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IN

CONSUMER PURCHASE DECISIONS OF

NEW AUTOMOBILES

A DISSERTATION

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INTERPERSONAL INFLUENCES
IN
CONSUMER PURCHASE DECISIONS OF
NEW AUTOMOBILES

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CHAPTER I

INTRODUCTION

The automobile has played a major role in the American way of life ever since Henry Ford began mass-producing his Model T and thereupon blazed the trail for other manufacturers to follow in his steps in the mass production of automobiles. In recent years the automobile industry has contributed approximately eight percent of the manufacturing national income, and the Gross Automobile Product as a percentage of the Gross National Product has averaged about four percent.¹

Now that the automobile has become important to the American economy, there have been quite a few published studies as to why people buy automobiles. However, most of these studies that deal with automobile buying or ownership may be classified as demographic-economic and deal with such factors as age, income, stage in life cycle, education, and other similar factors.²

Other studies that have been made concerning auto-

¹U.S. Bureau of Census, Statistical Abstract of the United States: 1970. (91st. edition.) Washington, D.C., 1970, pp. 317, 546.

²In the bibliography see the works of Brems, deJanosi, Dyckman, and Kreinin and Lininger.

mobile buying or ownership may be classified as social-psychological in nature because they deal primarily with automobile buying in comparison to the specific personality traits of the buyers; or else they are concerned with the influence of the consumer's reference groups on automobile purchasing or ownership.³

Purpose

The purpose of this study is to investigate selected types of interpersonal influence and the effect of this influence on the consumer's decision to purchase a new car and the decision on his part to remain brand loyal or exhibit brand switching behavior. To test the effect of interpersonal influence, other major variables of consumer decision making in connection with the purchase of a new automobile will also be explored. Obviously, limitations in the instruments of measurement will not permit the exploration of all the possible variables.

Thus, the hypotheses upon which this study is based are⁴

³In the bibliography, see the works of Evans, Engel, Westerfall, and Bourne.

⁴The principal instruments used in this study are responses by automobile purchasers to questions asked by this investigator. In most of the hypotheses, the measurement of the effect or relationship is subject to the limitation of "as reported perceived by the respondent." This limitation is, of course, inherent in almost all studies relying on respondent's response.

1. that influentials, or opinion leaders, and the people they influence are similar in that they belong to the same social and working groups, have the same friends, and know one another's families;⁵
2. that influentials are relatively more interested in automobiles than are the people that they influence;
3. that while influentials distribute information and influence, they themselves receive most of their information through personal channels;
4. that interpersonal communications as perceived by the respondent are a more powerful agent than are mass communications in influencing a consumer's decision to purchase a new car without regard to make or model.
5. that interpersonal communications will be reported as a more important part in consumer decision making where brand switching behavior as compared to brand loyal behavior is exhibited;⁶
6. that a consumer's post-decision evaluation is the

⁵For the purposes of this study, influentials are defined as people who are reported by the respondents as having affected their attitudes concerning previously owned, presently owned, or future cars.

⁶For the purposes of this study, brand switching behavior is defined as switching between manufacturers' makes of automobiles. For example, from General Motors to Ford.

most important variable among the listed variables in his decision to purchase or not to purchase the same brand of automobile again;⁷

7. that consumers who form favorable post-decision evaluations toward their present automobiles are more likely to exhibit brand loyal behavior; and
8. that consumers who form unfavorable post-decision evaluations toward their previously owned automobiles are more likely to be brand switchers.

With these working hypotheses, the post-decision evaluation is believed to be influenced by the following variables: (1) financial status, (2) stage in life cycle, (3) sex, (4) social class, (5) interpersonal communications from the consumer's primary groups, (6) other reference group influences, (7) the amount of service his automobile or automobiles have required, (8) the quality of dealership service, (9) interpersonal communications with the new car salesman, (10) mass communications, and (11) the consumer's financial expectations.

Logically, these eleven variables would, to a large extent, determine a consumer's evaluation of, or his attitude toward, the automobile or automobiles he has owned or still owns. These variables apparently interact and affect

⁷For the purposes of this study, post-decision evaluation is defined as the consumer's overall attitude toward his present and past automobiles.

each other in the formation of the consumer's post-decision evaluation. For example, a consumer's social class may affect his choice of reference groups, which could then affect his post-decision evaluation. Therefore, the sub-hypotheses based on these variables are

1. that post-decision evaluation tends to become unfavorable as the frequency of automobile repair rises;
2. that a consumer with a highly aggressive personality trait will exhibit less tolerance toward automobile repairs and will therefore report becoming easily dissatisfied with his automobile as the frequency of automobile repairs rise.⁸
3. that a consumer with a high personality need for change is more likely to report unfavorable post-decision evaluations.
4. that when primary or reference group members own similar makes of automobiles and have favorable post-decision evaluations toward their automobiles, the consumer is less likely to report an unfavorable evaluation toward his automobile.
5. that a consumer is more likely to report unfavorable post-decision evaluations if in his opinion the quality of the dealership service is poor.⁹

⁸As measured by the Edwards Personality Profile.

⁹In contrast to the dealer's reputation for service, or information available from the dealer's service records.

Scope

This study is concerned only with the brand switching or brand loyal behavior of the new car buyers living in the greater Oklahoma City Area who purchased new 1968 automobiles. Consequently, the traits of consumers who purchased used automobiles are not included in this study. In addition to verbalized attitudes and observable behavior, the study deals with the easily measurable traits of the new car buyer. This study does not attempt to investigate the cognitive or perceptual variables that led to these personality traits since this would require the application of psychoanalytic techniques.

The survey took place after the consumer had exhibited his behavior (the purchase of a new car), and thus the answers obtained relied upon the respondent's recall of the situation. Moreover, the variable of time with reference to the consumer's decision making is largely eliminated. It is entirely possible that the measured variables increase or decrease in importance as the stage in the consumer decision making process is taken into consideration. However, these variables must be identified and their relative importance ascertained prior to a longitudinal study of the consumer decision making process with reference to the purchase of a new automobile.

Relevancy

Basically, there are two types of studies of automobile buying or ownership. The first type of study may be classified as a demographic-economic study, while the second type of study may be classified as social-psychological in nature. While both of these types of studies are valuable, they have tended to ignore some of the major hypothesized variables which may affect the consumer's decision to purchase a new car and which new car to purchase.

While the purpose of this study is to investigate interpersonal influence and the effect of this variable on the purchase decision, other major hypothesized variables of new automobile buying behavior have also been investigated and quantified. Hopefully, the results of this study will contribute additional information on the relative importance of these variables, as well as to determine the importance of interpersonal influence in the consumer's decision to purchase a new car.

Although this study is limited to a single product, as are most such studies, studies of this type are valuable because they may help the student of marketing gain insight into consumer behavior, as well as into his decision making process. The increased insight that sometimes accrues from these studies may lead toward more efficient marketing practices. With an increase in the efficiency of marketing methods, both the consumer and industry will benefit.

Finally, empirical studies in the area of consumer behavior focus strongly on the marketing concept and bring marketing a step closer to the sciences.

Methodology

This section on methodology is a summary of Chapter Two, which explores the methodology used in this study in more depth. The study is primary in nature though it draws inferences specifically from the buying behavior of the automobile consumer as well as from previously developed theories and completed studies concerning consumer buying behavior. Because of the lack of information, especially in the behavioral sense, concerning new car buying behavior in the greater Oklahoma City Area, a primary study seemed to be necessary.

There are three basic research studies that could have been carried out in a field setting: (1) the field survey, (2) the field study, and (3) the field experiment.¹⁰ Field Survey methods are used when a broad, spread-out population is designated for investigation. Field studies take place when a more extensive, in-depth investigation is necessary. Field studies require a narrower setting such as that of an industrial plant or a very small community.¹¹ The field experiment requires an even narrower setting and is

¹⁰For a more complete discussion see Festinger and Katz, Research Methods in the Behavioral Sciences. (New York: Holt, Rinehart and Winston, 1965), pp. 13-136.

¹¹Ibid., p. 13.

not yet a well-developed method of basic research in the social sciences.¹² The field survey always attempts to be representative of some known universe. This emphasis on representative sampling is usually not found in field studies which are more concerned with the process under investigation than with the representativeness of a larger population. The field experiment is distinguished from the field study by actual manipulations of conditions.

Since the investigation was interested in the representativeness of the population or universe (new car buyers in Oklahoma City) and since attempts at manipulation would have defeated the purposes of the study, a field survey was chosen. There are four types of field surveys possible: (1) the unweighted cross-section, (2) the weighted cross-section, (3) contrasting samples, and (4) successive cross-sections.

The unweighted cross-section is used when it is desired to determine the characteristics of the population at a given point in time. With the unweighted cross-section, it is also possible to compare sample data within the survey. The weighted cross-section is used when some group in the designated universe has some special importance for the objective of the survey, but this group is a relatively small fraction of the total population. Contrasting samples are

¹²Ibid., p. 99.

used when sub-groups contrast in the variable most important in the survey. Finally, successive cross-sections are used when measurements are required at successive points in time. Successive cross-sections are often in the form of a "before and after" test when some important occurrence has happened that may change other measurements in the study.

Because of the nature of the information desired in this investigation, the sample design chosen was that of the unweighted cross-section. This sample design was chosen because it makes possible comparison of subgroups within the sample and because the act of purchasing a automobile does not seem to affect to any extent the values of the measurements of the sought-after variables.

To conduct this investigation, a statistical probability sample of 1968 new car buyers in the greater Oklahoma City area was drawn. The sample drawn was to be of sufficient size to give a confidence coefficient of 95% with confidence intervals of plus or minus 5%. The correct sample size was determined to be 184.¹³ The sample proved to be representative of the population at the .05 level of significance.¹⁴ Thus, inferences concerning the population (new car buyers in the greater Oklahoma City area) may be drawn from the sample.

¹³For the determination of the sample size, see Chapter Two, page 13.

¹⁴For the representativeness of the sample, see Chapter Two, pages 19-21.

A combination of mail questionnaires and personal interviews were used in the survey in order to utilize the advantages of both methods, while eliminating the disadvantages of both methods.¹⁵ In addition, each respondent was given the Edwards Personality Profile. This personality profile was used because it had been previously used in testing automobile owners and is easy to administer and to grade.

Once the results of the survey had been collected, tabulated, and analyzed, follow-up interviews were conducted with the influentials or opinion leaders. The purpose of these interviews was to learn their major sources of information as well as to validate their status as influentials or opinion leaders.

Standard statistical tests of significance were used to test for significant differences between the values of the variables. If the values of the variables were found to be significantly different at the .05 level of significance, the variables were considered different for the purposes of the investigation.

¹⁵For a discussion on the advantages and disadvantages of both methods: see, Robert Ferber, Market Research (New York: McGraw-Hill, 1949), pp. 237-47.

CHAPTER II

METHODOLOGY

Introduction

This chapter is an expansion of the section on methodology in Chapter I and presents the methodology used in analyzing the data in this dissertation. The discussion of methodology is divided into three sections: (1) the sample selection of the respondents; (2) statistical techniques used in analyzing the data; and (3) the representativeness of the sample. Subsequent chapters contain information concerning the development of a model for new car buyer behavior, the results of the survey as applied to the conceptual model, and the development of the new car buyer behavior model as it has evolved from the results of this study.

Sample Selection of the Respondents

A search revealed that apparently there was almost a total lack of quantitative information concerning new car buyers of the greater Oklahoma City Area. Because of this seeming lack of information, a preliminary sample was taken to obtain some estimates of the characteristics of the population of new car buyers; these estimated characteristics were then used as a basis for computing the sample size for

the investigation.¹

The preliminary sample consisted of 200 new car buyers in 1967. The sample was drawn from the 29 volumes of the Oklahoma County Registration files. The preliminary sample revealed that 86.1 percent of the 1967 new car buyers purchased cars manufactured by the "big three" automobile manufacturers in the United States.²

The sample characteristic from the preliminary sample (86.1 percent) was used to compute the sample size for the study. The sample size for the study was found to be 184 respondents with a confidence coefficient of 95 percent and a confidence interval of a plus or minus 5 percent. Thus, 184 respondents who purchased new cars during the 1968 model year were drawn from the Oklahoma County Automobile Registration records.³

The Oklahoma County Registration records are divided into 29 volumes by license prefix (XA through XZ and YA through YC). The respondents were then drawn as equally as possible from the 29 volumes.⁴ This procedure led to 6 respondents being drawn from each of the 29 volumes. However,

¹Robert Ferber, Market Research (New York: McGraw-Hill, 1949), pp. 184-90.

²Among new car buyers living in Oklahoma County.

³For the actual computation of sample size see the Technical Appendix.

⁴The number 184 divided by 29 yields the number 6.34. Since this number is smaller than 6.5, it was rounded down to the number 6.

this procedure selected only 174 respondents, leaving 10 additional respondents to be selected. These 10 additional respondents were selected from the 10 volumes XA through XJ, with one respondent taken from each volume.

To avoid the possibility of temporal bias, that is, the possibility that the new car buyer who buys his car at the beginning of the model year may differ in characteristics from the consumer who purchases his car late in the model year, the interviews were conducted among consumers who purchased their cars over an eight-month period, with 23 respondents being selected and interviewed per month for the period of March 1968 through October 1968. To assure random selection of the respondents, 29 slips of paper were put into the jar representing the 29 volumes of the automobile registration records. Enough slips were drawn for each month to select 23 respondents. As the number of respondents to be taken from a certain volume were selected from that volume, the slip of paper representing that volume was removed from the jar.

Several slips of paper with the volume designation on them were sometimes needed--especially for March and the other early month--since it was sometimes possible to go through a complete volume without obtaining the required number of new car owners to be selected from that volume. When the required number could not be obtained, the name of the owner and the license number of the automobile were re-

corded to assure there would be no double selection when that volume was again examined at a later date.

The physical selection of the respondents from the volumes of the automobile registration records was accomplished by obtaining the designated volume and then opening that volume to a random page. That page was then examined for a 1968 car owner; and if none was found on that page, the next page was then examined. The volume continued to be examined in this manner until a 1968 car owner was found. Automobiles registered to companies or corporations were excluded from the survey.

A combination of mail questionnaires and personal interviews was used to collect the data for the investigation. At the beginning of each month, each of the 23 selected respondents was mailed a questionnaire with a self-addressed envelope enclosed. If the completed questionnaire had not been returned within a 10-day period, the respondent was contacted by telephone, and a definite appointment was then made with that selected respondent. In the event that the respondent did not have a telephone or had a privately listed telephone, a personal visit was made to the respondent to obtain an appointment or to complete the questionnaire during that visit, if possible.

If a respondent refused to complete the questionnaire or the previously selected respondent could not be contacted after three visits, a substitute respondent was selected

from the designated volumes for that month. Since each selected respondent in fact represents many new car buyers, the substitution of one randomly selected respondent for another randomly selected respondent always brings in the risk of bias if the characteristics of the respondents who would not complete the interview, or who could not be located, differ from those who agree to participate in the investigation. This bias is present in every field survey where some of the selected respondents refuse to take part in the survey or can't be located. If the number of refusals is large, the results of the survey may be seriously biased. However, refusals in this present investigation are not believed to present a serious problem since the refusals amounted to only 6.5 percent of the previously selected respondents.⁵

Statistical Techniques

The statistical techniques used to gain information about a parent population from a statistical sample depend greatly on what type of information concerning the parent population is desired. In the present investigation, one object was to determine true differences between brand switching buyer behavior and brand loyal buyer behavior, as that particular behavior was recalled by the respondent. A

⁵For a discussion on non-response error see Leslie Kish, Survey Sampling (New York: John Wiley & Sons, Inc., 1965), pp. 532-62.

standard method for testing for true differences in population parameters from sample statistics is known as Tests of Hypothesis.⁶ In Tests of Hypothesis two hypotheses are generally stated. The first, which is called the null hypothesis, is that there is really no difference between the two groups in the sample, and the observed difference is due only to sampling error. The second hypothesis is the alternate hypothesis and generally states that a true difference does exist between the population parameters and that the difference is not due to sampling error.

Tests of Hypothesis are conducted at some level of significance or level of risk. The level of significance or risk is the probability of making a Type 1 error which is the probability of rejecting a hypothesis when it is true. In the present investigation the chosen level of significance was .05, although the variables were also tested at the .01 level of significance to see if they could meet this more rigorous level of significance. In all cases the sample statistics were not accepted as being different if these differences could occur purely by chance more than five percent of the time.

In this investigation an attempt was made to associate the reasons that the respondents bought their new car

⁶For a discussion on Tests of Hypothesis see Robert D. Mason, Statistical Techniques in Business and Economics (Homewood, Ill.: Richard D. Irwin, Inc., 1970), pp. 219-46.

with brand loyal behavior or brand switching behavior. Since brand switching behavior or brand loyal behavior is a dichotomous division, and since the rating scales for the importance of the reason were from one to five, the sampling distributions did not fit the normal probability curve. This condition necessitated the use of nonparametric or distribution free statistical methods. The nonparametric method chosen was the Spearman Rho rank correlation test.

The Spearman Rho rank correlation coefficient can range between a +1 and a -1, indicating a perfectly positive or perfectly negative relationship, while a rank correlation coefficient of near zero would indicate a very low relationship between the rankings of the two variables. The major drawback of nonparametric statistics is that unlike the correlation coefficient of parametric statistics, it is not possible to square the rank correlation coefficient and obtain the coefficient of determination. In the case of the Spearman Rho correlation coefficient, the coefficient is tested to see if the coefficient is significantly different from zero at some level of significance. In the case of the present study, the variables were accepted as related if the correlation coefficient was significantly different from zero at the 95% level of significance, or some higher level of significance.

Finally, to see if there were some relation among present income, income expectations, age, marital status,

and occupation, multiple correlation and regression analysis was used. Since it is impractical to do multiple correlation and regression analysis by hand when there are more than three independent variables,⁷ the I.B.M. 1130 Scientific Subroutine Package was used. The subroutine that was used was entitled MULTR.

Representativeness of the Sample

The standard method of testing the representativeness of a sample is to compare a sample statistic with a known population parameter and test for a significant difference.⁸ However, in this investigation, the population parameters of the Oklahoma City new car buyers were not known. Since this was the case, the sample statistics from the present study were compared with sample statistics from two other studies. One of the studies was a survey of 1963 car buyers conducted in 1964 by the author of this dissertation. Because the survey was not taken specifically with only new car buyers, some bias may exist in these sample statistics. However, this bias should be small since the survey was conducted in 1964 and dealt only with 1963 car buyers. In the 1964 study, the average length of ownership was found to be 2.94 years, with confidence limits of 1.04 years to 4.48 years at the 95% level of confidence.

⁷Ibid., p. 382.

⁸Ferber, Op. Cit., p. 108.

The other sample statistic was obtained from the Continuing Audit for the Oklahoma Publishing Company conducted by the Business Research Center of Oklahoma City University. To determine the accuracy of the Continuing Audit, a population characteristic of Negroes in Oklahoma City, taken from the 1970 Census of General Population Characteristics, was compared with that same figure obtained from the Continuing Audit. The 1970 Census recorded that 13.69% of Oklahoma City's population were Negroes, while the percentage from the Continuing Audit was 13%. Using Tests of Hypothesis to test for a significance difference between the two figures, a z score of .9478 is obtained. This z score is much less than the z score of 1.96, which would be required for a significant difference at the 95% level of confidence. Thus, the null hypothesis that there is no significant difference is accepted, and the audit is assumed to be representative of Oklahoma City's population.

In the Continuing Audit's profile of 1968 new car owners, the mean family income was found to be \$7,593.34. The mean family income of new car buyers in this investigation was found to be \$8,301.17. Using Tests of Hypothesis yields a z score of 1.05, which is less than the required z score of 1.96, and again the null hypothesis that there is no significant difference between the 1968 new car buyers of the two studies is accepted.

Returning to the previously mentioned 1964 study in

comparing this study to the present investigation of the labor statistics wage index, the United States Bureau of Labor Statistics wage index for Oklahoma City showed a 16% increase from 1964 to 1968.⁹ Adjusting the mean income of the 1964 respondents of \$8,058.00 to the 1968 level, the adjusted mean income becomes \$9,347.28. Again, using Tests of Hypothesis to compare this adjusted income of \$9,347.28 to the mean income of the respondents of this present study (\$8,301.17), the resulting z score is 1.23. Again the z score is not large enough to accept the alternate hypothesis, so the null hypothesis that no significant difference exists between the two samples is accepted.

Thus, based upon tests against the same characteristic in three separate samples, the sample in the present investigation is presumed to be representative of the population from which it was drawn. The tests could have been more conclusive if the population parameters of the 1968 new car buyers were known. However, since no significant differences could be found when using Tests of Hypothesis, it is highly unlikely that the present sample is not representative of the population.¹⁰

⁹U.S. Department of Labor, Bureau of Labor Statistics, Handbook of Labor Statistics, 1970 (Washington, D. C.: U.S. Government Printing Office, 1971), p. 219.

¹⁰For the actual calculations of the representativeness of the sample see the Technical Appendix.

CHAPTER III

PROPOSED VARIABLES OF AUTOMOBILE CONSUMPTION

Introduction

Much of the work that has been done in the field of consumer behavior and automobile consumption came about as a result of motivational research and the attempts to tie consumer personality types to brand images of products.¹ Serious students of marketing questioned the early motivational research reports because virtually none of the early reports gave the actual data collected, but instead reported only the conclusions of the researchers in question.² In addition, interpretations of the motivational research results were sometimes open to question because of the small samples involved.

Attempts to tie the consumer types to brand images failed in the case of automobiles when more serious researchers tried to find an association. For this reason, other research findings not directly tied to motivational research, but which may be pertinent to the determination of some of the variables of new car consumption, will be

¹Ralph A. Westfall, "Psychological Factors in Predicting Brand Choice," Journal of Marketing, XXVI (April 1962), pp. 34-40.

²Ibid.

examined. Since these research findings concerning automobiles probably are not sufficient to determine many of the variables of automobile consumption, several models of general consumer consumption will be examined to lend more insight into the consumer's consumption of new cars.

As a result of investigating the findings concerning automobile consumption and by drawing inferences from several general models of consumer consumption, the hypothesized variables of new car buyer consumption will be presented. In the subsequent chapter, the results of the field investigation will be tested against the hypothesized variables to determine what modifications might be needed.

Automobile Consumer Behavior

In beginning development of hypothesized variables explaining new car purchasing behavior, it should be realized that the automobile is much more to the average consumer than a means of transportation. If the car were only a means of transportation, the American consumer would more than likely buy his car on the basis of engineering rather than on the basis of styling. However, as the automotive companies have learned, it is the styling that largely sells the automobile, and not the engineering qualities inherent in the automobile.³

³David Riesman and Eric Larrabee, "Autos in America," Consumer Behavior: Research on Consumer Reactions, ed. Lincoln H. Clark (New York: Harper and Brothers, 1958), pp. 69-92.

Additional research findings suggest that consumers plan the purchase of an automobile somewhat in advance of the actual act of buying a car. In a study conducted by an automobile company, a thousand questionnaires to a nationwide sample of families were distributed. As a part of the questionnaire, the families were asked to rate on a centigrade thermometer scale the magnitude of their desire to purchase an automobile. A year later these same families were again contacted. Both of the sets of questionnaires yielded a total of 695 usable returns. The questionnaires were then analyzed in terms of net valences, which measured the magnitude of desire for an automobile minus the magnitude of resistance of incurring the financial cost that the purchase of a new car would entail. The total net range of valences obtained was between -100 and +100. With the valences divided into five groupings, the correlations between each of the five groupings and the subsequent purchase of at least one automobile was found to be $.985 \pm .023$.⁴ The families in Group 1 with the highest positive valences reported the highest percentage of purchases; while those in the next group showed a somewhat lower percentage of purchases. This trend was true throughout the five groupings, with each grouping showing a lower percentage of purchase

⁴Warren J. Bilkey, "Consumer Behavior: Disbursements and Welfare," Science in Marketing, ed. George Shultz (New York: John Wiley and Sons, Inc., 1965), pp. 145-50.

than the group immediately above it.⁵

In addition to planning the purchase of automobiles, there is also evidence that certain personality types buy certain types of automobiles. Westfall⁶ found that consumers who purchase convertibles are more active, vigorous, impulsive, dominant, and sociable than owners of compact cars or sedans, as measured by the Thurston Temperament Test. However, Westfall found that the type of automobile that a person would purchase could not be accurately predicted just because he possessed these particular traits.

While there is some evidence that consumers differ in personality structure and the type of automobile they purchase, there is apparently no certain personality type that purchases a specific brand of automobile. In his study of the personality traits of Ford and Chevrolet owners, Evans could find no significant personality differences between owners of Ford and Chevrolet cars.⁷ However, additional analysis of the data gathered in that survey did show significant differences between consumers who did not shop for their automobiles (consumers who visited only one dealer

⁵Ibid., p. 146.

⁶Ralph A. Westfall, "Psychological Factors in Predicting Brand Choice," Journal of Marketing, XXVI (April 1962), pp. 24-40.

⁷Franklin B. Evans, "Psychological and Objective Factors in the Prediction of Brand Choice: Ford versus Chevrolet," Journal of Business, XXXII (October 1959), pp. 363-79.

prior to the purchase of an automobile) and consumers who shopped for their cars (consumers who visited dealers of different makes before buying a new car).⁸ Evans found that the greatest difference between consumers who shopped for their cars and consumers who did not shop for their cars was their need for change. Shoppers had a need rank of 3 for change while the nonshoppers ranked the need for change as 7. In the need for deference--the need to find out what others think, to accept the leadership of others--the shoppers had a need rank of 8 while the nonshoppers had a ranking of 4. In addition, the shoppers ranked aggression and affiliation 3 ranks higher than did the nonshoppers; while the shoppers, on autonomy, ranked 3 ranks lower than did the nonshoppers.

In terms of variables other than the personality variables, Evans found that the shoppers were older, better educated, went to church more often, and rented their houses. In contrast, the nonshoppers were younger, had more children in the home, had worked for the same firm for a longer period of time, and had a higher level of income. As Evans points out, the lower income of the shoppers is suggestive of the importance of economic determinants in the behavior of shoppers.

⁸Franklin B. Evans, "Correlates of Automobile Shopping Behavior," Journal of Marketing, XXVI (October 1962), pp. 74-77.

Although the findings presented thus far are helpful in determining the probable variables of new car buyer behavior, they do not present sufficient information to determine the variables that may explain automobile consumption. In order to develop further the automobile consumption variables, it is probably wise to examine some generalized models of buyer behavior.

The Models

Kotler lists five conceptual behavioral models, "none of which fully explain a consumer's buyer behavior."⁸ These five models are (1) the Marshallian model, emphasizing economic motivations; (2) the Pavlovian model, using learning theory as its base; (3) the Freudian model, stressing psychoanalytic motivations; (4) the Veblenian model, which accents social-psychological factors; and (5) the Hobbesian model, which stresses organizational buying pressures of the purchasing agent.

The Marshallian economic model helps to explain some of the reasons as to "why" people buy products, but economic considerations alone seldom explain all of the variables in sales. For example, economic considerations ignore the question of how a consumer determines his product and brand

⁸Philip Kotler, "Behavioral Models for Analyzing Buyers," The Environment of Marketing Behavior, ed. Robert J. Hollway and Robert S. Hancock (New York: John Wiley & Sons, Inc., 1969), pp. 71-80.

preferences. The economic model does offer part of the solution for analyzing consumer buying behavior.

The Pavlovian learning model is today based on four central concepts: drive, cue, response, and reinforcement. This model does not claim to provide a complete theory of behavior; and such important variables as perception, the subconscious, and interpersonal influence do not seem to receive adequate treatment in the model. However, the model does offer marketers a number of insights concerning some aspects of consumer behavior. The most prominent use of learning theory in models appears in the John A. Howard model and its update, The John Howard and Jagdish Sheth model. (Both of these models will be discussed later in this chapter.)

Perhaps the most important contribution that the Freudian model makes is that consumers are motivated by the symbolic aspects of a product as well as by the economic and functional aspects of the same product. Thus, the addition of "racing stripes" to a sporty compact may help sell the car, although the "racing stripes" are neither functional nor economic in nature. Motivational research has produced some interesting, and sometimes strange, conclusions as to what may be in the buyer's mind concerning his purchases. However, motivation research may lead to some useful insights in the fields of advertising and packaging. Appeals aimed at the buyer's secret desires and fears may be as equally

effective as the more rational appeals.

The Veblenian social-psychological model sees the consumer as mainly a social being. As this social being, the consumer is subject to influence by several layers or levels, of social influence. These layers consist of his culture, his subcultures, his social class or the social class to which he aspires to belong, his reference groups, his membership groups, and finally other individuals. The challenge to the researcher is to determine which of these social levels are more important in influencing his demand for a particular product.

The four preceding models have been used to attempt to shed light on the behavior of individual buyers. However, the Hobbseian model attempts to explain the behavior of the organization buyer or purchasing agent. It tries to show the relationship between the buyer's personal goals and the goals of the organization for which he is purchasing.

In the attempted development of some of the variables that help explain the consumer's automobile buying behavior with reference to new cars, several of the better known models of buyer behavior were examined. These models will be briefly examined with reference to the variables that might help explain the new car consumer's buying behavior.

The John A. Howard Model⁹

The first integrative model of buyer behavior was presented by John A. Howard in his revised Marketing Management: Analysis and Planning. It was this model that comprised a base for the initial investigation although several so-called exogenous variables were added, such as reference groups, financial expectations, primary groups, and personality traits that were not included in the original Howard model. Howard uses learning theory to explain consumer behavior. The Howard model breaks down learning theory behavior into three distinct phases: extensive problem solving, limited problem solving, and automatic response behavior. Extensive problem solving occurs when the consumer has little or no experience with the product. When the consumer has gained some experience with the product and has moved farther along the learning curve, he moves into the limited problem-solving phase. As the consumer has ceased to learn about the product and has developed a brand preference, the consumer is in the automatic response behavior phase.

In Howard's model, behavior begins with a felt need that is represented by the endogenous variable, "state of goals." The consumer then receives a triggering cue which

⁹John A. Howard, Marketing Management: Analysis and Planning, rev. ed. (Homewood, Ill.: Richard D. Irwin, 1963), pp. 33-108.

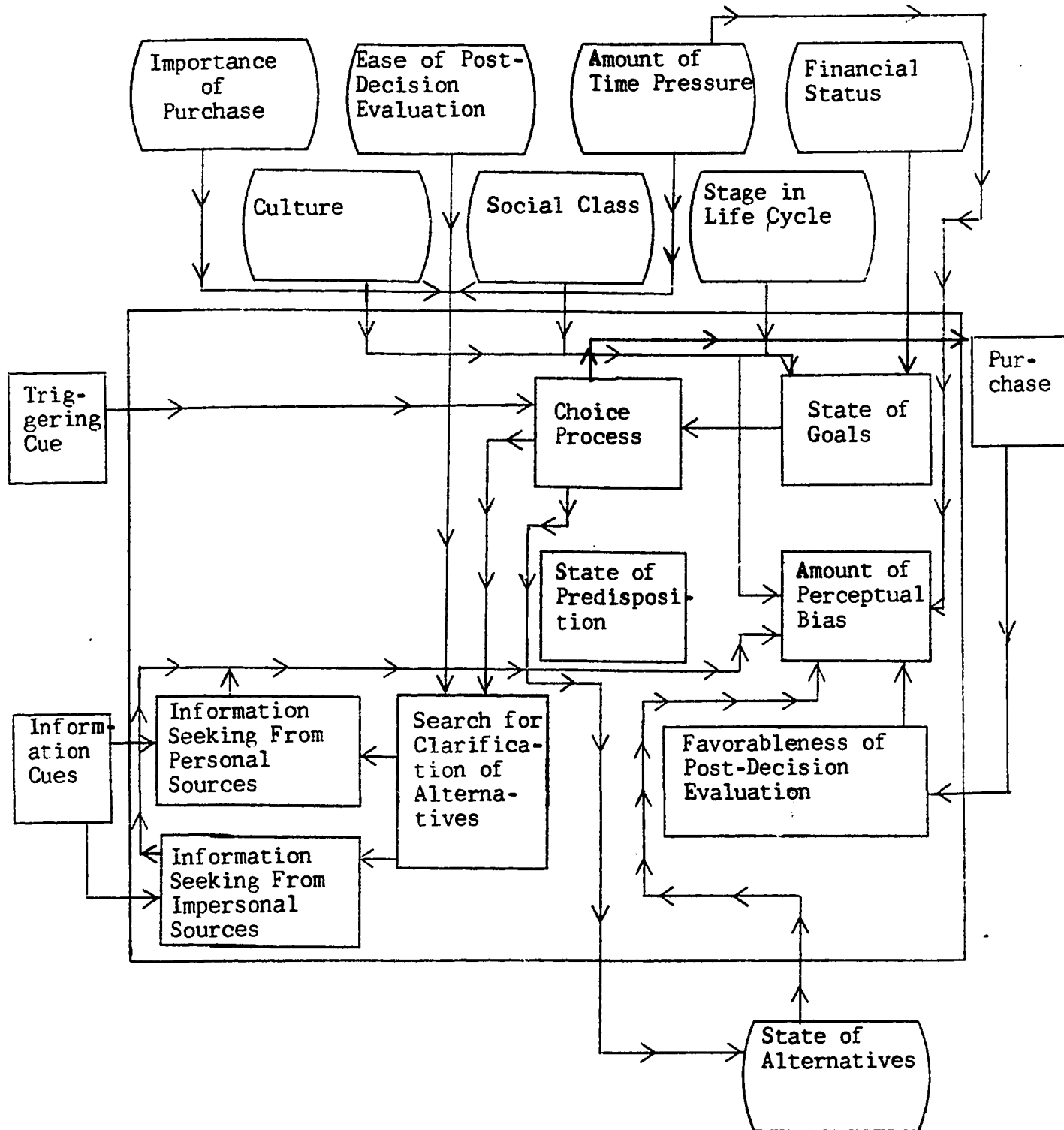
tells him that some product alternative will satisfy his felt need. This triggering cue activates the endogenous variable, a "choice process" which is very much affected by another endogenous variable known as the "state of predisposition" toward some product. If the "state of predisposition" is high, as it is in the automatic response behavior phase, the product is purchased; but if the "state of predisposition" is low, as it is in the case in the extensive problem-solving phase, an information search is activated from both personal and impersonal sources.

The endogenous variable "state of predisposition" is affected by another endogenous variable, "favorableness of post-decision evaluation." As a product is purchased and the consumer has a favorable experience with the product, the greater is the probability that the product will again be purchased in the future, thus strengthening the consumer's predisposition.

There is perceptual bias present in all of the cues in the Howard model. Thus, the way a consumer sees or perceives a certain stimuli may be distorted by his attitudes and his psychological characteristics.

Finally, the Howard model has both exogenous and endogenous variables. There are seven exogenous variables in the Howard model and these variables are present in all three phases of learning behavior. The number of endogenous variables present depends upon which phase of learning

FIGURE I
THE HOWARD MODEL



behavior that the consumer is in. In both the automatic response behavior phase and the limited problem solving phase the five endogenous variables present are (1) Choice Process, (2) State of Predisposition, (3) State of Goals, (4) Perceptual Bias, and (5) Favorableness of Post-Decision Evaluation. In the extensive problem-solving phase of the model, three more endogenous variables are added. These three variables are (1) Information Seeking From Personal Sources, (2) Information Seeking From Impersonal Sources, and (3) The Search For Clarification of Alternatives. The extensive problem-solving phase of the Howard model is presented in Figure 1 on the following page.

The Francesco M. Nicosia Model¹⁰

The later Nicosia model contains more variables and goes into more detail than the earlier Howard Model. The Nicosia model has four basic fields. Field 1 is from the message source (the firm sending the advertisement) to the consumer's attitude or predisposition. It is comprised of two subfields. Subfield 1 is comprised of the firm's attributes which causes the firm to send a certain type of message via a certain channel to a certain type of consumer. Subfield 2 of Field 1 is comprised of the consumer's attributes. These attributes determine whether the firm's message

¹⁰ Francesco M. Nicosia, Consumer Decision Processes (Englewood Cliffs, New Jersey: Prentice-Hall Inc., 1966), pp. 153-91.

reaches the consumer, and whether the consumer perceives the message as the firm intended.

If the consumer receives the firm's message and acts on the message, the consumer may form an attitude towards that product which becomes the input into Field 2. Field 2 represents the consumer's search for and evaluation of the advertised product and other alternative products available to the consumer. The transformation of the consumer's attitude to a motivation occurs in Field 2. In other words, the output from Field 2 is a motivation to buy or not to buy the advertised product. If the motivation is to buy the advertised product, this serves as the input into Field 3 which is hopefully changed from a motivation to purchase to the actual act of purchase. The act of purchase is the input into the Field 4, that of the consumer's storage and consumption of the product. The act of purchase is fed back to Subfield 1 of Field 1, while the act of storage and consumption is the feedback to Subfield 2 of Field 1.

To somewhat simplify the explanation, take a situation where only two factors are in operation: first, there is a firm that can control the content and timing of its advertising and its product design and price; and second, there is a consumer who is exposed to no other stimulus except one of the firm's messages. The firm's message may or may not influence the consumer; but in either case, the consumer's reaction will influence the firm's later decisions in regard

to its future messages. The consumer's reaction will also influence the consumer himself to the extent that the consumer becomes a different person. Thus, the model has two main circular flows: first, from the firm to the consumer and then back to the firm (the firm's loop); and second, from the consumer's social-psychological field before the message to the consumer's reaction to the message, and then back to the consumer's social-psychological field. This brief description fails to explain really the Nicosia model because each field and subfield is presented in much more detail than is described here. Nicosia's model is important because he takes the trouble to relate a great many research findings into his model. A simplified model of the Nicosia model is presented on the following page.¹²

The Engel, Kollat, and Blackwell Model¹³

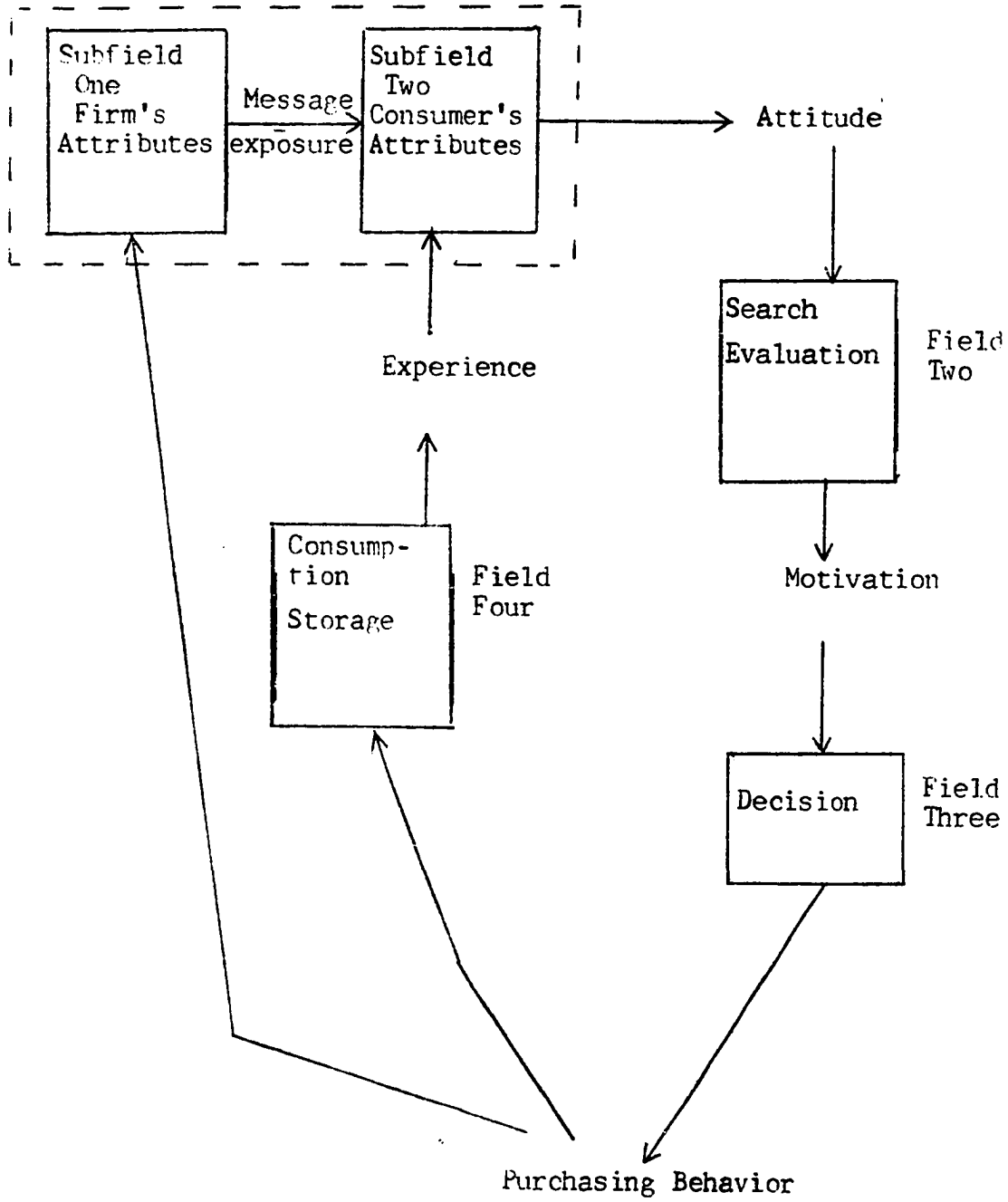
Like the Nicosia model, the model proposed by Engel, Kollat, and Blackwell departs from learning theory. The general features of the Engel and associates' model are a central control unit made up of the consumer's personality traits, his values and attitudes, and his stored information and past experience. It is this central control unit that does the thinking.

¹²James F. Engel, David T. Kollat, and Roger D. Blackwell, Consumer Behavior (New York: Holt, Rinehart and Winston, Inc., 1968), p. 39.

¹³Engel, Kollat, and Blackwell, op. cit., pp. 40-54.

FIGURE 2

A SIMPLIFIED NICOSIA MODEL



Connected to this central control unit by a state of arousal is a set of inputs. The state of arousal is needed to turn the system on so that behavior can take place. The inputs into the system consist of social and physical stimuli. Once the system is active, the stimuli reach the central control unit via the five sensory receptors. Since a person cannot consciously pay attention to all of the stimuli that he receives daily, the process of perception comes into the system. This process of perception allows the individual to be selective and to attend only to relevant stimuli that will help him reach his goal. In addition to paying attention only to certain stimuli, perception also allows the individual to distort certain inconsistent stimuli. Thus in this model, the individual is constantly comparing stimuli, discarding irrelevant stimuli, and distorting inconsistent stimuli.

The outcome of this comparison is that action will result if it is possible for the person to act and if he perceives that some change is necessary in order to improve the present state of the system to restore the balance, which was upset by the state of arousal. This action may consist of a search for alternatives, an evaluation of the alternatives, and may finally result in a purchase. If the purchase is based upon habit, the steps of searching for and evaluating alternatives will be eliminated.

After the purchase has been made, two additional actions may take place: first, if the consumer has some doubt about the wisdom of the purchase, he may search for additional information to justify the purchase; and second, the purchase may change the consumer's circumstances enough to serve as a stimulus for additional behavior. A diagram of the Engel, Kollat, and Blackwell model is presented in Figure 3 on the following page.

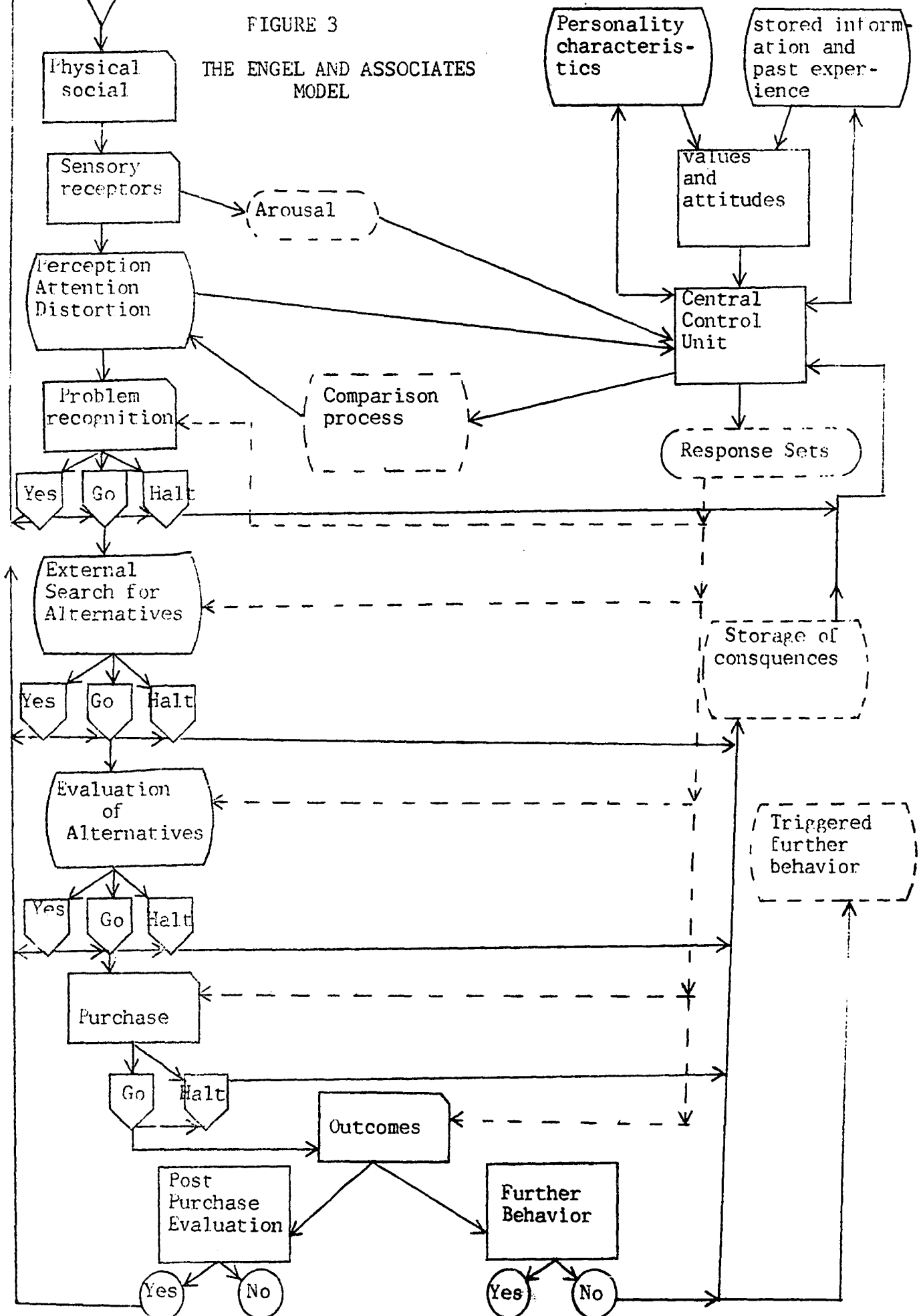
The Howard and Sheth Model¹⁴

At this point in time, the latest model to gain acceptance among marketers is the Howard and Sheth revision of the earlier Howard model. Unlike the earlier Howard model, the Howard and Sheth model does not rely so heavily on learning theory but does still retain the three phases of consumer buying behavior. This is true although the definitions of the three phases of buying behavior are changed; and in one case, the name of a phase of buying behavior is changed. (automatic response behavior becomes a routinized response behavior in the later model.)

The Howard and Sheth model is a more sophisticated treatment of buying behavior; and while the later model also makes use of both endogenous and exogenous variables, the

¹⁴John A. Howard and Jagdish N. Sheth, The Theory of Buyer Behavior (New York: John Wiley & Sons, Inc., 1969), pp. 24-272.

FIGURE 3
THE ENGEL AND ASSOCIATES
MODEL



endogenous variables are more numerous and complex. The endogenous variables are divided into types of variables depending upon the level of abstraction. In the first order of abstraction are the intervening variables that are once removed from the overt act. These intervening variables are divided into input and output variables that link the hypothetical constructs to the "real world." The hypothetical constructs are a higher order of abstractions than are the intervening variables and represent the second set of endogenous variables.

As the intervening variables were divided into two subclasses, the hypothetical constructs are divided into a learning subsystem and a perceptual subsystem. The learning subsystem is the more complex of the two subsystems and contains these hypothetical constructs: brand comprehension, motives, choice criteria, attitude, intention, confidence, and satisfaction.

The perceptual subsystem contains these hypothetical constructs: attention, overt search, stimulus ambiguity, and perceptual bias. The perceptual subsystem differs from the other elements in the Howard and Sheth model in that two of the constructs in the perceptual subsystem are processes rather than entities as the other variables in the model have been. These two variables are perceptual bias and overt search.

The exogenous variables are the last part of the Howard and Sheth model to be discussed. As in the original Howard model, the exogenous variables are present in all three phases; and a change in the exogenous variables can alter the consumer's course of action as he passes through the phases of learning behavior. Additionally, in the Howard and Sheth model, the exogenous variables act toward error reduction. The exogenous variables--social class, culture, financial status, and time pressure--have been retained from the original Howard model. Two new exogenous variables--personality traits and the social and organizational setting--have been added to the Howard and Sheth model, while the exogenous variables of ease of post-decision evaluation and stage in life cycle, which were present in the original Howard model, have been deleted from the later Howard and Sheth model.

To describe briefly how the model works, the consumer receives significant stimuli from the physical brand, symbolic stimuli from the description of the brand, and social stimuli from the consumer's face-to-face relationships. These three types of stimuli are combined into what Howard and Sheth call a stimulus display. The consumer's attention is degree of openness to the stimulus display. If the consumer is receptive to the stimulus display, then all or parts of the stimulus display will enter his perceptual subsystem. These elements of the stimulus display then enter

into his perceptual bias. Finally, the elements then enter into the consumer's learning subsystem. At this point, the consumer may require more information and engage in an overt search for this information.

Depending upon the phase of learning behavior that the consumer is in, entrance of the stimulus display can result in immediate purchase; or the consumer may involve all of the variables in the learning subsystem and take considerable time in deciding to purchase or not to purchase.

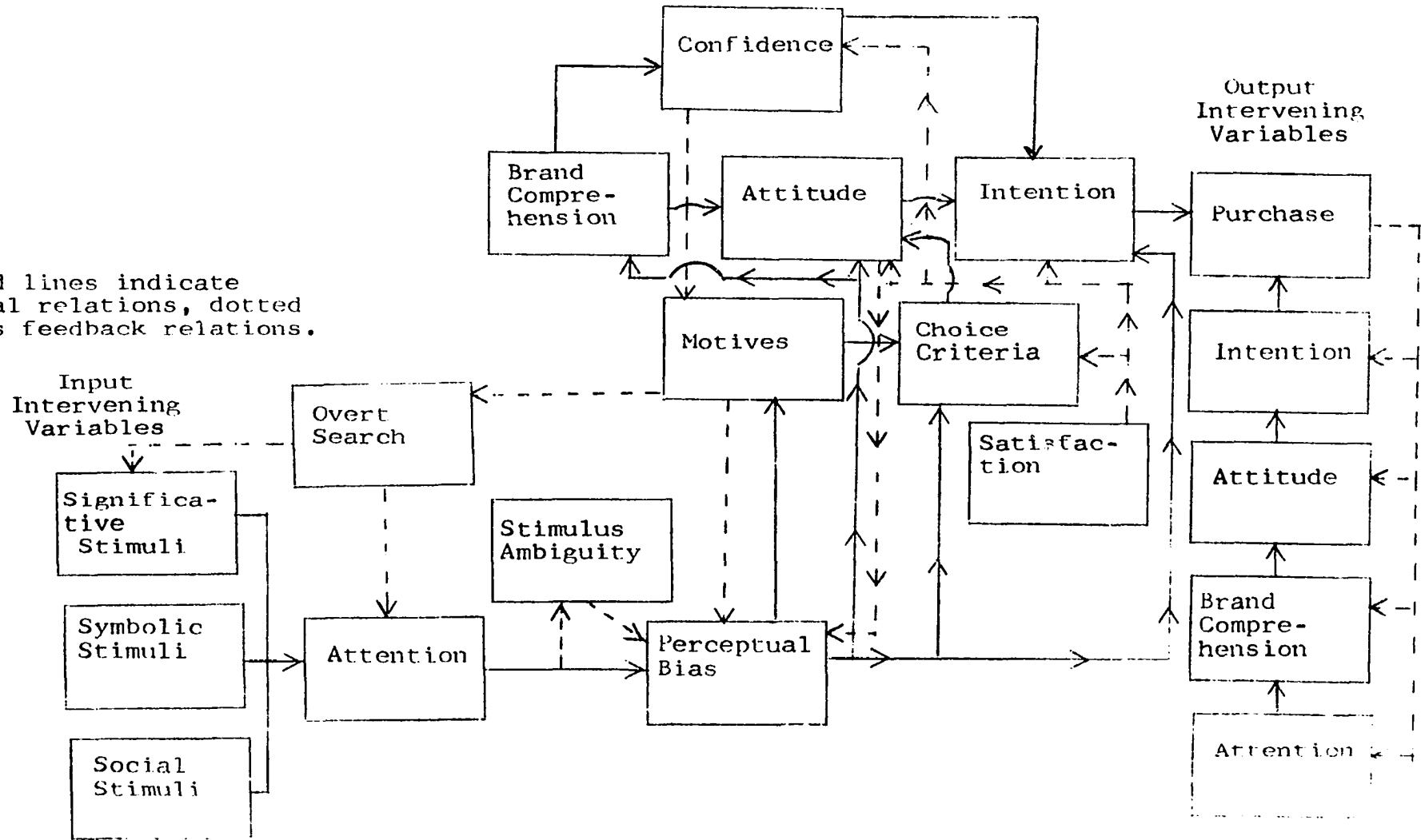
A diagram of the Howard and Sheth model is presented in Figure 4 on the following page. Because of limitations of space, the exogenous variables are not included in the diagram.

Proposed Variables of Automobile Consumption

The models thus far presented are, in this writer's opinion, simplifications of actual consumer buying behavior, as is any model. This writer has serious doubts that any one model can explain a consumer's behavior when he is purchasing convenience, shopping, specialty, and unsought goods. Indeed, to attempt to build a model to explain consumer buying behavior in the purchase of just one good, new cars, may be an undertaking that is too ambitious. Nevertheless, in order to study interpersonal influence in the purchase of a new car, it seems advisable to study the other variables present in order to get some idea of their relative importance.

43

FILE 4



The following paragraphs contain descriptions of the principal variables that this writer believes are operative in the purchase of automobiles by the respondents in this study. These variables will be used to attempt to examine interpersonal influence with reference to two types of consumer buying behavior: (1) brand switching behavior and (2) brand loyal behavior. Brand switching behavior is defined for the purposes of this study as occurring when the consumer switches from one manufacturer's make of automobile to another manufacturer's make of automobile. Brand loyalty occurs when the consumer continues to purchase the same manufacturer's make of automobile, but not necessarily the same model of automobile. Only brands are considered because in 1968, the date of the survey, manufacturers offered the consumers 368 different models of automobiles.¹⁵ To differentiate among model switching consumers was considered beyond the scope of this study.

For consumers owning a car prior to the purchase of their present car, which includes most of the respondents, the consumer's post-decision evaluation of his previously owned car was hypothesized to be the single most important variable. Determining this post-decision evaluation are ten hypothesized exogenous variables, slightly more than those proposed by Howard or Howard and Sheth in their models.

¹⁵"Automotive Industry," Encyclopedia Americana, 1970 Yearbook.

These exogenous variables are (1) financial status, (2) financial expectations, (3) social class, (4) stage in life cycle, (5) economic outlook, (6) reference groups, (7) primary groups, (8) personality traits, (9) the service the car has received as perceived by the car owner, and (10) the quality of the dealership service as perceived by the consumer.

The first exogenous variable is financial status, which is defined as the car buyer's current financial status, and not his financial expectations. Financial status may affect purchase decisions concerning products. For example, research supports the theory that people in higher income brackets deliberate more when purchasing durable goods than do people in the lower income brackets, while people in the lower income brackets spend more time deliberating on non-durable goods, such as sport shirts.¹⁶

The second exogenous variable is that of financial expectations. It is hypothesized that changes in a consumer's financial expectations may affect his purchase of his new automobile. For example, as the consumer sees his financial expectations brighten, he may select a more expensive model of automobile in order to try to climb the social ladder; or if his financial expectations do not look good,

¹⁶George Katona and Eva Mueller, "A Study in Purchase Decisions," Consumer Behavior, ed. Lincoln H. Clark (New York: New York University Press, 1955), pp. 54-58.

he may decide on a less expensive model.

The third exogenous variable is social class. Social class is narrower in its connotation than is culture, and was included in the variables of Oklahoma City new car buyers, while culture was not. Culture was not included because, for the most part, Oklahoma City does not have large ethnic populations. Social class does not necessarily refer to a social group engaging in face-to-face relations. Rather social class can be defined as "...a structure of regularized inequality in which men are ranked higher and lower according to the value accorded to their various social roles and activities."¹⁷ Thus, while a car buyer's financial status will play a large part in determining his social class, other factors, such as occupation, family background, education, and race also come into the definition of a person's social class. For example, a plumber and a doctor may have the same income; however, the doctor is usually placed in a higher social class. The consumer's social class may affect such factors as the products purchased and the shops in which the consumer shops.¹⁸

The fourth exogenous variable in the hypothesized

¹⁷Barbara Barber, Social Stratification (New York: Brace & Company, 1957), p. 7.

¹⁸Richard P. Coleman, "Social Class Versus Income: Privilege Within Classes," Consumer Behavior and the Behavioral Sciences, ed. Stuart Henderson Britt (New York: John Wiley & Sons, Inc., 1968), pp. 259-61.

model of new car automobile consumption is the stage of the consumer's life cycle. The stage in life cycle is determined by such factors as whether the consumer is the head of the household, when he marries, when the first child arrives, and when the consumer's mate dies.¹⁹ For some variables, the family life cycle was found to be a better reflection than age in explaining behavior patterns.²⁰

The economic outlook as the consumer sees it is the next hypothesized exogenous variable. This variable includes not only the consumer's personal economic outlook, but also his view of what the economy will do in general. In other words, there was an interest in determining if the consumer's behavior would differ if he felt the economic outlook would be bad although his own financial expectations were good, and vice versa.

The sixth exogenous variable in the model are the consumer's reference groups. Berelson and Steiner define reference groups as the group to whose standards people refer when considering their own opinions, attitudes, and beliefs. As such, reference groups may be the actual or imagined set of people the consumer uses as a model, and the

¹⁹John B. Lansing and Leslie Kish, "Family Life Cycle as an Independent Variable," Marketing and the Behavioral Sciences, ed. Perry Bliss (Boston: Allyn and Bacon, Inc., 1963), pp. 138-49.

²⁰Ibid., p. 149.

ones by whom he wants to be approved.²¹ A reference group may consist of members of his primary groups, or of the circle of people with whom he aspires to associate. Thus, the consumer's reference groups may or may not be his primary groups.

That consumers seek information from other people has been well documented.²² In addition, most of the information that he receives will come from the consumer's family and friends.²³ For this reason it is important to include the consumer's primary groups as the seventh exogenous variable in the model. A small or primary group may be defined as consisting of at least two people, on up to some unspecified but not too large a number, who engage in face-to-face relations over an extended period of time, who differentiate themselves from others around them, who are mutually aware of their membership in the groups, and who have a personal relationship that is realized to be an end in itself.²⁴

This is not to say that the consumer will seek information only from his primary groups. Consumers will

²¹Bernard Berelson and Gary A. Stienen, Human Behavior: An Inventory of Scientific Findings (New York: Harcourt, Brace & World, Inc., 1964), p. 558.

²²"Influences of Innovators and Leaders," Consumer Behavior and the Behavioral Sciences, ed. Stuart Henderson Britt, Op. Cit., pp. 281-97.

²³Ibid.

²⁴Bernard Berelson and Gary A. Stienen, op. cit., p. 325.

also seek information from impersonal sources, which is an endogenous variable in the model of new car purchasing behavior. In a study done prior to the wide acceptance of television, it was found that radio, newspaper, and magazine advertising all effectively contributed to the consumer's decision to try a different product brand.²⁵ Thus advertising may serve not only as a kind of triggering mechanism, but also as an information source for the consumer. In addition to advertising as an information source, the consumer may also seek out informative magazines such as Consumer Reports.²⁶

The consumer's personality traits are the eighth exogenous variable to be included in this model. As was mentioned early in this chapter, there is some evidence that certain personality types buy certain types of automobiles (convertibles versus sedans).²⁷ However, these personality type purchases apparently don't extend to the purchase of a specific brand of automobile.²⁸ In attempting to determine

²⁵Elihu Katz and Paul Lazarsfield, "Importance of Personal Influence (Foods and Household Goods)," Consumer Behavior and the Behavioral Sciences, ed. Steuart Henderson Britt, Op. Cit., pp. 295-97.

²⁶William E. Bell, "Consumer Innovators," Ibid., pp. 294.

²⁷Ralph A. Westfall, op. cit.

²⁸Franklin B. Evans, "Psychological and Objective Factors in the Prediction of Brand Choice: Ford Versus Chevrolet," Op. Cit.

the variables, it was thought that brand loyal and brand switching consumers might possess different types of personality structures; and thus the variable of personality traits was included in the hypothesized model.

The last two exogenous variables, the service the car has received as perceived by the consumer and the quality of the dealership service as perceived by the owner, were included in the hypothesized model more on the basis of the writer's experience with car dealers than on any research findings. It was thought that if either the dealership service was poor or if the automobile mechanical reliability was poor, as perceived by the consumer, he could form an unfavorable opinion of the car.

The interaction between the exogenous variables is also of importance. The consumer's financial status is determined by his stage in his life cycle, his education, and his social class. The consumer's social class is in turn determined by his financial status, education, and the stage in his life cycle. In reality, a person's social class is determined by more than these three variables,²⁹ but for the purposes of this study, these are the measurements that will be used. The consumer's financial expectations will be determined by the variables of his social class, financial status, stage in his life cycle, and the economic outlook.

²⁹Bernard Berelson and Gary A. Stienner, op. cit., pp. 453-90.

Looking at the effect that the exogenous variables will have on the endogenous variables the following exogenous variables were thought to directly affect the endogenous variables of the consumer's post-decision evaluation: (1) service that the car has required as perceived by the consumer, (2) quality of the dealership service as perceived by the consumer, (3) stage in life cycle, (4) financial status, (5) financial expectations, (6) reference groups, and (7) primary groups.

The endogenous variables that affect the consumer's post-decision evaluation and his final decision are (1) the communications with the new car salesman, (2) his non-personal communications, which have already been discussed, and (3) the alternatives of price and styling. A discussion of the way in which the variables are hypothesized to operate follows.

The variables start with a triggering cue. This triggering cue may be the introduction of new car models, a change in financial status or expectations, advertisements, the purchase of a new car by a friend, or any number of cues. If the consumer has owned a car previously, then the consumer refers to his post-decision evaluation of his present car, and if he has previously owned the same make and model of automobile---for an example a Chevrolet Impala---he may be in what Sheth and Howard have called "routinized response behavior." In this situation the consumer considers no other

make or model of car. Even if the car to be purchased is the consumer's first car, there may be no consideration of more than one make of automobile since there is evidence to suggest that reference group influence is especially strong in the purchase of an automobile.³⁰ In these situations, the consumer probably has decided on the make of automobile to purchase along with the opinions that he desires. In this case, the consumer visits only one dealer.

Another type of behavior is possible which can be called semi-routinized response behavior. The consumer exhibiting this type of behavior will have decided on the make, model, and options desired, but will shop several dealerships to obtain the best price on the car that he desires. In this case the consumer remains brand loyal, but not dealer loyal. This type of behavior may be a function of the consumer's psychological and demographic characteristics.³¹ In this case, the endogenous variables of alternative of price and communications with the new car salesman may enter the decision.

If the consumer is trying to decide between two or three makes of automobiles with which he is familiar, he will probably be in the stage of behavior which Howard and Sheth

³⁰Francis S. Bourne, "Different Kinds of Decisions and Reference Group Influence," Marketing and the Behavioral Sciences, op. cit., pp. 247-55.

³¹Franklin B. Evans, "Correlates of Automobile Shopping Behavior," op. cit.

have called limited problem solving. In this limited problem solving stage, the consumer will look at the alternatives that are available to him but will make no effort to conduct a search for other alternatives that are available to him.

The next level of behavior that the consumer is hypothesized to exhibit may be called a semi-extensive problem solving stage. In this stage, the consumer conducts a limited search for his clarification of alternatives. In this stage, the consumer may bring the members of his immediate family into the decision process. In addition, the consumer may read some advertisements concerning the make or makes of automobiles that he is considering for purchase. If the consumer is likely to exhibit brand loyal behavior, the advertisements may be of the make that he presently owns. Often consumers appear to take more notice of automobile advertisements if they own that particular type of automobile. However, the reason for this reinforcement does not appear to be dissonance on the part of the consumer.³²

In all of the preceding stages of automobile buying behavior, the consumer was assumed to have formed a favorable post-decision evaluation of his presently owned automobile. However, when the element of a favorable post-decision evaluation is not present, the consumer is assumed to move into that stage of buying behavior that Howard has

³²James F. Engel, "Are Automobile Purchasers Dissonant Consumers," Journal of Marketing, Vol. 27 (April 1963), pp. 55-58.

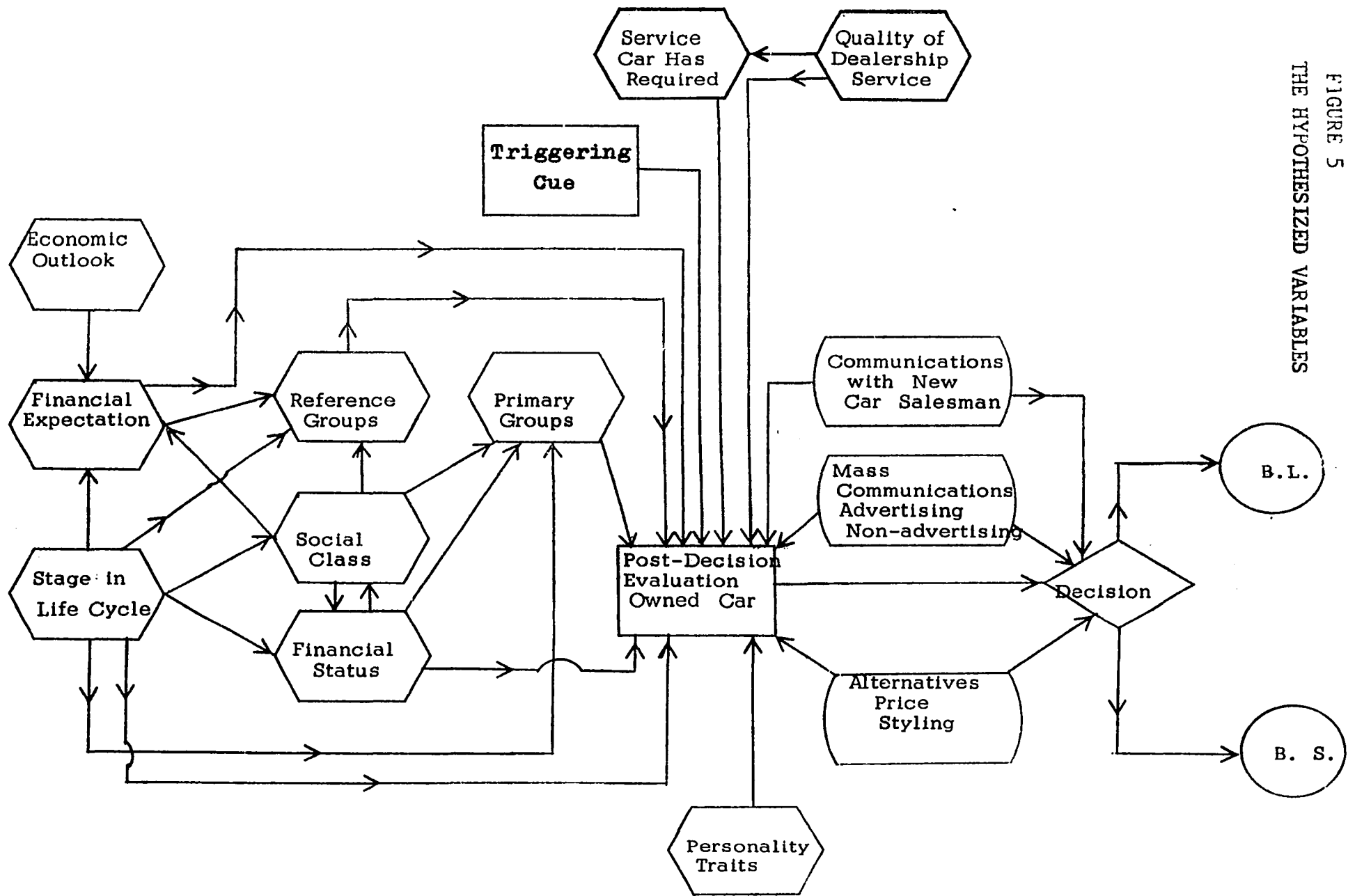
called intensive problem solving. This stage of behavior really has no place in the Howard and Sheth model unless it is placed somewhere between the limited problem solving stage and the extensive problem solving stage since the consumer is aware of the product which he is not in the Howard and Sheth extensive problem solving stage.

In this stage, all of the hypothesized variables may come into play as the consumer attempts to choose among makes with which he is unfamiliar. For example, this could be a minor switch from one make of sedan to another, or the switch could be a major switch as from a sedan to a sports car or to a foreign make of automobile. In theory, when an unfavorable post-decision takes place, the consumer will select a different make of automobile from the one he presently owns.

To summarize, there are five levels of hypothesized behavior. The first level occurs when the consumer has formed a favorable post-decision evaluation toward both the dealer and the make of automobile and remains brand loyal and dealer loyal. The second level of behavior occurs when the consumer remains brand loyal, but shops between dealers for price or other factors. The third level of behavior occurs when the consumer considers other makes of automobiles, but remains brand loyal. The consumer is in the fourth level of behavior when he considers other makes of automobiles, brings immediate family members into the decision making,

and consults advertisements of automobiles. The consumer is at the final level when he has formed an unfavorable post-decision evaluation of his automobile and has definitely decided not to purchase the same make of automobile again. If the consumer considers all of the alternatives available to him, he has a great many decisions to make. To help the reader visualize the hypothesized automobile buyer behavior variables and to depict to an extent the probable relationships among these hypothesized variables, see Figure 5 on the following page.

FIGURE 5
THE HYPOTHEZIZED VARIABLES



CHAPTER IV

SURVEY RESULTS

Introduction

In the previous chapter hypothesized variables of automobile buying behavior were developed on the basis of many different research findings, some related and some unrelated to one another. In addition, most of these findings dealt with only one variable and did not attempt to evaluate the importance of the variable in relation to the other variables of buying behavior. As does Mittlstaet, this writer has some real doubts about the validity of any model, be it a model of general buyer behavior or a model for one specific product (automobiles) constructed on the basis of such research findings.¹

In attempting to validate the present hypothesized variables, the writer found himself facing some very difficult problems. First, does one select one or a very few customers, study and observe their behavior and hope that these consumers represent all other consumers. Certainly, these would be possible in a nearly homogeneous society

¹Robert A. Mittlstaet, "Criteria for a Theory of Consumer Behavior," Consumer Behavior: Contemporary Research in Action, eds. Holloway, Mittlstaet, and Venkatesan (Boston: Houghton Mifflin Company, 1971), pp. 8-13.

where all individuals behave in a like manner. However, the consumers in the United States are too heterogeneous in nature to make this feasible for the study of the variables of buyer behavior. About all ~~one~~ could say for variables investigated on this basis is that the model represents the behavior of that individual or group of individuals. The second option is to draw a sample large enough to be representative of some heterogeneous population and try to construct norms of buyer behavior while realizing that, like the "normal man," the "average consumer" probably does not exist.

A second problem is observation of behavior. Presumably green bean stocks growing in two different types of soil do not alter their behavior patterns as a result of being measured and observed. The same cannot be said about human beings. As Sherif notes,² if a person knows he is being observed, he is likely to act in a manner that he feels will please the observer. In addition, if one chooses to be representative of some population, observation of behavior becomes all but impossible unless one has a very large staff constantly on call. In the present investigation, it would have been impossible, in the opinion of this writer, to observe constantly the actions of 184 different individuals.

²Muzafer Sherif and Carolyn Sherif, Reference Groups (New York: Harper and Row, Publishers, 1964), pp. 35-41.

A third problem is that many of the variables in all of the buyer behavioral models are simply not observable. These variables are the consumer's thoughts and are not observable until the consumer takes some action concerning his thoughts. Moreover, the consumer may never take action on some of his thought processes, and the only way to obtain some information is to ask the respondent to answer questions. There are three basic types of questions that can be asked of a respondent:³ (1) questions that respondents can answer and will answer, (2) questions that respondents can but won't answer, and (3) questions that respondents can't answer. The researcher's probes into consumer behavior by questioning are limited to the first type of question.

As was mentioned previously, the attempted validation of the hypothesized variables was done by questioning 184 respondents. Thus, the results of the survey are dependent upon the respondent's recall of the situation and his feeling at the time. In addition, the reactions of the consumer's reference and primary groups are reported as the consumer perceived their reactions.

Survey Results and the Variables

The results of the survey supported some, but not all of the assumptions of the new automobile buyer behavioral

³Harper W. Boyd, Jr. and Ralph Westfall, Marketing Research, 3rd ed. (Homewood, Ill.: Richard D. Irwin, 1972), pp. 131-36.

variables and the resulting hypotheses. For example, although the writer believed that the husband of the family unit, where applicable, would be the dominant factor in the decision to purchase a new car,⁴ he hypothesized that the decision to purchase a new car would be more complex and would be subject to more personal and impersonal influence than the findings of the study will support. For the most part, the brand loyal buyer appears to fit into what Howard calls the Automatic Response Behavior phase, where the consumer has a great deal of experience with the product and has ceased to learn,⁵ or in what Howard and Sheth have labeled the Routinized Response Behavior phase, where the consumer is well acquainted with the product class and has a preferred brand within that product class, but changing market conditions may cause the consumer to learn about a changing factor each time he makes a purchase.⁶

In other cases, the brand loyal consumer appeared to be in Howard's Limited Problem Solving phase, where some

⁴See Elizabeth H. Wolgast, "Do Husbands or Wives Make the Purchase Decisions," Journal of Marketing (October 1958), pp. 151-58; and Harry Sharp and Paul Mott, "Consumer Decisions in the Metropolitan Family," Journal of Marketing (October 1956), pp. 149-56.

⁵John A. Howard, Marketing Management: Analysis and Planning, rev. ed. (Homewood, Ill.: Richard D. Irwin, 1963), pp. 87-89.

⁶John A. Howard and Jagdish N. Sheth, The Theory of Buyer Behavior (New York: John Wiley & Sons, Inc., 1969), pp. 47.

amount of thinking takes place and there is some search for the clarification of alternatives.⁷ This Limited Problem Solving phase occurred largely when the consumer was remaining brand loyal, but was switching models within the same brand of automobile. The brand loyal consumer may not fit into the Howard and Sheth Limited Problem Solving phase since this would require the introduction of a new model⁸ within the same brand of automobile, which usually does not occur every model year.

As might be expected, the brand switching buyer exhibited a more complex buying behavior pattern but failed to be influenced by all of the variables hypothesized in this writer's automobile buyer behavior variables. The brand switching buyer was generally found to be in what Howard calls Extensive Problem Solving phase and in some cases the Limited Problem Solving phase of behavior.

Whether the automobile consumers were in the Extensive Problem Solving Phase or in the Limited Problem Solving Phase, the decision to purchase a new car and the type of car to purchase remained largely a family decision. The only appreciable amount of personal influence, outside the personal influence of the immediate family, came from the new car salesman who appeared to be acting in the role of an

⁷John A. Howard, op. cit., pp. 77-86.

⁸John A. Howard and Jagdish N. Sheth, op. cit., pp. 238-30.

expert.

The following analysis will examine the variables of the hypothesized automobile buyer behavior in light of the findings of the survey taken to validate the model. The two basic types of overt behavior under examination are brand loyal behavior and brand switching behavior. For ease of analysis, the respondents in the survey have been divided into brand loyal owners (purchase of the same manufacturer's make of car again) and brand switching owners (purchase of a different manufacturer's make of automobile).

The survey gathered a quantity of data in terms of the buyer's behavior and opinions prior to the purchase of the new car, at the time of the purchase of the new car, and since the purchase of the new car, as the respondent recalled this behavior or opinions at the time of the interview. So that the reader may better analyze the findings in terms of the variables of hypothesized new car buyer behavior, each of the major endogenous variables will be examined as to the effect of the exogenous variables on that endogenous variable.

Post-Decision Evaluation

When the consumer has owned a car prior to the purchase of his present car, his post-decision evaluation of his previously owned automobile may be one of the important considerations as to whether to remain brand loyal. Among the hypothesized variables, post-decision evaluation

was affected by a number of exogenous variables. Two of these variables are (1) the service the car has received as perceived by the consumer and (2) the quality of the dealership service as perceived by the consumer. In the survey, the service the car has required was measured by the car's mechanical reliability as perceived by the owner. There is strong evidence that good mechanical reliability on the part of the car and good service on part of the dealer, as perceived by the owner, leads to favorable post-decision evaluations on the part of the owner; however, there is almost certain evidence that poor mechanical reliability on the part of the car and poor service on the part of the dealership may lead to an unfavorable post-decision evaluation concerning the presently owned automobile. All of the respondents in the survey who said that they would definitely not purchase the same car again gave poor dealership service as the reason, with 19% of those giving poor dealership service with the factor of poor mechanical reliability on the part of the car.

The service the car has required as measured by its mechanical reliability in the eyes of its owner and the quality of dealership service were combined to show their effect on the formation of an unfavorable post-decision evaluation because the respondents in the survey combined the two variables. However, it may be useful to look at each of these variables separately and examine each of them

in more detail.

Mechanical Reliability of the Automobile

The effect of unfavorable mechanical reliability on the part of the car as perceived by the consumer has already been demonstrated. However, most of the consumers in the survey (82%) rated the mechanical reliability of their automobiles as good or excellent. A glance at Table 1 reveals that brand loyal owners are significantly more likely to rate the mechanical reliability as being good or excellent. Thus, it would appear that the car's mechanical reliability as perceived by the owner is an important variable in at least partially determining the owner's post-decision evaluation. In other words, people who have owned the same brand of car previously are more likely to rate the mechanical reliability of their present car as good or excellent and are more likely to intend to purchase the same make of automobile again as this was evidenced when they were asked if they intended to purchase the same car again. Significantly more brand loyal owners (64.10 %) said they intended to purchase the same manufacturer's make of automobile again, while only 35.10 % of the brand switching owners said that they intended to purchase the same manufacturer's make of automobile again ($z = 6.35 > 2.57$).⁹ Thus, it would appear that, for the most

⁹Since the population parameters are not known, the test of differences is technically a critical ratio "t" test; however, the critical ratio "z" will be used to designate the use of the area under the normal curve.

part, brand loyal owners have decided on the make of automobile they like, while the brand switching owners still seem to be searching.

TABLE 1
Mechanical Reliability of New Car
as Perceived by the Consumer

Mechanical Rating	Percent of Brand Loyal Owners	Percent of Brand Switching Owners	Significance Test ¹⁰
Excellent	69.72	30.28	8.95 > 2.57
Good	59.59	40.48	2.52 > 1.96

Source: Survey of Oklahoma City New Car Buyers

As an additional test of association between giving the present car an good or excellent rating in terms of the car's mechanical reliability and being a brand loyal owner, the Spearman Rho Rank Correlation test was utilized. The Spearman Rho Rank Correlation test was used because the question of mechanical reliability of the consumer's automobile provided results that were highly skewed and did not fit a normal distribution.¹¹ This procedure was used to test the

¹⁰The use of 2.57 standard errors indicates a test at the .01 level of significance, while 1.96 standard errors indicates a test at the .05 level of significance.

¹¹Robert D. Mason, Statistical Techniques in Business and Economics (Homewood, Ill.: Richard D. Irwin, Inc., 1970), pp. 305-08.

association between a high rating on mechanical reliability and brand loyal behavior on the part of the consumer. The rank correlation coefficient between brand loyal behavior and a high rating on mechanical reliability was found to be .89, which is significant beyond the .01 level ($z = 8.73 > 2.57$). Thus, by all the statistical tests utilized, the mechanical reliability of the consumer's car appears to be an important variable in determining post-decision evaluation and in determining the consumer's brand switching or brand loyal behavior.

Dealership Service

The second variable concerning itself with the physical operation of the car was the quality of the dealership service as perceived by the consumer. Again there is a significant difference between the way that the brand loyal consumers and the brand switching consumers perceived the quality of the dealership service. Significantly, more brand loyal owners thought that they were getting good service ($z = 6.91 > 2.57$), while conversely significantly more brand switching owners thought that they were receiving either poor or bad service from the dealership ($z = 2.37 > 1.96$).

As was true with the car's perceived mechanical reliability, the perceived quality of the dealership service was a skewed distribution, and again the Spearman Rho Correlation test was used to test for association between the perceived quality of dealership service and brand loyalty. The rank correlation between brand loyalty and the perceived

quality of dealership service was .936, which is significant beyond the .01 level ($z = 11.89 > 2.57$). Thus, like the perceived mechanical reliability of the car, the perceived quality of dealership service appears to be important in forming the consumer's post-decision evaluation of his automobile, at least as far as either brand loyal or brand switching behavior is involved.

Group Influences

The measurement of the personal influence on the consumer's decision regarding which car to buy is much more difficult to measure. This influence may come in the form of advice and conversation, or it may be more subtle and consist of the members of the reference group having some attributes, real or imagined, which the individual perceives he will obtain if he purchases a like car. This would presumably explain the formation of car clubs like the "Corvette Club." Finally, this influence may be in the form of simply not disapproving of the purchase, thereby leading the consumer to assume the individual's or group's acceptance of the car purchase.

In the present investigation, the manner in which personal influence from groups is measured is in terms of whether the consumer perceived that the groups in question thought that the consumer had made a good decision in the purchase of his car. The results of the survey questions

concerning the consumer's perceptions of what a particular group thought about the purchase of his car were somewhat disappointing. This was the fact that there were no significant differences in the groups except for the two polar positions of immediate family members living with the consumer and casual friends who by definition the consumer saw on the average of less than once every two weeks. Between these two groups, significantly more customers felt that their immediate family members disapproved of their purchase of the car than was true of the consumer's casual friends. This was probably true because the consumer is usually in daily contact with the members of his immediate family, and thus may be more perceptive to their true feelings. The difference was significant beyond the .01 level ($z = 4.73 > 2.57$).

The lack of significant differences between the consumer's perception of how the other groups felt about the purchase of the consumer's car may be due to the principle of congruity. The principle of congruity was first introduced by Osgood and Tannenbaum in 1955,¹² and is a special case of balance theory. Specifically, the principle of congruity is a special case of balance theory and deals with the problem of direction of attitude change. Osgood and

¹²C. E. Osgood and P. H. Tannenbaum, "The Principles of Congruity in the Prediction of Attitude Change," Psychological Review, Vol. 62 (1955), 42-55.

Tannenbaum believe that judgement frames of reference tend toward maximum simplicity; and since all-or-nothing judgements are simpler than refined judgements, valuations tend toward extremes. Leon Festinger popularized the theory for marketers in his study of dissonant automobile purchasers.¹³ Festinger believes that individuals try to establish consistency or congruity among his attitudes, opinions, and values. Translated into psychological terms, these opinions, attitudes, and values become knowledge, opinions, and beliefs and are called cognitions. Dissonance is the result of inconsistency among the individual's cognitions. Thus, in order to reduce dissonance, the consumer's perception of how a certain group feels about the purchase of his automobile may be a distortion of how the group actually feels. If this is the present case, then the consumer may be better able to distort the attitudes of his casual friends, whom he sees only occasionally, than the attitudes of his immediate family, with whom he is probably in daily contact. In addition, although the study deals only with buyers of foreign cars, there is some evidence to suggest that the consumer is selective in terms of those to whom he shows the car.¹⁴ In this case, the consumer would presumably seek out only those

¹³Leon Festinger, A Theory of Cognitive Dissonance (Stanford, Calif.: Stanford University Press, 1958).

¹⁴John R. Stuteville, "The Buyer as a Salesman," Journal of Marketing, Vol. 32 (July 1968), pp. 14-18.

individuals from whom he expects to receive favorable evaluations concerning his new car. Of course, such selectivity may not be possible with immediate family members or close friends.

By examining Table 2, the reader is able to see a slight inverse relationship between the closeness of the relationship of the consumer to the group and the consumer's perceiving that the particular group thought he had made a wise decision in the purchase of his car. The closer the relationship to the consumer, the lower the number of consumers who felt the members of that group felt that they (the consumers) had made a wise decision.

Implied, although not hypothesized explicitly in the buyer behavior model, are the group influences that may come into play in the process of making the decision to purchase a new car and the make of new car to purchase. Of the consumers surveyed, 63.95 percent said that they had talked about the purchase of their new cars with either family or friends, or both, prior to the purchase of their new cars. As might be expected, the consumer who was exhibiting brand loyal behavior and who was presumably farther along the learning curve and had a product preference, was less likely to discuss the purchase of the new car with family or friends than was the brand switching buyer ($z = 9.27 > 2.57$).

Less than half of the consumers (27.72 %) who said they had talked the purchase over with family or friends

TABLE 2

Consumer's Perceptions of Group Members
Feelings Concerning Purchase Car

Percentage of Consumers Feeling that Group Mem- bers Thought that the Consumer had Made a Wise Decision	Group
76.09	Immediate Family Members (living with the consumer)
81.52	Other Family Members (not living with the consumer)
83.15	Friends (people seen at least twice per week)
85.87	Co-workers (people seen at least twice per week)
96.96	Casual Friends (people seen less than twice per week)

Source: Survey of Oklahoma City New Car Buyers

reported that they were influenced by these groups. In fact, none of the consumers who said they were influenced by other people said that they were influenced by friends. All of the reported influence came from members of the consumer's immediate family. This may be somewhat implied in Table 2, where consumers perceived greater acceptance by friends of the purchase than they did from immediate family members. If the consumer approached an immediate family member for advice and then failed to follow his advice, he perhaps felt

that the immediate family member thought he had made a bad decision. On the other hand, if a friend was not approached, and if the friend later offered no comment on the purchase, the consumer might perceive the absence of a comment as signifying approval of the consumer's decision to purchase that particular make of car. There was no significant difference between brand loyal buyers and brand switching buyers as being influenced by members of the immediate family. In addition, none of the consumers could recall an instance when they sought assistance from a family member and did not receive the assistance they desired.

Financial Status and Expectations

The consumer's current financial position and his expectations concerning his future financial position were two additional variables that were thought to affect the consumer's post-decision evaluation. As the reader can see from Exhibit 1 from the market research department of Ford Motor Company, consumers buy cars for several reasons. If the previously owned car had been both expensive to purchase and to maintain relative to the consumer's financial position, it was thought that the consumer would probably form an unfavorable post-decision evaluation. If this were true, and if the consumer purchased the car for financial considerations, one might expect to see more brand switching behavior among low income groups. However, the results of the survey

EXHIBIT ONE

NEW CAR BUYING MOTIVATIONS BY MARKET SEGMENT

PERCENT OF 1970 NEW CAR BUYERS INDICATING THESE
AS ONE OF THE THREE MOST IMPORTANT REASONS FOR MAKE PURCHASED

MARKET SEGMENTS:	<u>ECONOMY OF OPERATION AND MAINTENANCE</u>	<u>GOOD VALUE FOR MONEY</u>	<u>DURABILITY</u>	<u>EXTERIOR APPEARANCE</u>	<u>RIDING COMFORT</u>
IMPORTS	48%	48%	30%	10%	4%
COMPACT	42	47	14	20	5
SMALL SPECIALTY	12	24	10	56	6
INTERMEDIATE	12	30	18	41	13
STANDARD	15	36	25	24	22
MEDIUM	6	29	28	24	39
PERSONAL LUXURY	2	12	16	49	35
LUXURY	3	14	25	23	48
AVERAGE NEW CAR BUYER	20%	34%	22%	28%	19%

Source: Supplied to the author by the Marketing Research Department of Ford Motor Company while the author was participating in Ford Motor Company's "Project Pinto"

did not support this assumption, and brand loyal owners and brand switching owners were found to be distributed equally among people of all income levels. No significant differences were found between brand loyal buyers and brand switching buyers at different income levels.

In terms of the income expectations of the new car buyers, there were no differences between brand loyal buyers and brand switching buyers in income expectations for those consumers who expected no income increase, or income increases up to 30 percent of their present income. However, those consumers who expected large income increases over the next five years (40 up to 60 percent more) were all under 25 years old and were all brand switching buyers. While not many consumers expected large income increases, 4.89 percent of the consumers expected income increases of 40 to 49 percent more; and 4.35 percent expected income increases of 50 to 59 percent more. In both cases, there was a significant difference from zero at the .05 level of significance ($z = 2.05 > 1.96$; $z = 2.17 > 1.96$).

Economic Outlook

Financial expectations in the model were hypothesized to affect the consumer's income expectations. To get some measure of the economic outlook as the consumer perceived it, and to verify the previously stated income expectations, the consumers were asked to think back to the time when they

purchased their automobiles and try to recall their expectations with respect to five factors: business conditions, household prices, income after taxes, the previous purchase of a good costing \$200 or more during the last two months, and the planned purchase of a good costing \$200 or more in the next two months. There may be, of course, several inherent weaknesses in these types of questions. First is the assumption that the respondents in this survey considered the five factors when they were considering the purchase of their automobile. Second, the respondents may not be able to accurately recall their expectations of these five factors at the time they purchased their automobiles. However, the respondents appeared to have little difficulty in answering these questions. Whether the answers reflect their feelings concerning these factors at the time of car purchase is another matter.

The reasoning for the questions was that consumers when planning the purchase of a durable good such as an automobile would make the decision not only on the basis of their present income, but on the basis of the economic outlook and their own future expectations in terms of real disposable income. The reason for this concern on the part of the consumer about future disposable income is that most consumers finance the purchase of their automobile through a bank or loan company. Thus, the consumer continues paying for the automobile not only at the time that he takes possession of

the car, but for a period of two to five years, depending upon the length of time for which the car is financed. The results of the questions presented in Table 3 are an additional indication of how the consumer thinks he felt at the time that the automobile was purchased.

As can be seen from Table 3, most of the new car buyers thought that business conditions would improve or remain the same at the time they purchased their automobiles. The tests for differences in the population parameters revealed that significantly more brand loyal buyers thought that business conditions would remain the same ($z = 3.89 > 2.57$), while significantly more brand switching buyers thought that business conditions would improve ($z = 6.89 > 2.57$). As was the case with the previous question concerning income, significantly more brand switching buyers thought that their income after taxes would increase ($z = 8.02 > 2.57$). Although an inference, these findings suggest that brand switching consumers may be more optimistic concerning future earnings than are brand loyal consumers. This supposed optimism about future income may be a factor in their brand switching behavior. No other significant differences were found between brand loyal and brand switching owners in response to this question.

To see if the consumers now perceived conditions as being different from their expectations when they purchased their automobiles, the same set of questions was asked concerning the conditions after they purchased their cars. The

TABLE 3

Consumer Expectations at the
Time of Purchase of New Car

Factor Expectation	Sample Percent	Population Estimate %
BUSINESS CONDITIONS WILL:		
Decline	04.89	01.77 to 08.01
Remain the same	58.69	51.58 to 65.80
Improve	36.41	29.45 to 43.37
HOUSEHOLD PRICES WILL:		
Decline	00.00	00.00
Remain the same	40.76	33.67 to 47.85
Increase	59.24	55.12 to 66.33
INCOME AFTER TAXES WILL:		
Decline	08.15	04.21 to 12.09
Remain the same	58.70	51.59 to 65.81
Increase	33.15	26.35 to 39.35
\$200 GOOD PURCHASES DURING LAST TWO MONTHS:		
Yes	32.61	25.83 to 39.39
No	67.39	60.61 to 74.17
PLAN PURCHASE OF \$200 GOOD:		
Yes	23.91	17.76 to 30.06
No	76.09	69.94 to 82.24

Source: Survey of Oklahoma City New Car Buyers

results are given in Table 4.

By comparing the two tables, we find that the only significant differences occur in the areas of household prices and income after taxes. Significantly more consumers expected household prices to remain the same at the time that they purchased their cars, while these same consumers felt that household prices had risen since the purchase of their new car. In the case of income after taxes, significantly more consumers thought that their income would decline after taxes when they purchased their car than those who said their income after taxes had declined since the purchase of their automobile.

The psychological Variables

The last of the exogenous variables thought to affect the post-decision evaluation of the consumer was the personality make-up of that consumer. To determine if brand loyal buyers could be differentiated from brand switching buyers by personality or psychological variables the Edwards Personality Preference Schedule was administered to each of the respondents. The Edwards Personality test was chosen because it had been used previously to test personality traits of automobile buyers,¹⁵ its relative ease in administration and its standardization.

¹⁵Franklin B. Evans, "Correlates of Automobile Shopping Behavior," Journal of Marketing, XXVI (October 1962), pp. 74-77.

TABLE 4
Consumer Perceptions of Conditions
After Purchase of New Car

Condition Perception	Sample Percent	Population Estimate %
BUSINESS CONDITIONS HAVE:		
Declines	09.78	..... 05.51 to 14.05
Remained the Same	51.63	..... 48.96 to 63.30
Improved	38.59	..... 31.55 to 45.63
HOUSEHOLD PRICES HAVE:		
Declined	00.00	..... 00.00
Remained the Same	23.91	..... 17.76 to 30.06
Increased	76.09	..... 69.94 to 82.20
INCOME AFTER TAXES HAS:		
Declined	17.93	..... 12.38 to 23.48
Remained the Same	54.35	..... 47.16 to 61.45
Increased	27.72	..... 21.25 to 34.19
AFTER CAR PURCHASE \$200 GOOD PURCHASED:		
Yes	45.65	..... 38.46 to 52.84
No	54.35	..... 47.16 to 61.54

Source: Survey of Oklahoma City New Car Buyers

The personality test purported to measure the following personality needs:

1. Achievement: The need to do one's best, to accomplish something of great significance.
2. Deference: The need to find out what others think, to accept the leadership of others.
3. Exhibition: The need to say witty and clever things, to talk about personal achievements.
4. Autonomy: The need to be able to come and go as one desires, to say what one thinks about things.
5. Affiliation: The need to be loyal to friends, to make as many friends as possible.
6. Intrasection: The need to analyze one's feelings and motives, to analyze the behavior of others.
7. Dominance: The need to be a leader in the groups to which one belongs, to tell others how to do their jobs.
8. Abasement: The need to feel guilty when one does something wrong, to feel inferior to others in most respects.
9. Change: The need to do new and different things, to participate in new fads and fashions.
10. Aggression: The need to attack contrary points of view, to get revenge for insults.

On the basis of the studies presented in chapter three, it was hypothesized that significant differences would be found between brand loyal buyers and brand switching buyers in certain personality traits. The personality traits in which the brand loyal buyers and the brand switching buyers were thought to differ were Aggression, Change, and perhaps Deference. However, the results were very disappointing in that no significant differences could be found between brand

loyal buyers and brand switching buyers at either the .01 level or the .05 level in any of the ten variables that the test measured.

Although the results were disappointing, the lack of significant differences in personality traits was not too surprising. Evans¹⁶ in his study failed to find any significant differences between Ford and Chevrolet owners. As Brody and Cunningham point out

Many people in marketing have theorized that personality should be related to the consumer-decision process. Thus consumers with various personality profiles would be more or less likely to be brand loyal, purchase specific styles or colors, prefer certain brand or stores, or exhibit other persistent behavior patterns. However, attempts to document these relationships have not been notably successful and there is a growing feeling that the study of personality is likely to provide little insight beyond that provided by standard demographic data.¹⁷

There were some differences at lower levels of significance but the design of the study was not to draw inferences concerning the population parameters when differences between the sample variables of that magnitude could occur purely by chance five or more times out of a hundred. This is not to say that there are no differences in the personality

¹⁶Ibid.

¹⁷Robert P. Brady and Scott M. Cunningham, "Personality Variables and the Consumer Decision Process," Research in Consumer Behavior, ed., Kollat, Blackwell and Engel (New York: Holt, Rinehart and Winston, Inc., 1970), p. 156.

traits between brand loyal and brand switching buyers, but merely that the instrument chosen to measure these differences was not capable of measuring these differences with a level of sophistication that would lead to significant differences at the .05 or .01 level of statistical significance. Nevertheless, for the purposes of this study, it must be said that no significant differences exist in the personality traits between brand loyal buyers and brand switching buyers as measured by the Edwards Test.

The Decision

The preceding exogenous variables affected only the consumer's post-decision evaluation. The exogenous variables presented in the following section were hypothesized to affect both the consumer's post-decision evaluation, which in turn affects the consumer's decision, and the decision process itself. There are a great many results to be presented in this section. For ease of presentation, the exogenous variables and their effect on the endogenous variable of decision will at first be examined separately, and then collectively.

Communications with the New Car Salesman

One of the exogenous variables that was thought to affect both the consumer's decision and his post decision evaluation was the communications that the consumer had with the new car salesman before and after the purchase of the

car. In dealing with the consumer's decision to buy a new car, there are actually three decisions for the consumer to make. The consumer must decide when to buy the car, where to buy the car, and the make and model of automobile to purchase. In some cases the three decisions could be separated by the respondent, and in some cases the decisions occurred simultaneously and cannot be separated.

In the survey, 32.06 percent of the consumers said that having a friend at the dealership was an important or a very important reason to purchase a new car without reference to make or model. Among those consumers who said a friend at the dealership was an important or a very important factor in their decision to buy a new car, there were significantly more brand loyal owners than brand switching owners ($z = 6.93 > 2.57$). This finding suggests that brand loyal dealers often return to the same "friend" at the dealership to purchase their cars.

When asked if having a friend at the dealership was an important or very important reason in the purchase of the particular make and model of their automobile, 25.54 percent of the customers said that a friend at the dealership was important or very important. Again, significantly more brand loyal owners thought that having a friend at the dealership was important or very important ($z = 2.704 > 1.96$). Thus, the dealership, as indicated by earlier evidence, again appears important in brand loyal behavior.

In the survey, 36.41 percent of the consumers said they felt that salesman helped them in their decision to purchase a new car, and an additional 09.04 percent of the consumers said that the new car salesman had probably helped them in their decision as to which new car to purchase. Significantly more brand switching owners said that the new car salesman helped them in their decision more than did the brand loyal owners ($z = 4.30 > 2.57$). Thus, it appears that the new car salesman does exert influences over the consumer decision process. The results of the survey suggest that for brand loyal owners the new car salesman's influence works mainly through the mechanism of post-decision evaluation and then to the decision process; while in the case of the brand switching buyer, the influence of the salesman appears to affect the decision process directly, or at least more directly than in the case of the brand loyal buyer.

Mass Communications

Another variable that was hypothesized to affect both the consumer's post decision evaluation and his actual decision to purchase his new car was mass communications, both in the form of advertising and non-advertising. As one measure of the effectiveness of advertising, the new car buyers were asked to fill in the blanks on several automobile slogans using unaided recall. As can be seen from Table 5 there appears to be little relationship between identifying

TABLE 5
Consumer's Unaided Recall of
Various Brands of Automobile Slogans

Automobile	Percent Owning Type of Car	Percent Recall of Car Slogan
Chevrolet	26.10	72.83
Plymouth	4.90	36.41
Cadillac	3.80	3.26
Ford	21.74	5.44
Dodge	2.17	85.71
Mercury	1.63	0.54
MG	1.09	1.09
Lincoln	2.17	9.24
Jaguar	0.54	8.69

Source: Survey of Oklahoma City New Car Buyers

the car slogan and ownership of the automobile. The coefficient of correlation between being able to complete the car slogan using unaided recall and ownership of the car was .37 ($r = .37$). This gives a coefficient of determination of .137, which means that roughly 14 percent of the association between a consumer being able to identify a car slogan and owning that brand of car can be explained by being able to identify the automobile slogan.

In order to determine what other effects advertising

might have on the potential new car consumer, the respondents were asked if they recalled using a dealer's newspaper advertisement as a specific information source. Only 13.58 percent of the respondents in the survey could recall using a dealer's advertisement as an information source. Among consumers who did use a dealer's newspaper advertisement as an information source, there was no significant difference in the number of brand switching and brand loyal owners.

The advertising of the automobile manufacturers apparently has less effect than that of the local automobile dealers. Only 4.89 percent of the respondents said that they visited a dealer's showroom because of a manufacturer's advertisement. As was the case with the dealer's advertisement, there was no significant difference in the number of brand switching owners and the number of brand loyal owners who said they had visited a dealer's showroom because of a manufacturer's advertisement.

The majority of the respondents, 63.57 percent, said they thought that advertising was equally as believable as other advertising for expensive goods. Significantly more brand loyal buyers thought that automobile advertising was either more believable ($z = 5.45 > 2.57$), or as equally believable as, other advertising for expensive goods ($z = 5.58 > 2.57$). Thus, while most of the consumers considered advertising to be as believable as other types of advertising, the brand loyal buyers tended to give automobile

advertising a higher rating. The sample percents and estimations of the population parameters are given in Table 6.

TABLE 6

Believability of Automobile Advertising
Versus Other Advertising for Expensive
Goods as Perceived by the Consumer

Rating	Sample Percent	Population Estimate %
More Believable	08.69	04.62 to 13.31
Somewhat More Believable	17.93	12.39 to 23.47
Equally Believable	63.57	56.71 to 70.53
Somewhat Less Believable	02.72	00.39 to 05.05
Much Less Believable	07.07	03.33 to 10.81

Source: Survey of Oklahoma City New Car Buyers

Advertising for new cars was also compared with other advertising for expensive goods in terms of the information value contained in the advertising. Again the majority of the respondents in the survey, 58.69 percent, thought that automobile advertising was equally as informative as other types of advertising. Significantly more brand switching buyers thought automobile advertising was more informative ($z = 3.19 > 2.57$). Thus, while significantly more brand loyal owners said that they thought that advertising for automobiles was more believable than advertising for other

expensive goods, significantly more brand switching owners thought that automobile advertising was more informative than other types of advertising. This might suggest that brand switching consumers use advertising as an information source with reference to automobiles.

In addition to advertising, the consumers' use of other forms of mass communications was investigated. Apparently new car buyers rely more on advertisements for information than was originally hypothesized in building the model. Only 4.89 percent of the respondents reported reading such automotive magazines as Car and Driver or Road and Track. A few more respondents, 14.37 percent, said that they read more general magazines that dealt with automotive reports such as Consumer Reports or Changing Times. Although 14.37 percent of the consumers said that they read such general nature magazines, only 3.8 percent of the consumers said that they used these magazines as information sources when they purchased their new car. Although significantly more brand loyal owners said that they read these general nature magazines ($z = 3.12 > 2.57$), no significant difference could be found between the numbers of brand loyal owners and the numbers of brand switching owners who said that they used these magazines as information sources when purchasing their car.

In the survey, consumers were given several reasons for purchasing a new car and asked to rate the importance of

each reason in their decision to purchase a new car on a five-point scale. Automobile advertising was rated as unimportant or not very important by 79.36 percent of the respondents in the survey, and none of the respondents gave advertising as being very important in the purchase of their new car. Advertising was given a rating of important by 14.67 percent of the consumers interviewed; and among these consumers, there were significantly more brand loyal owners than brand switching owners ($z = 2.14 > 1.96$). The remaining 5.98 percent of the respondents in the survey rated advertising as being somewhat important.

Alternatives Available

An additional variable in the hypothesized model of new car buying behavior is the range of alternatives available to the consumer in terms of price and styling. In order to determine the effect of these alternatives on the consumer's decision to purchase a new car and the model of car to purchase, these alternatives were given as reasons to purchase a new car along with several other probable reasons for the purchase of a new car. The consumers were asked to rate the importance of each reason on a five-point scale with respect to their decision to purchase a new car and their decision to purchase the brand of automobile they purchased.

The price offered by the dealer was given as a very important reason by 40.76 percent of the consumers. Among

these consumers who said price was very important in their decision to purchase a new car, there were significantly more brand loyal consumers than brand switching consumers ($z = 6.13 > 2.57$). An additional 23.37 percent of the consumers said price was important in their decision to purchase a new car, while 21.74 percent of the consumers said that price was somewhat important in their decision to purchase a new car. Only 14.33 percent of the consumers said price was unimportant or not very important in their decision to purchase a new car.

With reference to the particular model and make of automobile that they purchased, 36.96 percent of the consumers said that an attractive price offered by the dealership was a very important reason in their decision to purchase that particular brand of car. Again, there were significantly more brand loyal consumers in this group than brand switching consumers ($z = 5.66 > 2.57$). An additional 30.98 percent of the consumers said that price was an important reason in the purchase of their car. As was true for the other two groups, there were again significantly more brand loyal owners in this group ($z = 3.97 > 2.57$). The apparent importance of the price to the brand loyal owner fits in nicely with the fact that significantly more brand loyal buyers visited more than one dealer's showroom prior to the purchase of their automobile ($z = 3.36 > 2.57$). Apparently, brand loyal buyers tend to decide on the make

and model of car they want to purchase and then shop dealers to obtain the best price.

The price offered by the dealership was rated as somewhat important by 16.75 percent of the respondents, and there was no significant difference between the numbers of brand switching consumers and brand loyal consumers among these respondents. The rest of the consumers (83.25%) said price was unimportant in their decision to buy their make and model of automobile. As could be expected from the previous findings, there were significantly more brand switching buyers than brand loyal buyers in this group.

Another variable is the appearance of the automobile. The majority of new car buyers, 77.17 percent, said that they thought that the appearance of the new cars was an important or very important reason in their decision to buy a new car. There were significantly more brand loyal owners than brand switching owners that said that the appearance of the new cars was an important or very important factor in their decision to buy a new car ($z = 6.49 > 2.57$). Of the buyers who thought appearance was important or very important, 27.17 said appearance was very important, while the remaining percent said that appearance was important. There was no significant difference between the number of brand loyal buyers and the number of brand switching buyers who thought that appearance was important ($z = 1.67 < 1.96$). Of the remaining consumers, 13.58 percent thought that appearance was somewhat

important; 4.35 percent thought that appearance was not very important; and 4.51 percent of the consumers said that the appearance of the new cars was unimportant in their decision to purchase a new automobile.

Thirty-six percent of the consumers in the survey said that the styling of the model of automobile they purchased was a very important factor in their selection of that make and model. There were significantly more brand loyal owners that held this opinion concerning styling than brand switching owners ($z = 2.59 > 1.96$). Slightly less than half of the respondents, 40.76 percent, said that styling was an important reason in the selection of their automobile; but there was no significant difference in the number of brand loyal owners and the number of brand switching owners that felt that styling was an important reason in the selection of their particular automobile.

Thus, the factors of the car's price and styling are perceived by the new car consumer as being very important or important in their decision to purchase a new car and in the decision as to what new car they should purchase. Approximately 64 percent of the consumers said that price was an important or a very important factor in their decision to buy a new car; and about 68 percent of the consumers said price was a very important or important factor in the decision as to the car to buy. The styling or appearance of the new cars was either very important or important to about

77 percent of the consumers in their decision to buy a new car, and approximately 77 percent of the consumers said that styling was either a very important or important factor in their decision as to which car to buy. Therefore, price and styling become the most important variables as perceived by the consumer thus far.

Additional Variables

In addition to the variables hypothesized in new car buying behavior, it was thought that there might be other variables or reasons as to why people decide to purchase a new car and why they choose the make and model that they buy. For the most part, the variables already included in the model were the variables most mentioned by the respondents in this study.

One of the variables that appeared to be important in the decision to purchase a new car, and one which was not included directly in the original model, was the fact that the consumer's previous car needed costly repairs, or at least the consumer perceived that his old car needed costly repairs. Of the respondents surveyed, 33.15 percent said that costly repairs were a very important factor in their decision to purchase a new car. An additional 26.63 percent said that repairs were an important factor in their decision to buy a new car. Thus, while repairs on the traded-in car are indirectly included in the mechanical reliability of the old

car and the quality of the dealership service, the fact that almost 60 percent of the respondents said that this was an important or very important reason indicates that this variable should be included as a separate variable in the new car buyer behavior model.

Another variable that was not included in the original variables was the consumer's need for a second car. About one fourth, 27.17 percent, of the respondents in the survey said this need for a second car was either an important or very important factor in their decision to purchase a new car. This factor should be included in the revised model, especially since it is highly significant in terms of the number of brand loyal owners giving this as a reason compared to the brand switching owners ($z = 13.13 > 2.57$).

The periodic purchase of an automobile at intervals of one, two, three, or four years or longer is apparently not an important variable in the consumer's decision to purchase a new car. Only 8.79 percent of the consumers said this was a very important reason in their decision to purchase a new car, while 77.71 percent of the customers said that the periodic purchase of an automobile was either unimportant or not very important in their decision to purchase a new car.

Another variable that was not directly considered except in the psychological variables was the need for change for change's sake. Although no significant difference could

be found between brand loyal buyers and brand switching buyers in the level of their need for change, 35.94 percent of the respondents said that being tired of their old car was a very important reason in their decision to purchase a new car. Among this group, there were significantly more brand switching buyers than brand loyal buyers. The difference is significant beyond the .0001 level which means a difference this large could occur by chance less than once in ten thousand times ($z = 10.02 > 2.57$).

In terms of why consumers purchased the particular make and model they did purchase, several variables were introduced that were indirectly included, but not explicitly listed. One of these variables was the consumer's past experience with the dealership. This variable is included in parts of two other variables listed in the model: the quality of dealership service the consumer has received on his automobile and the consumer's communications with the new car salesman. The consumer's previous experience with the dealership was perceived as being very important by 28.26 percent of the respondents. Within this group there was a significantly greater number of brand loyal buyers ($z = 2.94 > 2.57$). An additional 13.04 percent of the respondents said that previous experience with the dealership was important, and these respondents were all brand loyal owners. These findings compare favorably with the earlier findings on the consumer's ratings of the quality of the dealership service

that they were receiving.

Another variable that corresponds closely with a variable included in the model is the consumer's experience with his previous car and the listed model variable of mechanical reliability of the automobile. Almost half, 45.65 percent, of the respondents said that previous experience with the same make of automobile was a very important factor in the selection of their present particular make of automobile. As could be expected, there were significantly more brand loyal owners than brand switching owners giving previous experience with the same make of automobile as a very important reason ($z = 5.42 > 2.57$). This finding corresponds closely with the previous findings concerning the mechanical reliability of the present car, the car owned previously, and the intention to purchase the same make of automobile. In all cases, there were significantly more brand loyal owners who had owned the same brand of car previously, who rated the mechanical reliability of their present car as excellent, and who planned to purchase the same brand of automobile again.

Computer Model

In order to get some indication as to the importance of the reasons for the purchase of a new car and the reasons for the purchase of a particular make of car and the resulting brand loyal or brand switching behavior, the I.B.M.

Scientific Subroutine Package (1130-CM-02X) was utilized. The specific subroutine used was SRANK which measures the correlation between two variables by means of the Spearman rank correlation coefficient, given two vectors of n observations for the variables. This subroutine was used because of the non-normal distribution of the rankings. To perform the analysis, the 184 respondents were divided into 22 classes on the basis of per capita family income.¹⁸ Evans¹⁹ had noted that shoppers had lower incomes than did the non-shoppers; however, the present investigation failed to produce any significant differences in income between brand loyal buyers and non-brand loyal buyers. To determine if family per capita income could act as a better predictor of brand loyal behavior in the purchase of an automobile and the reasons that people give for their decision to purchase a car and also a particular brand of car, the respondents were divided into 22 classes based upon family per capita income.

The results of the first computer model are summarized in Table 7. Previously quoted findings showed that significantly more brand loyal owners in their decision to buy a car gave a higher rating to attractive price offered by the dealer. As can be seen from Table 7 there is a high degree of association between the attractive price offered by the

¹⁸ Divided by increments of \$500.00 of family per capita income.

¹⁹ Franklin B. Evans, Op. Cit.

TABLE 7

Summary of Computer Model One. Correlation Between
Brand Loyalty and Reason for Car Purchase

Variable	Variable	Correlation Coefficient	Measure of Significance	Different From Zero
Y	X-1	.9215	10.187	Yes
Y	X-2	.9396	11.898	Yes
Y	X-3	.9684	17.365	Yes
Y	X-4	.9192	10.043	Yes
Y	X-5	.9913	33.764	Yes
Y	X-6	.9576	14.874	Yes
Y	X-7	.9429	12.661	Yes

Where:

Y = Brand Loyalty by per capita income

X-1 = Attractive Price Offered by Dealer

X-2 = Costly Repairs Needed on Old Car

X-3 = Needed a Second Car

X-4 = Appearance of New Car Models

X-5 = Buy a New Car Ever So Often

X-6 = Friend at the Dealership

X-7 = Tired of Old Car

The hypothesis to be tested is that the correlation coefficient is not significantly different from zero at the .01 level. If the computed \underline{t} is greater than 2.845, the hypothesis is rejected.

dealer and the brand loyal buyer with a relatively high family per capita income in his decision to purchase a new car.

Significantly more brand loyal owners than brand switching buyers gave as a reason costly repairs needed on their old car a higher rating in their decision to purchase a new car. The finding suggests that the more affluent brand loyal owners make their decision to purchase a new car when they perceive that costly repairs will be needed on their present car, while the less affluent simply have their old cars repaired. It should be remembered that approximately 60 percent of the respondents said that costly repairs needed on their old car was a very important or important reason in their decision to purchase a new car.

Within the income divisions already explained, there was a high degree of relationship between the brand loyal buyer and the need for a second car receiving a high rating in his decision to purchase a new car. However, it should be remembered that only 27.17 percent of the respondents said that the need for a second car was a very important or important reason for the purchase of the new car.

Given the family per capita income classifications, the appearance of the new car models received the lowest correlation between brand loyalty and the importance of this reason in the consumer's decision to purchase a new car.

Analysis of the rankings gives the reason for the relatively low correlation coefficient. While significantly more brand loyal owners listed this as a very important reason, only 27.17 percent of the respondents said that the appearance of the new car models was a very important reason. Fifty percent of the respondents said that the appearance of the new car models was an important reason in their decision to buy a new car, but in this voting there was no significant difference between the number of brand loyal owners and brand switching owners.

The reason for buying a car so often had a correlation coefficient of .9913 between brand loyalty and the decision not to buy a new car. In other words, buying a new car every so often is not important in the brand loyal buyers decision to purchase a new car. Indeed, buying a new car ever so often does not appear to be a very valid reason for the decision to buy a new car since 77.71 percent of the respondents said this reason was either not very important or unimportant in their decision to purchase a new car.

Brand loyal behavior and having a friend at the dealership had a correlation coefficient of .9577 within the income classes as a reason to purchase a new car. This corresponds with the finding that significantly more brand loyal buyers rated having a friend at the dealership as being either important or very important.

The last listed reason in the consumer's decision to

purchase a new car was that of being tired of his old car. This had a correlation coefficient of .943 between brand switching behavior and the decision to purchase a new car for consumers with higher family per capita income. This corresponds to the finding that significantly more brand switching owners ranked this reason as being either important or very important in their decision to purchase a new car.

The Second Computer Model

As was done with the first computer model, the findings of the second computer model are summarized in Table 8. The second computer model deals with the reasons that people buy the particular make of automobile that they do buy. Some of the reasons used in the second computer model are the same as those used in the first computer model, while others differ from those used in the first model.

As was true with the first computer model, the distribution in the second model was also non-normal, and the same I.B.M. sub-routine was used. As was done in the first computer model, the 184 respondents were divided into 22 classes to perform the analysis.

The first reason for buying the particular brand of automobile purchased was the owners' previous experience with that brand of automobile. As might have been expected, the correlation coefficient between brand loyal behavior and

TABLE 8

Summary of Computer Model Two.
Correlation Between Brand Loyalty
and Reason for Particular Car Purchased

Variable	Variable	Correlation Coefficient	Measure of Significance	Different From Zero
Y	X-1	.9232	10.743	Yes
Y	X-2	.8704	7.907	Yes
Y	X-3	-.9684	17.359	Yes
Y	X-4	.9198	10.485	Yes
Y	X-5	.9588	15.090	Yes
Y	X-6	.9845	25.312	Yes
Y	X-7	.9560	15.566	Yes

Where:

Y = Brand Loyalty by Per Capita Income

X-1 = Previous Experience with Same Brand of Automobile

X-2 = Styling of Automobile

X-3 = Brand Recommended by Others.

X-4 = Attractive Price Offered by Dealer

X-5 = Friend at Dealer

X-6 = Advertising

X-7 = Previous Experience with the Dealer

The hypothesis to be tested is that the correlation coefficient is not significantly different from zero at the .01 level. If the computed t is greater than 2.845, the hypothesis is rejected.

previous experience with the same brand of automobile was .9232. This finding validates the previous finding that significantly more brand loyal owners ranked this reason as being very important.

The coefficient of correlation for styling and brand loyalty was found to be somewhat lower than with previous experience with the same car. This somewhat lower coefficient corresponds to the finding that significantly more brand loyal owners ranked styling as being very important in their decision to buy their particular make of automobile, but no significant difference could be found in the numbers of brand loyal owners and brand switching owners giving styling a ranking of importance.

The Spearman correlation coefficient between a high ranking on having the brand recommended to the consumer by others and brand switching behavior was found to be .9684. Thus, there is an association between brand switching behavior and seeking the advice of others in the purchase of an automobile. However, it should be pointed out that only 8.59 percent of the respondents ranked the reason recommended by others as being very important, while about 70 percent of the respondents ranked this reason as unimportant or not very important.

The rank correlation coefficient between brand loyalty within income classes and the reason of an attractive price offered by the dealer was .9198. This coefficient agrees

with the finding that significantly more brand loyal owners ranked the attractive price by the dealer as being very important or important. On the other hand, significantly more brand switching buyers ranked the price by the dealership as being unimportant. Approximately 37 percent of the respondents in the survey ranked the price offered by the dealership as being very important.

Having a friend at the dealership and exhibiting brand loyal behavior on the part of the consumer had a rank correlation of .9588. This corresponds with the finding that significantly more brand loyal consumers ranked having a friend at the dealership as being either very important or important. The friend at the dealership tended to be more important to those brand loyal consumers who had relatively high family per capita income than those with lower family per capita incomes.

Advertising was ranked as unimportant or not very important by almost 80 percent of the respondents as a reason for the purchase of their particular brand of automobile, and none of the respondents gave advertising as a very important reason for the purchase of their car. However among the respondents that ranked advertising as an important or somewhat important reason, there was a high rank correlation coefficient between brand loyalty and ranking advertising as important or somewhat important. This corresponds with the fact that significantly more brand loyal owners gave

advertising an important ranking ($z = 2.14 > 1.96$).

The last variable or reason that the respondents were asked to rank was that of previous experience with the dealership. As might be expected, there was a high correlation between brand loyalty and previous experience with the dealership. A little over 28 percent of the respondents ranked previous experience with the dealership as being very important in the purchase of their automobile. Among these respondents, there were significantly more brand loyal owners than brand switching owners. All of the respondents that ranked experience as being important in the purchase of their particular car were brand loyal owners. In addition, all of these respondents said that they did not trade in a car when purchasing their present new car. In other words, these were families acquiring a second or third car.

Summary

By combining the number of respondents who either list a reason as very important or important, it may be possible to determine the relative importance of the reasons people perceive they purchase the make of automobile they buy. If this combining is done, then the respondents report perceiving that their car's styling and price are the two most important reasons for buying their car. No significant difference was found between the number of brand loyal buyers and brand switching buyers believing styling was the most

important reason for the purchase of their car.

Price, the next most important reported reason, had more brand loyal buyers than brand switching buyers listing price as the second most important reason.

The third most important reason, as perceived and reported by the respondents, was previous experience with the same make of car. As has been previously reported, there were significantly more brand loyal respondents giving previous experience as the important reason for the purchase of their car.

By combining the reasons of "recommended to me by others" and a "friend at the dealership," it may be possible to get some idea of the role of personal influence in the purchase of the consumer's car. When this combining is done, personal influence becomes the fourth most important reason for the purchase of the consumer's specific car. The findings concerning possible personal influence are mixed. More brand switching owners said that "recommended to me by others" was the reason. On the other hand, there were more brand loyal owners reporting that "having a friend at the dealership" was more important. However, it does appear that personal influence does enter into the decision to purchase a new car for some people and is an important variable that should be included in a hypothesized model of new car buyer behavior.

The least important reason for the purchase of their car, as perceived and reported by the respondents, was advertising. Thus, among the variables of styling, price, personal influence ("recommended to me by others" plus "a friend at the dealership"), and advertising, advertising was perceived as being the least important. This does not mean that advertising is not important since the respondents did report it as important, but few of the respondents gave it a high ranking. Also it is possible that advertising affects the respondents to a greater degree than they perceive.

CHAPTER V

CONCLUSIONS

Introduction

In this chapter the hypotheses presented in Chapter One will be evaluated on the basis of the findings presented in Chapter Four. For the reader's clarification, the major hypotheses and subhypotheses will be restated, and then each will be examined in the light of the findings of this investigation. After the hypotheses have been examined, a diagram of the hypothesized variables of automobile buyer behavior and the probable interaction among these variables will be constructed based upon the findings of this investigation of Oklahoma City New Car Buyers in 1968 and the other findings presented in this dissertation.

The Hypotheses

The major hypotheses upon which the study was guided are

1. that influentials or opinion leaders and the people they influence are similar in that they belong to the same social and working groups, have the same friends, and know one another's

families;¹

2. that influentials are relatively more interested in automobiles than are the people they influence;
3. that while influentials distribute information and influence, they themselves receive most of their information through personal channels;
4. that interpersonal communications as perceived by the respondent are a more powerful agent than are mass communications in influencing a consumer's decision to purchase a new car without regard to make or model;
5. that interpersonal communications will be reported as a more important part in consumer decision making where brand switching behavior as compared to brand loyal behavior is exhibited;
6. that a consumer's post-decision evaluation is the most important variable among the listed variables in his decision to purchase or not to purchase the same make of car again;²
7. that consumers who form favorable post-decision evaluations toward their present automobiles are

¹Influentials are defined as people who affect other people's attitudes about previously owned, presently owned, or future automobiles.

²For the purposes of this study, post-decision evaluation was defined as the consumer's overall attitude toward his present and past automobiles.

more likely to exhibit brand loyalty behavior;
and

8. that consumers who form unfavorable post-decision evaluations toward their previous automobiles are more likely to exhibit brand switching behavior.

These eight hypotheses comprise the major hypotheses upon which this study was built. Because post-decision evaluation was thought to be the most important variable in the consumer's decision as to whether or not to remain brand loyal, several subhypotheses were developed to explain the consumer's favorable or unfavorable post-decision evaluation. These subhypotheses are

1. that post-decision evaluation tends to become unfavorable as the frequency of automobile repair rises;
2. that a consumer with a highly aggressive personality trait will exhibit less tolerance toward automobile repairs and will therefore report becoming easily dissatisfied with his automobile as the frequency of automobile repairs rise;³
3. that a consumer with a high personality need for change is more likely to report an unfavorable post-decision evaluation;⁴

³Personality traits as measured by the Edwards Personality Profile.

⁴Ibid.

4. that when primary or reference group members own similar makes of automobiles and have favorable post-decision evaluations toward their automobiles, the consumer is less likely to report an unfavorable evaluation toward his automobile;
5. that a consumer is more likely to report an unfavorable post-decision evaluation if in his opinion the quality of the dealership is poor.⁵

Evaluation of Hypotheses

The eight major hypotheses and five subhypotheses will now be evaluated in light of the findings of this investigation, with the major hypotheses being examined first.

The first major hypothesis was

~~that~~ that influentials or opinion leaders and the people they influence are similar in that they belong to the same social and working groups, have the same friends, and know one another's families.

In the investigation, all of the consumers who reported that they had received help from personal sources, other than from the new car salesman, said that they had talked with either family members or close friends. Over half of all respondents, 63.59 percent, recalled having discussed the purchase of the new car with family or friends; but only 27.72 percent said that the friends or family

⁵In contrast to the dealer's reputation for service or information available from the dealer's service records.

members with whom they had talked actually helped them in their decision to purchase a particular brand of new car. The survey also revealed that brand switching owners were far more likely to seek the help of family or friends. The difference between brand loyal owners and brand switching buyers seeking help from family and friends was found to be significant beyond the .01 level ($z = 9.27 > 2.57$). Finally, of those consumers who said that they had received help in their decision to purchase a new car from family or friends, all said that they had talked only with immediate family members; and these same respondents recalled that they had received help from the individual from whom they had sought help.

The problem here may be of trying to distinguish the actual amount of personal influence from the amount of personal influence perceived ~~and reported by the respondents~~. In the survey, approximately 64% of the respondents said that they had talked with family or friends concerning the purchase of a new car, but only about 28% perceived that they had been influenced by these conversations. In addition, all of the perceived influence was reported as coming from members of the buyers immediate family. In the light of the Katz and Lazarsfeld findings in their book, Personal Influence,⁶ it seems unlikely that not any of the respondents were

⁶Daniel Katz and Paul F. Lazarsfeld, Personal Influence (Glenco, Ill.: The Free Press, 1950).

influenced by the comments of the friends with whom they talked concerning the purchase of their cars. It does appear likely that they may not have perceived that they were being influenced by their friends.

The findings do strongly suggest that most of the majority of personal influence in the purchase of a new car comes from the members of the buyer's immediate family. This would appear logical since it may be the members of the immediate family who are most likely to be affected in terms of possible use by the purchase of the car. The findings also suggest that this seeking out for help is much more likely to take place when the consumer is exhibiting brand switching behavior. This finding would tend to agree with some of the general models of buyer behavior examined in Chapter Three.

However, the first hypothesis in its present form should probably be rejected since it implies that personal influence is always present in the decision to purchase an automobile, and that personal influence is equally likely to come from family, friends, or co-workers. The survey results reveal that about 36% of the respondents said they talked to no one concerning the purchase of the car. This still does not necessarily rule out personal influence if that influence is coming from an individual or group that is acting in the role of a reference individual or reference group, and if the buyer does not know the individual on a personal basis

or is not a member of the group. In this case, the buyer may be trying to emulate the mores of that individual or group by the purchase of the car. If this is the reason, the respondent may be reluctant to report the reason if he himself is aware of it. Unfortunately, this type of influence is difficult to ascertain in questionnaires. The first major hypothesis could be rewritten to state that when personal influence is present, the influentials and the people they influence are similar and are likely to belong to the same immediate family group as the consumer.

The second major hypothesis was

--that the influentials are relatively more interested in automobiles than are the people that they influence.

In the reinterviews with the people whom the consumers designated as influentials, the influentials reported no more sources of information than did the consumer who made the purchase of the automobile. While the influentials said they recognized that they had helped in the selection of the make and model of car purchased, they did not report perceiving themselves as being an expert in the field of automobiles, nor did a significant number of these influentials read such magazines as Motor Trend or Car and Driver. Thus, the hypothesis that influentials are more interested in automobiles than are the people they influence would appear to be rejected since no measureable proof of this increased interest was found.

The third major hypothesis was

--that while influentials distribute information and influence, they themselves receive most of their information through personal channels.

This hypothesis would appear to be valid, since a significant number of these designated influentials said that they did not read automotive magazines, nor did the designated influentials say that they made any special effort to view the new cars as the model year changed. When the ~~designated influentials~~ were asked how they obtained their information or formed their opinions concerning the purchased car, most of them said it had come from conversations with other family members, from viewing the car, and from conversations with the new car salesman. Thus, the new car salesman again enters the variables as an "expert."

The fourth major hypothesis was

~~--that interpersonal~~ interpersonal communications as perceived by the respondent are a more powerful agent than are mass communications in influencing a consumer's decision to purchase a new car without regard to make or model.

This hypothesis appeared to be validated by the investigation, especially if the influence of the new car salesman is included in the investigation. The differences on the five-point rating scales are so great that interpersonal influence from either the new car salesman or from family members or friends exerts much more influence on consumers than do mass communications when making their decision

to purchase a new car. Approximately 43 percent of the consumers perceived and reported some form of personal influence as being either very important or important in the decision to purchase their automobiles, while only about 16 percent of the respondents felt that some form of mass communications was either very important or important in their decision to purchase a new car.

The fifth major hypothesis of this investigation was

--that interpersonal communications will be reported as a more important part in consumer decision making where brand switching behavior as compared to brand loyal behavior is exhibited.

The findings concerning this hypothesis break down somewhat. Significantly more brand switching owners than brand loyal owners said that they had been helped in their decision process by the new car salesman ($z = 4.32 > 2.57$). In addition, significantly more brand switching owners than brand loyal owners said that they had discussed the purchase of their new car with family members or friends prior to the purchase of the new car ($z = 9.266 > 2.57$). The breakdown comes in the influence of the family members in the purchase of the new car. No significant differences could be found between the number of brand switching owners and the number of brand loyal owners who said that family members influenced them in the purchase of their car at the .05 level of significance ($z = 1.65 < 1.96$). Thus, while the results reveal that the new car salesman plays a more important part in the

decision-making process of the brand switching buyer, and while the brand switching buyer is more likely to discuss purchase plans with friends or family, these results do not support the assumption that the brand switching owner is more or less subject to personal influence from the communications than the brand loyal owner, except when the brand switching owner has had communications with the new car salesman.

The sixth major hypothesis was

--that a consumer's post decision evaluation is the most important variable among the listed variables in his decision to purchase or not to purchase the same make of automobile again.

The results of the study supported this hypothesis. Almost half of the new car buyers, 45.65 percent, said that their previous experience with the same make and model of automobile was a very important factor in their selection of their new car. Among this group, there were significantly more brand loyal owners saying that previous experience with the same make and model of automobile was a very important factor in their selection of their new car ($z = 5.42 > 2.75$). An additional 17.93 percent of the respondents said that their previous experience with the same make and model of automobile was an important factor in their decision to purchase their car. Again there were significantly more brand loyal owners than brand switching owners in this group ($z = 3.64 > 2.75$).

The seventh and eighth major hypotheses follow from

the sixth major hypothesis. The seventh major hypothesis was

--that consumers who form favorable post-decision evaluations toward present automobiles are more likely to exhibit brand loyalty behavior.

This hypothesis was supported by the findings of the sixth hypothesis and by the fact that of the consumers who said they would not purchase the same car again, all reported poor service from the dealer as being the reason, while 19% of this group also reported poor mechanical reliability of their automobile. Thus, the perceived mechanical reliability of the car and the perceived level of dealership service appear to be important variables in the determination of post-decision evaluation and in consumer brand loyalty.

The acceptance of the seventh major hypothesis leads to the acceptance of the eighth major hypothesis, which was

--that consumers who form unfavorable post-decision evaluations toward their previous automobiles are more likely to exhibit brand switching behavior.

The eight major hypotheses and their acceptance or rejection are summarized and presented in Table 9.

The Subhypotheses

The subhypotheses were formulated to explain the consumer's favorable or unfavorable post-decision evaluation toward his automobile.

The first subhypothesis was

TABLE 9
Eight Major Hypotheses Summarized

Hypothesis	Accept/Reject
1. That influentials or opinion leaders and the people they influence are similar in that they belong to the same social and working groups, have the same friends, and know one another's families.	Reject
2. That influentials are relatively more interested in automobiles than are the people they influence.	Reject
3. That while influentials distribute information and influence, they themselves receive most of their information through personal channels.	Accept
4. That interpersonal communications as perceived by the respondent are a more powerful agent than are mass communications in influencing a consumer's decision to purchase a new car without regard to make or model.	Accept
5. That interpersonal communications will be reported a more important part in consumer decision making where brand switching behavior as compared to brand loyal behavior is exhibited.	Reject
6. That a consumer's post decision evaluation among the listed variables is the most important variable in his decision to purchase or not to purchase the same make of car again.	Accept
7. That consumers who form favorable post-decision evaluations toward their present automobile are more likely to exhibit brand loyal behavior.	Accept
8. That consumers who form unfavorable post-decision evaluations toward their previous automobiles are more likely to exhibit brand switching behavior.	Accept

Source: Survey of Oklahoma City New Car Buyers

--that post-decision evaluation tends to become unfavorable as the frequency of automobile repair rises.

This subhypothesis would appear to be true. Significantly more brand loyal owners rated the mechanical reliability of their cars as excellent or good (ratings 1 and 2 on a 5-point scale). The difference between both brand loyal buyers' and brand switching buyers' rating the mechanical reliability of their cars as good or excellent was significant beyond the .01 level ($z = 8.88 > 2.75$).

Thus, it would appear that consumers who form unfavorable post-decision evaluation, do so partially because of a high perceived level of automobile repairs. That is, if a consumer has a high perceived level of repairs on his new car, he may decline to purchase that make of automobile again.

The second subhypothesis was

--that a consumer with a highly aggressive personality trait will exhibit less tolerance toward automobile repairs and will therefore report becoming more easily dissatisfied with his automobile as the frequency of automobile repairs rise.

This hypothesis had to do with the psychological traits of the respondents as measured by the Edwards Personality Profile. Since no significant differences could be found between brand loyal consumers and brand switching consumers in the psychological variables measured by the Edwards Personality Profile, this hypothesis remains neither proved

nor disproved by the results of this study.

The third subhypothesis also had to do with the psychological make-up of the consumer and remains neither proved nor disproved.

The third subhypothesis was

--that a consumer with a high personality need for change is more likely to report an unfavorable post-decision evaluation.

The fourth subhypothesis was

--that when primary or reference group members own similar makes of automobiles and have favorable post-decision evaluations toward their automobiles, the consumer is less likely to report an unfavorable evaluation toward his automobile.

This hypothesis is proved to the extent that in two-car families, both cars were likely to be of the same make.

The fifth and final subhypothesis was

--that a consumer is more likely to report an unfavorable post-decision evaluation if in his opinion the quality of the dealership service is poor.

This hypothesis appeared readily proved. In the survey, all of the consumers who said that they would not buy the same car again gave poor dealership service as the reason.

The five subhypotheses and their acceptance or rejection are summarized and presented in Table 10.

The New Variables of Automobile Buyer Behavior

The new variables of automobile buyer behavior are based upon the findings of this investigation. They include

TABLE 10
Five Subhypotheses Summarized

Subhypotheses	Accept/Reject
1. That post-decision evaluation tends to become unfavorable as the frequency of automobile repair rises.	Accept
2. That a consumer with a highly aggressive personality trait will exhibit less tolerance toward automobile repairs, and therefore will report becoming more easily dissatisfied with his automobile as the frequency of automobile repairs rise.	Neither
3. That a consumer with a high personality need for change is more likely to report unfavorable post-decision evaluations.	Neither
4. That when primary or reference group members own similar makes of automobiles and have favorable post-decision evaluations toward their automobiles, the consumer is less likely to report an unfavorable evaluation toward his automobile.	Partially Accept
5. That consumers are more likely to report unfavorable post-decision evaluations if in his opinion the quality of the dealership service is poor.	Accept

Source: Survey of Oklahoma City New Car Buyers

some of the original variables while excluding other original variables, and adding variables. The deleted variables will be discussed first, and then the additional variables will be reviewed.

The Deleted Variables

The first variable that can probably be deleted is financial status in terms of aggregate family income as a variable to aid in predicting brand loyal or brand switching behavior. Brand loyal and brand switching buyers were found at all levels of income, and no significant differences between the number of brand loyal buyers and the number of brand switching buyers at any income level could be found. It is true that not many low income new car buyers were found, and the curve representing new car buyers approximated that of a normal curve with most of the new car buyers being in the \$5,000 to \$11,000 range with a slight skew toward the upper incomes. Financial status, in terms of aggregate family income, will be replaced with family per capita income, which gives a better measure of discretionary income.

Another variable that might be safely eliminated in trying to predict brand loyal or brand switching consumer behavior is social class as measured by income and occupation. There were no significant differences in the numbers of brand switching buyers and brand loyal buyers in the various social groups.

Reference groups on the basis of the respondents' reports should be changed to include only members of the consumer's immediate family since no evidence was found that consumers were influenced by any other people, except for the new car salesman. On the basis of the respondents' reports the variables of primary groups and the new car salesman appear adequate to explain the flow of interpersonal influence among the listed variables of automobile buyer behavior.

The Additional Variables

The first additional variable to add to the variables of new car buyer behavior is the costly repairs needed on the previous car. In the investigation, 33.15 percent said costly repairs were a very important reason, while an additional 26.63 percent said that this factor was an important reason. Thus, almost 60 percent of the respondents gave costly repairs needed on the previous car as an important or very important reason for their decision to buy their new cars. This variable is implicit in the consumer's experience with the dealership but appears to be important enough to be explicitly stated.

The second additional variable to be added to the variables is the consumer's need for a second car. More than one fourth of the respondents, 27.17 percent, said that the need for a second car was either an important or a very

important reason for the purchase of their car. This variable is highly significant when one compares the number of brand loyal buyers to the number of brand switching buyers giving this variable as a reason. Significantly more brand loyal buyers said that this variable was the reason for the purchase of their car ($z = 13.13 > 2.75$).

Although the mechanical reliability of the automobile is implicit in the variable of the service which the previous car has required, this variable is so important in determining brand switching or brand loyal behavior that it should also be explicitly included in the new variables of new car buyer behavior. Almost half, 45.65 percent, of the respondents said their experiences with their previous cars in terms of its mechanical reliability was a very important factor in the selection of their new cars. As might be expected, there were significantly more brand loyal than brand switching owners in this group ($z = 5.42 > 2.57$).

Another variable that probably should be explicitly stated in the new variable is the consumer's overall past experience with the dealership. This variable was listed as being very important by 28.26 percent of the consumers, while an additional 13.04 percent of the consumers thought this was an important factor in their decision to purchase their present cars. Among the group that thought that their past experiences with the dealership was very important, there were significantly more brand loyal than brand switching owners

($z = 2.94 > 2.57$).

The New Variables of Automobile Consumption

The rest of the variables remain the same except for the manner in which the variables affect one another. The consumer's primary group now affects not only his post-decision evaluation, but also his decision process as he actively considers the purchase of the new automobile.

Although personality traits did not prove useful in predicting brand loyal or brand switching behavior at the required level of significance, they are included among the variables. The consumer's personality traits are thought to affect both the consumer's post-decision evaluation of his previously owned automobile and his decision processes in the selection of a new car. The consumer's personality traits are included in the variable largely on the basis of the fact that 36 percent of the consumer's reported being tired of their old cars as a very important reason for the purchase of a new car. Among this group, there were significantly more brand switching owners. This finding suggests that brand switching consumers may have a higher need for change than brand loyal consumers.

The revised hypothesized variables of new car buyer behavior are presented in Figure 1. This writer does not claim that these variables are all of the variables of new car buyer behavior, or even that these listed variables are

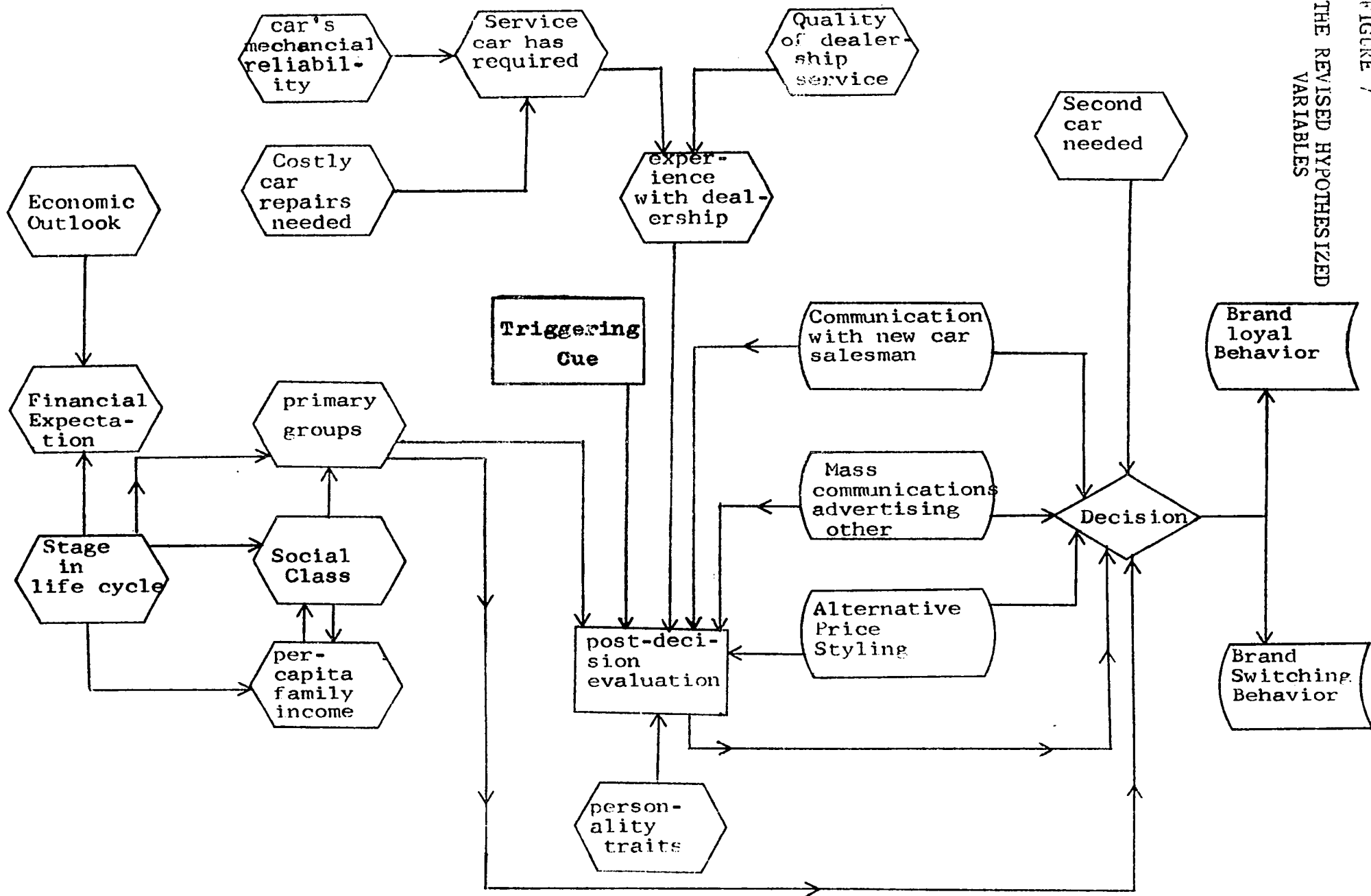
the most important variables in new car buying behavior, but rather that the listed variables are some of the variables of new car buying behavior. In the case of the stage in the consumer's life style, this variable was included in the finished variable. This was done because in the survey, although not explicitly evaluated, consumers who were near retirement had a tendency to expect income decreases. In addition, the maturing of the consumer's son or daughter may give rise to the need for a second car.

The findings do suggest, in the writer's opinion, the fallacy of attempting to determine the variables of new car buyer behavior and their relative importance on the basis of sometimes unrelated research findings. When reaching the findings concerning only one variable of consumer buying behavior, the reader may overevaluate the importance of that variable as did this reader in evaluating the role of personal influence in consumer buying behavior in general and as related to new car buying behavior. The writer hypothesized that the personal influence coming from the consumer's family and friends would be of much more importance than the results of the survey could support, given the limitations of measurement inherent in the survey. In addition to overestimating the amount of influence coming from the consumer's family and friends, this writer greatly underestimated the amount of personal influence the new car salesman apparently has on some new car buyers.

Finally, the difficulty this writer had in attempting to validate the proposed variables, while realizing the limitations in the instruments of measure, makes him doubt the validity of some of the proposed models of general consumer buying behavior. This is especially true of those models constructed on the basis of many research findings from many different researchers; and containing proposed variables, some of which may present difficult problems in terms of attempting to measure their validity and importance.

FIGURE 7

THE REVISED HYPOTHESIZED
VARIABLES



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an analysis using data from the Survey of Consumer Finances. The following variables were used:

1. Disposable Income
2. Car-ownership Status
3. Financial Well-being
4. New Car Purchase Plans
5. Actual and Expected Earnings Rates
6. Age of Head of Spending Unit
7. Marital Status of Spending Unit
8. Size of Community

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APPENDIX

SURVEY QUESTIONNAIRE

(All information given will be kept strictly confidential and in no manner be associated with your name).

Our records indicate that you have purchased a new car within the last year.

Please indicate the make and model of the car that you purchased. For example,

Make Chevrolet, Model Impala

Make _____ Model _____

How many cars are now owned by your household _____

Excluding the most recently purchased car, please fill in the below blanks

for each car presently owned by your household.

<u>Make</u>	<u>Model</u>	<u>Year Purchased</u>	<u>Purchased New</u>	<u>Used</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Did the household sell or trade a car to obtain the new car?

Yes _____ No _____

If the answer to the above question is "Yes", please fill in the below information concerning the car or cars traded.

<u>Make</u>	<u>Model</u>	<u>Year Purchased</u>	<u>New</u>	<u>Used</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Has the mechanical reliability of the new car been:

Excellent _____ Good _____ Average _____
 Fair _____ Poor _____

What type of service have you received from the dealer on the new car:

Excellent _____ Good _____ Average _____
 Fair _____ Poor _____

On the basis of your experience with the new car, would you purchase another car of the same make and model in the future?

Yes _____ Probably _____ Undecided _____

Don't Believe so _____ No _____

Please explain why _____

Thinking about the purchase of your new car, please number the below alternatives in order of the first, second, and third action that you recall taking.

Looking at new car advertisements in magazines or TV _____

Looking at dealer's advertisements in newspapers _____

Visiting dealer's showrooms _____

Other (Please Indicate) _____

How long before you purchased your new car did you start looking at car advertisements in magazines, with the idea of selecting a new car _____

How long before you purchased your new car did you start looking at dealer's advertisements in the newspapers with the idea of selecting a new car?

How long before you purchased your new car did you actually visit a dealer's showroom, with the idea of selecting a new car _____

While at the dealer's showroom, did you talk with a new car salesman?

Yes _____ No _____

Including the dealer you bought your car from, how many different dealers did you visit? _____

Including the dealer you bought your car from, how many dealers having the same make of car that you purchased, did you visit _____

How many times did you visit the dealer you bought your new car from prior to the actual purchase? _____

Did you talk with the same salesman each time?

Yes _____ No _____

If the answer to the previous question is "No", how many different salesmen did you talk to?

Number of salesmen _____

What was the main difference between the first salesman and the salesman who sold your car to you? _____

Do you feel that the new car salesman from whom you purchased your car aided you in your decision to buy that make of car?

Yes _____ Probably _____ Uncertain _____

Doubtful _____ No _____

Please explain why or how _____

Did you seriously consider purchasing any make and models of cars other than the make and model you actually purchased?

Yes _____ No _____

If the answer to the previous question is "Yes", what makes and models did you consider buying?

<u>Make</u>	<u>Model</u>	<u>Number of Dealers Visited</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Did you talk with family members or friends concerning the purchase of your new car before buying it?

Yes _____ No _____

If the answer to the previous question is "Yes", please indicate the friends or family members you talked to, and their relationship to you (friend, wife, son, father-in-law, etc.)

Person

Relationship

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Do you feel that any of the family members you talked with assisted you in your decision as to the make and model of car to purchase?

Yes _____ Probably _____ Uncertain _____

Doubtful _____ No _____

Do you feel that any of the friends you talked with assisted you in your decision as to the make and model of car to purchase?

Yes _____ Probably _____ Uncertain _____

Doubtful _____ No _____

If the answer to the previous question is "Yes" or "Probably", would you please indicate the person who helped you, and the type of assistance that was given. (Go to the next page)

<u>Person</u>	<u>Type of Assistance</u>

If a person did assist you, or probably did assist you, in the purchase of you car, would you please indicate the person with the letter "Y" for "yes , they did help", and the letter "P" for "probably did help", and the average number of times per week that you saw them prior to the time you bought the car.

<u>Person</u>	<u>Number of times seen</u>

If you did not receive assistance in making your decision from a person you expected to assist you, please name that person or persons.

Persons

Without referring to any material, can you fill in the blanks to the following advertising slogans?

See the USA in your _____

_____ is out to win you over this year.

_____, the standard of the world.

Look to _____ for the new.

Join the _____ rebellion.

_____, the man's car

_____, safety fast.

_____, America's most distinguished motor car.

_____, a peculiar breed of cat.

When you were considering the purchase of your car, how many times do you recall using a dealer's newspaper advertisement as a specific information source?

Number of times _____

How many times do you recall visiting a dealer because of a non-dealer, but general advertisement of a manufacturer's make of automobile?

Number of times _____

In general, would you say that automobile advertising, such as is seen on television and in magazines, in comparison with advertising for other expensive goods is:

More Believable _____ Somewhat more Believable _____

Equally Believable _____ Somewhat less Believable _____

Much less Believable _____

In general, would you say that automobile advertising, such as is seen on television and in magazines, in comparasion with advertising for other expensive goods is:

More Informative _____ Somewhat more informative _____

Equally Informative _____ Somewhat less informative _____

Much less Informative _____

Do you read any automotive journals such as Motor Trend, Road and Track, or Car and Driver ?

Yes _____

No _____

Do you read other magazines that deal with automobile reports such as Consumer Reports or Changing Times ?

Yes _____

No _____

Did you use any of the above types of magazines as information sources:

Yes _____

No _____

Which type _____

Below are some reasons that people buy new cars without reference to any particular make or model. Would you please check the importance of each reason for you at the time you were looking for a new car.

A. Attractive price offered by the dealer

Very Important _____ Important _____ Somewhat Important _____

Not very Important _____ Unimportant _____

B. Costly repairs needed on old car.

Very Important _____ Important _____ Somewhat Important _____

Not very Important _____ Unimportant _____

C. Needed a second car

Very Important _____ Important _____ Somewhat Important _____

Not very Important _____ Unimportant _____

D. Liked the appearance of the new cars.

Very Important _____ Important _____ Somewhat Important _____

Not very Important _____ Unimportant _____

E. Buy a new car every so often--this was the year.

Very Important _____ Important _____ Somewhat Important _____

Not very Important _____ Unimportant _____

F. Friend at the dealership

Very Important _____ Important _____ Somewhat Important _____

Not very Important _____ Unimportant _____

G. Tired of my old car

Very Important _____ Important _____ Somewhat Important _____

Not very Important _____ Unimportant _____

H. Other (please indicate) _____

Very Important _____ Important _____ Somewhat Important _____

Not very Important _____ Unimportant _____

I. Other (please indicate) _____

Very Important _____ Important _____ Somewhat Important _____

Not very Important _____ Unimportant _____

Please indicate the importance of the following reasons for buying the particular make of car which you bought.

A. Previous experience with the same make of car.

Very Important _____ Important _____ Somewhat Important _____

Not very Important _____ Unimportant _____

B. Liked the styling.

Very Important _____ Important _____ Somewhat Important _____

Not very Important _____ Unimportant _____

C. Recommended to me by others.

Very Important _____ Important _____ Somewhat Important _____

Not very Important _____ Unimportant _____

D. Attractive price offered by the dealer.

Very Important _____ Important _____ Somewhat Important _____

Not very Important _____ Unimportant _____

E. Friend at the dealership

Very Important _____ Important _____ Somewhat Important _____
 Not Very Important _____ Unimportant _____

F. Advertising

Very Important _____ Important _____ Somewhat Important _____
 Not very Important _____ Unimportant _____

G. Previous experience with the dealership

Very Important _____ Important _____ Somewhat Important _____
 Not very Important _____ Unimportant _____

H. Other (please indicate) _____

Very Important _____ Important _____ Somewhat Important _____
 Not very Important _____ Unimportant _____

I. Other (please indicate) _____

Very Important _____ Important _____ Somewhat Important _____
 Not very Important _____ Unimportant _____

Please indicate whether you believe the following groups think you made
 a wise or unwise decision in the purchase of your new car.

Group	Decision	
	<u>Wise</u>	<u>Unwise</u>
Immediate family members (people who live with you)	_____	_____
Other family members (people not living with you)	_____	_____
Close friends (people who you see at least twice a week)	_____	_____
Close co-workers (People who you see at least twice a week)	_____	_____

	<u>Wise</u>	<u>Unwise</u>
Other friends (people who you see less than twice a week)	_____	_____
Other individuals or groups not yet mentioned. Please indicate.	_____	_____

TO ANSWER THE NEXT FIVE QUESTIONS, PLEASE TRY TO THINK BACK TO THE TIME YOU PURCHASED YOUR NEW CAR, AND RECALL WHAT YOU THEN BELIEVED TO BE THE SITUATION.

At the time you purchased your car, did you expect business conditions to:

Decline _____ Remain the Same _____ Improve _____

At the time that you purchased your car, did you expect household prices to:

Decline _____ Remain the Same _____ Increase _____

At the time that you purchased your car, did you expect your income after taxes to:

Decline _____ Remain the Same _____ Increase _____

At the time you purchased your car, had you in the previous two months purchased any good costing \$200.00 or more?

Yes _____ No _____

At the time you purchased your car, did you plan to buy any good costing \$200.00 or more in the next two months?

Yes _____ No _____

Since you purchase your new car, have business conditions, in your opinion:

Declined _____ Remained the Same _____ Improved _____

Since you purchased your new car, have household prices, in your opinion:

Declined _____ Remained the Same _____ Increased _____

Since you purchased your new car, has your income after taxes:

Declined _____ Remained the Same _____ Increased _____

Since you purchased your car, have you purchased any good costing \$200.00 or more?

Yes _____ No _____

At the present time, do you expect business conditions to:

Decline _____ Remain the Same _____ Improve _____

At the present time, do you expect household prices to:

Decline _____ Remain the Same _____ Increase _____

At the present time, do you expect your income after taxes to:

Decline _____ Remain the Same _____ Increase _____

At the present time, do you plan to purchase any good costing \$200.00 or in the next two months?

Yes _____ No _____

As compared with your present income, do you expect your income in the next five years to be:

0 to 9% more _____ 10 to 19% more _____ 20 to 29% more _____

30 to 39% more _____ 40 to 49% more _____ 50 to 59% more _____

60 to 69% more _____ 70 to 79% more _____ 80 to 89% more _____

90 to 99% more _____ 100 to 148% more _____

Or, I expect my income to decline by _____%

What is your marital status?

Married _____

Single _____

Divorced _____

Widowed _____

What is your sex?

Male _____

Female _____

What is your age?

15 to 19 _____ 35 to 39 _____ 55 to 59 _____

20 to 24 _____ 40 to 44 _____ 60 to 64 _____

25 to 29 _____ 45 to 49 _____ 65 to 69 _____

30 to 34 _____ 50 to 54 _____ 70 and over _____

Please indicate if you are the head of the household. If you are not the head of the household, please indicate your relationship to the head of the household:

Head of the Household _____ Wife _____

Son _____ Daughter _____

Other (please indicate) _____

How many children live in the household?

Number of children _____

Age of Children _____

What is the occupation of the head of the household?

Occupation _____

Job Title _____

How many years of school has the head of the household completed?

Number of years of school completed _____

Please indicate the total annual family income.

Under \$3,000.00 _____ \$3,000 to \$4,999 _____ \$5,000 to \$6,999 _____
\$7,000 to \$8,999 _____ \$9,000 to \$10,999 _____ \$11,000 to \$12,999 _____
\$13,000 to \$14,999 _____ \$15,000 and over _____

What do you believe your income will be five years in the future?

Income in five years _____ per year

APPENDIX

COMPUTER MODEL

SPEARMAN RANK.....MODEL 1

VARIABLE 1 = Y
 VARIABLE 2 = X1
 OBSERVATIONS = 20

D SQUARED 139.
 CORRELATION COEFFICIENT 0.921512
 MEASURE OF SIGNIFICANCE 10.186842
 DEGREES OF FREEDOM 20.

SPEARMAN RANK.....MODEL 1

VARIABLE 1 = Y
 VARIABLE 2 = X2
 OBSERVATIONS = 20

D SQUARED 107.
 CORRELATION COEFFICIENT 0.939582
 MEASURE OF SIGNIFICANCE 11.891143
 DEGREES OF FREEDOM 20.

SPEARMAN RANK.....MODEL 1

VARIABLE 1 = Y
 VARIABLE 2 = X2
 OBSERVATIONS = 20

R SQUARED 86.
 CORRELATION COEFFICIENT 0.90877
 MEASURE OF SIGNIFICANCE 1.54101
 DEGREES OF FREEDOM 20.

SPEARMAN RANK.....MODEL 1

VARIABLE 1 = Y
 VARIABLE 2 = X4
 OBSERVATIONS = 20

R SQUARED 143.
 CORRELATION COEFFICIENT 0.91426
 MEASURE OF SIGNIFICANCE 10.442705
 DEGREES OF FREEDOM 20.

SPEARMAN RANK.....MODEL 1

VARIABLE 1 = V
 VARIABLE 2 = X5
 OBSERVATIONS = 20

R SQUARED 32.
 CORRELATION COEFFICIENT 0.991242
 MEASURE OF SIGNIFICANCE 33.764267
 DEGREES OF FREEDOM 20.

SPEARMAN RANK.....MODEL 1

VARIABLE 1 = V
 VARIABLE 2 = X5
 OBSERVATIONS = 20

R SQUARED 107.
 CORRELATION COEFFICIENT 0.957651
 MEASURE OF SIGNIFICANCE 14.974141
 DEGREES OF FREEDOM 20.

SPEARMAN RANK.....MODEL 1

VARIABLE 1 = Y
 VARIABLE 2 = X7
 OBSERVATIONS = 20

D SQUARED 101.
 CORRELATION COEFFICIENT 0.942270
 MEASURE OF SIGNIFICANCE 12.661212
 DEGREES OF FREEDOM 20.

SPEARMAN RANK.....MODEL 2

VARIABLE 1 = Y
 VARIABLE 2 = X1
 OBSERVATIONS = 20

D SQUARED 136.
 CORRELATION COEFFICIENT 0.923207
 MEASURE OF SIGNIFICANCE 10.743358
 DEGREES OF FREEDOM 20.

SPEARMAN RANK.....MODEL 2

VARIABLE 1 = Y
 VARIABLE 2 = X2
 OBSERVATIONS = 20

D SQUARED 153.
 CORRELATION COEFFICIENT 0.70412
 MEASURE OF SIGNIFICANCE 7.006582
 DEGREES OF FREEDOM 20.

SPEARMAN RANK.....MODEL 2

VARIABLE 1 = Y
 VARIABLE 2 = X3
 OBSERVATIONS = 20

D SQUARED 56.
 CORRELATION COEFFICIENT 0.968379
 MEASURE OF SIGNIFICANCE 17.358757
 DEGREES OF FREEDOM 20.

SPEARMAN RANK.....MODEL 2

VARIABLE 1 = Y
 VARIABLE 2 = X4
 OBSERVATIONS = 20

D SQUARED 142.
 CORRELATION COEFFICIENT 0.919819
 MEASURE OF SIGNIFICANCE 10.484592
 DEGREES OF FREEDOM 20.

SPEARMAN RANK.....MODEL 2

VARIABLE 1 = Y
 VARIABLE 2 = X5
 OBSERVATIONS = 20

D SQUARED 73.
 CORRELATION COEFFICIENT 0.958780
 MEASURE OF SIGNIFICANCE 15.089918
 DEGREES OF FREEDOM 20.

SPEARMAN RANK.....MODEL 2

VARIABLE 1 = Y
 VARIABLE 2 = X6
 OBSERVATIONS = 20

D SQUARED 47.
 CORRELATION COEFFICIENT 0.984554
 MEASURE OF SIGNIFICANCE 25.311430
 DEGREES OF FREEDOM 20.

SPEARMAN RANK.....MODEL 2

VARIABLE 1 = Y
 VARIABLE 2 = X7
 OBSERVATIONS = 20

D SQUARED 78.
 CORRELATION COEFFICIENT 0.955057
 MEASURE OF SIGNIFICANCE 14.565586
 DEGREES OF FREEDOM 20.

APPENDIX III
STATISTICAL APPENDIX

Computation of Sample Size

The sample size for the study was computed by first taking an initial survey of the Oklahoma County registration books. This initial survey revealed that 86.10 percent of the registered owners owned cars manufactured by the big three automobile manufacturers in the United States. This statistic was used to compute the sample size for the study. The desired precision for the sample was a confidence interval of plus or minus five percent with a confidence coefficient of .95.

Thus:

$$1.96 \sigma_p = .05$$

$$\sigma_p = .02551$$

To calculate the sample size

$$\begin{aligned} \sigma_p &= \sqrt{\frac{.8610 \times .1390}{n}} \\ .02551 &= \sqrt{\frac{.1197}{n}} \\ .000651 &= \frac{.1197}{n} \\ n &= \frac{.1197}{.000651} \\ n &= 183.87 \text{ or } 184 \end{aligned}$$

As was explained in the section on methodology, 184 car buyers of 1968 model cars were selected from the 29 volumes of the Oklahoma County Registration records. The license tags are ordered by the letter prefix (XA through XZ and YA through YZ) and by number. The procedure of drawing the

respondents was accomplished by sampling without replacement over an eight-month period to attempt to avoid temporal bias. There are twenty-one license tag agencies listed in the yellow pages. Each tag agency is assigned a series of tag numbers; for example XJ and XO. Thus, the license tag number a respondent receives is a function of time and where the license tag is purchased. The 1968 car buyer would then apparently appear in the 29 volumes on a random basis.

Representativeness of the Sample

Since the population parameters of the 1968 new car buyers were apparently not available, the present study was tested against two other samples. The first was the Continuing Audit of Oklahoma City conducted by the Business Research Center of Oklahoma City University for the Oklahoma Publishing Company. To see if the Continuing Audit was representative of Oklahoma City residents a statistic from the Continuing Audit was tested against a known population parameter from the 1970 Census data concerning Oklahoma City. The Census data recorded that 13.69 percent of Oklahoma City's population were negroes, while the Audit gave the percentage as 13 percent for the same year. Tests of Hypothesis were used to test for a significant difference. The test was as follows:

$$Z = \sqrt{\frac{p - P}{\frac{P}{n}}} = \sqrt{\frac{.13 - .1369}{.00728}} = \sqrt{\frac{.0069}{.00728}} = .9478 \quad 1.96$$

Thus there is no significant difference between the Audit and the 1970 Census.

$\hat{\sigma}_p^A$ is used as the best estimate of σ_p and is calculated as follows:

$$\begin{aligned}\hat{\sigma}_p^A &= \sqrt{\frac{p - (1 - p)}{n}} = \sqrt{\frac{.13 \times .87}{2135}} \\ &= \sqrt{\frac{.1131}{2135}} = \sqrt{.000053} = .00728\end{aligned}$$

After ascertaining that no significant difference existed between the Consumer Audit and the 1970 Census information, the mean income statistic found in the present study was compared with the mean income statistic of the new car buyers in the 1968 Continuing Audit. The test hypothesis was as follows:

$$\begin{aligned}Z &= \frac{\bar{x}_1 - \bar{x}_2}{S\bar{x}_1 - \bar{x}_2} = \frac{8,301.17 - 7,593.34}{674.12} = \\ &\frac{707.83}{674.12} = 1.05 < 1.96\end{aligned}$$

where:

$$\begin{aligned}S\bar{x}_1 - \bar{x}_2 &= \sqrt{\left(\frac{s_1}{\sqrt{n_1}}\right)^2 + \left(\frac{s_2}{\sqrt{n_2}}\right)^2} \\ &= \sqrt{\left(\frac{2495}{\sqrt{2135}}\right)^2 + \left(\frac{9111.74}{\sqrt{184}}\right)^2} \\ &= \sqrt{53.997^2 + 671.95^2} \\ &= \sqrt{29156.676 + 451156.803} \\ &= \sqrt{454432.479} = 674.116 \text{ or } 674.12\end{aligned}$$

The other sample that the present study was tested against was taken in 1964 of 1963 car buyers. In order to make the test of hypothesis, it seemed advisable to first adjust the mean income statistic in the 1964 study to reflect the growth in the wage rates. The United States Bureau of Labor Statistics wage index showed a 16 percent increase between 1964 and 1968. Thus, adjusting the 1964 mean income statistic:

1964 sample income mean	8058.00
wage index adjustment	<u>1.16</u>
adjusted income	9,347.28

The computation of the test of hypothesis becomes:

$$Z = \frac{\bar{x}_1 - \bar{x}_2}{S\bar{x}_1 - \bar{x}_2} = \frac{9,347.28 - 8,301.17}{852.79} =$$

$$\frac{1,046.11}{852.79} = 1.23 < 1.96$$

where:

$$S\bar{x}_1 - \bar{x}_2 = \sqrt{\left(\frac{s_1}{\sqrt{n_1}}\right)^2 + \left(\frac{s_2}{\sqrt{n_2}}\right)^2}$$

$$= \sqrt{\left(\frac{7500.11}{\sqrt{204}}\right)^2 + \left(\frac{9111.74}{\sqrt{184}}\right)^2}$$

$$= \sqrt{525.11^2 + 671.95^2}$$

$$= \sqrt{257740.51 + 451516.803}$$

$$= \sqrt{727257.315} = 852.79$$

Thus, there is no significant difference at the .05 level between the present study and the other two samples.

An Example of a Z Score Test

In order to give the reader an example of calculation of test of hypothesis, a Z score test of hypothesis between the number of brand loyal consumers and brand switching consumers giving the reason of "price" being very important will be shown.

Since there were slightly more brand loyal owners than brand switching owners (94 to 90), the distributions must first be normalized or converted into percents.

Brand loyal owners giving price as an important reason	51
--	----

Brand switching owners giving price as an important reason	16
--	----

Normalizing the distributions:

$$94 \sqrt{51} = .5425 \qquad 90 \sqrt{16} = .1778$$

The formula to test for a significant difference is:

$$Z = \sqrt{\frac{P_1 - P_2}{\left(\frac{p \times q}{n_1}\right) + \left(\frac{p \times q}{n_2}\right)}}$$

therefore:

$$Z = \frac{.5425 - .1778}{\sqrt{\frac{.5425 \times .4575}{94} + \frac{.1778 \times .8222}{90}}} = \frac{.3647}{\sqrt{.004152}} = \frac{.3647}{.0644} = 5.66 > 2.57$$