substantiality and measurability; determining why they are in the segment would result from the marketer meeting the criteria of accessibility and behavioral variation. Thus, unless these criteria are met and functions performed, a segmentation strategy may be inefficient or ineffective.

Benefits of Segmentation

It might honestly be asked why a marketer should go through any kind of segmentation process. Would it not be possible for him

to insure survival by attempting to dominate a mass market? Of course, this is one of a number of possible strategy alternatives (Sheth, 1972), but several authors (Engel et al., 1972; Haley, 1968, 1969; Kotler, 1976; Plummer, 1974; Sheth, 1972) have enumerated advantages to using a segmentation approach. The following are among the major advantages cited:

1. Segmentation realistically addresses the concept that people are not homogeneous and that to attempt to market to all these people using the same marketing mix would be fairly naive and more than a little difficult. Segmentation instead attempts to reach the relatively homogeneous sub-markets with individually tailored marketing mixes.

2. Segmentation leads to a more precise definition of the market--who the customer is and why he buys. This enables the marketer to develop a clearer product image.

3. Segmentation leads to a more precise setting of market objectives, enabling the marketer to look more critically at promotional offerings, line extensions, product positions, etc.

4. Understanding the market structure enables the marketer to more efficiently and effectively focus his efforts, getting more impact with less expenditure of resources.

5. Segmentation aids and strengthens the organization's ability to spot trends, detect changes in the market, assess the effect of competitive actions, and generally adapt to change.

6. Segmentation helps the marketer avoid cannibalization of current products during introduction of new products because

products can be positioned better to avoid upsetting currently established niches.

7. Segmentation enables a marketer who employs it successfully to develop a strong competitive edge. If he offers a segment precisely what that segment is seeking, he is likely to achieve a special prominence in the minds of those consumers and to dominate the sales to that segment, which gives him a strong competitive niche.

8. Segmentation aids the organization in a marketing audit, helping to highlight relative strengths and weaknesses.

9. A knowledge of market structure can point out new, untapped segments. Unfulfilled consumer needs are the basis for successful exploitation of new opportunities.

There is an added benefit, often mentioned in passing: it is much easier to understand consumer behavior by studying groups of relatively homogeneous consumers than by studying individuals (Barnett, 1969; Bass et al., 1968; Mathews and Slocum, 1970).

Bases and Methods

Numerous methods have been used to classify approaches to segmentation. Some researchers have simply listed different approaches without attempting to present a framework for analysis (Haley, 1968; Kotler, 1976; Lunn, 1972). Wilkie (1971 a,b) classified the research at the time into two "streams." The "product stream" dealt primarily with inferred data using the behavioral sciences for a theoretical orientation, while the "empirical

stream" used primarily objective, census-type data with a heavy orientation to microeconomics.

Wells (1972) and Reynolds (1973) favor an approach which places various segmentation bases on a continuum from "General" to "Specific." Reynolds' design is presented in Figure 3.

General → Specific

Demographic Variables	Socioeconomic Variables	Personality Traits	Life Style	Product Perceptions and Preferences	Purchases	Consumption

Figure 3.--General to Specific Continuum.

Two very similar approaches to presenting possible bases for segmentation are those of Hansen and Bak-Jensen (1972) and Frank, Massy, and Wind (1972). These researchers have dichotomized the General-Specific continuum and combined it with the Objective-Inferred dichotomy. The result is a four-fold figure which is an excellent summary and presentation of the market segmentation material to date. Figure 4 as presented is essentially that used by Frank, Massy, and Wind (1972), with slight modification suggested by Hansen and Bak-Jensen (1972).

The remainder of this chapter will review the literature of market segmentation. It should be noted that the topic of market segmentation has fascinated theorists, researchers, and practitioners since its introduction into the marketing literature. Since a complete review of the literature would be both exceedingly

MEASURES		CUSTOMER CHARACTERISTICS: General	CUSTOMER CHARACTERISTICS: Situation Specific
	Objective	Demographic Factors Socioeconomic Factors	Consumption Patterns Participation in the Adoption/Diffusion Process Brand Loyalty Patterns
	Inferred	Personality Traits Life Style Self-Image	Attitudes Purchase Intentions Perceptions and Preferences

Figure 4.--Summary Classification of Segmentation Bases.

lengthy and unnecessary for an understanding and appreciation of the current research, the review will be confined to a summary treatment of the bases for segmentation outlined in Figure 4 and those studies which have a direct bearing on the current research.

Objective-General

Demographic Characteristics

The most widely used bases for market segmentation have been such demographic factors as sex, age, marital status, number and age of children, ethnic or racial background, geographical location, and mobility of household. A composite factor often used, stage-of-life cycle, contains the first four.

Demographics have proven popular because they are easy to obtain, highly delineating, and good for matching against available media statistics. Also, demographics generally result in the formation of large segments.

Much of the research in this area has been of a special, single-factor nature wherein the researcher has tried to establish market segments using only one demographic variable.

Sex is a logical beginning to a demographic segmentation study. Marketers of clothing, toiletries, and personal care products have generally been interested in male-female differences. In a recent study sponsored by several magazines seeking to determine the purchase influence of husbands and wives for a broad variety of products the results were highly mixed and situation-specific (Haley, Overholser, and Associates, Inc., 1975). In their review, Frank, Massy, and Wind (1972) indicate that beyond the obvious physiological differences much of the effect of sex is a result of underlying psychological, social, and cultural factors.

Age as a variable has been stressed recently with all the attention shown to the "youth market," but age was already an established demographic dimension for segmentation. Linden (1967) and Goldstein (1968) noted significant differences in consumption of various products across age groups. But as Frank, Massy, and Wind (1972) have discovered, age is not likely to be a sound segmentation base because variance within the groups may be considerable.

Life cycle, although a composite, multi-factor variable, is treated as a single variable in segmentation research. The studies are characterized by much disagreement over the definition of "life cycle." The constant would seem to be that it includes age of head of household, marital status, and children; but there is disagreement as to how to include children--presence, number, age of

youngest? However life cycle is defined, some research has shown what might be termed "obvious" results. Crockett and Friend (1960) found family size to be one of the demographic variables most highly correlated with overall food consumption. Lansing and Kish (1957) demonstrated a relation between life cycle and ownership of a home, new cars, and television sets. Social Research (1964) found that furniture buying is highest during the early years of marriage. However, an NICB (1965) study found that some consumption patterns were better explained by age alone than by life cycle. Rich and Jain (1968) found no link at all between either life cycle or age and buying behavior. It would seem that, except for some intuitively obvious applications, life cycle is inadequate as a basis for segmentation.

Racial and ethnic subcultures have been used by some researchers with mixed results. The "Afro-American" or "Negro" subculture, because of its size, relative importance, and heightened self-awareness, is probably the most studied in the literature. Most of the studies focus on product and brand usage patterns, communication behavior, and purchasing patterns (Engel, Wales, and Warshaw, 1975) and demonstrate some measure of difference between black and white markets. Little has been done to test the homogeneity of this segment, however. In addition, Frank, Massy, and Wind (1972) caution against assuming very much, given the tremendous sociological changes taking place in this subculture.

There has been little published research on ethnic markets, those characterized by distinctive national and religious origin.

In a brief summary of the area, Frank, Massy, and Wind (1972) found little reason to consider this a viable basis for segmentation.

Historically, probably the first basis for segmenting a market was geography (Haley, 1968). Given a limited transportation infrastructure and lack of capital to set up extensive distribution channels, most manufacturers sold primarily in a fairly confined area. Further along in the channel, most middlemen, such as wholesalers and retailers, were even more confined to their local trading areas. Such segmentation was almost a de facto, unconscious process. This could still be the case for some products and many firms, but, for the most part, the transportation and communication infrastructures are advanced enough to allow most marketers access to distant markets. A firm may now wish to confine itself to areas of greatest market potential or avoid areas with strongly entrenched competition. Some studies (Walter and Paul, 1970; Nielson, 1968) indicate that there exist geographical differences in tastes and consumption of various products. Findings of this sort aid in the planning of distribution, but contribute little to understanding the market for promotional message content or placement.

The study of "mobiles," or that segment of the population which, for whatever reason, moves each year, is a confounding subset of geographic segmentation. Andreasen (1966) and Bell (1969) studied this group and found them to be well-educated, to have higher status occupations, to earn above-average income, and to be socially active. Bell (1969) found that mobiles are particularly

brand loyal to national chains and brands, perhaps as a result of risk aversion. None of the above seems to get at the root of this segment's needs, however. How does the mobile differ from other high income, well-educated, socially active consumers?

This last question is one that plagues the whole area of demographic segmentation. That is, why do segments which are similar demographically differ in their consumption patterns? Hutt, Muse, and Kegerreis (1972) found, for example, that buyers of Volkswagens and buyers of Mavericks, while not significantly different demographically, were different in their processes of alternative evaluation, their post-purchase information transmission, and their personality correlates of venturesomeness. In short, the "same" people manifested differences in behavior. This low correlation between demographics and behavior has been demonstrated by several researchers (for example, Anderson, 1971; Bieda and Kassarjian, 1969; Peters, 1970). In a widely cited review, Frank (1968) states that "Household demographic . . . characteristics seem to have, at best, a relatively low degree of association with total household purchases of any particular grocery product."[11]

In defense, Bass, Tigert, and Lonsdale (1968) offer two major points:

1. Market segmentation is a management strategy based on group behavior; i.e., the marketer is interested in appealing to a group with similar needs, not merely to a set of individuals.

2. Most studies using demographic data to segment markets have used some form of regression analysis, which is a measure of individual behavior rather than group behavior.

They postulate that "for market segmentation, the essential question is whether it is possible to identify groups of consumers with different mean purchase rates dependent on certain variables, such as income, age, and occupation."[12] In brief, they conclude that while correlations between demographics and individual consumption patterns may not be very explanatory, correlations using mean usage rates between groups are very explanatory. Following the same line of thought, Assael (1970) used Automatic Interaction Detector (AID), which is a multivariate measure of discrimination between group means, in a study which was modestly successful in using demographic data to segment the market.

A point which must be made, however, is that even if demographics were able to describe perfectly "who" was in a segment they would be incapable of providing a causal understanding of why a consumer was a buyer (Haley, 1968; Nelson, 1969). That is, if problems in research methodology were overcome demographics might be able to provide an adequate solution to market delineation, but could not provide a measure of purchase motivation.

Socioeconomic Characteristics

Investigations of socioeconomic characteristics as bases for market segmentation can be grouped into two major sets of studies:

1. There are those studies which focus on only one variable at a time, whether income, education, or occupation. These studies at least implicitly assume no interactions between the variables as regards buyer behavior.

2. There are those studies which assume interaction and look for relationships between buyer behavior and some composite index of social class which would include all three variables. In this group would also be found those studies which relate buyer behavior to some "alternative variables" which utilize income relative to social class median income (Frank Massy, and Wind, 1972).

Income is the single characteristic most frequently used as a basis for segmentation. While some general trends appear in various studies (for example, Linden, 1967, has found patterns very similar to Engel's Laws), the bulk of income-related segmentation studies has produced mixed results. Wasson (1969) has found the utility of income to be suspect, while Slocum and Mathews (1970) have found it to be superior to variables such as occupation or social class. In their study, in which they review much of the debate and add their own input, Myers, Stanton, and Haug (1971) conclude that income is generally better than social class for explaining behavior; but they add that social class may be superior to income for higher cost items. This is somewhat at odds with Frank, Massy, and Wind (1972), who conclude that contrary to grocery products, as one might expect, income has a considerably greater effect on the purchase of durable goods. At this time the issue is unresolved.

In their review article, Bieda and Kassarjian (1969) conclude that education is not as easily dismissed as some other socioeconomic factors as a valid segmentation base. They think

education has some predictive ability, but they do not expand on this point.

Occupation has been used both as a single characteristic base in its own right (Peters, 1970, 1973) and as a proxy for social class (Wasson, 1969). Peters found occupation no better than income in determining segments. Wasson, on the other hand, found occupation a much better variable than income; but his concern was the relative merits of using occupation classes, not income classes, as social class proxies.

Generally, social class is treated as a composite variable. Social classes are relatively permanent, large, homogeneous segments of society with shared values, interests, life styles, and behavior patterns (Frank et al., 1972; Gordon, 1950, Kahl, 1965, Berelson and Steiner, 1964). Significant differences in shopping behavior between social classes have been shown by Jain and Rich, 1968), who found that the importance of fashion varied with social class. As class increased, the relative importance of fashion increased. Higher social classes also shopped more frequently and were more selective as to type of store used.

When they defined and compared two different groups of credit card users, Mathews and Slocum (1969, 1970) found that bank credit card usage differed among classes. Those in the lower classes tended to be "installment users," to use their cards more, and to patronize stores which honored their cards. Those in the upper classes tended to be "convenience users" and to use their cards less and usually did not seek out merchants who honored their cards.

Unfortunately, Mathews and Slocum were not able to establish that social class was any more effective than income in explaining these differences.

In their attempts to explain the relatively poor performance of social class variables, some researchers have argued, not unexpectedly, that social classes are not sufficiently homogeneous. Coleman (1960) was the first to discuss the concept of "overprivileged" and "underprivileged" consumers, those within each class whose incomes are relatively high and relatively low. He met with some success when he used this composite variable of income/social class to explain purchases of consumer durables. Coleman found, for example, that the "underprivileged" members of each class were as apt to buy compact cars as were the lower class members.

Peters (1970, 1973) developed a different composite variable, "Y/O," which considered the relative standing of the consumer's income relative to the median of his occupational class. He concludes that "the strength of Y/O as a predictor of an individual's behavior is not superior to using income and occupation separately as explanatory variables . . . none of the R^2 values . . . exceed .08."[13]

Another explanation, offered by several sociologists (Adams, 1953; Benoit-Smullyan, 1944; Sorokin, 1947; and Lenski, 1954, 1956), is that of social class "congruence" or "consistency." Given that social class is a multi-factor measure, some members may not be consistent in all factors--such as income, education, and

occupation--with the standards of the class to which they belong. The essence of congruency theory is that those with congruent socioeconomic positions will behave differently from those with incongruent positions. Wind (1969) applied this concept to a marketing study, with very disappointing results; it was no better a predictor that several independent socioeconomic variables and in some cases was of little benefit.

Objective-Situation-Specific

Brand Loyalty Patterns

The idea of using brand loyalty as a variable to describe consumer behavior and ultimately as a segmentation base has its roots in the early work of Brown (1952-53) and Cunningham (1955-56). From these studies two ideas emerge:

1. There is a tendency among households to concentrate purchases on a limited set of brands in a given product category;
2. The degree of brand loyalty varies across both households and product categories.

The concept would be useful as a segmentation base, it is held, if loyal and non-loyal segments had different socioeconomic, demographic, or personality profiles or if they had different media habits or shopping habits. If so, a firm could focus and tailor its marketing to reach a specific loyal segment. Frank, Massy, and Wind (1972) feel, however, that the utility of loyalty as a segmentation base depends less on its association with other consumer characteristics, than on the consumer's self-selection. They feel

the marketer can entice the non-loyal to be loyal and can reinforce the loyal to remain so.

In any case, for the concept to be properly utilized it must be better understood. Since the early works of Brown and Cunningham, several methods of examining "brand loyalty" have been developed. Researchers have examined the following:

1. Brand-choice sequences (Brown, 1952-53)
2. Proportion of purchases (Cunningham, 1956)
3. Repeat purchase probabilities (Kuehn, 1962)
4. Brand preference (Guest, 1964)

Unfortunately, "so many definitions make it difficult and hazardous to compare, synthesize, and accumulate findings" (Kollat, Engel, and Blackwell, 1970).

The results of studies undertaken to link the brand loyalty concept with other characteristics have been relatively poor. Frank and Boyd (1965) investigated socioeconomic and consumption characteristics of private-brand-prone vs. manufacturer-brand-prone households and found little difference.

The Advertising Research Foundation (1964) and Massy, Frank, and Lodahl (1968) tried to associate socioeconomic and personality data with loyalty data across a variety of products by using a common data base. They were able to explain only a maximum of ten percent of the variation in brand loyalty.

Studies trying to link brand loyalty to consumption levels (Farley, 1963; Frank, Douglas, and Polli, 1968; Cunningham, 1956;

Massy, Frank, and Lodahl, 1968) have been similarly disappointing in their results.

The research cited does not indicate that brand loyalty is a particularly useful base for segmentation. Frank (1967) has indicated that brand-loyal buyers are not identifiable by socio-economic or personality differences, do not have different consumption patterns, and are not sensitive to different promotional strategies.

In their review of the area, Frank, Massy, and Wind (1972) express this same disappointment but nevertheless caution against rejection of brand loyalty as a valid segmentation base pending improvements in research methodology.

Consumption Patterns

The study of the total consumption of a product by a household has been offered as a possible base for market segmentation. Twedt (1964) has been an avid proponent of the "heavy half" theory, in which the marketer focuses his attention on the half of the product category users who consume 80 percent of the product and ignores the half who consume 20 percent. Unfortunately, the heavy half segment is not very identifiable. Twedt himself has stated, "Since the heavy-using household is not readily identified in terms of other characteristics, we are left with the tautology that 'a heavy user is a heavy user.'"[15]

The results of studies investigating the relationship between household expenditures on a variety of products and

socioeconomic characteristics have been relatively inconclusive (Ferber, 1962; Frank, Massy, and Boyd, 1967). Studies attempting to explain differences in consumption of individual brands by linking the variations in usage to socioeconomic and demographic characteristics have produced similarly inconclusive results (Garfinkle, 1963; Massy et al., 1968; Brody and Cunningham, 1968; Pessemier and Tigert, 1966).

This lack of results may be explained by the makeup of this form of segment. That is, if the segment is homogeneous in need, the marketer can appeal to the needs of the segment and let the consumers self-select themselves; lack of identity would reduce media efficiency but would not be crucial. A number of researchers, however, have challenged this assumption of heavy-half homogeneity (Wells and Tigert, 1971; Michaels, 1972; Haley, 1968; and Wells, 1975). Wells, for example, has used the mouthwash market to illustrate possible heterogeneity of a heavy user segment. He feels that this segment may be divided among "hygiene" heavy users who are trying to prevent colds and the spread of germs and "cosmetic" heavy users who are trying to sweeten their breath. This would lead to a need for at least two different appeals to reach the segment. So, as regards product variations and promotional appeals, usage by itself appears to provide a limited base for segmentation.

Participation in the Adoption/ Diffusion Process

Information processing behavior (transmitting, seeking or avoiding information), influence pattern (opinion leader or

follower), and degree of innovativeness are all components of the adoption/diffusion process (Rogers, 1962; Frank et al., 1972). Despite the intuitive appeal of these constructs, there is little evidence to support the belief that they might be general consumer characteristics.

Personal influence occurs during a direct encounter of two or more people which results in behavior or attitude change in the participants (Merton, 1957). The individual who has recently purchased a product or plans to purchase a product often needs to talk about the purchase to dispel pre-purchase tension or post-purchase dissonance. Thus, as individuals interact with each other in formal or informal groups, they either transmit, seek, or avoid information depending on the specific circumstances (Kassarjian and Robertson, 1968).

Individuals to whom others turn for information and advice are called opinion leaders. Traditionally, opinion leaders were a target market of primary interest that marketers attempted to influence to gain favorable word of mouth. A seminal work in the area was Katz and Lazarfeld (1955), which theorized that information flowed to the mass of people from mass media through opinion leaders in a now-famous "two-step" process. It was thought that if opinion leaders could be isolated, they would make an invaluable segment.

However, other findings suggest that opinion leadership does not correlate closely with socioeconomic and demographic variables. Myers and Robertson (1969), in an extensive study of several products, found only small correlations with demographic

variables and found no single variable to be significant for all products. Similarly disappointing results were found in regard to personality variables (King and Summers, 1969; Myers and Robertson, 1969).

Opinion leaders also apparently exert their influence primarily in only one rather well-defined area of interest (Silk, 1966; Katz and Lazarsfeld, 1955; Rogers, 1962) rather than across a variety of topical areas. Opinion leadership does seem, however, to transcend several product areas where there are common interest dimensions (King and Summers, 1969; Montgomery and Silk, 1969).

The diffusion of innovations--the spread of new ideas or products through a social system over time--is an extensive area of research, often closely tied with the concept of opinion leadership. Many studies have investigated the phenomenon of innovativeness or relative earliness to adopt a new product or practice; the Diffusion Documents Center at Michigan State University contains several hundred citations.

There is considerable evidence to support the view that early adopters differ from later adopters. The findings of various disciplines on this subject are reviewed by Rogers and Stanfield (1968); and several studies of marketing innovators have found similar differences (Robertson, 1971). However, most studies report weak relationships and, on the whole, it seems that no variables apply uniformly to all products. Appel (1970 a,b), for instance, found that, contrary to accepted patterns, early adopters were sometimes <u>lower</u> in income and status.

This suggests that innovativeness in one area does not automatically imply innovativeness in another area. This is supported by findings from studies which have directly investigated the amount of overlap in innovativeness in different areas (Robertson and Myers, 1969; Arndt, 1968). They find practically no overlap in innovativeness over different areas. Therefore, there is little support for innovators or early adopters as a special market segment (Hansen and Bak-Jensen, 1972).

Inferred-Situation-Specific

Since Lavidge and Steiner (1961) first proposed the concept of hierarchy of effects (Palda, 1966) and Yankelovich (1964) applied the use of attitudes, motivations, values, etc., to segmentation, attitudinal segmentation has intrigued marketing scholars as well as practitioners.

Although many categories of attitudinal factors might be used, three specific sets appear particularly relevant for market segmentation (Frank et al., 1972):

1. Attitudes toward specific brands, products, or companies
2. Purchase intentions
3. Perceptions and Preferences

Attitudes

Allport (1935) states that an attitude toward an object is a predisposition to respond to the object in a consistently favorable or unfavorable manner. In basic agreement, Krech and

Crutchfield (1948) define attitude as an enduring organization of motivational, emotional, perceptual, and cognitive processes with respect to some aspect of the individual's world. More specifically, and perhaps operationally, other researchers have emphasized the three components of an attitude (Hughes, 1971; Krech, Crutchfield, and Ballachey, 1962; Katz, 1960; Katz and Stotland, 1959; and numerous others):

1. The cognitive component is the package of beliefs or perceptions a person holds about an object;
2. The affective component is the emotional aspect, a person's feeling of like-dislike toward the object;
3. The conative component refers to the behavioral tendencies of the person's potential, or readiness, to respond to the object.

Frank, Massy, and Wind (1972), in a review of research in attitudinal segmentation, reveal that the studies seldom included all three components of attitudes, because the researchers chose to operationally define "attitude" in terms of their own studies. Three studies cited by Frank, Massy, and Wind (1972) which reported direct relationships between attitudes and product usage are Reiser (1966), Robertson (1968), and Bird, Channon, and Ehrenberg (1970). No one set of specific attributes was universally applicable to all products; each product category had its own unique set of factors by which consumers evaluated each product.

As a special case of attitudinal segmentation, Haley's (1968) "benefit segmentation," in which the benefits people are seeking are considered to be the basis for true market segments,

should be included. Several researchers--including Haley (1968, 1969, 1971), Hustad and Pessemier (1974), Wiseman (1971), and Appel (1970 a,b)--have come out in favor of benefit segmentation. In all cases they conclude that, for specific products, benefit segmentation seems to produce valuable results (Hustad and Pessemier, 1974).

A negative note is sounded by Plummer (1974), who states that although benefit segmentation is often useful and can be the basis for multi-brand development, it is inadequate to describe the consumer as a person. To some extent, this is countered by Haley (1971), who states that benefit segmentation is not designed for media efficiency or placement of advertising but is useful in writing advertisements. Reitter (1969) and Wind (1973) think that there is potential for new product testing where it can be assumed that tastes differ among various segments. Haley (1968) and Plummer (1974) would probably find an area of agreement in the idea that benefit segmentation is highly product-specific and thus cannot be expected to describe the consumer as a person. This approaches the essence of the current research and is treated more fully below.

Perception and Preferences

Closely tied to attitudes about products and the operational subset of benefit segmentation is segmentation based on consumers' perceptions and preferences. This is seen in a modified hierarchy of effects model (Lavidge and Steiner, 1961; Wells, 1972) in Figure 5.

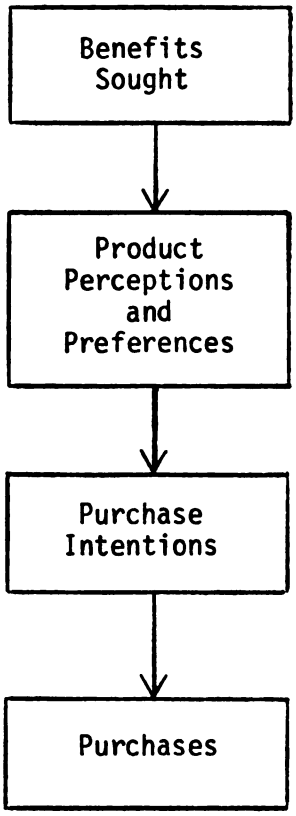


Figure 5.--Modified Hierarchy of Effects.

Given the two basic processes of perception and preference, one can segment the market based on (1) commonality of perceptions; (2) commonality of preferences; and (3) commonality of both perceptions and preferences (Frank et al., 1972).

A number of researchers--for example, Stefflre (1968), Johnson (1971), and Barnett (1969)--assume commonality of perceptions and focus on commonality of preferences as a basis of segmentation. This approach to segmentation has a number of adherents and almost as many names: "product segmentation" (Barnett, 1969);

"market mapping" (Pitts, 1969); "perceptual mapping" (Assael, 1971); and, currently, "product positioning" (Trout and Ries, 1974; Holmes, 1973). As stated, these researchers all assume that consumers have a common perceptual map composed of several product dimensions, with the products in question placed at different positions with respect to the dimensions of the map. The consumer prefers a particular product based on its position along the dimensions of benefits desired.

One of the few studies which segment consumers on both commonality of perceptions (without assuming it) and commonality of preferences is Wind and Robinson (1970). In this study, the positioning of such diverse products and services as calculators, diet products, medical journals, financial services, and retail stores were examined. Unfortunately, although diagrams of the different perceptual maps are shown, no statements are made of the explanatory ability of the studies. In any case, the results would be completely product-specific.

As to segmenting on commonality of perceptions alone, little has been done. As Frank, Massy, and Wind (1972) state, commonality of perceptions does not assure commonality of subsequent purchase.

Purchase Intentions

As seen in Figure 5, purchase intentions are the closest variable to actual purchase. Fishbein (1966) considers them the most powerful expression of attitudes--what a person "thinks" he would do if confronted with a given situation. Unfortunately, there

are several situational factors which may moderate the consumer's behavior between intention and purchase (Engel et al., 1975). Nonetheless, the results of studies at the Survey Research Center of the University of Michigan show that intentions are related to actual purchases of durable goods (Mueller, 1957). The vast majority of studies of this nature, however, are proprietary and the findings unavailable.

Inferred-General

The basic shortcomings of the Objective-General approach to segmentation have caused researchers to look more internally to the consumer for general bases for segmentation. The chief types of Inferred-General research have been personality, self-concept, and life style.

Personality

Personality is a very difficult concept to review in a collective manner. In their comprehensive book on theories of personality, Hall and Lindzey (1957) state that "personality is defined by the particular empirical concepts which are a part of the theory of personality employed by the observer."[16] Bennett and Kassarjian (1972) propose defining personality as a consistent pattern in a person's responses to the world about him or a usual mode of coping with his environments, internal and external.

There have been several rather comprehensive reviews of personality as it impinges on consumer behavior (Kassarjian, 1971; Wells and Beard, 1973; Frank et al., 1972). As Kassarjian states:

> A review of these dozens of studies and papers can be summarized in the single word, equivocal. A few studies indicate a strong relationship between personality and aspects of consumer behavior, a few indicate no relationship, and the great majority indicate that if correlations do exist they are so weak as to be questionable or meaningless.[17]

Specifically, Engel, Kollat, and Blackwell (1973), in reviewing personality as a basis for segmentation, have found that most attempts have ended in failure. They do submit that life style as a form of personality segmentation has proven more useful. This will be discussed later in this section. Their conclusion is that future research attempts to identify market segments based on personality dimensions are destined to a low practical payout.

It has been argued (Engel et al., 1973; Wells, 1970; and Kassarjian, 1971) that much of the difficulty in obtaining favorable results with personality variables rests in using general psychological inventories as opposed to inventories tailor-made for the study at hand. Several studies which have used tailor-made inventories (such as White, 1966; Ziff, 1971; and Lunn, 1968) and some which have used product-bound measures (Brody and Cunningham, 1968; Fry, 1971) have shown more encouraging results.

It seems, however, that much of the hope of future research in this area is based on using personality as a moderator or as an intervening variable (Engel et al., 1969). In the case of personality as a moderator variable, it is assumed that a set of personality characteristics may be more useful as a predictor in one circumstance than in another. In other words, where a particular situation is thought to exist, such as high self-confidence on the

part of the purchaser or high risk inherent in the purchase decision, personality characteristics may moderate the situation and lead to meaningful segments.

In a study of cigarette brand choice, Fry (1971) was able to explain much more variation in purchase decisions when he used personality as a moderating variable than when he did not consider it. He asserts that the differences between segments are hidden in the data unless personality characteristics are used to highlight them.

Ray and Wilkie (1970), in a study on fear appeals in marketing, come to the conclusion that personality strongly moderates the situations where fear may be used as an appeal. In partial summary of a lengthy analysis of fear literature, they find that segments with high fear potential are those characterized by low anxiety, high self-esteem, and the tendency to attempt to cope with problems rather than to avoid them.

In using personality as an intervening variable in segmentation, the researcher first segments the market on some other basis, such as demographics or usage rate (Engel et al., 1975) and then utilizes personality measures to explain the "why" of the different segments. In this manner, Wiseman (1971) was able to develop much more meaningful results than his predecessors (Evans, 1959; Westfall, 1962; and Martineau, 1957) in segmenting the automobile market. Wilkie (1970, 1971) favors this particular use of personality in segmentation research. He seems to feel that while personality may be a weak predictor of segments, it is a valuable descriptor.

Self-Concept

Some research indicates that self-concept or image is a valuable basis to consider for segmentation. While properly a subset of personality, self-concept is important enough to be considered separately.

"Human beings characteristically . . . make decisions with reference to some imagery of what they are, what they have been, and what they hope to be."[18] An individual's buying behavior, therefore, is partially a function of his idea of who he is, who he wants to be, and how he wants others to perceive him. This striving to enhance or achieve a certain self-image is reflected in the products he purchases and consumes (Newman, 1957; Staudt, Taylor, and Bowersox, 1976; and Delozier and Tillman, 1972).

Research has demonstrated that congruence between product-images and self-images can provide a viable basis for segmentation (Grubb, 1965; Grubb and Grathwohl, 1967). In separate studies, an automobile owner's perception of his car was found to be basically congruent with his perception of himself (Birdwell, 1968) and his fellow owners (Grubb and Hupp, 1968).

In general, greater similarity exists between one's self-image and the image of preferred products than between self-image and less preferred products (Dolich, 1969). Sometimes the consumer purchases products which enhance or complement his "real self," and other times he seeks to supplement his real self to make it more congruent with his "ideal self" (Schewe, 1973; and Hustad, Mayer, and Whipple, 1974). There is evidence that even new and

unfamiliar brands are subject to this form of evaluation in which the consumer seeks product-images congruent with his self-image (Delozier and Tillman, 1972).

Life Style

Life style is a concept which has been considered by behavioral scientists, particularly sociologists, for a number of years. Although introduced to marketers by Lazer (1963) some years ago, it was not used in segmentation studies until the mid-1960s (Wilson, 1966) and not extensively until fairly recently.

In his seminal work, Lazer (1963) states:

> It (life style) is concerned with those unique ingredients or qualities which describe the style of life of some culture or group, and distinguish it from others. It embodies the patterns that develop and emerge from the dynamics of living in society.
>
> Life style, therefore, is the result of such forces as culture, values, resources, symbols, license, and sanction. From one perspective, the aggregate of consumer purchases, and the manner in which they are consumed, reflect a society's life style.
>
> Life style, therefore, is a major behavioral concept for understanding, explaining, and predicting consumer and business behavior. It is a more generalized concept than existing concepts of consumer behavior that have been advanced in marketing. Such topics as mobility, leisure, social class, life cycle, status, conformity, mass, and the family as a consuming unit are all part of the life-style fabric.[19]

While this is a fairly straightforward statement, the operationalization of life style has engendered some confusion. From as early as Wilson (1966), researchers have freely interchanged such concepts as life style and psychographics. This confounds the process of analyzing prior work in the life style area. In a critical review of the psychographic literature, Wells (1975) found no

single definition of life style, while in twenty-four articles, he found thirty-two definitions of psychographics.

This confusion in the literature is apparent in Wind and Green (1974), who, stating that there is no clear-cut conceptual or operational definition, found life style refers to the following:

1. The products a person consumes, the symbols of his life style;
2. The person's activities, interests, and opinions;
3. The person's value system;
4. The person's personality traits and his concept of self;
5. The person's attitudes toward various product classes, which may include the benefits he seeks in purchasing items in the various classes, the special problems to be solved by various classes, and his general attitudes toward brands in the various classes.

Hustad and Pessemier (1974) try to dichotomize this area of research by stating that "psychographics" refers to a broad range of general psychological and personality variables. "Life style" research is more concerned with attitude ("learned, enduring predispositions to act") and activity ("manifest action") measures. This approach is similar to Demby (1974), who states that the analysis and classification of activity or behavioral reports from the consumer, which are frequently classified as psychographics, should be identified by a distinct term, "Life style." Also, Wells (1974) states that there is some consensus that the term "psychographics" refers to studies that focus on abstract theory-based or

clinic-based personality traits. Life style studies, on the other hand, focus on more specific activities, interests, attitudes, and values directly tied to consumer behavior.

To differentiate these various uses of the terms "life style" and "psychographics," Ziff (1972) has proposed a new set of terms to replace the general term psychographics:

1. Ego-graphics for personality studies
2. Life-graphics for life style studies
3. Value-graphics for needs/values studies
4. End-graphics for benefits

It should be noted that this breakdown closely conforms with that of Wind and Green (1974) stated above. In this regard, "life-graphics" describes both the pattern of products a person consumes (his symbols) and the activities, interests, and opinions which form the fabric of his being.

Therefore, life style properly refers to the overall manner in which a person lives and expends time, energy, and money. Two major ways have developed to operationalize the concept of life style as a patterned way of life into which a person fits various products or ideas (Frank et al., 1972):

1. By the pattern of products the person consumes, the symbols he uses to proclaim who he is;
2. By the person's activities, interests, and opinions (AIO).[20]

While the first of these methods of operationalizing life style, a pattern of consumption, has seen relatively little use (Levy, 1963, 1968; Peterson and Sharpe, 1973), the second method,

the AIO statement, has been widely used (Plummer, 1974; Hustad and Pessemier, 1974).

In general, life style research has been found to contribute to a market segmentation effort in three somewhat different manners: (1) to aid in describing existing market segments, (2) to contribute new and useful segmentation variables, and (3) to develop new segments (Wells, 1974). In describing existing segments, sometimes referred to as a "backward segmentation," life style information enriches the profile of the consumer. It may enable the marketer to understand why the segments behave differently and may suggest better ways to reach the consumer through product modification, promotional appeals, or type of retail outlet or channel of distribution.

Darden and Perrault (1975) used AIO's to test the relationship of segments to vacation behavior and media usage. They found that although behavior was highly related to media usage, both variables were a function of life style. Michaels (1972) also investigated media usage and used AIO's to develop profiles of readers of various magazines.

Plummer (1974) used AIO's to identify differences in credit card users, whether "convenience" or "installment" users, and to guide creative effort in the development of advertising campaigns, while Hawes (1975) used AIO's to discriminate between users and non-users of credit for leisure pursuits.

Tigert, Lathrope, and Bleeg (1971) were able to discriminate between users and non-users of fast food outlets and were able to

tie the heavy users to other products. Tigert (1970) further developed profiles of the heavy users of a number of products using AIO's.

In creating new variables or dimensions from life style information, the researcher is primarily concerned with developing scales to measure differences in consumer propensities. Work in this area has investigated such concepts as risk-proneness, dogmatism, venturesomeness, and creativeness (Wells, 1974; Coney, 1972; Demby, 1974; and Jacoby, 1971). Pessemier and Tigert (1966) used AIO's to develop scales for prediction of a variety of consumer behavior, such as media usage, brand recognition, and product usage. Frank and Strain (1972) were also able to develop predictor scales of product use based on AIO items.

In creating new segments, the researcher generally will present a set of AIO statements to a consumer sample and collect consumers' responses. This data is cluster- or factor-analyzed to develop groups of consumers with relatively uniform life styles. These groups, considered to be market segments, can be described in terms of the AIO's or possibly the demographics which might discriminate between them. Their life styles offer the marketer some insight into what they are seeking and provide clues for product and promotional strategy. For example, Pernica (1974) used AIO's to develop types of consumers who would be responsive to different promotional emphasis. Media placement can be guided by consumers' reading and viewing habits and demographics profiles, where available.

Within the broad area of AIO-based life style segmentation, efforts have been divided by the use of either "general" or "specific" measures to segment the market (Frank et al., 1972). Specific AIO's are those which are thought to have some direct relationship to the product category under study. For example, a study on upset-stomach remedies might contain such statements as "If you overeat, you deserve to suffer afterward" or "An effervescent medicine is a quick way to relieve stomach upsets . . ." (Pernica, 1974). Product-specific life style studies are used primarily in the following cases:

1. When brands are differentiated on physical or psychological grounds and brand-level strategy is dominant (Hustad and Pessemier, 1974);

2. To provide a microscopic, detailed view of a particular product in terms of different motivations for product use (Plummer, 1974);

3. To aid the marketer in positioning or repositioning his brand (Wells, 1975).

General AIO's can cover any area and seek to establish a broad-based pattern reflecting the consumer's life style. General life style studies are used primarily:

1. To discriminate between users and non-users of a particular product (Hustad and Pessemier, 1974);

2. To provide a broad overview of consumers and how products do or could fit into their lives (Plummer, 1974);

3. To provide an opportunity to tailor new products and services to the needs of different groups within the consumer population (Wells, 1975).

The thrust of most research seems to be in favor of using specific as opposed to general AIO statements (Hustad and Pessemier,

1974; Pernica, 1974; Young, 1971; and Ziff, 1971). The logic behind this preference is undeniable. The more closely tuned to a particular problem a set of AIO's is, the more likely it is that good results will be obtained (Wells, 1972).

There are some disadvantages, however, in a heavy emphasis on product- or situation-specific variables. For one, if carried to extremes the study might develop a very redundant life style profile. Wells (1974), for example, refers to the possibility of finding that heavy users of ski resorts are consumers who enjoy active, vigorous, cold-weather outdoor sports, especially skiing. These results would not be particularly illuminating!

Another major disadvantage is that, since each study uses very product-oriented AIO's, cross tabulating and comparing obtained segments becomes problematical. This would be particularly disadvantageous for multi-product, multi-brand companies. Wind and Green (1974) state that the result of this approach is to make each study an ad hoc, isolated exercise requiring repetition for each new problem.

These disadvantages of specific AIO's lead Wells (1974) to stress some advantages in using general AIO statements:

1. Using a common pool of AIO's allows comparability from study to study;

2. Life style trends can be spotted more easily over time to detect changes;

3. A data bank based on general characteristics may provide information for dealing with problems which were unforeseen when the data was gathered;

4. Person-oriented or general variables are less tied to the status quo than product-specific variables and may highlight opportunities for new products.

In terms of the current study, the advantage of comparability is paramount.

Summary

This study asks the question, Are there segments in the consumer market which are based on some enduring, underlying dimensions such that the segments are cohesive regardless of the product under consideration? Therefore, it is necessary to consider a segmentation basis from either the "general-objective" or the "general-inferred" groups. By their very nature situation-specific variables must be excluded from further consideration.

Of the general variables, demographic and socioeconomic variables have not proven very valuable (Frank, 1968), nor is there a great deal of promise in general personality measures (Engel et al., 1973). At the same time, much interest is developing in the concept of life style segmentation (Kassarjian and Sheffet, 1975; also Wells, 1974a and 1975, provide a very comprehensive overview).

In several studies which have addressed the relative ability of life style and other general measures (most notably demographics and socioeconomic variables) to explain differences in consumer behavior, life style has been found to be a better basis. Villani (1975) found life style to be better than either personality or demographics in explaining television viewing behavior. This is

in agreement with Darden and Perrault (1975), who found media exposure to be a function of life style. Also, Pessemier and Tigert (1966) found AIO-developed scales superior to either standard demographic or personality scales.

Wells (1972), Ziff (1972), and Yankelovich (1971) have all argued that measurement of life style variables surpasses demographic measures in explaining consumer markets. Empirical results supporting these assertions can be found in Wilson (1966); Pessemier and Tigert (1966); Hustad and Pessemier (1972); and Bass, Pessemier, and Tigert (1969). Hustad and Pessemier (1974) provide a good summary of similar results.

On this basis, the current research will use AIO's of a general nature to develop life style segments to support the view that there are broad-based segments of an enduring nature.

FOOTNOTES: CHAPTER II

[1]Wroe Alderson, Marketing Behavior and Executive Action (Homewood, Illinois: Richard D. Irwin, Inc., 1957), p. 59.

[2]Ibid., p. 51.

[3]Flemming Hansen and T. Bak-Jensen, "Backwards Segmentation Using Hierarchical Clustering and Q-Factor Analysis," in Seminar on Segmentation and Typology, Techniques and Applications to Marketing Problems (Brussels: ESOMAR, 1972), p. 71.

[4]Wendell R. Smith, "Product Differentiation and Market Segmentation as Alternative Marketing Strategies," Journal of Marketing 21 (July 1956): 6.

[5]Kenneth Schwartz, "Fragmentation of the Mass Market," Dun's Review and Modern Industry (July 1962).

[6]James F. Engel, Henry F. Fiorillo, and Murray A. Cayley, Market Segmentation: Concepts and Applications (New York: Holt, Rinehart, and Winston, Inc., 1972), p. 4.

[7]Ibid., p. 5.

[8]Ibid., p. 6.

[9]Thomas A. Staudt and Donald A. Taylor, A Managerial Introduction to Marketing, 2nd ed. (Englewood Cliffs: Prentice-Hall, Inc., 1970), p. 32.

[10]Ibid., p. 33.

[11]Ronald E. Frank, "Market Segmentation Research: Finding and Implications," in Applications of the Sciences in Marketing Management, eds. Frank M. Bass, Charles W. King, and Edgar A. Pessemier (New York: Wiley, 1968), p. 49.

[12]Frank M. Bass, Douglas J. Tigert, and Donald T. Lonsdale, "Market Segmentation: Group Versus Individual Behavior," Journal of Marketing Research 5 (August 1968): 265.

[13]William Peters, "Income and Occupation as Explanatory Variables: Their Power Combined vs. Separate," Journal of Business Research 1 (Summer 1973): 84.

[14]Frank, p. 53.

[15]Dik Warren Twedt, "How Important to Marketing Strategy Is the 'Heavy User'?" Journal of Marketing 28 (January 1964): 72.

[16]C. S. Hall and G. Lindzey, Theories of Personality (New York: Wiley, 1957), p. 9.

[17]Harold H. Kassarjian, "Personality and Consumer Behavior: A Review," Journal of Marketing Research 8 (November 1971): 415.

[18]A. R. Lindesmith and A. L. Strauss, Social Psychology, rev. ed. (New York: Holt, Rinehart, and Winston, 1956), p. 413.

[19]William Lazer, "Life-Style Concept and Marketing," Proceedings of the Winter Conference of the AMA, 1963, pp. 130-139, reprinted in Eugene J. Kelley and William Lazer, Managerial Marketing (Homewood, Illinois: Richard D. Irwin, Inc., 1973), pp. 114-15.

[20]An "activity" is a manifest action, generally an observable event (Reynolds, 1973; Hustad and Pessemier, 1971). An "interest" is the degree of excitement that accompanies special and continuing attention to some object, event, or topic (Reynolds, 1973). An "opinion" is an expressed attitude, belief, or value (Rosnow and Robinson, 1967).

CHAPTER III

RESEARCH METHOD

The purpose of this chapter is to explain the research method employed in this study. In the first section, the products used in this study and the rationale for their selection are presented. In the second section, the formulation of the measurement instrument used in data collection is discussed. In the third section, the sample used is scrutinized. In the fourth section, the data analysis is dealt with. The fourth section is divided into four parts: (1) the processing of the data; (2) the development of life style scales; (3) the description, purpose and use of hierarchical cluster analysis; and (4) the description, purpose, and use of analysis of variance.

Products Investigated

As stated in Chapter I, Problem Definition and Explanation, the products chosen for this study conform to the mainstream of segmentation research in being frequently purchased, domestic consumer products (Frank, Massy, and Wind, 1972). More importantly, they conform to several additional criteria:

1. Convenience goods: The product selected should ideally be purchased regularly and routinely so that some preference and usage patterns will have been developed by the respondents.

2. Knowledge/availability: The respondents should have knowledge of the products used so that they can be expected to furnish information; the products should also be readily available to all respondents so that the choice is realistic and allows for some previous learning.

3. Common use: The products should have such basic appeal that all respondents can be expected to have used at least one type within all four categories.

4. Observable differences: The products should have observable or promoted differences so that the products can be classified by type, either through direct observation of the product or through industry promotion.

5. Market acceptance: The products should be established in the market so that each type within a category can be expected to be used by some set of the samples.

6. Substantiality: Each product type should be reasonably expected to have a substantial share of the market.

The products chosen for study, meeting all of the above criteria, are two categories of food products and two categories of health and beauty aid (HBA) products. This set was chosen to enable an analysis of intra-class and inter-class evaluations of frequently purchased consumer products. Specifically, the products used in the study are:

Foods: 1. Soft drinks

a. Colas
b. Tart/citrus
c. Fruit-flavored

2. Breakfast cereals

    a. Natural
    b. Sweetened
    c. Vitamin-fortified

HBA: 3. Bath soaps

    a. Deodorant
    b. Beauty
    c. General use/family

4. Pain relievers

    a. Aspirin
    b. Extra-strength
    c. Non-aspirin

This presentation of product categories and types had been found to be both understandable and operational in a pilot study involving a non-student, convenience sample. That is, the subjects of the pilot study had no apparent difficulty understanding and applying the product type labels (for example, "tart/citrus"). Assuming that the respondents in the major study share common perceptual fields with those in the pilot (Stefflre, 1968; Johnson, 1971; and Barnett, 1969), these labels could be expected to elicit the desired information.

Measurement Instrument

Activity, Interest, and Opinion Items

After the selection of the products to be used, attention turned to a consideration of the particular Activity, Interest, and Opinion (AIO) items to be included in the study.

The first decision in the process of selecting AIO's was whether to use standard items from the literature or to develop

custom-made items for the study at hand. While it is possible to develop reliable custom-made items (Wells, 1975) which may give more finely tuned results (Wells, 1972), this process is very expensive, time-consuming and risky (Wells, 1972, 1975).

There are a number of compelling circumstances in favor of using standard items. For instance, standard items are generally more reliable than custom-made items (Wells, 1975). Reliability may be thought of as an item's stability or consistency, the degree to which it would give consistent results if used from time to time (Wilson, 1966). The use of standard items from study to study also allows for comparability of results (Wells, 1972). This is in agreement with the "norms of correspondence" (Kaplan, 1964), which tie new inquiry into previous work. There exists quite a body of collected AIO's which have been tested and shown reliable in past studies (Tigert, 1969; Wells and Tigert, 1971).

The AIO Item Library (Wells, 1971) was chosen as a basic source from which to choose the items for this study. To make specific choices of items from this large base of several hundred items, it was cross-checked against several studies in which the researchers used items listed in the AIO Item Library and report some measure of reliability (Wilson, 1966; Tigert, 1969; Barnes, 1975; Villani and Lehmann, 1975; Darden and Perreault, 1975, 1976). The final list of items generated for this study and a reference to the research in which they are reported are to be found in Appendix A.

It should be stated here that there has been very little work done on the validity of AIO items. The little evidence so far generated that AIO's relate to other variables in quite sensible patterns (see Wells, 1975, for a comprehensive summary) supports the assumption that these measures have face validity. At the very least it may be said that items taken from an established, accepted, tested list such as Well's AIO Library are more valid than any developed ad hoc without incurring undue costs in finance and time.

The first decision having been made, the second decision involves the number of items to include in the study. The number of items used in reported studies has been quite variable. Darden and Perreault, for example, used two separate sets of fifty items in their studies of media usage and vacation behavior (1975) and of outshopper behavior (1976). At the other extreme, several studies used three hundred items (Michaels, 1972; Plummer, 1971; Tigert, Lathrope, and Bleeg, 1971; Tigert, 1970). Between these extremes, Hawes (1975) used eighty-seven; Pessemier and Tigert (1966) used one hundred twenty-four; Frank and Strain (1972) used one hundred fifty-one; and Wilson (1966) used one hundred fifty-seven.

To a certain extent, it must be agreed that the more items used, the better the chances are of obtaining good results. But there are some negative aspects to this type of "fishing expedition" (Wells, 1975). As a questionnaire grows longer, respondents are less willing to cooperate in the experiment, thereby reducing the return rate. Moreover, lengthy questionnaires may fatigue the subjects, thereby introducing respondent error. In all the studies

cited where several hundred AIO items were used, the researchers had access to and used paid mail panels, assuring themselves of high response rates. The author of this study does not have the resources to develop such a panel; and, therefore, would have been risking a very poor return with much potential error if such a large number of items had been used.

There is also a further consideration of undue redundancy:

> Beyond a certain point, asking multiple questions on a given topic simply becomes redundant. Some redundancy is desirable both because it affords a check against mechanical errors and because the respondent's views on a particular subject become clearer when the topic is approached in several different ways. However, questionnaire space is always limited, and many questions on one topic will crowd out questions on other topics that might be equally valuable.[1]

Given that the items to be used in this study were taken from research where the researchers generated fifteen to twenty life style scales (see, for example, Tigert, 1969; Wilson, 1966) and that three to five items per scale should be sufficient to obtain good results (Darden and Perreault, 1975, 1976), the author chose to use seventy-five AIO items. It should be noted that the items selected generally loaded highly on the factors (scales) which the prior researchers reported. Theoretically, if an item has a factor loading of 1.0, the item <u>is</u> the scale and should not have to be supplemented with other items in order to tap that dimension of the subject's life style. With minor exceptions, the items chosen for this study loaded at least at the 0.4 level and generally at greater than the 0.5 level.

Object Description Task

The Object Description Task (ODT) to be used in this study is a modification of the measurement instrument developed and used by Price (1972). The purpose of ODT is to have the subjects describe an object, in this case a product, in such a manner as to elicit each subject's perception of and attitude toward that object.

In essence, ODT is an operationalization of the Fishbein Attitude Model proposed by Fishbein (1967):

$$A_o = \sum_{i=1}^{n} B_i a_i$$

where

A_o is the attitude toward object o

B_i is the belief that attribute i is related to or associated with object o, measured in some probabilistic estimate

a_i is the evaluative aspect of B_i--its goodness or badness or relative desirability or undesirability

n is the number of attributes or beliefs contained in o (Ahtola, 1975; Harrell and Bennett, 1974)

Although it is a method of operationalizing the Fishbein Model, ODT represents a departure from the basic model. Whereas Fishbein's B-scales (i.e., belief strength scales) are scored from -3 to +3, ODT uses only positively scored association scales. Ahtola (1975) also takes issue with the concept of negatively scored probability scales on mathematical and theoretical grounds. For example, if

the attribute "carbonization" is applied to the object "Coca-Cola," the object may be uncarbonated, slightly carbonated, or very carbonated, but it cannot be negatively carbonated.

This is reminiscent of Price's disagreement with the Semantic Differential scale. Price (1972) rated not only the applicability of an attribute to an object, but also the applicability of a "contrasting idea" to the attribute. He argues that both an attribute and its contrast may apply to an object in varying degrees: they are not mutually exclusive. In effect the object is described on two different, but opposite scales.

Therefore, to follow Ahtola's reasoning, while "carbonization" may apply to some degree, perhaps some contrasting ides, such as "flatness," may also apply. That is, rather than a negative association of a concept there is an association of a negative concept.

The Objective Description Task measures this positive association (or application) of an attribute to an object along a scale from "Does Not Apply," a zero value, to "Applies Extrmely," an arbitrary form), thereby eliciting the subject's perceptions of the product's attributes.

This process generates what Price (1972) refers to as "strength of association with an object." We consider these association scores to be the B_i measure of the attribute.

The evaluative aspect (a_i) of the attitude model is a measure of a subject's finding the associated attribute of the object desirable or undesirable. The fact that this positive or

negative evaluation of the associated attribute is a function of the relevance of the attribute to the product category illustrates the interdependence of this measure and that of salience (Price, 1972). For example, whereas salty may be positively associated with pretzels, it is likely to be viewed negatively when associated with soft drinks (Kassarjian and Robertson, 1973). This evaluation of the associated attribute is referred to as "valence" (Hughes, 1971; Price, 1972). Valence is measured in the Object Description Task in this study on a scale from "Undesirable," a negative two value, to "Desirable," a positive two value.

These two measures, B_i and a_i, are combined into one score for subsequent analysis by multiplying them together. Since association ranges from 0 to +4 and valence ranges from -2 to +2, the range of the combined variable is from -8 to +8.

The validity of using not only the Fishbein Model components, B_i and a_i, but also the multiplicative nature of their interaction as a proper representation of consumer attitudes has been given significant support in a complex empirical study by Bettman, Capon, and Lutz (1975).

A further departure from the basic Fishbein Model is in the area of summing the $B_i a_i$ scores. In the mathematical formulation of the Fishbein Model, these scores are summed to develop a single-value composite score expressing an individual's attitude toward an object. This approach has been pervasive in marketing applications of multi-attribute models (Wilkie and Pessemier, 1973).

A problem in this approach is the possibility of losing valuable information in the summing process. A measure of overall attitude is developed, but at the expense of information about the constituent components of that attitude. Figure 6 demonstrates this with a simple numerical example.

PRODUCT	$B_i a_i$	INDIVIDUAL	
		1	2
1	1	-4	+4
	2	0	0
	3	+4	-4
2	1	+4	-4
	2	0	0
	3	-4	+4

Figure 6.--Information Contained in Vectors.

In this example, using three $B_i a_i$ scores, the basic Fishbein model would predict a common attitude score of zero, implying some neutral attitude on the part of both individuals towards both products. This is deceptive and not particularly helpful to a concerned marketer.

If, on the other hand, the profiles, or component vectors, of the attitudes are retained, much more information is available. It is obvious, for instance, that both individuals feel quite

strongly about both products on components 1 and 3 and that the two individuals see the products quite differently on these dimensions. Another finding is that each individual sees each product as quite different on these same dimensions. In sum, the attitude vector approach is more predictive and descriptive than the basic Fishbein Model. There is some empirical support favoring the vector over the sum score approach (Cohen and Ahtola, 1971; Ahtola, 1975).

As a matter of interest, the data on perceptual consistency are recoded with the association measures taking on bi-polar values. New $B_i a_i$ combined scores are produced, and these are analyzed in the same manner as the scores using positively scored association measures. A comparison and discussion of these results is presented in Chapter IV.

To summarize to this point, the individual's attitude toward a product reflects his evaluation of that product's ability to satisfy him across a set of evaluative criteria or salient dimensions (Engel et al., 1973). These choice criteria reflect his needs, values, prior product experience (learning), and so on (Boyd, Ray, and Strong, 1972). When life style segments based on activities, interests, and opinions are developed, what is measured are these personal properties.

The product which is most closely aligned with the consumer's "ideal" for that product, based on his perceptions of its ability to satisfy his evaluative criteria, would have the highest probability of being chosen (Boyd et al., 1972; Engel et al., 1973;

Hughes, 1971). This is the link between perception and preference (Boyd et al., 1972).

It should be recalled that this process of evaluating consumer attitudes towards and perceptions and preferences for products has been used as an inferred-situation-specific basis for segmentation with individuals grouped according to common attitudes. It also underlies the inferred-situation-specific basis of benefit segmentation.

The problem with these and related approaches is that they are, by definition, situation-specific and fail as well to describe the consumer as a person (Plummer, 1974), focusing as they do on products and attributes of products. The current research provides as a side effect a method of bridging the gap between these inferred-situation-specific approaches and the inferred-general approaches, one of which, life style, is used as the segmentation method. This link is more clearly seen in the concept of image.

From the discussion in Chapter II, a consumer strives to enhance or achieve a certain self-image in the products he purchases and consumes (Staudt et al., 1976; Delozier and Tillman, 1972); that the owner's product image is congruent with his self-image (Birdwell, 1968); and that, in general, greater similarity exists between the image of preferred products and one's self-image than between one's self-image and the image of less preferred products (Dolich, 1969).

Presumably, if a person can describe an object or product using product attributes, he should be able to describe a product

using attributes which might normally be considered "people" attributes. That is, if a consumer proclaims his self-image through the use of products he consumes (Levy, 1963, 1968), he should be able to describe products as "sociable," "secure," and so forth--terms more commonly reserved for people.

Not only would this process provide a bridge between general life style segments and attitudes toward specific products, it also has very practical significance in this study. While the attribute "flavor" may be used conveniently to describe soft drinks, it has little salience for bath soap. Similarly, while "fast" may be appropriate for pain relievers, it has little application to breakfast cereals.

This is an important consideration in view of the fact that the major thrust of this study involves comparing the component vectors across product categories. Therefore, for product-to-product comparability as well as the potential for providing a general-to-specific bridge, the adjectives used in the Object Description Task are "people" dimensions.

This conforms to the work done previously in this area by Price (1972), who used such dimensions by having subjects describe sterling silver tableware. Many of the particular adjectives chosen for this study were taken from those developed by Price (1972). He developed his set of adjectives by examining several theories and findings pertaining to the perception of physical and social objects, and he used that set successfully.

For the current study, to avoid unduly taxing the respondents and because relatively few criteria are used by consumers in any purchase decision (Boyd, Ray, and Strong, 1972), a smaller set of adjectives is used. To this end, twenty adjectives which provided significant results in Price's work and which seemed judgmentally to be appropriate for the products in this study were chosen from Price's list. Another set of seventeen adjectives was chosen from a questionnaire developed by Lever Brothers in a study of shower baths. The combined list was presented to a convenience sample of students and housewives who were asked to indicate if any of the adjectives listed could be considered a characteristic of any of the four categories of products used in this study. Those indicated by a preponderence of the sample (a majority of housewives and/or two-thirds of the students) are included in the major study. The thirty chosen appear in Appendix B.

In order to avoid the bias of order effects, each respondent has only one of eight possible presentations. The four products are presented in four different orders. Figure 7 (a) shows these four orderings, a different order for each questionnaire, wherein each product occupies, in turn, each position in the order of presentation.

The attributes used in the Object Description Task are presented in two different orders, wherein the attribute order is reversed for half the subjects. This order is shown in Figure 7 (b). On average, then, each attribute has some mid-point position in the questionnaire.

(a)

Order	Product
1	1234
2	2341
3	3412
4	4123

(b)

Order	Attributes
1	1-30
2	30-1

(c)

Product Order	Attribute Order	
	1	2
1	1,1	1,2
2	2,1	2,2
3	3,1	3,2
4	4,1	4,2

Figure 7.--Orders of Presentation in Questionnaires.

As shown in Figure 7 (c), the eight questionnaire forms are a single combination of four product orders and two attribute orders.

Sample Used in the Study

The sample is selected using a nonprobability sampling method. Though probability sampling is generally the preferred choice, nonprobability sampling is used in much marketing research (Green and Tull, 1975; Delozier and Tillman, 1972). In cases such as this study, where preliminary investigation of theory is being conducted, judgmental samples allow the researcher to test hypotheses in more economical fashion (Delozier and Tillman, 1972). Such considerations as data inaccessibility, prohibitive cost of obtaining probability samples, and difficulty in obtaining respondent cooperation may necessitate the use of nonprobability sampling

(Green and Tull, 1975). Moreover, probability sampling does not always yield results superior to judgment sampling, nor is it necessarily more representative of the universe under study (Green and Tull, 1975).

Cooperation from a number of women's organizations in the Terre Haute (Vigo County), Indiana, area will be sought. These include a variety of homemaker organizations in several of the local Home Economics Clubs, mobiles and socially active women in the Welcome and Newcomers Clubs, and service and social organizations such as Beta Sigma Phi and the Women's Club of Terre Haute. The sample comprehends a diversity of backgrounds and interests and provides a good cross section of people in the area.

Data Analysis

Processing the Data

After the questionnaires are returned, trained key punchers at the Indiana State University Computer Center will be provided with coded questionnaires. From these forms, the data is key-punched onto standard 80-column IBM computer cards.

Development of Life Style Scales

Since a priori established life style scales are not available for use in this research, the first stage in the analysis is devoted to the development of such scales from the AIO items used in the study. Nunnally (1967) offers a number of compelling reasons for using multi-item rather than single-item measures. One reason is that an individual item usually has a low correlation

with a given attribute being measured and tends to relate as well to other attributes. A housewife's feeling about maintaining a clean house, for example, is also likely to relate to how she feels about her children's activity. A group of items measuring the same attribute is less likely to show this effect. Another reason is that a single item is less able to discriminate between individuals than is a multi-item scale. A single, five-step rating scale can measure no more than five levels of an attribute. A summative scale of, say, four separate items can provide twenty levels of measurement. Still another reason is that individual items can have considerable measurement error. An individual who scores at one level of measurement on a given occasion may score higher or lower at another time. As the number of individual items in a summative scale increases, the scale shows greater reliability.

For all the above reasons, it is necessary to verify a posteriori the utility of the scales to be used in the clustering procedure. The results of this process are presented in Chapter IV.

The scales are then inputted into the Parks (1969) cluster program. The output of the Parks cluster program is then used as input for the remaining analysis of variance tests for each cluster identified. Both techniques are described below.

Description, Purpose, and Use of Cluster Analysis

Cluster analysis may be broadly defined as any procedure for assigning objects to classes so that within-class likeness is maximized and between-class likeness is minimized (Frank and Green,

1968). Veldman (1967) describes the process as grouping so as to maximize the average inter-group distance while minimizing the average intra-group distance. Typically, the term cluster analysis is used to refer to a technique for classifying which either makes no assumptions or minimizes the assumptions concerning the number, the location, and the nature of the classes to be formed (Nagy, 1968).

In cluster analysis, the objective is to classify a population of entities into a smaller number of mutually exclusive and exhaustive groups based on the similarities of profiles among entities (Sheth, 1971). It is a procedure designed to clarify for a researcher the "real" structure of data, when this structure is not known a priori. Thus, cluster analysis techniques are to be contrasted with conventional classification methods in which the researcher defines classifications prior to data collection. Cluster analysis was ideally suited for purposes of this study to determine life style segments.

Most segmentation strategies have relied on the principle of grouping together subjects who are similar in certain characteristics. The procedure to be employed in this study, grouping subjects who are similar in terms of activities, interests, and opinions, is consistent with Claycamp and Massy's (1968) assertion that segmentation should be considered as a process of aggregation rather than disaggregation.

Hierarchical clustering procedures are characterized by the construction of a hierarchy or tree-like structure (Pielou,

1969). In some methods, each point starts out as a unit (single-point) cluster. The two points with the least distance between them are then joined. At the next level a third point joins the first two or else a second two-point cluster is formed, based on various criterion functions for assignment. Eventually, all points are grouped into one large cluster (Ward, 1963; Johnson, 1967; Veldman, 1967).

This agglomerative technique followed by Parks' (1969) hierarchical clustering program is more in keeping with Claycamp and Massy's (1968) concept of aggregation than is the alternative divisive method (Pielou, 1969), in which case the whole data structure is successively fragmented or disaggregated.

In cluster analysis, the concept of proximity or resemblance is viewed in relative terms. Two objects are considered similar, relative to the group, if their AIO profiles across variables are "close" or they share "many" aspects in common relative to those which other pairs share in common (Green and Tull, 1970). This is considered a polythetic classification in which clusters are successively combined on the basis of their over-all similarity (Pielou, 1969). They need not be identical or have no difference between them.

The Parks program, therefore, follows Peterson's (1974) recommendation that a clustering program for market segmentation should be hierarchical, agglomerative, and polythetic.

The simplest and most useful index of multivariate proximity is the simple distance function calculated as the average sum of

squares of differences between corresponding scores in two multivariate profiles. Distant-function indices are measures of dissimilarity, so that the smaller values represent greater similarity or less distance between objects. Using the Parks program, if two profiles of AIO item responses are identical, the distance between the objects is zero. The maximum distance between objects is one.

The similarity coefficient used in the cluster routine is computed from this formula:

$$D_{1,2} = \left(\sum_{i=1}^{m} (X_{i1} - X_{i2})^2 / M \right)^{1/2}$$

where

D is the distance between object 1 and object 2

X_{ij} is the score of object j on variable i

M is the number of variables

The simple distance function is a Euclidean measurement and presupposes that the coordinates on which the measurements are based are orthogonal (Parks, 1969). Given the nature of the data in this study, it is unlikely that the variables are uncorrelated and, therefore, orthogonal. Before the clustering is done, it is necessary to transform the raw variables into a set of uncorrelated variables. This is accomplished in the Parks program by first performing an R-mode principal components analysis on the raw variables and then by computing factor scores for each subject (Parks, 1969).

Factor analysis is a statistical technique that has as its goal the exploration of relationships among many correlated variables in terms of relatively few underlying factors (Overall and Klett, 1972). In this case, the technique is used as a data-reduction method that summarizes the thirteen life style scales into a set of orthogonal factors (Sheth, 1971). The user of factor analysis focuses on the set of variables for which information has been collected and poses the question: Can the information contained in the original variables be summarized in a smaller number of new variables? (Massy, 1974).

Factor analysis enables the researcher to gain insight into the common, underlying bonds or dimensions by which otherwise highly divergent variables tend to correlate among themselves. The objective in factor analysis is to decompose into meaningful components or dimensions the extent of the relationships empirically observed among a set of data (Sheth, 1971).

The result of factor analysis is factor scores that can be treated as if they were raw scores to perform any of a number of multivariate analyses. These include cluster analysis (Wells and Sheth, 1971). Massy suggests several factor analysis applications, including the use of factor scores as inputs to successive stages of analysis. In the case of this research, the factor scores are used as input to the clustering routine.

The principal-component method of factor analysis is used by the Parks cluster routine. Principal-component analysis is a method of transforming a given set of variables into a new set of

composite variables or principal components that are orthogonal (uncorrelated) to each other. No particular assumption about the underlying structure of the variable is required. The first principal component is the single best summary of linear relationships exhibited in the data. The second component is defined as the second best linear combination of variables, under the condition that the second is orthogonal to the first. To be orthogonal to the first component, the second one must account for a proportion of the variance not accounted for by the first one. Thus, the second component may be defined as the linear combination of variables that accounts for the most residual variance after the effect of the first component is removed from the data.

In summary, the Parks Hierarchical Clustering Program to be used in this research achieves the following:

1. Normalizes data for each variable so that each ranges from 0.0 to 1.0;

2. Computes an R-Mode similarity matrix, comparing each variable with each other variable using a simple distance function;

3. Computes an R-Mode factor analysis to reduce the number of variables entering the cluster routine and to produce an uncorrelated, orthogonal set of variables for the clustering;

4. Computes factor scores for each subject;

5. Computes a Q-Mode similarity matrix, comparing each subject with all other subjects across all variables (factor score measurements) using a simple distance function;

6. Groups the subjects into clusters by selecting the pair with the smallest distance function and sequentially adding to the cluster to minimize within-cluster distance.

7. Sorts and regroups the clusters and prints a dendogram on the line printer.

The clusters thus generated will be reduced to an equal group size and will constitute the market segments used in the remainder of the analysis.

Description, Purpose, and Use of Analysis of Variance

Analysis of Variance (ANOVAO can be viewed as an extension of the simple "t-test" to more than two samples. (Properly, of course, the t-test is a special case of the more general analysis of variance.)

Suppose there are "k" samples and we wish to know if these samples are random samples from the same population or from different populations. If it is true that they are from the same population, then the variation of the k-sample means from one another and the variation of the individual observations within the samples are both produced by the same random forces. The variation of one sample mean from another is called the variation "between the sample means," and the variation of the individual observations is called the variation "within the samples" (Richmond, 1964).

If, however, it is not true that the samples are from the same population, the variation between samples should tend to be greater than the variation within samples. That is, if the samples are drawn from different populations, there will be not only the random forces at work within each sample causing variations of individual observations from the sample mean, but there will be

additional variation caused by the other forces which make the populations different.

Thus, if there are any such forces--if the basic hypothesis of common population is not true--the variation between the sample means will tend to be larger than the variation within the samples. This is precisely what ANOVA is designed to identify.

Analysis of variance experiments may be designed to permit the simultaneous investigation of more than one experimental variable (Ferguson, 1971). In a two-way ANOVA design, there are two bases of classification, called "factors," with two or more treatments, called "levels," associated with each factor.

Four two-way designs are to be used to test for behavioral variation among the segments as to preferred type of product for each segment for each of the four product categories. For example, for the product category soft drinks, it can be expected that each of the product types, colas, tart/citrus, and fruit-flavored, would have adherents within each of the segments. What the two-way ANOVA design identifies is whether or not there is significant variation in usage of soft drink types between the segments.

Figure 8 illustrates this design. In the above example, the levels of factor A are segments 1 through p, and the levels of factor B are colas, tart/citrus, and fruit-flavored soft drinks.

A further extension of univariate analysis of variance, or ANOVA, is <u>multivariate</u> analysis of variance, or MANOVA. In ANOVA, the effect of a series of treatments on a single criterion variable X is observed. In MANOVA, each experimental unit is observed on

Factor B
PRODUCT TYPES

Factor A SEGMENTS	b_1	b_j	b_q
a_1	$x_{11(1)}$ $x_{11(2)}$ . . $x_{11(k)}$	. . . .	$x_{1q(1)}$ $x_{1q(2)}$ . . $x_{1q(k)}$
a_i	. . . .	. . . .	. . . .
a_p	$x_{p1(1)}$ $x_{p1(2)}$ . . $x_{p1(k)}$	. . . .	$x_{pq(1)}$ $x_{pq(2)}$ . . $x_{pq(k)}$

Where:

a_i = the ith segment

b_j = The jth product type

$x_{pq(k)}$ = the kth observation within segment "p" for product type "q"

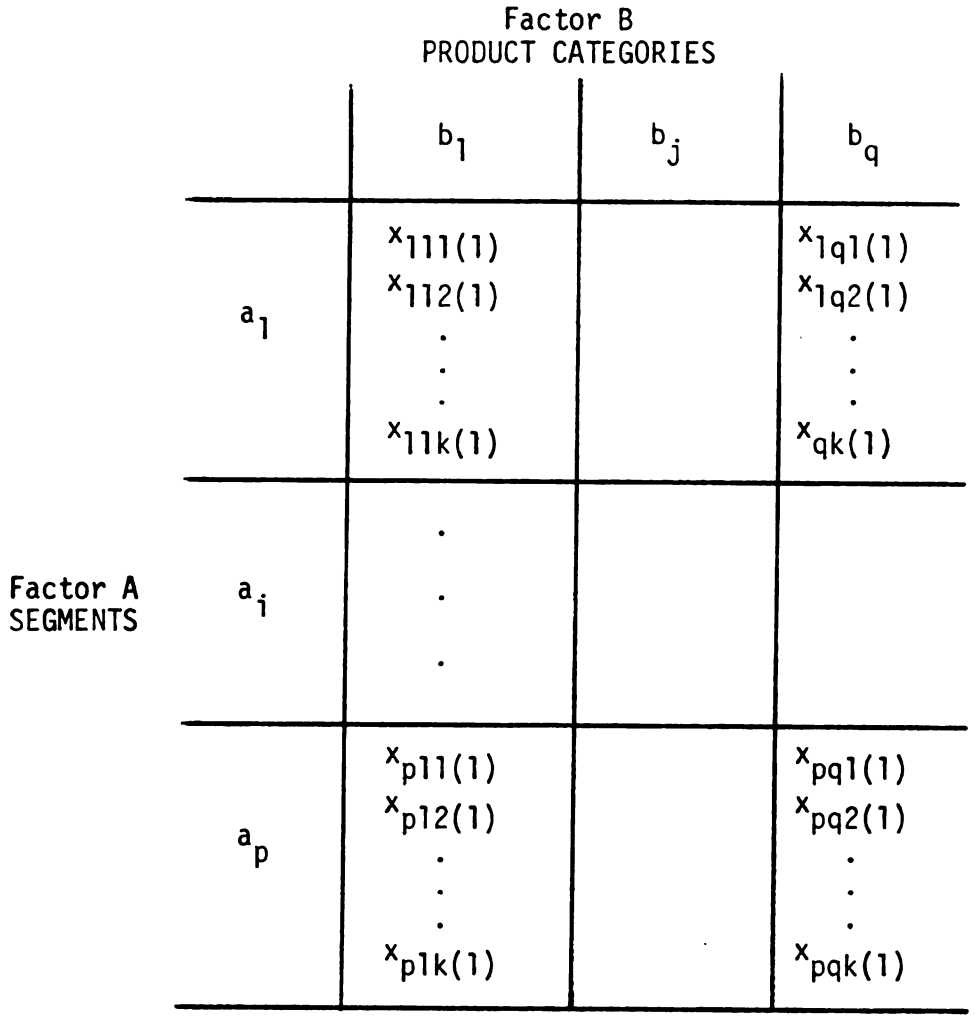
e.g., X_{111} = the observation (usage score) of person 1 within segment 1 for product type 1

Figure 8.--Two-Way ANOVA Design.

several criterion variables, i.e., X_1, X_2, . . . X_k. A treatment may have an effect on several characteristics of an experimental unit. For example, in investigating the relationship between media exposure and vacation behavior, Darden and Perrault (1975) used vacation frequency, vacation innovativeness, vacation duration, and distance traveled to vacation combined as criterion variables. In MANOVA, the effect of the treatment of all criteria is observed simultaneously. Each observation is a vector variable rather than a scalar variable (Winer, 1971). When the effects of the treatment on X_1, X_2, . . . X_k, are analyzed separately in a series of ANOVA designs, the correlations which may exist between the variables are not taken into account, whereas MANOVA deals with the variables together and utilizes the total information available (Winer, 1971).

In investigating the stability of market segments over product categories, a two-way MANOVA design is used. This is illustrated in Figure 9. Again, the level of factor A are segments 1 through p and the levels of factor B are the four product categories used in this study: soft drinks, breakfast cereals, pain relievers, and bath soaps.

In two-way designs, whether ANOVA or MANOVA, there are two classes of effects, "main effects" and "interaction effects." With main effects, the question is whether there is any difference in the levels of one factor if the data are collapsed (or summed) over all levels of the other factor. Specifically, using the format of Figure 9, if there were curiosity about the differences in usage rate of the different types of soft drinks, it could be hypothesized



Where:

a_i = the ith segment

b_j = the jth product category

k = the kth attribute in the profile

1 = the 1th individual in the segment

$x_{pqk(1)}$ = the observation or score of individual 1 of segment p on attribute k applied to product q

Figure 9.--Two-Way MANOVA Design.

that there is no difference in usage, ignoring segments. (The levels of factor B are ignored and the design is, in effect, a one-way ANOVA across levels of factor A.) I.e., the hypothesis would be:

$$\mu_{colas} = \mu_{tart/citrus} = \mu_{fruit\text{-}flavored}$$

If a significant difference is detected, it would be understood that the hypothesis of equality is rejected, and it would be assumed that the products differ in rate of use. This effect is, in this instance, of little interest and is mainly illustrative.

Of more interest is the main effect of factor B, or testing the hypothesis:

$$\mu_{B_1} = \mu_{B_2} = \cdots = \mu_{B_p}$$

If this hypothesis is rejected, there would be support for the alternative hypothesis that there is behavioral variation among the segments.

With the interaction effects, the question is whether the levels of A perform constantly across all levels of B. This is quite dissimilar from finding that there is a difference between levels of A or between levels of B. An interaction effect is illustrated in Figure 10.

Figure 10 demonstrates that type 1 of Product A is used very often by segment 1, but seldom by segment 2 and moderately by segment 3. Similarly, type 3 of Product A is used very often by

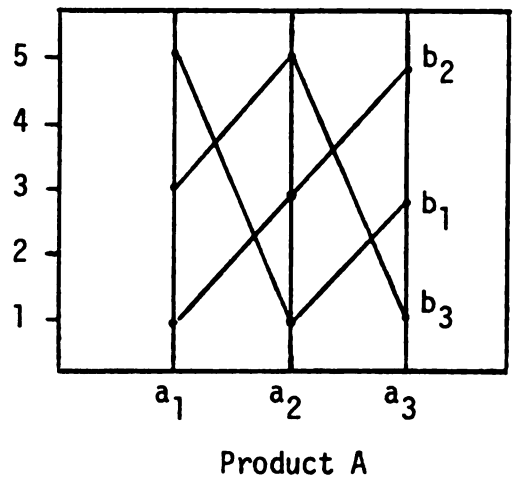


Figure 10.--Interactions in ANOVA.

segment 2, but seldom by segment 3, and moderately by segment 1. While there may be no difference in usage between product types or between segments, there can still be a difference between the segments' use of the different products--a segment by product interaction.

The results of these various tests for behavioral variation, for differences between the segments in their perceptions of the products, and for consistency of the segments in their perceptions across product categories are analyzed in the next chapter.

FOOTNOTES: CHAPTER III

[1]William D. Wells, "Life Style and Psychographics: Definitions, Uses, and Problems," in Life Style and Psychographics, ed. William D. Wells (American Marketing Association, 1974), p. 346.

CHAPTER IV

EMPIRICAL RESULTS AND DISCUSSION

The purpose of this chapter is to present and discuss the empirical findings of this study. The first section deals with the scales used to cluster the respondents into segments and the psychographic profiles of those segments. The second section discusses the exploration for behavioral variation. And the third and final section investigates the consistency of the segments across the various product categories.

Of the 635 questionnaires distributed, 317 were returned, for a response rate of 49.92%. Of these returns, 246, or 77.60%, were considered usable. (The unusable returns consisted primarily of those with blank pages or apparent incorrect following of instructions.) The 246 returns were used in the cluster analysis portion of the study.

Results of the Cluster Analysis

Scale Development

As discussed in the previous chapter on research method, there are no established, widely accepted scales to measure consumer life style. Therefore, it was felt that it was necessary to establish some measure of the reliability and validity of the scales used in this research. With this in mind, thirteen scales were

proposed in accordance with the results of prior research (Wilson, 1966; Tigert, 1969; and Pessemier and Tigert, 1966). These scales are presented in Table 1, with a representative item from each scale.

The thirteen scales contained 44 separate items. These 44 items were submitted to a principal-components factor analysis routine using the observations from the 246 usable results, resulting in a sample to variable ratio slightly better than the five to one proposed by Gorsuch (1974).

Overall and Klett (1972) submit that the results of a factor analysis are adequate and effective when the factors generated number approximately 25 percent of the variables studied and the variance accounted for is in the range of 50-75 percent. The results of the factor analysis were 13 factors (29 percent of the variables) explaining 61.7 percent of the variance in the variables.

The 13 factors generated were exact reproductions of the 13 scales proposed, with a good simple structure based on a varimax rotation of the factor matrix (Overall and Klett, 1972; Guilford, 1954).

As a measure of reliability, Overall and Klett (1972) further state that factors composed of three or more variables with factor loadings equal to or greater than 0.35 are stable and replicable. As seen in Table 2, all the factor loadings are greater than 0.50, with the exception of one item which loads on Scale 2 at 0.47. Therefore, some confidence in the use of the 13 scales is justifiable.

TABLE 1.--Scales Used for Clustering Sample with a Representative Item.

1.	Price consciousness	I shop a lot for specials.
2.	Venturesome	I like to try new brands of products I use the first time I see them in the store.
3.	Arts interest	I enjoy going through an art gallery.
4.	Housekeeping interest	I usually keep my house very neat and clean.
5.	Television watching	Television has added a great deal of enjoyment to my life.
6.	Child orientation	I take a lot of time and effort to teach my children good habits.
7.	Fashion consciousness	I usually have one or more outfits that are of the very latest style.
8.	Credit use	I buy many things with a credit card or charge card.
9.	Religiosity	I pray several times a week.
10.	Sports interest	I like to watch or listen to baseball or football games.
11.	Weight consciousness	I am careful about what I eat in order to keep my weight under control.
12.	Information seeking	I usually like to wait and see how other people like new products before I try them.
13.	Community interest	I like to work on community projects.

TABLE 2.--Verification of Scales.

Scale	Average Correlation Among Variables	Range of Factor Loadings
1. Price consciousness	0.43	0.58 - 0.78
2. Venturesome	0.31	0.47 - 0.69
3. Arts interest	0.47	0.74 - 0.83
4. Housekeeping interest	0.36	0.50 - 0.76
5. Television watching	0.39	0.68 - 0.76
6. Child orientation	0.36	0.69 - 0.74
7. Fashion consciousness	0.33	0.63 - 0.70
8. Credit use	0.36	0.69 - 0.73
9. Religiosity	0.58	0.77 - 0.86
10. Sports orientation	0.47	0.83 - 0.84
11. Weight consciousness	0.26	0.61 - 0.70
12. Information seeking	0.46	0.71 - 0.79
13. Community interest	0.41	0.73 - 0.75

Nunnally (1967) proposes two conservative tests to determine if a factor exists beyond the confines of the subjects studied, and whether there can be confidence that the factor is not the result of capitalizing on chance. The first test includes computing the average correlation among variables which are thought to compose a factor. These results are displayed in Table 2. Then these average values are compared to the standard error of a correlation coefficient, which is approximately the reciprocal of the square root of the sample size. In this case, the reciprocal of the square root of 246 is approximately 0.064. Therefore, a correlation greater than 0.15 would be significant at the 0.01 level, and there could be confidence with factors based on an average correlation of greater

than 0.30, as seen in Table 2. The second test deals with an examination of the multiple correlation of the variables with the factors they load highly on. This should be considerably higher than the value arrived at above, i.e., 0.15. Since the multiple correlation will be at least as high as the square of the highest factor loading, examination of Table 2 would indicate that the factors defined are not statistical artifacts.

It was therefore concluded that the 13 scales were sufficiently reliable and valid for further use in the study. The scales and their component items are presented in Appendix C.

Segments Produced

The next step was to produce the 13 scale scores by summing the appropriate items for each and submitting the scores to the Parks (1969) clustering routine. As discussed in Chapter III, Research Method, the Parks routine normalizes the scores from 0 to 1, produces a distance matrix from the normalized scores, and performs a principal-components factor analysis on the distance matrix. The 13 scales were summarized by two factors explaining 73.4 percent of the variance. No attempt was made to interpret the factors because they constituted merely an intermediate step in the clustering procedure. That is, they provided orthogonal measures for the Euclidean distances in the clustering.

As a result of the clustering, five distinct groups were formed. Determining where to stop in a hierarchical clustering routine is a judgmental matter. In this study, the average

within-cluster distance (AWCD) was used as a guide. Clustering was continued until the clusters were large enough for evaluation, the AWCD was still small, and AWCD was just about to increase suddenly (Lessig and Tollefson, 1972).

The clusters with relative sizes and AWCD's are presented in Table 3. Of the 246 respondents entered into the clustering procedure, 148, or 60.2 percent, were included in the final groups. The remaining respondents were clustered into numerous small groupings which did not lend themselves conveniently to further analysis.

TABLE 3.--Clusters Generated on Scales.

Cluster	Size	AWCD
1	34	.08
2	35	.07
3	34	.07
4	22	.06
5	23	.07

In addressing a similar situation, Lessig and Tollefson (1972) suggest three potential alternatives to discarding these individual and mini-clusters. The first, of course, would have been to have treated each of these groupings as segments. This would have been statistically limiting and would probably have been economically unfeasible as well. Moreover, it would have been unnecessary for this study. The second alternative would have been to have treated all these respondents as one large segment. This

would have obviated clustering them in the first place since it would have violated the need for intra-cluster similarity. The third would have been to have continued clustering until all respondents were included in a major grouping. This would have drastically altered the internal homogeneity of the segments so far produced. It was therefore decided to continue the analysis with the five groups mentioned above.

For subsequent analysis, the five groups were randomly reduced to 15 subjects per segment. This was done to provide orthogonal cell sizes in the analysis of variance tests to be run. The segments were examined for difference on the 13 summated scale scores. This was done to examine the hypothesis that the segments were psychographically significantly different and not simply the result of clustering on trivial differences. The results of this test are displayed in Table 4.

TABLE 4.--Analysis of Variance: Segments by Scale Scores with Repeated Measures.

Source	SS	DF	MS	F	Sig.
Between segments	673.55	74			
Segments	530.98	4	132.75	65.17	p<0.001
Error	142.57	70	2.04		
Within segments	20,838.46	900			
Scales	14,584.01	12	1,215.34	184.48	p<0.001
Segmented scales	720.49	48	15.01	2.28	p<0.001
Error	5,533.96	840	6.59		

As can be seen, the segments demonstrated very different responses on the life style scales and can be considered heterogeneous between. Furthermore, the scales themselves are significantly different measures. The significant interaction effect between the segments on the scales offers interesting insights into the life style makeup of the segments.

To highlight this interaction the mean of each segment on a given scale was divided by the mean of that scale for all segments, which provided an index for each scale for each segment. These indices are presented in Table 5.

TABLE 5.--Indices of Segments vs. Sub-Sample on Scales.

Scale	Segment				
	1	2	3	4	5
1. Price consciousness	1.11	0.96	0.94	0.92	1.07
2. Venturesome	1.01	0.95	0.95	1.00	1.10
3. Arts interest	1.12	0.88	0.87	0.99	1.13
4. Housekeeping interest	1.03	0.96	1.04	0.89	1.08
5. Television watching	0.98	0.95	1.03	0.96	1.07
6. Child orientation	1.05	1.01	0.88	0.93	1.13
7. Fashion consciousness	0.87	0.88	1.01	1.16	1.08
8. Credit use	1.12	0.73	0.99	1.14	1.02
9. Religiosity	1.08	0.98	0.60	1.06	1.28
10. Sports orientation	0.81	0.79	1.12	1.39	0.89
11. Weight consciousness	1.02	0.76	0.96	1.13	1.13
12. Information seeking	0.79	0.94	0.96	1.10	1.22
13. Community interest	0.99	0.87	0.82	1.09	1.24
Mean	0.99	0.89	0.93	1.06	1.11

Actual means are contained in Appendix D.

Apparently, while a given pair of segments may be very similar on any given scale or small set of scales, it may vary greatly on other scales in the total set. Also, Segment 2 demonstrates some reserve, responding below the average on almost all the scales. Similarly, Segment 5 shows the opposite effect responding generally above the average.

To more clearly highlight which scales were generally more favorable and which were more unfavorable for each segment in light of this response bias, the scale indices were compared to the mean index for each segment:

Segment 1 people appear to be interested in "solid values." They are price conscious and see value in the use of credit. Not terribly concerned with fashion or sports of the advice of others, they are interested in the loftier concepts of children, church, and culture.

Segment 2 people are contented homemakers. While somewhat price conscious and interested in trying new things, they eschew the use of credit to satisfy their desires. Happy with themselves, they turn their attention to their children, their God, and their homes.

Segment 3 people seem to be a self-centered group. They are concerned with their appearance and the appearance of their houses, while their children and the outside community take a back seat to their personal satisfaction.

Segment 4 people could be characterized as the active fashion plates. They are very concerned with personal appearances and

sports and are not troubled by price or the use of credit to achieve their ends. Traditional values such as home and family and relaxed pursuits such as the arts or television watching are unimportant in their lives.

Segment 5 people are a conservative group. Externally oriented, they are primarily concerned with God and Country.

It is of interest to consider whether these same segments would have been generated using objective-general demographic and socioeconomic variables. Table 6 indicates little difference in these groups on the objective characteristics. While there is some variability in the groups, it is only on the wife's education that there was some significant difference between the groups. Unfortunately, this one variable sheds little light on the psychographic differences between the groups.

Results of the Analysis for Behavioral Differences

Results of the Analysis of Variance

In this series of tests, the question was whether the segments manifested any significant differences in their use of various types of soft drinks, pain relievers, bath soaps, and breakfast cereals. This was studied through the use of a series of two-way analysis of variance designs with repeated measures on the products.

In the analysis of soft drink use, as presented in Table 7, the groups varied neither in their use overall nor in their use of individual types as demonstrated by the insigificant interaction effect. The only significance was in the use of the various types

TABLE 6.--Chi-Square: Comparison of Demographic Profiles of Segments.

Item	Segment				
	1	2	3	4	5
Size of household					
1 - 2	3	2	4	4	3
3 - 6	12	13	10	11	12
> 6	0	0	1	1	1
Occupation of husband					
White collar	12	11	8	9	10
Blue collar	0	2	4	2	1
Other	2	1	2	3	1
Occupation of Wife					
White collar	3	4	4	5	4
Blue collar	0	1	0	0	0
Other	8	6	11	7	6
Family income					
< $15,000	4	7	5	2	5
≥ $15,000	11	8	10	13	10
Education of husband					
≤ High school	3	5	4	5	5
> High school	11	9	11	9	9
Education of wife*					
≤ High school	9	4	9	4	2
> High school	6	11	6	11	12
Ages of persons in household					
< 11	20	19	18	17	9
12 - 17	6	7	5	4	4
18 - 24	1	8	8	1	5
≥ 35	14	9	9	17	16

*$p < 0.05$; others not significant.

TABLE 7.--Analysis of Variance: Segments by Use of Types of Soft Drinks with Repeated Measures.

Source	SS	DF	MS	F	Sig.
Between segments	149.89	74			
Segments	10.65	4	2.66	1.34	N.S.
Error	139.24	70	1.99		
Within segments	288.67	150			
Type of soft drink	114.00	2	57.00	48.2	$p<0.001$
Segment X type	9.11	8	1.14	0.96	N.S.
Error	165.56	140	1.18		

of soft drinks by all segments. It might be interesting to note in passing that cola-flavored soft drinks were used the most.

In the analysis of pain reliever use, as presented in Table 8, there was a significant difference only in the relative use of the different product types. In this case, common aspirin fared better than extra-strength or non-aspirin compounds.

In Table 9, the analysis of relative use of bath soaps was a slightly different matter. Again, there was no difference between the segments, and, again, there was a difference in use of various types. Deodorant soaps had a slight edge on general-use/family soaps, and both were well ahead of beauty soaps.

But there was an additional difference in terms of segment by product type interaction. Most of this interaction can be ascribed to Segments 1 and 4. Segment 1 scored highest on the use of deodorant soaps and the lowest in terms of family soaps. Segment 4 showed the opposite. While scoring fourth in deodorants,

TABLE 8.--Analysis of Variance: Segments by Use of Types of Pain Relievers with Repeated Measures.

Source	SS	DF	MS	F	Sig.
Between segments	136.67	74			
Segments	6.53	4	1.63	0.879	N.S.
Error	130.13	70	1.859		
Within segments	267.33	150			
Type of pain reliever	26.427	2	13.21	7.96	p<0.001
Segment X type	8.640	8	1.08	0.65	N.S.
Error	232.27	140	1.66		

TABLE 9.--Analysis of Variance: Segments by Use of Types of Bath Soap with Repeated Measures.

Source	SS	DF	MS	F	Sig.
Between segments	99.05	74			
Segments	5.18	4	1.296	0.966	N.S.
Error	93.87	70	1.341		
Within segments	386.00	150			
Type of bath soap	53.37	2	26.68	12.66	p<0.001
Segment X type	37.56	8	4.70	2.23	p<0.001
Error	295.07	140	2.11		

they were first in the use of general-use/family soaps. The other three segments showed similar, although not congruent profiles of use.

It is of further interest that the relative use of these types of soaps ran counter to what might be expected from the psychographic profiles of Segments 1 and 4. It is only in the use of beauty soaps that they acted as expected, with Segment 4 using more than Segment 1. And Segment 4 also used much more beauty soap than the contented homemakers of Segment 2, who tied with Segment 4 for use of general-use/family soaps.

In Table 10, breakfast cereals showed the same pattern as soft drinks and pain relievers. In this case, vitamin-fortified cereals scored ahead of both natural and sweetened cereals. It is

TABLE 10.--Analysis of Variance: Segments by Use of Types of Breakfast Cereal with Repeated Measures.

Source	SS	DF	MF	F	Sig.
Between segments	182.64	74			
Segments	5.00	4	1.25	0.49	N.S.
Error	177.64	70	2.54		
Within segments	230.00	150			
Type of cereal	9.15	2	4.57	3.08	$p < 0.05$
Segment X type	13.03	8	1.63	1.10	N.S.
Error	207.82	140	1.48		

interesting to note that both of the more child-oriented segments, one and two, used relatively more sweetened cereals.

Given the high error terms apparent in Tables 7-10, it was felt that all the tests might be better re-run using a dummy variable of one or zero. For each type of product in a given category, the respondents scored one for the "most used" (regardless of actual use) and the other two types were scored zero. Ties were split. As seen in Tables 11 and 12, the results were the same as before, with only the product types showing any difference. In Tables 13 and 14, however, a change may be observed. The interaction effect noted for bath soaps disappeared, along with the main effect for breakfast cereals.

At this point, the search for behavioral variation had not been very productive, so further tests were conducted to determine if any significant variation could be found.

TABLE 11.--Analysis of Variance: Segments by Most Used Type of Soft Drink with Repeated Measures.

Source	SS	DF	MS	F	Sig.
Between segments	0.0	74			
Segments	0.0	4	0.0	0.75	N.S.
Error	0.0	70	0.0		
Within segments	44.17	150			
Most used type	21.18	2	10.59	68.48	$p<0.001$
Segment X type	1.35	8	0.17	1.09	N.S.
Error	21.64	140	0.15		

TABLE 12.--Analysis of Variance: Segments by Most Used Type of Pain Reliever with Repeated Measures.

Source	SS	DF	MS	F	Sig.
Between segments	0.0	74			
Segments	0.0	4	0.0	0.50	N.S.
Error	0.0	70	0.0		
Within segments	40.00	150			
Most used type	3.39	2	1.69	6.83	$p < 0.01$
Segment X type	1.91	8	0.24	0.97	N.S.
Error	34.70	140	0.25		

TABLE 13.--Analysis of Variance: Segments by Most Used Type of Bath Soap with Repeated Measures.

Source	SS	DF	MS	F	Sig.
Between segments	0.0	74			
Segments	0.0	4	0.0	0.75	N.S.
Error	0.0	70	0.0		
Within segments	46.17	150			
Most used type	4.35	2	2.17	8.02	$p<0.001$
Segment X type	3.87	8	0.48	1.79	N.S.
Error	37.94	140	0.27		

TABLE 14.--Analysis of Variance: Segments by Most Used Type of Breakfast Cereal with Repeated Measures.

Source	S	DF	MS	F	Sig.
Between segments	0.0	74			
Segments	0.0	4	0.0	0.91	N.S.
Error	0.0	70	0.0		
Within segments	37.83	150			
Most used type	0.57	2	0.28	1.18	N.S.
Segment X type	3.36	8	0.42	1.74	N.S.
Error	33.90	140	0.24		

Results of Chi-Square Analysis

At this stage of the analysis, one can rightfully ask if the use of various types within a product category is independent of the segment membership. To explore this question, two separate chi-square analyses were conducted.

In the first set of tests, the usage data were dichotomized. A respondent using a type of product often or better scored one, while a respondent using it seldom or less scored zero. As seen in Table 15, there was no significance detected for any of the product categories. This would indicate that segment membership was independent of the use of types of the various product categories studied.

A second set of chi-square tests was conducted using the "most used" criterion. Again, the results, as shown in Table 16,

TABLE 15.--Chi-Square: Segments by Product Types Used Often vs. Seldom or Less.

Test	χ^2	Sig.
Segments by use of soft drinks	4.88	N.S.
Segments by use of pain relievers	9.68	N.S.
Segments by use of bath soaps	10.45	N.S.
Segments by use of breakfast cereals	6.37	N.S.

TABLE 16.--Chi-Square: Segments by Product Types Used Most Often.

Test	χ^2	Sig.
Segments by soft drinks	6.85	N.S.
Segments by pain relievers	11.53	N.S.
Segments by bath soaps	4.01	N.S.
Segments by breakfast cereals	7.89	N.S.

supported the conclusion that segment membership was independent of product use.

Results of Multivariate Analysis of Variance

A further analysis was conducted at this point in the study to answer this question: Given the possibility of patterns in the relative use of the different types of products in the various categories, might these patterns vary from segment to segment?

To address this question, a set of multivariate analyses of variance was conducted. In this operation, the usage data for the

types within the various categories of products were held to constitute a criterion vector of use by a given product category. This allowed any correlations among the various types to be used in the analysis.

As seen in Table 17, however, in no category of products studied was there any significant difference in the pattern of use of the various types of products between segments.

TABLE 17.--Multivariate Analysis of Variance: Segments with Use of Product Types as Criterion Vector.

Criterion	DF	F	Sig.
Soft drinks	12,180	1.10	N.S.
Pain relievers	12,180	0.71	N.S.
Bath soaps	12,180	1.96	N.S.
Breakfast cereals	12,180	0.84	N.S.

Results of t-Tests

At this point in the analysis, it was decided to take a more micro look at the interactions in the data set. To this end, every pair of segments was analyzed for differences in the use of every type of product for every category studied. This analysis was conducted using a series of 120 separate t-tests.

The results of this analysis showed significant differences in only eight cases, six of them in the bath soap category. Segment 1 used significantly more deodorant soaps than Segments 4 or 5 and significantly less general-use/family soaps than Segments 2, 3,

and 4. Segment 1 used significantly less beauty soap than Segment 4. Segment 3 used more colas than Segments 4 and 5.

Since these tests were conducted using two-tail tests with an 0.05 level of significance, chance alone could have accounted for six of these cases with 120 tests conducted.

Summary

After an exhaustive search of the data, it must be concluded at this point that, with minor exception, there was no behavioral variation for these particular segments, given the products studied.

Considering the need for the existence of behavioral variation among segments to constitute and justify a market segmentation strategy, this is an unsettling finding. The implications of this will be discussed more fully in the next chapter.

Results of the Analysis for Consistency Across Product Categories

In this section of the study the consistency of the segments across the various product categories was studied. There were three questions to be answered:

1. Are the segments significantly different in their perceptions of products?
2. Are the segments' perceptions of the product categories consistent?
3. Are there any differences between the segments as they perceive different product categories?

These points were analyzed using a series of multivariate analysis of variance designs.

Development of Perceptual Scales

The first stage in this section of this study involved determining the components of the criterion vectors to be used in the multivariate analysis. A matrix was constructed by summing each respondent's association scores across the product categories. This 30 sum score by 246 respondent matrix was then factor analyzed.

Principal components and alpha factoring, both with varimax rotation, each generated the same two factors explaining 71.2 percent of the variance in the summed association measures.

Using the factor matrix as a guide, ten words were selected for further use, five in each of the two scales. Selection criteria were a loading of 0.80 or better on one factor with a 0.30 or less loading on the other factor. These scales with their respective component words are shown in Table 18.

Table 18.--Components of Scales Used in Multivariate Analysis of Variance: Segments by Product Categories.

Scale 1	Scale 2
Dynamic	Serious
Masculine	Simple
Leisurely	Fresh
Youthful	Gentle
Adventurous	Practical

For use in the multivariate analysis, composite scores were then produced by multiplying the association measures by their respective valence measures within each product category. These composite scores were then used in two ways. First, the analysis was conducted by using all ten composite scores unsummed to allow for full use of all the correlations within the criterion vectors. Second, to provide more reliable measures of the segments' perceptions (Nunnally, 1967), the ten composite scores were summed into their two respective scales.

Results of Multivariate Analysis of Variance

The results of the first multivariate analysis of variance tests are presented in Table 19. In neither case, not with the ten unsummed components nor with the two summated scales, was there any

TABLE 19.--Multivariate Analysis of Variance: Segments by Product Categories (Association, 0 to 4; Valence, -2 to +2).

Source	DF	F	Sig.
Ten scale components unsummed			
Segments	40, 817	1.04	N.S.
Categories	30, 632	9.10	$p < 0.05$
Segments by categories	120, 1683	0.79	N.S.
Two summated scales			
Segments	8, 446	1.09	N.S.
Categories	6, 446	7.33	$p < 0.05$
Segments by categories	24, 446	0.60	N.S.

significant difference between the segments. However, the products were not perceived similarly across categories. The segments as a whole had different perceptions of the products using common scales for judgment. Also, there was no segment by product category interaction effect.

At this point in the analysis, it was decided to take an alternate look at the data. For the MANOVA shown in Table 19, the association measures used in the composite scores varied from 0 to 4 and the valence measures from -2 to +2, in keeping with the work of Price (1972). A question arose as to whether similar results would have been obtained had the association measured varied from -2 to +2 as well. While the data was not generated in strictly the proper form, the concern was one which has roots in the mainstream of attitude research (Wilkie and Pessemier, 1973). For this reason, it was deemed worthy of investigation. New composite scores were produced with the appropriate change in the association score and a new MANOVA was conducted. The results are displayed in Table 20.

When the full complement of ten component scores was used, the results were no different from the results of the previous test. However, when the more reliable summated scales were examined the segments now manifested significant differences in their perceptions of the products overall. While diluted by a lack of behavioral variation among the segments, this is an encouraging finding. As for the consistency question, the segments still did not hold consistent perceptions across product categories.

TABLE 20.--Multivariate Analysis of Variance: Segments by Product Categories (Association, -2 to +2; Valence, -2 to +2).

Source	DF	F	Sig.
Ten scale components unsummed			
Segments	40, 817	1.13	N.S.
Categories	30, 632	5.42	$p < 0.05$
Segments by categories	120, 1683	0.87	N.S.
Two summated scales			
Segments	8, 446	2.37	$p < 0.05$
Categories	6, 446	8.91	$p < 0.05$
Segments by categories	24, 446	0.59	N.S.

In a final look at the perceptual data, one more transformation was investigated. In this case, the two measures of association and valence were only allowed to vary from -1 to +1. This was done to put strict limits on the potential variation within and between segments. The results are shown in Table 21. As can be seen, they are similar to those in Table 20.

Summary

This concluded the exploration of the data. There were a number of findings both encouraging and discouraging. Life style scales were developed which successfully segmented the sample into meaningful psychographic groups, groups which would not have been developed demographically. The segments, however, manifested no

TABLE 21.--Multivariate Analysis of Variance: Segments by Product Categories (Association, -1 to +1; Valence, -1 to +1).

Source	DF	F	Sig.
Ten scale components unsummed			
Segments	40, 817	0.95	N.S.
Categories	30, 632	5.41	$p < 0.05$
Segments by categories	120, 1683	0.95	N.S.
Two summated scales			
Segments	8, 446	2.01	$p < 0.05$
Categories	6, 446	8.09	$p < 0.05$
Segments by categories	24, 446	0.52	N.S.

behavioral variation even with an exhaustive search. Also, the analysis for consistency of segment perceptions across product categories and differences across segments showed mixed results and raised questions for further research. The implications of this study are discussed in the next chapter.

CHAPTER V

CONCLUSIONS AND IMPLICATIONS

This chapter, which reports the conclusions and implications of this study, is divided into three sections. The first presents the overall conclusions and a comparison of the goals of the study and the results of the study. The second discusses the implications of the study for the marketing practitioner in terms of life style segmentation. And the third discusses the implications for further research in this area.

Conclusions

The major purpose of this study was to investigate the possibility of developing general market segments which would manifest similar behavior and perceptions within each segment as a variety of product categories were investigated.

The specific goals of this study were as follows:

1. Develop market segments on inferred general criteria unrelated to the products studied;

2. Determine if these individual segments, so derived, manifested relatively homogeneous usage of types of products within the categories studied;

3. Determine if the perceptions of the products used varied between segments;

4. Determine if the individual segments held consistent perceptions of the products over product categories studied.

Overall Conclusions

The findings of the study showed that it is possible to develop segments based on general-inferred criteria. The life style scales employed in the study were definitely inferred, because the Activity, Interest, and Opinion items used did not measure obvious external characteristics of the respondents. Instead, the items were designed to draw out of the subjects their own perceptions about who they are. The scales were also general because there existed no obvious link between the response items and the products used in the remainder of the study. In sum, the scales represented the fabric of the respondents' life styles.

The results of the investigation for behavioral variation, however, were not as fruitful. After an exhaustive exploration of the usage data, it had to be concluded that there was no evidence that segments derived on general criteria behave differently in specific situations.

Mixed results were obtained in the investigation for perceptual differences between segments and perceptual consistency for segments across product categories. In no case was there any supportive evidence for the concept of perceptual consistency. On the other hand, certain of the data manipulations did generate some evidence that the segments varied in their perceptions of products which they used in common. This lends some support to the contention that the segments might have behaved similarly, but for different root causes. This, in turn, would have implications for

the marketing practitioner in terms of creative appeals used to reach different segments.

Segment Development

In terms of the specific goal of segment development, the results of the study must be considered quite successful. In the face of a dearth of established, tested scales for measuring consumer life style, a number of meaningful, consistent scales were developed which conform well with the results of prior research. These results are important and encouraging. Wells (1972, 1975), for example, has called for more research in this area and has written eloquently of the need for continued use and verification of previously developed life style scales. It is only in this manner that knowledge of, and confidence in, this area of consumer research can grow. This call in general is echoed in the work of numerous others (for example, Nunnally, 1967; Kaplan, 1964).

While hardly complete and definitive, these results confirming previous research offer strong support to the hopes that proponents hold for life style research in the broader area of consumer behavior.

Further, based on these very general scales, it was possible to divide a single, demographically homogeneous sample of consumers into several psychographically distinct homogeneous segments. These segments not only varied greatly on the individual scales, but also exhibited meaningful life style profiles. Given that a set of scales and component items have been identified and tested, these

results would definitely seem to be encouraging for the life style researcher and to provide an additional base for more work in the area. Future research might be fruitfully aimed at replicating these scales in other circumstances and in adding to the nucleus of component items.

Behavioral Variation

In terms of the specific goal of establishing behavioral variation between segments, the negative results, while disappointing, were not unexpected. The various manipulations and tests of this particular data set merely lent support to the heretofore unsupported assertions of several other authors. For instance, Struse (1977) has commented that life style studies are probably inappropriate for low involvement products. It would seem that products which are not of much concern to a consumer--which would neither augment nor detract from his goals--would be affected little by life style differences. Young (1970) also feels that life style must be studied within the context of the product category when dealing with low involvement products. General life style measures would appear to be too gross.

The relevancy of the measures to the products being studied is another concern. Dhalla and Mahatoo (1976) caution that a life style trait measured in its general form may not be related to a product under investigation. Young (1970) makes similar remarks in alluding to the relevancy of life style measures to the product category. Again, it is apparently too much to ask that broad, general life style measures produce very specific discriminations.

Further, Struse (1977) has commented that if a product category is dominated by a single brand or pair of brands or if the consumers are indifferent to brands, life style studies are probably inappropriate.

While it is not possible to comment on brand dominance directly, one or two product types did dominate in each category studied. Also, the particular product categories studied, frequently purchased convenience goods, would seem to be low involvement products. Indeed, the AIO items were chosen deliberately to be general, nonsituation-specific measures. Again, the results of this study verify what has been held as "conventional wisdom."

The results of this study parallel those of earlier studies in yet another direction. Hutt, Muse, and Kegerreis (1972) developed segments that were psychographically distinct, but which showed similar demographic profiles. In analyzing the purchase behavior of these segments, they found that while the segments purchased a similar <u>type</u> of product, they opted for different <u>brands</u>. Wells (1972) also found that in many cases the heavy users of categories of products were actually a combination of two or three distinct markets, buying for different reasons.

It can be concluded, then, that for these low involvement, brand-dominated product categories, general life style characteristics may not offer enough discrimination between segments. This is not to say that differences do not exist, for it is entirely possible that various products of this sort are fulfilling more

than one set of buying motives for more than one life style segment. This will be discussed further in a later section.

Perceptual Consistency

The results of this part of the study showed that the segments overall did not have consistent perceptions of the products they used as different categories were examined. Young (1970) and Dhalla and Mahatoo (1976) have referred to the life style of a consumer as a complex, multi-faceted phenomenon. It would have been quite a surprising development to have found that the segments did think about diverse products similarly.

A consumer life style is like a multi-lidded box, each lid having a different lock and key. While the boxes may be similar within a life style segment, the key to unlocking the segment's use of one category of product is probably different from the key to amother category. Following this analogy, we would expect the combination of attributes perceived in, say, soft drinks to differ from that perceived in pain relievers. That is, different products, used in different phases of the same general life style, are apparently perceived and evaluated differently.

This finding of the study would seem to have important implications for multi-product manufacturers doing benefit analyses of their product lines; once more empirical support for more product-specific studies has been established.

Perceptual Differences

That portion of the study devoted to investigating perceptual differences among the segments showed mixed results. Where the data on attributes were scored and combined in the non-traditional manner of Price (1972), the segments held relatively similar perceptions of the products overall. However, when the data were scored and combined in a more traditional manner (Wilkie and Pessemier, 1973), significant differences were found among the segments.

Whichever conclusion is drawn, that there are or are not significant perceptual differences among the life style segments, further conclusions are possible. If, indeed, the segments do not differ in their perceptions, there is further evidence that general life style measures are too gross to provide the detail necessary for strategic decision-making. Maybe, given the multi-faceted nature of life styles, it is not possible to segment generally. This would confirm the statements made by others earlier in this paper (Young, 1970; Plummer, 1974; Dhalla and Mahatoo, 1976). Perhaps consumers, in their diversity, might be successfully segmented together based only on certain product-specific facets of their life styles. That is, while in general consumers are dissimilar in life styles, in a specific situation their life styles intersect in similar profiles. This resembles the argument that Lessig and Tollefson (1972) make concerning the intersection of hypersurfaces in multi-dimensional space, that in certain

circumstances, consumers with different response functions overall will manifest similar specific responses.

If, on the other hand, the segments do differ in their product perceptions, another direction is indicated. In this case, there is evidence that these segments have different inferred responses to market stimuli, but manifest similar objective responses in terms of purchase behavior.

This is a clear call for product positioning. While these segments use the same types of products, and possibly the same brands, they use them for different reasons, seeking different benefits. In this case, the marketing decision maker should use a different set of creative appeals to reach the different markets for the same product. This will be discussed further in the next section.

Summary

An overall conclusion to be drawn from this study is that life style measures can successfully divide a group of consumers into psychographically different segments. These measures provide a great deal of insight into the nature of the segments and are rich in creative description. The utility of segments so derived is limited, however, by the gross level of discrimination. At least at the current stage of development, segmentation studies will be better performed at a more product-specific level.

Implications for the Practitioner

There are several implications in this study for the marketing practitioner. The most obvious concerns the utility of broad, general segmentation. It is tempting for a multi-product, multi-brand manufacturer to consider this possibility; there are definite cost savings to be realized from doing one major study for a family of products rather than several individual studies. Also, the possibilities of cross-couponing, piggy-back trials, and in-store placement of various categories of products as well as other forms of promotion are tantalizing.

However, from this study it would appear that this type of general segmentation is still subject to much error. The burden of decision is heavy on the practitioner to translate the psychographic profiles of the life style segments into corresponding product formulations. The profiles offer insight into segment motives, but they are hardly conclusive.

This research would suggest the more micro approach of product-specific segmentation. Using life style items and scales which are more relevant to the product category in question would offer a more finely tuned picture of the consumer in the particular situation. Unfortunately, the insight provided by the broader scope might have to be sacrificed for this sharper focus. Still, the use of some general measures interspersed with the particular might provide some of the richness of the more general life style fabric.

Earlier it was mentioned that the results of this research clearly call for product positioning. Segments with distinctly different life styles were seen to use the same product types, and there was some evidence for these segments having different perceptions of commonly used products. While they use the same types of products, the benefits sought are likely different.

The implication to be drawn from this is that the marketing strategist might reposition his own brand to come closer to a particular segment's ideal than do the other brands. With knowledge of a segment's major life style components and the benefits sought in products to augment that life style, the strategist might manipulate the components of the marketing mix to make his product more appealing. It is almost tautological that segments using the same product to satisfy different needs might well be offered the same product using different appeals.

While it could be difficult to isolate diverse appeals to a demographically homogeneous group, different segments might still be reached with the same product. The question to be resolved would center on media usage. Given different life styles, different segments might well vary in their media habits--the amount of exposure and the type of media vehicle (Darden and Perreault, 1975; Wind and Denny, 1974).

This discussion of positioning also impinges on the concept of relevancy and life style. While the appropriateness of using life style measures which are relevant to a particular product has been discussed, there is another side to the issue. One implication

is that a practitioner might want to make his entry in a product category more relevant to a particular life style. The task would involve focusing attention on the promotional program and its components to ensure the portrayal of roles and motives that are congruent with that life style (Reynolds, Crask, and Wells, 1977).

Implications for Future Research

A number of implications may be drawn from this study on such topics as sample, products studied, life style scales, and cognitive research.

Sample

Due to the exploratory nature of this research, no attempt was made to choose a random sample which would allow extrapolation of the results to the general population. Two paths in furthering research in this area are apparent. The first, and simplest, would involve rerunning the study as is on another sample of whatever nature to determine if it replicated. This might offer more conclusive support for the results as shown. The second would involve a larger, more broad-based sample which would be representative of the population. This would allow practitioners and theorists alike more insight into the diversity of consumer life style and the effects of those life styles on consumption.

Products Studied

As noted earlier, the products used in this study were frequently purchased consumer products, which was in keeping with the

mainstream of segmentation research. Given that general measures of life style may be inappropriate for studying products of this nature, future research might be more fruitfully devoted to study of a different classification of goods: those that have a high degree of involvement for the consumer, that have higher risk potential, may offer correspondingly better discrimination in use. Research might, for instance, center on the use of consumer durables rather than on the non-durables used in this study. Attention might focus on clothing styles and other elements of personal fashion. There is also potential for study in the area of intangibles, such as insurance, vacation choices, social memberships, etc.

A further refinement in the area of product selection, collection of data on brand choices and relative use of various brands, would also be beneficial. In brand-dominated categories, it might be appropriate to control for relative levels of media exposure, price, and distribution.

Life Style Scales

As indicated previously, the area of life style research is relatively new and the need for further research is evident. While the results of scale development in this study are encouraging, much more research of this sort is obviously needed.

There is a need, for instance, to produce and test new AIO items that will correlate well with those that seem to constitute currently constructed scales. The more items generated, the more reliable the scales. But given the constraints of respondent

attention and fatigue, it would be necessary to develop a realtively small nucleus of appropriate items for each scale.

The scales which are under current use must be subjected to more scrutiny. The whole topic of construct validity is still open to investigation. There is a great deal of promise in the life style facet of consumer behavior research, but much work remains.

Cognitive Research

The mixed results of the study of perceptual consistency in this paper underscore the need for more research in this area. While much work has been done on multi-attribute attitude models, much more remains to be done. More detailed, empirical studies, such as those done by Bettman, Capon, and Lutz (1975) and McElwee and Parsons (1977), are needed.

Summary

The research reported in this paper is part of a very dynamic field of study. The results have been both encouraging and disappointing, for the advance in knowledge which is gained in this and any other research is merely further evidence of how much more there is to know.

APPENDICES

APPENDIX A

ACTIVITY, INTEREST, AND OPINION ITEMS

APPENDIX A

ACTIVITY, INTEREST, AND OPINION ITEMS

1.	I shop a lot for "specials."	W, T, D
2.	I find myself checking the prices in the grocery store even for small items.	T
3.	I usually watch the advertisements for announcement of sales.	W, T
4.	I study the food ads each week so I can make the best buy.	W
5.	When I find a coupon in the paper, I usually clip it and redeem it the next time I go shopping.	W
6.	I usually have one or more outfits that are of the very latest style.	W, T, D
7.	When I must choose between the two, I usually dress for fashion, not for comfort.	W
8.	An important part of my life and activities is dressing smartly.	
9.	I often try the latest hairdo styles when they change.	W, T
10.	When my children are ill in bed I drop most everything else in order to see to their comfort.	W
11.	I try to arrange my home for my children's convenience.	W
12.	I take a lot of time and effort to teach my children good habits.	W
13.	I usually keep my house very neat and clean.	V
14.	I am uncomfortable when my house is not completely clean.	V

15.	Our days seem to follow a definite routine such as eating meals at a regular time, etc.	T
16.	I must admit I really don't like household chores.	T, D
17.	I enjoy most forms of housework. (Reverse scored)	W
18.	My idea of housekeeping is "once over lightly."	W
19.	I try to wash the dishes promptly after each meal.	V
20.	A house should be dusted and polished at least three times a week.	V
21.	I usually have regular days for cleaning, cooking, and shopping.	V
22.	I often make my own or my children's clothes.	T
23.	I am an active member of more than one service organization.	W, D
24.	I do volunteer work for a hospital or service organization on a fairly regular basis.	W, D
25.	I like to work on community projects.	W
26.	I have personally worked in a political campaign or for a candidate for an issue.	W
27.	I have helped to collect money for the Red Cross or United Fund or March of Dimes.	w
28.	I am active in the PTA.	W
29.	I buy many things with a credit card or a charge card.	V, B
30.	It is good to have charge accounts.	V
31.	I like to pay cash when I buy something.	B
32.	To buy anything, other than a house or a card, on credit is unwise.	B
33.	I like to watch or listen to baseball or football games.	W, T
34.	I usually read the sports page in the daily paper.	W
35.	I used to bowl, play tennis or golf, or other active sports quite often.	W

36.	I was active in sports when I was in school.	W
37.	I often seek out the advice of my friends regarding which brand to buy.	T, D
38.	I often try new brands before my friends and neighbors do.	W
39.	I like to try new and different things.	W
40.	As a rule, I don't buy new products until I hear something about them from people who have tried them.	W
41.	I like to try new brands of products I use the first time I see them in the store.	T
42.	I usually like to wait and see how other people like new brands before I try them.	T
43.	I'm the kind of person who makes up her mind on the brand to buy and then sticks to that brand for a long time without trying any others.	T
44.	I keep away from unfamiliar brands.	T
45.	I feel that most of the buying I do is based on habit.	T
46.	Our family income is high enough to satisfy nearly all our important desires.	T
47.	I buy more low calorie foods than the average housewife.	T, D
48.	I have gone on a strict diet to control my weight one or more times.	W
49.	I am careful about what I eat in order to keep my weight under control.	T
50.	In order to control my weight, I have undertaken a strict diet one or more times.	T
51.	For a period of a week or more, I have used Metrecal or other diet supplements at least for one meal a day.	T
52.	I enjoy going through an art gallery.	W
53.	I enjoy going to concerts.	W

54.	I am able to work for long periods of time without feeling tired.	W
55.	I have to entertain frequently in order to repay the invitations I get.	W
56.	I go out to lunch with my friends quite often.	W
57.	I have a great deal of information about my husband's day-to-day work activities.	T
58.	I could get along quite well without the benefit of television advertising.	T
59.	There are a lot of better ways to invest your money than buying life insurance.	T
60.	I watch television more than I should.	V
61.	I go to church regularly.	V
62.	I like gardening.	V
63.	I read a newspaper every day.	B
64.	To me, shopping is fun.	B
65.	Television has added a great deal of enjoyment to my life.	V
66.	I watch television to be entertained.	V
67.	I don't like watching television and so I rarely do.	V
68.	I look for ways to prepare fancy meals.	V
69.	I think of myself as a creative cook.	V
70.	I pray several times a week.	V
71.	My family enjoys camping.	D
72.	A vacation should not be hectic but quiet and relaxing.	D
73.	I always try to visit as many action-packed locations as possible during my vacation.	D
74.	Visiting historical locations is an important consideration in planning any vacation.	D

75. The most important part of any vacation is meeting new people. D

W = Wilson (1966)

T = Tigert (1969)

V = Villani and Lehmann (1975)

D = Darden and Perreault (1975, 1976)

B = Barnes (1975)

APPENDIX B

LIST OF ADJECTIVES

APPENDIX B

LIST OF ADJECTIVES

Successful	Cautious
Confident	Natural
Dynamic	Active
Leisurely	Adventurous
Strong	Exotic
Youthful	Fashionable
Secure	Feminine
Masculine	Fresh
Spontaneous	Conscientious
Innovative	Gentle
Serious	Lively
Simple	Modern
Impressive	Practical
Individualistic	Friendly
Sociable	Hard Working

APPENDIX C

SCALES WITH COMPONENT ITEMS

APPENDIX C

SCALES WITH COMPONENT ITEMS

1. Price Consciousness

a. I shop a lot for "specials."

b. I study the food ads each week so I can make the best buy.

c. I find myself checking the prices in the grocery store even for small items.

d. When I find a coupon in the paper, I usually clip it and redeem it the next time I go shopping.

e. I usually watch the advertisements for announcements of sales.

2. Venturesome

a. I like to try new brands of products I use the first time I see them in the store.

b. I'm the kind of person who makes up her mind on the brand to buy and then sticks to that brand for a long time without trying any others. (reverse scored)

c. I often try new brands before my friends and neighbors do.

d. I like to try new and different things.

3. Arts Interest

a. I enjoy going through an art gallery.

b. I enjoy going to concerts.

4. Housekeeping Interest

a. I am uncomfortable when my house is not completely clean.

b. I usually keep my house very neat and clean.

c. My idea of housekeeping is "once over lightly." (reverse scored)

d. I enjoy most forms of housework.

e. I must admit I really don't like household chores. (reverse scored)

5. Television Watching

a. Television has added a great deal of enjoyment to my life.

b. I watch television to be entertained.

c. I don't like watching television and so I rarely do. (reverse scored)

d. I watch television more than I should.

6. Child Orientation

a. I try to arrange my home for my children's convenience.

b. I take a lot of time and effort to teach my children good habits.

c. When my children are ill in bed, I drop most everything else in order to see to their comfort.

7. Fashion Consciousness

a. I usually have one or more outfits that are of the very latest style.

b. I often try the latest hairdo styles when they change.

c. When I must choose between the two, I usually dress for fashion, not for comfort.

d. An important part of my life and activities is dressing smartly.

8. Credit Use

a. To buy anything, other than a house or a car, on credit is unwise. (reverse scored)

b. I like to pay cash when I buy something. (reverse scored)

c. I buy many things with a credit card or a charge card.

d. It is good to have charge accounts.

9. Religiosity

a. I pray several times a week.

b. I go to church regularly.

10. Sports Interest

a. I like to watch or listen to baseball or football games.

b. I usually read the sports page in the daily paper.

11. Weight Consciousness

a. I have gone on a strict diet to control my weight one or more times.

b. I am careful about what I eat in order to keep my weight under control.

c. I buy more low calorie foods than the average housewife.

12. Information Seeking

a. I usually like to wait and see how other people like new brands before I try them.

b. I often seek out the advice of my friends regarding which brand to buy.

c. As a rule, I don't buy new products until I hear something about them from people who have tried them.

13. Community Interest

a. I like to work on community projects.

b. I am an active member of more than one service oganization.

c. I do volunteer work for a hospital or service organization on a fairly regular basis.

APPENDIX D

SCALE MEANS

APPENDIX D

SCALE MEANS

Scale	Grand Mean	Segment				
		1	2	3	4	5
1	20.2133	22.5333	19.3333	19.0000	18.5333	21.6667
2	12.3333	12.4667	11.6667	11.6667	12.3333	13.5333
3	7.4133	8.3333	6.5333	6.4667	7.3333	8.40
4	18.4124	18.933	17.73	19.133	16.40	19.866
5	13.0933	12.8667	12.4667	13.5333	12.5333	14.0667
6	11.5067	12.1333	11.6	10.1333	10.6667	13.000
7	10.96	9.5333	9.6667	11.0667	12.6667	11.8667
8	11.213	12.533	8.133	11.2	12.733	11.466
9	7.48	8.0667	7.3333	4.4667	7.9333	9.6
10	5.1733	4.2	4.0667	5.80	7.2	4.6
11	8.5733	8.7333	6.5333	8.2667	9.6667	9.6667
12	8.28	6.5333	7.8	7.9333	9.0667	10.0667
13	9.32	9.2	8.1333	7.600	10.1333	11.5333

BIBLIOGRAPHY

BIBLIOGRAPHY

Adams, S. "Status Congruency as a Variable in Small Group Performance." Social Forces 32 (1953): 16-22.

Advertising Research Foundation. Are There Consumer Types? (New York: Advertising Research Foundation, 1964).

Ahtola, Olli T. "The Vector Model of Preferences: An Alternative to the Fishbein Model." Journal of Marketing Research 12 (February 1975): 52-59.

Alderson, Wroe A. Marketing Behavior and Executive Action. Homewood, Ill.: Richard D. Irwin, Inc., 1957.

Allport, G. W. "Attitudes." In Handbook of Social Psychology, pp. 798-884. Edited by C. Murchison. Worcester, Mass.: Clark University Press, 1953.

Anderson, W. Thomas, Jr. "Identifying the Convenience-Oriented Consumer" Journal of Marketing Research 8 (May 1971): 179-83.

Andreasen, A. R. "Geographic Mobility and Market Segmentation." Journal of Marketing Research 3 (November 1966): 341-48.

Appel, David L. "Market Segmentation--A Response to Retail Innovation." Journal of Marketing 34 (April 1970): 64-67.

_____. "Institutional Innovators: A Study of Market Segmentation." MSU Business Topics, Autumn 1970, pp. 70-77.

Arndt, J. "Profiling Consumer Innovators." In Insights into Consumer Behavior. Edited by J. Arndt. Boston: Allyn and Bacon, 1968.

Assel, Henry. "Segmenting Markets by Group Purchasing Behavior: An Application of the AID Technique. Journal of Marketing Research 7 (May 1970): 153-58.

_____. "Perceptual Mapping to Reposition Brands." Journal of Advertising Research 2 (February 1971): 39-42.

Barnes, James G. "Factors Influencing Consumer Reaction to Retail Newspaper 'Sale" Advertising." In Proceedings of the American Marketing Association, 1975, pp. 471-77.

Barnett, Norman L. "Beyond Market Segmentation." Harvard Business Review (January-February 1969): 152-54.

Bass, Frank M.; King, Charles W.; and Pessemier, Edgar A., eds. Applications of the Sciences in Marketing Management. New York: Wiley, Inc., 1968.

Bass, Frank M.; Tigert, Douglas J.; and Lonsdale, Donald T. "Market Segmentation: Group vs. Individual Behavior." Journal of Marketing Research 5 (August 1968): 264-70.

Baumwoll, Joel P. "Segmentation Research--The Baker vs. the Cookie Maker." In Combined Proceedings, American Marketing Association, 1974, pp. 14-20. Edited by Ronald C. Curhan.

Bell, James E. "Mobiles--A Neglected Market Segment." Journal of Marketing 33 (April 1969): 37-44.

Bennett, Peter D., and Kassarjian, Harold. Consumer Behavior. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1972.

Benoit-Smullyan, E. "Status, Status Types, and Status Interrelationships." American Sociological Review 9 (April 1944): 151-61.

Berelson, B., and Steiner, G. A. Human Behavior: An Inventory of Scientific Findings. New York: Harcourt, Brace, 1964.

Bettman, James R.; Capon, Noel; and Lutz, Richard J. "Cotnitive Algebra in Multi-Attribute Attitude Models." Journal of Marketing Research 12 (May 1975): 151-64.

Bieda, John C., and Kassarjian, Harold H. "An Overview of Market Segmentation." In Marketing in a Changing World, pp. 249-53. Edited by Bernard A. Morin. Chicago: American Marketing Association, 1969.

Bird, M.; Channon, C.; and Ehrenberg, A. S. "Brand Image and Brand Usage." Unpublished manuscript, 1970.

Birdwell, A. E. "A Study of Image Congruence on Consumer Choice." Journal of Business 41 (June 1968): 76-88.

Boyd, H. W.; Ray, M. L.; and Strong, E. C. "An Attitude Framework for Advertising Strategy." Journal of Marketing 36 (April 1972): 27-33.

Brandt, S. C. "Dissecting the Segmentation Syndrome." Journal of Marketing 30 (October 1966): 22-27.

Brody, R. P., and Cunningham, S. M. "Personality Variables and the Consumer Decision Process." Journal of Marketing Research 5 (February 1968): 50-57.

Brown, G. "Brand Loyalty--Fact or Fiction?" Advertising Age 23 (June 1952-January 1953).

Chamberlain, E. H. Theory of Monopolistic Competition. Cambridge: Harvard University Press, 1933.

Claycamp, H. J., and Massy, W. F. "A Theory of Market Segmentation." Journal of Marketing Research 5 (November 1968): 388-94.

Cohen, Joel, and Ahtola, Olli T. "An Expectancy X Value Analysis of the Relationship Between Consumer Attitudes and Behavior." Paper presented at the Association for Consumer Research, September, 1971.

Coleman, R. P. "The Significance of Social Stratification in Selling." In Marketing: A Maturing Discipline, pp. 171-84. Edited by Martin Bell. Chicago: American Marketing Association, Winter, 1960.

Crockett, J., and Friend, I. "A Complete Set of Consumer Demand Relationships." In Consumpting and Saving, Vol. I: A Study of Consumer Expenditures, Incomes, and Savings, pp. 1-93. Edited by I. Friend and R. Jones. Philadelphia: University of Pennsylvania Press, 1960.

Cunningham, R. "Measurement of Brand Loyalty." In The Marketing Revolution, pp. 39-45. New York: American Marketing Association, 1955.

_____. "Brand Loyalty--What, Where, How Much." Harvard Business Review 34 (January-February 1956): 116-28.

Darden, Wm. R., and Perreault, Wm. D., Jr. "A Multivariate Analysis of Media Exposure and Vacation Behavior with Life Style Covariates." Journal of Consumer Research 2 (September 1975): 93-103.

_____. "Identifying Interurban Shoppers: Multiproduct Purchase Patterns and Segmentation Profiles." Journal of Marketing Research 13 (February 1976): 51-60.

Delozier, Wayne, and Tillman, Rollie. "Self-Image Concepts--Can They Be Used to Design Marketing Programs?" Southern Journal of Business (November 1972): 9-15.

Demby, E. "Psychographics and From Whence It Came." In Life Style and Psychographics, pp. 11-30. Edited by Wm. Wells. Chicago: American Marketing Association, 1974.

Dixon, W. S., ed. Biomedical Computer Programs: X-Series Supplement. Los Angeles: University of California Press, 1969.

Dolich, Ira J. "Congruence Relationships Between Self Images and Product Brands." Journal of Marketing Research 6 (February 1969): 80-84.

Engel, James F.; Fiorillo, Henry F.; and Cayley, Murray A. Market Segmentation: Concepts and Applications. New York: Holt, Rinehart, and Winston, Inc., 1972.

Engel, James F.; Kollat, David T.; and Blackwell, Roger D. "Personality Measures and Market Segmentation." Business Horizons 12 (June 1969): 61-70.

_____. Consumer Behavior. 2nd ed. New York: Holt, Rinehart and Winston, Inc., 1973.

Engel, James F.; Wales, Hugh; and Warshaw, Martin. Promotional Strategy. 3rd ed. HOmewood, Ill.: Richard D. Irwin, Inc., 1975.

Evans, Franklin B. "Psychological and Objective Factors in the Prediction of Brand Choice: Ford Versus Chevrolet." Journal of Business 32 (October 1959): 340-69.

Farley, J. "Testing a Theory of Brand Loyalty." In Toward Scientific Marketing, pp. 308-15. Edited by S. Geyser. Boston: American Marketing Association Winter Conference, 1963.

Ferber, Robert. "Research on Household Behavior." American Economic Review 52 (March 1962): 19-63.

Ferguson, G. A. Statistical Analysis in Psychology and Education. New York: McGraw-Hill Book Co., 1971.

Fishbein, M. "The Relationships Between Beliefs, Attitudes, and Behavior." In Cognitive Consistency: Motivational Antecedents and Behavioral Consequents, pp. 200-23. Edited by S. Feldman. New York: Academic Press, 1966.

Fishbein, M., ed. "A Consideration of Beliefs and Their Role in Attitude Measurement" (1967a), pp. 257-66; "A Behavior Theory Approach to the Relations Between Beliefs About an Object and the Attitude Toward the Object" (1967b), pp. 394-96; "Attitude and the Prediction of Behavior" (1967c), pp. 477-92. In Readings in Attitude Theory and Measurement. New York: Wiley, 1967.

Frank, Ronald E. "Brand Loyalty as a Basis for Market Segmentation." Journal of Advertising Research 7 (June 1967): 27-33.

_____. "Market Segmentation Research: Findings and Implications." In Applications of the Sciences in Marketing Management, pp. 39-68. Edited by F. Bass, C. King, and E. Pessemier. New York: Wiley, Inc., 1968.

Frank, Ronald E., and Boyd, H., Jr. "Are Private-Brand Prone Food Customers Really Different?" Journal of Advertising Research 5 (December 1965): 27-35.

Frank, Ronald E.; Douglas, S. P.; and Polli, R. E. "Household Correlates of 'Brand Loyalty' for Grocery Products." Journal of Business 41 (April 1968): 237-45.

Frank, Ronald E., and Green, P. E. "Numerical Taxonomy in Marketing Analysis: A Review Article." Journal of Marketing Research 5 (February 1968): 84-94.

Frank, Ronald E.; Massy, W. F.; and Boyd, H. W. "Correlates of Grocery Product Consumption Rates." Journal of Marketing Research 4 (May 1967): 184-90.

Frank, Ronald E.; Massy, W. F.; and Wind, Y. Market Segmentation. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1972.

Frank, Ronald E., and Strain, C. E. "A Segmentation Research Design Using Consumer Products Data." Journal of Marketing Research 9 (November 1972): 385-90.

Fry, Joseph N. "Personality Variables and Cigarette Brand Choice." Journal of Marketing Research 8 (August 1972): 298-104.

Garfinkle, N. "A Marketing Approach to Media Selection." Journal of Advertising Research 3 (December 1963): 7-15.

Goldstein, S. "The Aged Segment of the Market 1950-1960." Journal of Marketing 32 (April 1968): 62-68.

Gordon, M. M. Social Class in American Society. New York: McGraw-Hill Book Co., Inc., 1950.

Gorsuch, Richard L. Factor Analysis. Philadelphia: W. B. Sanders Co., 1974.

Green, Paul E., and Tull, Donald S. Research for Marketing Decisions. 3rd ed. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1973.

Grubb, E. L. "Consumer Perception of 'Self Concept' and Its Relationship to Brand Choice of Selected Product Types." Proceedings of the Winter Conference of the American Marketing Association, 1965, pp. 419-22.

Grubb, E. L., and Grathwohl, H. L. "Consumer Self-Concept, Symbolism, and Market Behavior: A Theoretical Approach." Journal of Marketing 31 (October 1967): 22-27.

Grubb, E. L., and Hupp, G. "Perception of Self, Generalized Stereotypes, and Brand Selections." Journal of Marketing Research 5 (February 1968): 58-63.

Guest, L. "A Study of Brand Loyalty." Journal of Applied Psychology 23 (1944): 16-27.

Guilford, J. P. Psychometric Methods. New York: McGraw-Hill Book Co., Inc., 1967.

Haley, R. I. "Benefit Segmentation: A Decision-Oriented Research Tool." Journal of Marketing 32 (July 1968): 30-35.

_____. "Implications of Market Segmentation." Conference Board Record (March 1969): 33-37.

_____. "Beyond Benefit Segmentation." Journal of Advertising Research 11 (August 1971): 3-8.

Haley, Overholser, and Associates, Inc. Purchase Influence. 1975.

Hall, D. S., and Lindzey, G. Theories of Personality. New York: Wiley, Inc., 1957.

Hansen, F., and Bak-Jensen, T. "Backwards Segmentation Using Hierarchical Clustering and Q-Factor Analysis." Seminar on Segmentation and Typology, Techniques and Applications to Marketing Problems, pp. 171-99. Brussels: ESOMAR, 1972.

Harrell, Gilbert D., and Bennett, Peter D. "An Evaluation of the Expectancy Value Model of Attitude Measurement for Phusicial Prescribing Behavior." Journal of Marketing Research 2 (August 1974): 269-78.

Hawes, D. K. "Uses of Attitudes Toward Consumer Credit as a Means of Financing Leisure-Time Products and Pursuits." Research Paper No. 65, College of Commerce and Industry, University of Wyoming, 1975.

Holmes, John. "Profitable Product Positioning." MSU Business Topics (Spring 1973), pp. 27-32.

Hughes, G. D. Attitude Measurement for Marketing Strategies. Glenview, Ill.: Scott, Foresman and Co., 1971.

Hustad, T. P.; Mayer, C. S.; and Whippple, T. W. "Segmentation Research Works If . . ." In Combined Proceedings, pp. 55-63. Edited by R. C. Curhan. American Marketing Association, 1974.

Hustad, T. P., and Pessemier, E. "Segmenting Consumer Markets with Activity and Attitude Measures." Paper No. 298, Institute for Research in the Behavioral, Economic, and Management Sciences, Purdue University, March, 1971.

_____. "The Development and Application of Psychographic, Life Style, and Associated Activity and Attitude Measures." In Life Style and Psychographics, pp. 33-70. Edited by Wm. D. Wells. American Marketing Association, 1974.

Hutt, Michael D.; Muse, Wm.; and Kagerreis, R. J. "Market Segmentation Using Behavioral Variables." Southern Journal of Business 7 (February 1972): 55-63.

Johnson, Richard M. "Market Segmentation: A Strategic Management Tool." Journal of Marketing Research 8 (February 1971): 13-18.

Johnson, S. C. "Hierarchical Clustering Schemes." Psychometrika 32 (September 1967): 241-54.

Kahl, J. A. The American Class Structure. New York: Holt, Rinehart, and Winston, Inc., 1965.

Kaplan, Abraham. The Conduct of Inquiry. San Francisco: Chandler Publishing Company, 1964.

Kassarjian, Harold H. "Personality and Consumer Behavior: A Review." Journal of Marketing Research 8 (November 1971): 409-18.

Kassarjian, Harold H., and Robertson, T. S. Perspectives in Consumer Behavior. Glenview, Ill.: Scott, Foresman and Co., 1968.

Kassarjian, Harold H., and Sheffet, M. J. "Personality and Consumer Behavior: One More Time." In Combined Proceedings, pp. 197-201. Edited by E. M. Mazze. American Marketing Association, 1975.

Katz, Daniel. "The Functional Approach to the Study of Attitudes." Public Opinion Quarterly 24 (Summer 1960): 163-91.

Katz, Daniel, and Stotland, E. "A Preliminary Statement to a Theory of Attitude Structure and Change." In Psychology: A Study of Science, Vol. 3, pp. 423-75. Edited by S. Kock. New York: McGraw-Hill Bool Co., Inc., 1959.

Katz, Daniel and Lazarfeld, P. E. Personal Influence. New York: Glencoe Free Press, 1955.

King, C. W., and Summers, J. O. "Generalized Opinion Leadership in Consumer Products: Some Preliminary Findings." Paper No. 224, Institute for Research in the Behavioral, Economic, and Management Sciences, Purdue University, January, 1969.

Kollat, David T.; Engel, James F.; and Blackwell, Roger D. "Current Problems in Consumer Behavior Research." Journal of Marketing Research 7 (August 1970): 327-32.

Kotler, P. Marketing Management: Analysis, Planning and Control. 2nd ed. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1972. 3rd ed., 1976.

Krech, David, and Crutchfield, Richard S. Theory and Problems of Social Psychology. New York: McGraw-Hill Book Co., Inc., 1948.

Krech, David; Crutchfield, R. S.; and Ballachey, E. L. Individual in Society. New York: McGraw-Hill Book Co., Inc., 1948.

Kuehn, A. A. "Consumer Brand Choices as a Learning Process." Journal of Advertising Research 2 (1962): 10-17.

Lansing, J. B., and Kish, L. "Family Life Cycles as an Independent Variable." American Sociological Review 22 (October 1957): 512-19.

Lavidge, R. J.; and Steiner, G. A. "A Model for Predictive Measurements of Advertising Effectiveness." Journal of Marketing 25 (October 1961): 59-62.

Lazer, Wm. "Life Style Concepts and Marketing." Proceedings, American Marketing Association Winter Conference, 1963, pp. 130-39.

Lenski, G. E. "Status Crystallization: A Non-Vertical Dimension of Social Status." American Sociological Review 19 (August 1954): 405-13.

_____. "Social Participation and Status Crystallization." American Sociological Review 21 (August 1956): 458-64.

Lessig, V. P., and Tollefson, J. O. "Market Segment Identification Through Consumer Buying Behavior and Personal Characteristics." In Market Segmentation: Concepts and Applications, pp. 435-55. Edited by J. F. Engel, H. F. Fiorillo, and M. A. Cayley. New York: Holt, Rinehart, and Winston, Inc., 1972.

Levy, S. J. "Symbolism and Life Style." In Toward Scientific Marketing, pp. 140-50. Edited by S. Greysen. Boston: American Marketing Association, 1963.

_____. "Symbolism and Life Style." Unpublished paper from Social Research, Inc., 1968.

Linden, F., ed. Market Profiles of Consumer Products. New York: National Industrial Conference Board, 1967.

Lunn, J. A. "Classifying Consumers in the 1970's." In Seminar on Segmentation and Typology, Techniques and Applications to Marketing Problems, pp. 147-69. Brussels: ESOMAR, 1972.

Martineau, P. D. Motivation in Advertising. New York: McGraw-Hill Book Co., Inc., 1957.

Massy, William F. "What Is Factor Analysis?" In Multivariate Analysis in Marketing: Theory and Application, pp. 241-45. Edited by David A. Aaker. Belmont, Calif.: Wadsworth Publishing Co., 1971.

Massy, William F.; Frank, R. E.; and Lodahl, T. M. Purchasing Behavior and Personal Attributes. Philadelphia: University of Pennsylvania Press, 1968.

Mathews, H. L., and Slocum, J. W. "Social Class and Commercial Bank Credit Card Usage." Journal of Marketing 33 (January 1969): 71-78.

_____. "The Use of Psychographic Factors to Predict Credit Use." Proceedings, American Marketing Association, Fall 1970.

McCarthy, E. Jerome. Basic Marketing: A Managerial Approach. 5th ed. Homewood, Ill.: Richard D. Irwin, Inc., 1975.

Merton, R. K. Social Theory and Social Structure. Rev. ed. New York: Glencoe Free Press, 1957.

Michaels, Peter W. "Life Style and Magazine Exposure." Combined Proceedings, American Marketing Association, 1972, pp. 324-31.

Montgomery, D. B., and Silk, A. J. "Patterns of Overlap in Opinion Leadership and Interest for Selected Categories of Purchasing Activity." In Marketing Involvement in Society and the Economy, pp. 377-86. Edited by P. R. McDonald. Cincinnati: American Marketing Association, 1969.

Mueller, E. "Effects of Consumer Attitudes on Purchase." American Economic Review 47 (December 1957): 946-65.

Myers, J. H.; Stanton, P. R.; and Haug, A. F. "Correlates of Buying Behavior: Social Class vs. Income." Journal of Marketing 35 (October 1971): 8-15.

Nagy, G. "State of the Art in Pattern Recognition." Proceedings of the IEEE 56 (1968): 836-62.

National Industrial Conference Board. Expenditure Patterns of the American Family. New York: Life, 1965.

Nelson, Alan. "A National Study of Psychographics." Proceedings, American Marketing Association, Atlanta, 1969.

Newman, J. W. Motivation Research and Marketing Management. Boston: Harvard University, 1957.

Nielsen, A. C. "Finding Food Patterns." Quoted in Marketing Insights 2 (February 12, 1968): 3.

Nunnally, J. C. Psychometric Theory. New York: McGraw-Hill Book Co., Inc., 1967.

Overall, J. E., and Klett, C. J. Applied Multivariate Analysis. New York: McGraw-Hill Book Co., 1972.

Palda, Kristian S. "The Hypothesis of a Hierarchy of Effects: A Partial Evaluation." Journal of Marketing Research 3 (February 1966): 13-24.

Parks, T. M. "Fortran IV Program for Q-Mode Cluster Analysis on Distance Function with Printed Dendogram." Computing Center of Lehigh University, Bethelehem, Pennsylvania, 1969.

Pernica, Joseph. "Psychographics: What Can Go Wrong." In Combined Proceedings, pp. 45-50. Edited by R. Curhan. American Marketing Association, 1974.

Pessemier, E., and Tigert, D. "Personality, Activity, and Attitude Predictors of Consumer Behavior." In New Ideas for Successful Marketing, pp. 332-47. Edited by J. Wright and J. Goldstucker. American Marketing Association, 1966.

Peters, W. H. "Using MCA to Segment New Car Markets." Journal of Marketing Research 7 (August 1970): 360-63.

_____. "Income and Occupation as Explanatory Variables: Their Power Combined vs. Separate." Journal of Business Research (Summer 1973): 81-89.

Peterson, R. A., and Sharpe, L. K. "Market Segmentation: Product Usage Patterns and Psychographic Configurations." Journal of Business Research (Summer 1973): 11-20.

_____. "Market Segmentation by Sequential Cluster Analysis." Journal of Business Research 2 (July 1974): 249-64.

Pielou, E. C. An Introduction to Mathematical Ecology. New York: Wiley-Interscience, 1969.

Pitts, Brian. "Probing the Market Gaps." Business Management (London) 99 (September 1969): 32-35.

Plummer, Joseph T. "Life Style Patterns and Commercial Bank Credit Card Usage." Journal of Marketing 35 (April 1971): 35-41.

_____. "Psychographics: What Can Go Right?" In Combined Proceedings, pp. 41-44. Edited by R. C. Curhan. American Marketing Association, 1974.

_____. "The Concept and Application of Life Style Segmentation." Journal of Marketing 38 (January 1974): 33-37.

Price, Leighton A. "Peronality Characteristics and Consumer-Product Perceptions: Methodological Advances and Empirical Verification of a Cognitive Model." Ph.D. dissertation, Michigan State University, 1972.

Ray, M. L., and Wilkie, W. L. "Fear: The Potential of an Appeal Neglected by Marketing." Journal of Marketing 34 (January 1970): 54-62.

Reiser, R. J. "Why New Products Fail, Why Old Products Falter." ANA Workshop of Advertising Planning and Evaluation, December, 1966.

Reitter, R. M. "Product Testing in a Segmented Market." Journal of Marketing Research 6 (May 1969): 179-84.

Reynolds, Fred D. "Life Style Analysis in Consumer Research." Georgia Business 33 (October 1973): 1-7.

Reynolds, Fred D.; Crask, M. R.; and Wells, W. D. "The Modern Feminine Life-Style." Journal of Marketing 41 (July 1977): 33-45.

Reynolds, William H. "More Sense about Market Segmentation." Harvard Business Review 65 (September-October 1965): 107-14.

_____. Products and Markets. New York: Appleton, Century, Crofts, 1969.

Rich, S. U., and Jain, S. C. "Social Class and Life Cycle as Predictors of Shopping Behavior." Journal of Marketing Research 4 (February 1968): 41-49.

Richmond, Samuel B. Statistical Analysis. New York: Ronald Press, 1964.

Robertson, T. S. "Purchase Sequence Responses: Innovators vs. Non-Innovators." Journal of Advertising Research 4 (March 1968): 47-52.

_____. Innovative Behavior and Communications. New York: Holt, Rinehart, and Winston, 1971.

Robertson, T. S., and Myers, J. G. "Personality Correlates of Opinion Leadership and Innovative Buying Behavior." Journal of Marketing Research 6 (May 1969): 164-68.

Robinson, Joan. The Economics of Imperfect Competition. London: McMillan, 1933.

Rogers, Everett M. Diffusion of Innovations. New York: Glencoe Free Press, 1962.

Rogers, Everett M., and Stanfield, J. D. "Adoption and Diffusion of New Products: Emerging Generalizations and Hypotheses." In Applications of the Sciences in Marketing Management, pp. 227-50. Edited by F. Bass, C. King, and E. Pessemier. New York: Wiley, 1968.

Rosnow, Ralph L., and Robinson, Edward J., eds. Experiments in Persuasion. New York: Academic Press, 1967.

Schewe, Charles D. "Selected Social Psychological Models for Analizing Buyers." Journal of Marketing 37 (July 1973): 31-39.

Schwartz, Kenneth. "Fragmentation of the Mass Market." Dun's Review and Modern Industry, July, 1962.

Sheth, J. N. "The Multivariate Revolution in Marketing Research." Journal of Marketing 35 (January 1971): 13-19.

Sheth, J. N. "Relevance of Segmentation for Market Planning." In Seminar on Segmentation and Typology, Techniques and Applications to Marketing Problems, pp. 1-17. Brussels: ESOMAR, 1972.

Silk, A. J. "Overlap Among Self-Designated Opinion Leaders: A Study of Selected Dental Products and Services." Journal of Marketing Research 3 (August 1966): 255-59.

Slocum, J. W., and Mathews, H. L. "Social Class and Income as Indicators of Consumer Credit Behavior." Journal of Marketing 34 (April 1970).

Smith, W. R. "Product Differentiation and Market Segmentation as Alternative Marketing Strategies." Journal of Marketing 21 (July 1956): 3-8.

Social Research, Inc. "Furniture Buying and Life Stages." In Understanding Consumer Behavior, pp. 287-90. Edited by M. Grossack. Boston: Christopher, 1964.

Sorokin, P. A. Society, Culture, and Personality. New York: Harper and Row, 1947.

Springer, Jack. "1975: Bad Year for New Products, Good Year for Segmentation." Advertising Age, February 10, 1975, pp. 38-40.

Staudt, Thomas A., and Taylor, Donald A. A Managerial Introduction to Marketing. 2nd ed. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1970.

Staudt, Thomas A.; Taylor, D.; and Bowersox, D. A Managerial Introduction to Marketing. 3rd ed. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1976.

Stefflre, Volney. "Market Structure Studies: New Products for Old Markets and New Markets (Foreign) for Old Products." In Applications of the Sciences in Marketing Management, pp. 251-168. Edited by F. Bass, C. King, and E. Pessemier. New York: Wiley, 1968.

Struse, R. W. "Lifestyle Research Inappropriate for Some Categories of Products." Marketing News 10 (June 17, 1977): 9.

Tigert, Douglas J. "A Research Project in Creative Advertising Through Life-Style Analysis." In Attitude Research Reaches New Heights. Edited by C. King and D. Tigert. American Marketing Association, 1970.

Tigert, Douglas J. "Psychographics: A Test-Retest Reliability Analysis." Marketing Involvement in Society and the Economy, 1969 Fall Conference Proceedings, AMA Series #30, pp. 310-15.

Tigert, Douglas J.; Lathrope, R.; and Bleeg, M. "The Fast Food Franchise: Psychographic and Demographic Segmentation Analysis." Journal of Retailing 47 (Spring 1971): 81-90.

Trout, J., and Ries, A. "How to Position Your Product." Advertising Age, September 24, 1974.

Twedt, Dik Warren. "How Important to Marketing Strategy Is the 'Heavy User'?" Journal of Marketing 28 (January 1964): 71-72.

Veldman, D. I. Fortran Programming for the Behavioral Sciences. New York: Holt, Rinehart, and Winston, 1967.

Villani, Kathryn E. A. "Personality/Life Style and Television Viewing Behavior." Journal of Marketing Research 12 (November 1964): 71-72.

Villani, Kathryn E. A., and Lehmann, Donald R. "An Examination of the Stability of AIO Measures." In 1975 Combined Proceedings, Series No. 37, pp. 484-88. Edited by Edward M. Mazze.

Waldo, C. N. "What's Bothering Marketing Chiefs Most? Segmenting." Advertising Age, June 4, 1973, p. 77.

Walters, C. G., and Paul, G. W. Consumer Behavior: An Integrated Framework. Homewood, Ill. Richard D. Irwin, Inc., 1970.

Ward, J. H., Jr. "Hierarchical Grouping to Optimize and Objective Function." Journal of the American Statistical Association 58 (1963): 236-44.

Wasson, D. R. "Is It Time to Quit Thinking of Income Classes?" Journal of Marketing 33 (April 1969): 54-57.

Wells, Wm. D. AIO Item Library. Chicago: University of Chicago, 1971.

_____. "Personality as a Determinant of Buyer Behavior: What's Wrong? What Can Be Done About It?" In Broadening the Concept of Marketing, p. 20. Boston: American Marketing Association, 1970.

Wells, Wm. D. "Seven Questions About Life Style and Psychographics." In Combined Proceedings, pp. 462-65. American Marketing Association, 1972.

_____. "Life Style and Psychographics: Definitions, Uses and Problems." In Life Style and Psychographics, pp. 317-63. Edited by W. D. Wells. American Marketing Association, 1974.

_____. "Psychographics: A Critical Review." Journal of Marketing Research 12 (May 1975): 196-213.

Wells, Wm. D., and Beard, A. D. "Personality and Consumer Behavior." In Consumer Behavior: Theoretical Sources, pp. 141-99. Edited by T. S. Robertson. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1973.

Wells, Wm. D., and Sheth, J. N. "Factor Analysis in Marketing Research." In Multivariate Analysis in Marketing: Theory and Application, pp. 212-27. Edited by David A. Aaker. Belmont, Calif.: Wadsworth Publishing Co., 1971.

Wells, Wm. D., and Tigert, D. "Activities, Interests, and Opinions." Journal of Advertising Research 2 (August 1971): 27-35.

Westfall, R. "Psychological Factors in Predicting Product Choice." Journal of Marketing 26 (April 1962): 34-40.

White, I. S. "The Perception of Value in Products." In On Knowing the Consumer, pp. 90-106. Edited by J. W. Newman. New York: Wiley, 1966.

Wilkie, Wm. L. "The Use of Personality Measures in Market Segmentation." In Broadening the Concept of Marketing, p. 21. Boston: American Marketing Association, 1970.

_____. "Market Segmentation Research: A Conceptual Analysis." Paper No. 323, Institute for Research in the Behavioral, Economic, and Management Sciences, Purdue University, September, 1971a.

_____. "Extension and Tests of Alternative Approaches to Market Segmentation." Paper No. 324, Institute for Research in the Behavioral, Economic, and Management Sciences, Purdue University, September, 1971b.

Wilkie, Wm. L., and Pessemier, E. A. "Issues in Marketing's Use of Multi-Attribute Attitude Models." Journal of Marketing Research 10 (November 1973): 428-41.

Wilson, Clark L. "Homemaker Living Patterns and Marketplace Behavior--A Psychometric Approach." In New Ideas for Successful Marketing, pp. 305-31. Edited by J. Wright and J. Goldstucker. American Marketing Association, 1966.

Wind, Yoram. "Incongruency of Socioeconomic Variables and Buying Behavior." In Marketing Involvement in Society and the Economy, Proceedings. Edited by T. R. McDonald. American Marketing Association, Fall, 1969.

Wind, Yoram, and Denny, J. "Multivariate Analysis of Variance in Research on the Effectiveness of TV Commercials." Journal of Marketing Research 11 (May 1974): 136-42.

_____. "A New Procedure for Concept Evaluation." Journal of Marketing 38 (October 1972): 2-11.

Wind, Yoram, and P. E. Green. "Some Conceptual, Measurement, and Analytical Problems in Life Style Research." In Life Style and Psychographics, pp. 99-126. Edited by W. D. Wells. American Marketing Association, 1974.

Wind, Yoram, and Robinson, P. J. "Product Positioning: An Application of Multidimensional Scaling." In Attitude Research in Transition, pp. 155-75. Edited by R. Haley. American Marketing Association, 1972.

Winer, B. J. Statistical Principles in Experimental Design. New York: McGraw-Hill Book Co., 1971.

Wiseman, F. "A Segmentation Analysis on Automobile Buyers During the New Model Year Transition Period." Journal of Marketing 35 (April 1971): 42-49.

Yankelovich, D. "New Criteria for Marketing Segmentation." Harvard Business Review 42 (March-April 1964): 83-90.

_____. "What New Life Styles Mean to Market Planners." Marketing Communications (June 1971): 38-45.

Yoell, William A. "Can There Be a Universal Behavior in a Diverse Society?" In Attitude Research in Transition, pp. 111-34. Edited by R. Haley. American Marketing Association, 1972.

Young, Shirley. "Psychographics: Are They Relevant to Marketing?" A Speech to the Third Annual Research Conference. Attitude Research Reaches New Heights. Mexico City: American Marketing Association, March 3, 1970.

Ziff, R. "Psychographics for Market Segmentation." Journal of Advertising Research 11 (April 1971): 3-9.

_____. "Closing the Consumer-Advertising Gap Through Psychographics." In Combined Proceedings, pp. 457-61. American Marketing Association, 1972.