The Application of Strumpel's Behavioral Economic Model to Explain Financial Behavior

by

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(ABSTRACT)

The purpose of this study was to apply Strumpel's behavioral economic model to explain personal financial behavior. Three categories of variables as identified by the model determined the independent variables in the study. These variable groups were defined as the objective environment consisting of financial life cycle stage, income, education, occupation, ethnicity, and gender; person dimensions including self-esteem, money self-esteem, and locus of control; and dimensions of subjective well-being represented by perceived income adequacy and satisfaction with financial situation. Three research questions were explored in the study: (a) Can personal financial behavior be explained by the objective environment; (b) Can personal financial behavior be explained by person dimensions; and (c) Can personal financial behavior be explained by subjective well-being?

The respondents were from a pre-collected data set entitled Financial Attitudes and Practices of Virginia Citizens (N=521). Factor analysis was utilized to statistically determine appropriate groups of financial behaviors,
from 23 behavior items in the study, to serve as the dependent variables. Conceptually, these behavior factors were determined to represent credit use behaviors, financial planning behaviors, financial management behaviors, and financial control behaviors. Multiple regression was the primary statistical procedure used in the analysis.

The combination of independent variables explained 36% (p<.001) of the variance in credit use behavior, 41% (p<.001) of the variance in financial planning behavior, 15% (p<.001) of the variance in financial management behavior, and 9% (p<.01) of the variance in financial control behavior. The subjective well-being variables significantly contributed to the explanation of the variance in two behavior dimensions. Measures of self-esteem and locus of control were significant predictors of three of the four behavior dimensions. Objective environment variables also accounted for significant portions of the variance in the dependent variables. Findings suggested that the objective environment, subjective well-being, and person dimensions help explain financial management behavior. The results of this study did provide evidence to support further application of Strumpel’s model as a guide to explain financial management behavior.
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DEDICATION

This thesis is dedicated to my parents, Primo and Sue Toccafondi. They are responsible for instilling in me the values of education and achievement. Their positive influences, love, support, and encouragement provided me with the incentive to continue my education and complete this program. Although these words are only a small thank-you in comparison to all they have given me, they should know that the feelings behind these words are strong and sincere.
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CHAPTER I

Introduction

Money is considered one of the most important resources in American society (Jeries & Allen, 1986), and people participate in various financial behaviors to manage or use their money. Individuals in our society significantly contribute to capital formation. Their actions not only affect their personal financial situation but also are reflected in the state of the economy (Katona, 1964). Results of money misuse or a lack of financial management behaviors include increasing consumer debt, from 359 billion dollars in 1965 to 3.3 trillion in 1988, and a high incidence of personal bankruptcies ("High Household Debts," 1990).

Individuals, as consumers, have choices to make when deciding what to do with their income. Katona, Strumpel, and Zahn (1971) assert that consumers do not just react to changes in their environment but instead adapt their behavior to environmental changes by taking into consideration past experiences, motives, and attitudes. Consumer attitudes and expectations have empirically been shown to influence short-term changes in economic activities of the United States (Katona, 1964). The decisions that individuals make in regard to their financial behavior, as reflected by savings or credit behavior or the planning and practices leading to these behaviors, affect the general economy as well as their personal financial situation. Efforts have been made to study aggregate consumer behavior (Katona, 1964) but little effort has been made, with the exception of popular literature
authors, to explain financial management behavior. The infancy of the exploration of the activities related to planning, controlling, and using money results in a diversity of variables to consider as possible predictors of individual financial behavior.

Various popular literature authors have suggested psychological and emotional relationships which might explain why or how people handle their money. Hallowell and Grace (1989) suggest that the meanings that individuals associate with money may help to explain why people handle their money differently. They argue that the meanings and emotions of money can include money as love and self-esteem, security and freedom, and power and independence. Gurney (1988) contends that all individuals have a "money self" and a "money personality" with associated feelings and attitudes about money that influence behavior. She states that "there is an inseparable link between our unconscious feelings about money and the way in which we earn it, spend it, save it, and invest it" (p. 56). Similarly, Krueger (1986) and Lindgren (1980) associate money with success, status, and power. They assert that the attitudes and values regarding money are important influential factors in financial management behavior, or the way individuals make, keep, spend, save, invest, or enjoy money.

One common theme throughout this popular literature is the importance of the relationship between self-esteem and money attitudes and behaviors (Gurney, 1988; Hallowell & Grace, 1989; Krueger, 1986; Lindgren, 1980; Rubenstein, 1982). But few empirical studies have been conducted. Gurney states that "the dynamics of our personality are revealed through our
money behavioral repertoire" (p. 57). As a component of personality, self-esteem might logically be associated with financial behavior.

A number of social scientists including James (1910), Cooley (1902), Mead (1934), and Rogers (1951) believe that the self-concept is a necessary explanatory construct in understanding an individual's behavior (Epstein, 1973). Douglas, Field, and Tarpey (1967) assert that an individual's most valuable possession is their self-concept, and it is also a key to their behavior. Achieving a stable, flattering, and more satisfying self-image is a motivating force behind much human activity. Therefore, self-esteem may be reflected in individual behaviors to make, plan for, control, and use money.

Locus of control, as a component of self-esteem, (Gecas, 1982) is another personality variable which might also affect financial attitudes and/or behavior. Again, the popular literature supports this idea. Gurney (1988) refers to the idea of an individual controlling their money instead of the money controlling them. Locus of control is differentiated between internal and external, and is applied to the expectancies that individuals develop in relation to their environment (Rotter, 1966). An internal locus of control refers to the belief that an outcome is controlled by the individual's actions. On the other hand, an external locus of control is represented by the feeling that individuals have little or no control over outcomes. Locus of control could have an impact on the attitudes that individuals have about money in addition to the financial behaviors in which they participate. As a result of feeling little or no control over outcomes related to money, an individual may refrain from an active role in financial management. The individual's
rationale may be that the environment controls the outcome, and therefore, participation in wise financial behaviors will not make a difference in the money outcome.

Katona (1964) argues that "there is a great need for answers to questions of why in economics, over and above the answers supplied by correlations of economic processes with other economic or demographic variables" (p. 33). He adds that "by supplying empirically validated generalizations about factors shaping economic behavior, psychological studies add to our understanding of economic processes" (p. 33). According to Katona's work on psychological economics (1954, 1964, 1975, 1980), studies of motives, attitudes, and expectations will supplement the principles of traditional economics.

These same arguments hold true for personal financial behavior. The study of attitudes and psychological behaviors could contribute to a better understanding of why people participate in various financial management behaviors. There is a need to explain money behaviors rather than just to acknowledge the behavior pattern. Considering the importance of motives, expectations, attitudes, and psychological characteristics on economic behavior, as an aggregate measure of individual behavior, it would seem logical to study these relationships with personal financial management behavior.
Justification

Theories tell researchers what information to collect, how to collect it, how to analyze it, how to interpret it, and how to integrate it (McCullers, 1984). The lack of a theoretical basis in family financial management contributes to the difficulty in determining what information is needed, how to gain that information, and how to use that information.

Although the need for and importance of studying financial management behaviors is acknowledged (e.g. Cook & Lown, 1987; Lovell & Gustafson, 1985; Williams, 1989), little research has focused on this concept. Most of the financial management behavior research is descriptive and has no explanatory basis (e.g. Jeries & Allen, 1986; Greninger, Hampton, & Kitt, 1982). One of the primary reasons for the lack of explanatory research is the absence of a theoretical model to guide the research (Cook & Lown, 1987; Hogan, 1985). Furthermore, the atheoretical approach to research makes it difficult to identify those factors that may potentially explain differences in financial management behavior.

To date, Deacon and Firebaugh's (1981) family systems theory has been frequently applied (Jeries & Allen, 1986; Lytton, Garman, & Dail, 1987; Mugenda, Hira, & Fanslow, 1990; Swift, 1985; Vogelsang, 1990; Williams, 1985) to explain various dimensions of family financial management, but the model does not provide the theory basis necessary to predict financial management behavioral outcomes. This model was developed as a conceptual framework to describe management of resources and, although
frequently adapted, was not specifically intended to apply to the explanation of financial management behavior. Instead, several previous studies have utilized the model to include financial behaviors as a throughput (e.g. Jeries & Allen, 1986; Williams, 1985). The objective of these studies was to explain the output of subjective well-being.

Hughes' (1974) model which attempts to explain the prediction of a family in a financial crisis does not take into consideration psychological variables and does not predict financial management behaviors. Again, financial management is incorporated into this theory as an internal factor which affects the ultimate outcome, financial crisis.

Cook and Lown (1987) address another important concern in the related area of financial counseling. They state that "much of what we 'know' to be true in financial counseling is based on clinical observation rather than research. The presenting problem may not be the underlying cause of the distress" (p. 102). Therefore, studies which address the possible underlying causes of financial distress are beneficial to the development of financial counseling techniques and will ultimately benefit professionals providing financial counseling and education.

It is necessary to determine those factors that begin to explain financial management behaviors. Lovell and Gustafson (1985) argue that "the need for an additional measure that will aid in determining the nature of family financial problems and the underlying behavioral and psychological factors that contribute to these problems is essential" (p.188). Any empirical
research that attempts to provide insight into the factors affecting financial management behaviors will be beneficial to the field of financial counseling and financial management.

Financial education and training programs could include psychological aspects which would provide a more comprehensive and effective view of financial management and counseling situations. Financial counselors could be trained to identify those clients who may benefit from mental health counseling focused on various personality dimensions. Appropriate referrals could then be made in an effort to develop a multi-faceted plan for altering and rehabilitating financial behavior.

Therefore, the need exists for a comprehensive theoretical orientation to explain financial management behaviors. Katona's work in behavioral economics and later applications as offered by Strumpel (1976) may offer a foundation to explore these relationships.

Statement of the Problem

The problem of this study is to apply Strumpel's (1976) conceptual model of economic behavior to explore financial management behavior. Financial management behavior is broadly defined as individual, family or household efforts to make, keep, use, spend, save, invest, or enjoy money. Strumpel's model categorizes the variables that affect behavior as objective environment, person dimension, and subjective well-being concepts. The effect these variables have on selected financial behaviors will be studied.
Conceptual Framework

The discussion of the conceptual framework includes a brief introduction to the behavioral economics discipline, an explanation of the relationship between aggregate economic behavior and personal financial management behavior, and an explanation of Katona's behavioral economic model. The conceptual framework discussion concludes with an explanation of Strumpel's behavioral economic model and the application of Strumpel's model to the explanation of financial management behavior in order to integrate the model with related theory.

Introduction to Behavioral Economics

Katona is considered the pioneer in the field of behavioral economics. His various works describe and develop the field of behavioral economics or the combination of economics and psychology. Examples of his work include Economic Psychology (1954), Psychological Economics (1975), and Behavioral Economics (1980).

Behavioral economics can be characterized by its focus on human behavior and the decision-making process as well as its approach to conducting research. One characteristic of behavioral economics is that the psychological antecedents of economic behavior including motives, attitudes, and expectations are studied. A second characteristic is that behavioral economics focuses on the how and why of the decision-making process. The discipline concentrates on the exploration of the process rather than the results of the decision. Katona, Strumpel, and Zahn (1971) reflect the
importance of the decision-making process to behavioral economists in the following:

Behavioral economists believe that an analysis of the reasons-both economic and sociopsychological-for such decisions has much to contribute to an understanding of market processes and that only by combining this analysis with the traditional study of financial variables can one arrive at a complete picture of any economy where consumers have freedom of economic choice (p. 9).

A third characteristic of behavioral economics is the use of inductive methodology in research. With this approach, empirical observations and studies lead to the development of theoretical statements. In contrast, with deductive logic a theoretical model is developed, based on assumptions, and then tested empirically. Deductive methodology mainly focuses on the predicted outcomes where inductive methodology concentrates on understanding the assumptions behind the predicted behaviors. The empirical findings are considered not only for their contribution to the prediction of behaviors, but more importantly for their contribution to the understanding and explanation of the behavioral process or assumptions (Curtin, 1984).
Relating Economic Behaviors to Financial Management Behaviors

Katona (1975) defines economics as a behavioral science which studies the behavior of consumers, business representatives, and government policymakers in spending, saving, investing, price-setting, and other economic activities. Godwin (1990) defines family financial management as the planning, implementing, and evaluating by family members that is involved in the allocation of their current flow of family income and their stock of wealth toward the end of meeting the family’s implicit or explicit financial goals. This planning, implementing, and evaluating can include unobservable cognitive processes as well as overtly observable behaviors.

Family financial management behaviors include the areas of cash flow, debt, saving, investing, and planning. It is evident from this comparison that both the individuals in the economic process (consumer, business professionals, and government policymakers) and the family members that participate in the family financial management process, become involved in similar economic or financial behaviors. Therefore, an adaptation of Katona’s model to explain economic behavioral output to include an exploration of financial management behavior seems applicable.

Katona’s Behavioral Economic Model

Katona’s model is based on what he calls the "generally accepted principles of psychology" (1975, p. 42). The study of psychology is based on the assumption that it is possible to establish scientific principles of behavior. The basic scheme of psychological studies was the foundation of the
psychological economic model. This general scheme is a stimulus-organism response pattern. He identified the psychological model as:

\[ S/X \rightarrow I \rightarrow R \]

S is identified as specific changes in the economic environment, while X is defined as the frame of reference or the context under which the changes occur. I is identified as the intervening or psychological variables. Specifically, the intervening variables are explained as the psychological concepts, attitudes and expectations, motives and aspirations, and life goals and values of the individual. The behavioral response is represented by R and might be explained to include economic behavior.

The stimulus variable in Katona's model refers to the information received or the change in the environment that produces a further process resulting in a particular behavior. The stimulus is received and interpreted according to a frame of reference. Learning, an important component in studying behavior, would change the frame of reference for an individual and, therefore, might affect the behavioral response. Learning results in a change in behavior potential.

After a change in the environment occurs or information is received, the intervening variables are incorporated into the process. Katona would frequently use the term attitudes to identify the entire group of intervening psychological variables (Curtin, 1984). He identified three groups of psychological constructs, including: (a) attitudes and expectations, (b) motives and aspirations, and (c) goals and values. Personality characteristics
are also included as intervening variables.

According to Katona (1951) attitudes are generalized viewpoints people have about their environment which makes them regard certain situations with favor or disfavor. Expectations are identified as expected changes in an individual's own situation (Katona, 1960). Motives and aspirations represent the basis for action to take steps toward an economic behavior (Katona, 1951). Goals and values represent the more stable personality characteristics of the individual (Katona, 1960). From the stimulus, an unsatisfied need, or a number of unsatisfied needs, may be identified by an individual. In response to these needs an individual is expected to take some action or behavior. Behavior, specifically economic behavior, is the outcome of the model. Katona asserts that "economic behavior is learned in the sense that it develops and changes with experience" (1975, p. 44). The aggregate economic behavior includes actions such as spending, saving, investing, and other economic activities.

According to Katona, an identical stimulus could produce different responses if the frame of reference was different. Also, differences in intervening variables might produce different behaviors although the stimulus and frame of reference were constant. The psychological economic model illustrated these relationships.

This model is considered important because behavioral economics focuses on the process of decision making rather than on the economic results of the behavior (Curtin, 1984). Therefore, the behavioral outcome is
not just observed but explained through an examination of the process. The behavioral economics approach to research is empirical. The methodology used is inductive, meaning that theoretical generalizations are based on the accumulation of tested empirical observations.

Strumpel's Model of Economic Behavior

Strumpel's (1976) model of economic behavior expands upon Katona's psychological economic model and provides a more specific categorization of variables that may contribute to the prediction of behavior. The model is illustrated in Figure 1. Five groups of variables are identified in the model, including: objective environment and situation variables, person variables, subjective well-being variables, societal discontent variables, and behavior variables.

The objective environment variables include income, standard of living, assets, socioeconomic status, and other status differentials. The person variable was identified as "a set of fairly basic, general psychological variables, which presumably relate to social structure and change" (Strumpel, 1976, p. 6). The effects that the social structure has on the person is therefore reflected in the variables that comprise the person category. More specifically, these include goals/aspirations and feelings of personal efficacy or sense of fate control. Strumpel includes personal efficacy in this model because of his belief that "neglected in large-scale survey research have been those variables which reflect individuals' ability to translate wants into behavior: their sense of fate control and of personal efficacy" (p. 6).
Figure 1. Strumpel’s model of Behavioral Economics (1976).
The subjective well-being variables include satisfaction with income, savings, and standard of living; sense of past economic progress; economic expectations; sense of fairness of income received; and sense of opportunities. Social psychologists have not made a distinction between the person dimensions and subjective well-being (House, 1981) as Strumpel asserts in his model. Instead, Katona’s model more accurately reflects the social psychologists’ view that subjective well-being and the person should not necessarily be separated. This discrepancy is acknowledged as a possible limitation of Strumpel’s model.

Societal discontent variables were intended to "investigate the effects of an individual’s personal economic situation and subjective experience upon societal discontent" (p. 6). Societal discontent is measured through an individual’s dissatisfaction with prices, employment, government policies, and the political system. Finally, the behavior variable group includes consumption demand, saving, working, occupational choice, education, and retirement. These variables were intended to measure income allocation as well as the effects of income acquisition.

The model assumes a number of direct relationships including the ones between objective environment and person dimensions, between the objective environment and societal discontent, between societal discontent and behavior, and between person dimensions and behavior. Behavior is also affected by the objective environment although its effect is mediated by
subjective well-being. A similar relationship also is assumed for societal discontent which is affected by the person dimensions as mediated by subjective well-being.

Katona’s (1975) behavioral economic model provides the basis for a general conceptual relationship among variables to explain aggregate economic behavior. Strumpel (1976) expands on that model and more specifically defines the objective environment, person dimensions, subjective well-being characteristics, and societal discontent feelings as affecting economic behavior. Financial management behavior can be characterized as conceptually similar to economic behavior: both address issues of income acquisition and income allocation. This suggests that financial behavior might also be explained by these same variables as identified by Strumpel.

Application of Strumpel’s Model to the Prediction of Financial Management Behavior

Strumpel’s model incorporates many of the variables that have been studied in family financial management research or that have been proposed as important factors in the explanation of financial behavior. The output, though, is financial management behavior which, to date, has not been explored as an outcome. The following section provides theoretical and empirical support for the relationships suggested in this model.

Strumpel suggested the relationship between the objective environment and the person dimension on the basis of the effect that demographic or status defining characteristics have on the general psychological
characteristics of a person. Moreover, this relationship has been supported by Rosenberg (1978) with four principles "that underlie most of the theoretical reasoning employed in the literature to understand the bearing of interpersonal and social structural processes on the self-concept" (p. 62). These principles include reflected appraisals, social comparisons, self-attribution, and psychological centrality. In order to clarify the application of these principles to the objective environment and personal dimension relationship, each principle will be briefly explained. A more comprehensive discussion appears in Chapter II.

Reflected appraisals refers to the influence that peers and others have on an individual. In time, individuals begin to view themselves as they are viewed by others. The principle of reflected appraisals is "fundamental to any understanding of the relationship of social structure and social interaction to the self-concept" (Rosenberg, 1978, p. 63).

The second principle identified by Rosenberg is social comparisons. Pettigrew (1967) described this principle in two stages. The first was that individuals compare themselves to others in order to gain knowledge about themselves. The second part of this principle is that the process of social comparisons results in some type of judgement made, regarding oneself, that is a positive, negative, or neutral assessment. In other words, individuals compare themselves to others which results in positive, neutral or negative feelings about themselves.

The third principle identified is self-attribution. Kelley (1967) defined
this process as one of "inferring or perceiving the dispositional properties of entities in the environment" (p. 193). In other words, this principle refers to how people ordinarily explain what they observe. Rosenberg (1978) explains that this principle is important because "one of the 'entities in the environment' to which attributions are made is the self" (p. 71).

Psychological centrality is the last principle identified by Rosenberg. This principle refers to the idea that "the self-concept is not a collection but an organization of parts, pieces, and components and that these are hierarchically organized and interrelated in complex ways" (p. 73). The first consideration is that individuals have many specific self-esteem components. Individuals hold an attitude or opinion regarding themselves for each of the parts or components of global self-esteem (e.g. as a student, athlete, or money manager).

The second consideration of the principle of psychological centrality is that the significance or importance of a specific self-concept component will have an effect on the strength of the relationship of that component with global self-esteem. Global self-esteem refers to an overall, general measure of self-esteem. Rosenberg (1965) successfully illustrates this concept with his empirical study of high school students. The students were asked to rate how "likeable" they thought they were. The more likeable the students thought they were, the higher the global self-esteem. The strength of the relationship between being "likeable" and self-esteem depended upon how important being "likeable" was to the student. The relationship was stronger if the
students "cared about" being likeable and weaker if "this quality mattered little" to them. It is from these specific self-esteem components that a global sense of self-esteem is determined.

These principles have been successfully applied to explain the differences in self-esteem among individuals (e.g. Rosenberg, 1979). Although Strumpel does not constrain the definition of the person to self-esteem, sociological theory clearly supports the exploration of the relationship between this central component of individual personality and the objective environment. Components of socioeconomic status and ethnicity status, as the variables identified to reflect the objective environment, have empirically been shown to have an effect on the self-concept and these four principles theoretically support that outcome.

Therefore, these principles support the need to study the relationship between the socioeconomic and other status differential variables and the person characteristics as identified by Strumpel in the model. From a family financial management perspective, researchers have been calling for the exploration of psychosocial variables to gain a better understanding of financial problems. Another relationship identified in this model is the explanation of subjective well-being as a function of the objective environment and the person. Satisfaction with financial situation has been frequently studied as a dependent variable with demographic and objective environment variables as independent variables.

A review of the related literature showed that this subjective well-being
variable, identified as satisfaction with financial situation, was affected by variables such as household size, household income, and age of the head of household (Danes & Morris, 1989; Williams, 1985). The consistent empirical studies of a relationship between demographic variables and financial satisfaction support the need to include this relationship in a comprehensive model of financial management.

A brief explanation of the use of the concepts "financial satisfaction" and "financial well-being" in the family financial management literature is necessary. Conceptually, the terms "financial satisfaction" and "financial well-being" are considered synonymous by many researchers (Hafstrom, 1981). According to Hafstrom (1981), some researchers acknowledge that financial satisfaction may be a major part of financial well-being. Although this confusion of terms is acknowledged, rarely do researchers attempt to reduce or eliminate the confusion.

A number of researchers not affiliated with the family financial management discipline argue that frequently satisfaction and well-being are incorrectly used interchangeably (Bryant & Veroff, 1982; Campbell, 1976; George, 1981; Sauer & Warland, 1982) and this produces a problem of terminological inconsistency (George, 1981). Horley (1984) stated that considering semantic and empirical analyses, the concept of satisfaction, happiness, and morale are related to a higher order construct, namely, well-being, and are not three ways of defining one construct. Therefore, according to these authors, well-being and satisfaction should be
differentiated in research studies.

The relationship between person dimensions and subjective well-being has not been studied. Future studies of the role that person variables play in family financial management should include the exploration of this relationship. The Strumpel model will provide the conceptual support needed.

To date, the family financial management research has not proceeded beyond the prediction of subjective well-being variables such as financial satisfaction or well-being. The Strumpel model allows researchers to take a further step in financial management research by considering the multifaceted dimensions, including measures of subjective well-being, which may contribute to the activities relating to the planning, controlling and use of money.

The Strumpel model presents a direct relationship between the person dimensions and the behavioral outcome. Theoretically, Rosenberg (1978) identifies two self-concept motives that have "powerful emotional and behavioral consequences" (p. 54). The self-esteem motive refers to the "wish to think well of oneself" (p. 53). The self-esteem motive provides the basis for some type of action that will reflect a positive feeling back to the individual. Therefore, individuals will more likely participate in behaviors that they feel are positive and that make them feel good about themselves.

The self-consistency motive is "the wish to protect the self-concept against change or to maintain one’s self-picture" (p. 53). Rosenberg gives
examples of how the self-consistency motive can be applied and how individual attitudes affect behavior. He states that if an individual "considers himself weak, he will not undertake to lift a heavy object; if musically untalented, he will avoid musical training" (p. 59). Through these examples, the financial management researchers should find the implications of the self-consistency motive compelling. For example, attitudes toward money, self, and/or financial management capabilities might impact the behaviors related to planning for, using, and/or controlling money.

The incorporation of societal discontent into this model provides family financial management researchers with another component that has not been previously considered. As noted in the explanation of the model, behavioral economists consider attitudes and expectations about the economy when explaining aggregate consumer behavior. Data similar to that in the Index of Consumer Sentiment (Lehmann, 1987) could be incorporated into a family financial management study. In these surveys, consumers are asked for their opinions on personal financial circumstances and their future outlook. Exploring societal discontent may give family financial management researchers a better understanding of why people act toward their money in different ways.

Strumpel's behavioral economic model incorporates relationships that (a) have been supported in past financial management research (e.g. research supporting the link between the objective environment and subjective well-being). (b) have been determined as a research need in family financial
management; or (c) have not been previously explored but suggest a new avenue for inquiry. Some of these relationships can be supported by social science theory. Moreover, the conceptual model lends itself to a comprehensive view of financial management behavior.

**Research Questions**

Behavioral economics utilizes the inductive methodological approach to research. An inductive approach refers to the idea that theoretical generalizations are based on the accumulation of tested empirical observations. The empirical findings are considered for their significance in understanding the process in predicting behavior rather than focusing just on the behavior itself. (Curtin, 1984). Beveridge (1950) states that "in induction one starts from observed data and develops a generalization which explains the relationships between the objects observed" (p. 113). The deductive method, on the other hand, is based on a theoretical model, developed from assumptions, and then tested empirically (Curtin, 1984).

Theory, as defined by Kerlinger (1964), is "a set of interrelated constructs (concepts), definitions, and propositions that presents a systematic view of phenomena by specifying relations among variables, with the purpose of explaining and predicting phenomena" (p. 11). McCullers (1984) states that home economics has been criticized for its lack of theory and lack of the use of a theoretical basis for solving problems. This allegation is equally true in family financial management research. In response, researchers must
attempt to identify and apply conceptual and theoretical support from other disciplines.

Research in family financial management should rely on both the deductive and inductive methods. Thus, the deductive approach or the application of appropriate theory from other disciplines is needed to help focus research efforts and explain results. Once the empirical processes are determined, then the inductive approach could be utilized to concentrate efforts on understanding the process and assumptions. Application of the inductive approach to research will allow family financial management researchers to accumulate the information through empirical observation to begin formulating conceptual and theoretical considerations specific to this discipline. The inductive method of research applied to family financial management through a behavioral economic basis, purports to develop theory by more fully explaining financial behaviors and other related concepts.

Thus, the purpose of this research was to apply Strumpel’s behavior driven conceptual model, as an adaptation of Katona’s behavioral economic model, to the study of financial behavior. Figure 2 presents the application of Strumpel’s model to this study.

The objective environment category was measured by income, education, occupation, financial life cycle stage, gender, and ethnicity. These variables were identified as socioeconomic or other status differential characteristics.

Three measures from the study were identified to characterize the
Figure 2. The application of Strumpel's model to this study.
person component of the model. The person dimension was be measured through self-esteem, money self-esteem, and locus of control. Subjective well-being was measured by satisfaction with financial situation and perceived income adequacy. The behavioral outcome was measured by financial management behaviors.

Compton and Hall (1972) claim that formulating hypotheses for a study is the most desirable situation. But, they also contend that exploratory research is required in some fields of study before hypotheses are considered. This is the case in family financial management given the lack of a theoretical basis. The three research questions that were explored are as follows:

1. Can financial behavior be explained by factors such as income, education, occupation, financial life cycle stage, ethnicity, and gender which characterize the objective environment of the individual?

2. Can financial behavior be explained by personal dimensions such as self-esteem, specific self-esteem, and locus of control?

3. Can financial behavior be explained by dimensions of subjective well-being such as perceived adequacy of income and satisfaction with financial situation?

Uses of the Study

Professionals in the financial counseling and financial management fields would benefit from studies associating attitudes and psychological characteristics with behaviors related to the use and management of financial resources.
To date, financial counselors work solely with the present financial situation and the overt spending trends they can identify in an effort to resolve a client's financial problems. More recently, researchers have attempted to identify additional underlying variables that may contribute to an individual's economic well-being (e.g. Davis & Helmick, 1985; Godwin & Carroll, 1985; Porter, 1990). Yet the relationship between economic well-being and financial management behaviors is unknown. If these individual characteristics are shown to have an impact on financial behaviors, financial professionals will have another aspect to consider when assessing a client's problems.

The purpose of the work of a financial planner or counselor is not only to increase an individual's net worth but also to increase their perceived economic well-being (Hayhoe, 1990). This may in fact require the acknowledgement of individual personality components, attitudes, and their relation to behavior. Perhaps, there will be an argument for incorporating psychological or mental health counseling into the financial counseling process. This counseling may be an important factor in producing a more successful outcome.

If these psychological characteristics do prove important when working with financial counseling client, it would be necessary for educators and financial counselors to learn to identify certain psychological problems. Furthermore, appropriate procedures for addressing these problems and/or suggesting referrals to other professionals would be necessary.
This study may also lead to the incorporation of psychological characteristics into a financial counseling theoretical model or a model predicting financial management behavior. As previously stated, the financial counseling and financial management disciplines lack a theoretical base to direct research. Empirical evidence supporting the relationship between various factors and financial management behaviors should be a research priority.

**Delimitations of the Study**

This researcher was delimited by the pre-collected data utilized in this study and the information provided. The study was delimited to the conceptualization of financial behaviors based on measures of the objective environment, person dimensions, and subjective well-being.

The study was delimited to include only those individuals who had responded to the self-esteem and the money self-esteem questions, the locus of control items, and the financial behavior questions. The additive nature of these variables necessitated the sample to be delimited in this manner. Missing data for individual items which comprise these composite variables might have resulted in a misrepresentation of the variable.

The objective environment measures were delimited to income, education, occupation, gender, ethnicity, and financial life cycle stage. The financial life cycle stage was delimited to three stages, formation, accumulation, and preservation/distribution, to provide an idea of the
priorities and situations the respondents were experiencing at a particular time.

The person dimensions were delimited to self-esteem, a conceptually determined money self-esteem measurement, and locus of control. The study was delimited to perceived income adequacy and financial satisfaction as indicators of subjective well-being.

Limitations of the Study

A limitation of this study was the collection of the data solely in the Commonwealth of Virginia which limits the generalizability of the findings. The written survey produces limitations in itself. Some members of the sample were possibly unable to read or comprehend the questionnaire and therefore did not attempt to complete it. But, Lytton and Garman (1990) state, in reference to this sample, that "the gender, ethnicity, housing tenure, educational attainment, and age of the sample were very similar to that of Virginia citizens" although the respondents "typically reported a higher household income" (p. 8). Therefore, the representativeness of the sample reduces the possible limitations.

The measure of household income as opposed to personal income was a limitation of the study. Personal income may have been a more appropriate measure to explore the relationship between income, as an objective environment variable, and the person dimension.

Another limitation was the incomplete locus of control measure used
in this study. The measurement of locus of control offered a general understanding of the concept, but only a portion of an empirically tested scale was available.

Definitions

Terms used in this research:

External Locus of Control- an individual's belief that he or she has little or no control over the events that affect his or her life.

Financial Behaviors- activities related to planning for, using, and/or controlling money. These activities can either detract from or contribute to successful financial management.

Financial Satisfaction- how a person feels about their personal financial situation.

Financial Life Cycle Stage- an indication of a period of financial status identified by certain characteristics of income level, status of assets, demands on income, and level and type of expenses. Stages include formation, accumulation, and preservation/distribution (Porter, 1990).

Internal Locus of Control- an individual's belief that he or she has control over the events that affect his or her life.

Objective Environment/Situation- a group of variables identified in the conceptual model which define and characterize an individual's environment. The variables included in this category were education, income, occupation, financial life cycle stage, gender, and ethnicity.
Person Dimensions- those selected psychological attributes that are characteristic of an individual. Person dimension variables in this study include self-esteem, money self-esteem, and locus of control.

Perceived Income Adequacy- an individual's attitude on whether their income can adequately cover their needs and wants.

Satisfaction with Financial Situation- an indication of how happy an individual is about his/her financial situation.

Self-Esteem- how an individual evaluates the thoughts and beliefs he or she has about himself or herself.

Money Self-Esteem- a combination of survey items which determine the attitudes an individual holds about himself/herself regarding their success in handling and managing money.

Subjective Well-Being- attitudes which reflect financial situation.
Subjective well-being variables included in this study were perceived income adequacy and satisfaction with financial situation.

Organization of the Remainder of the Thesis

The remainder of the thesis will be organized as follows: Chapter II is entitled, "Review of Literature"; Chapter III is entitled "Methodology"; Chapter IV is entitled "Presentation of Findings"; Chapter V is entitled "Discussion of Findings"; and Chapter VI is entitled "Summary, Conclusions, Recommendations, and Implications."
CHAPTER II

Review of Literature

This study was designed to explore financial management behavior through the application of Strumpel's behavioral economic model. Because the Strumpel model (1976) has not previously been applied to the family financial management discipline, many of the relationships suggested in the model have not been empirically tested. The purpose of this literature review is to survey the applicable studies pertinent to the relationships explained in the conceptual model.

The review of literature is organized by the primary variable relationships identified in Strumpel's model. The relationships are labeled by letters in Figure 3 to indicate the order of discussion. The following relationships will be discussed in the review of literature: A) objective environment and person dimensions, including the self-esteem and locus of control literature which focus on these psychological concepts and their relationship to selected objective-environment variables; B) objective environment and subjective well-being, consisting of financial satisfaction and perceived income adequacy as affected by the objective environment; C) person dimensions and subjective well-being, consisting of the effect that personality characteristics have on financial satisfaction and perceived income adequacy; D) person dimensions and behavior, indicating the influence of the self-concept on financial behavior; and E) subjective well-being and behavior, indicating the effect that financial satisfaction or perceived income adequacy
Figure 3. The identification of relationships in Strumpel's model to be followed in the literature review.
has on financial behavior. A discussion of each relationship, as supported by the literature, follows.

**Objective Environment/Person Dimension Relationship (A)**

The following sections explain the psychological concepts of self-esteem and locus of control and the importance of these concepts in understanding the person. In addition, studies exploring the relationship between the objective environment and person dimensions will be reviewed.

**Self-Esteem**

Many researchers agree that successfully grasping the true concept of self-esteem through research has alluded those studying this concept to date (Jackson, 1984; Mecca, Smelser, & Vasconcellos, 1989). The difficulty in defining self-esteem provides evidence that the concept of self-esteem is a complex one (Campbell, 1984). Contradictions exist in the empirical studies that explore the variables affecting self-esteem.

Jackson (1984) reflects on the variety of research completed on self-esteem:

> Self-esteem would seem to be an important phenomenon. Not only would it appear to involve the issues of identity and value, but it would also seem to reflect how individuals feel and act in a variety of circumstances. It is not surprising, therefore, that a great deal of research has been focused on self-esteem and that this research represents a wide range of theoretical orientations. Self-esteem has been "operationalized" in a multitude of ways—as a score on questionnaires, as a coded behavior, as an intervening variable, as a "self-ideal discrepancy," as an evaluation of task performance, as a "buffer mechanism," and as a variety of their functions and
tendencies. This multitude of approaches is complex and bewildering, but it is unified by a single overarching theme; the attempt to deconstruct a complex phenomenon, to identify its basic elements and correlates, and to accumulate objective knowledge about it (p.2).

As early as 1890, James offered the first extensive discussion of the importance of the "consciousness of self" in his work *The Principles of Psychology*. Coopersmith (1967) later offered a definition of self-esteem as the "evaluation which the individual makes and customarily maintains with regard to himself: it expresses an attitude of approval or disapproval, and indicates the extent to which the individual believes himself to be capable, significant, successful, and worthy" (p.5). Furthermore, an individual’s attitude toward himself/herself may be affected by certain incidents and environmental changes at times but will revert to its usual level when those incidents are no longer evident. For example, an individual may feel he or she is a poor tennis player and their attitude toward themselves on the tennis court may be lower than their overall feelings toward themselves when they leave the court. Self-esteem may also differ depending on dimensions of the individual such as sex, age, and other role-defining conditions (Coopersmith, 1967).

To gain a better understanding of self-esteem, the components of the self must be understood (Rosenberg, 1979; Douglas, Field, & Tarpey, 1967). The self is composed of four different factors. The first, is the real self. The real self is simply who an individual is. The second factor is the actual self, or an individual’s self-image. Third, is the ideal self which reflects the way
the individual would like to be. Last, is the looking glass self or the way an individual sees himself/herself through other people. It is through these components of the self that an individual develops the attitudes and feelings toward himself or herself or their self-esteem. It should be noted that researchers differentiate between global self-esteem and specific self-esteem. Global self-esteem measures the overall attitudes an individual has about himself or herself. Specific self-esteem concerns the attitudes an individual has about certain aspects or characteristics of himself or herself. Global self-esteem is comprised of many parts or specific self-esteem components.

The self-esteem literature encompasses a vast array of topics, although empirical studies investigating relationships between self-esteem and financial satisfaction or self-esteem and financial management behavior are not available. What follows is an examination of the studies that investigate the relationship between pertinent objective environment characteristics and self-esteem, a variable that defines the person dimension in Strumpel’s model.

**Socioeconomic Status, Education, and Occupation and Self-Esteem.**

Wylie (1979) agreed with Mead (1934) and Cooley (1902) regarding their justification of studying socioeconomic status in relation to self-esteem. Wylie concluded from their writing that:

> If one belongs to a socioeconomic class which is generally held in high (or low) regard, one may a) be treated with more (or less) regard by others, and/or have b) more or less access to financial resources and educational resources with which to develop oneself. Both (a) and (b) could operate on self-regard by way of the adoption of
reflected self-appraisals. Or they could affect self-regard by determining feelings of self-potency, which assumedly determine level of self-regard (p. 61).

Individuals identify themselves with these social structures and therefore begin to assess themselves based on the assessment of the group.

Cartwright (1950) provides additional support for the socioeconomic--self-esteem relationship:

The groups to which a person belongs serve as primary determiners of his self-esteem. To a considerable extent personal feelings of worth depend upon the social evaluation of the groups and feelings of worthlessness tend to arise from membership in under-privileged or outcast groups (Cartwright, 1950, p. 440).

Finally, Hess (1970), reflecting on our highly competitive society, concurs that social status indicators have an effect on the individual:

In a highly competitive society, it is inevitable that self-esteem will derive in part from an individual’s perception of his ranking and prestige within relevant groups. To the extent that the symbols and realities of socioeconomic status, membership in a minority group, and other indicators of social structure carry such implication of status, they may be expected to affect the development of self-regard and identity (p. 482).


These views are based on three principles of self-esteem formation including reflected appraisals, social comparison, and self-attribution. The principle of reflected appraisals states that if others look up to an
individual and treat him/her with respect, then the individual will respect himself/herself accordingly. If they disdain the individual, then his/her self-esteem will be low (Rosenberg, 1981). Social comparison holds that individuals learn about themselves by comparing themselves to others. This evaluation leads to self-ratings (positive, neutral, negative) relative to the standards set by the individual for comparison (Pettigrew, 1967). The self-attribution principle proposes that people learn about themselves from observing their own behavior.

Rosenberg (1979) conducted a study to compare children’s and adult’s self-esteem in relation to social class. The sample of children was drawn from a Baltimore study of 1,988 students in grades 3-12, and the adult sample was taken from 2,300 adults between the ages of 18-65 from the urbanized area of Chicago. The global self-esteem was measured by the New York State (Rosenberg) Self-esteem scale, scored by the Likert method. No or modest associations between specific self-esteem and self-esteem were found in children, when controlling for race. Stronger relationships between social class and self-esteem were found for adults. Three components of social class, education, occupation, and income, were tested and a significant relationship was found between these variables and self-esteem. Pearson correlations were utilized to determine significance between groups. The three children’s age groups (8-11 years, 12-14 years, 15+ years) were not significantly different from one another but the correlation was significantly different between each of the children’s groups and the three adult
correlations (education and self-esteem, occupation and self-esteem, and income and self-esteem). Therefore, significant differences were found between the adult and childrens groups, but not between the different age groups of children.

Research on the relationship between social class and self-esteem has been inconsistent across age groups. Solely focusing on adults, Weidman, Phelan, and Sullivan (1972), and Yancey, Rigsby, and McCarthy (1972) found positive relationships indicating the higher the socioeconomic status the higher the self-esteem. Luck and Heiss (1972) found positive associations within educational groups, while Kaplan (1971) determined no overall association.

Occupation is commonly considered an indicator of status in society. Kasl and French (1962) argue that:

    Occupants of high status jobs will have...high objective public esteem. Objective public esteem largely determines subjective public esteem which in turn strongly affects self-esteem. The occupant of high status jobs will also tend to have a favorable self-concept; that is, he will have high self-esteem (p. 76).

Other theorists (Langner & Michael, 1963; McKinley, 1964) also concur that low status, through occupation, produces a negative self-image.

Kohn (1969) and Kohn and Schooler (1969) focused on the activities that individuals engage in according to their occupation. They showed that those higher status positions, most of which require occupational self-direction (making own decisions, exercising independent judgement, and exempt from close supervision) differed radically from other occupational
activities. When the relationships were reconsidered and occupational self-direction was controlled for, originally significant relationships between social class and two self-esteem factors were insignificant. In other words, the types of occupations themselves were not as important as the characteristics of the occupation.

Rosenberg (1979) contends that although sizes of relationships cannot be compared because of various measures of social class and self-esteem and the use of different statistical controls, findings are reasonably consistent. He argues that there is almost no association between "social class and self-esteem among pre-adolescents, a modest relationship among adolescents, and a moderate relationship among adults" (p. 131). On the other hand, following a review of 11 studies relating the Rosenberg Self-Esteem Scale (1965) to socioeconomic status, Wylie (1979) argued that there is no clear or consistent support of the relationship. Although discrepancies in the conclusions exist, there is ample evidence to support a relationship between self-esteem and socioeconomic class.

Race and Self-Esteem. Rosenberg contends that, "if a group is disdained in a society and its members treated with contempt, then the principle of reflected appraisals would lead one to expect members of that group to see themselves accordingly, that is, to have low self-esteem" (1979, p. 149). Most of the research that has been conducted on minority status and self-esteem has centered on blacks. Prior to the 1960's, the available literature on this subject indicated that blacks generally had lower self-esteem
(Clark and Clark, 1947; Clark, 1965; Proshansky and Newton, 1968).

Rosenberg’s New York State Study explored the self-esteem of a number of ethnic and racial groups within religious categories. The black respondents in this survey scored only slightly lower in self-esteem with 39% of blacks reporting high self-esteem as compared to 45% of the total sample who recorded high self-esteem.

Edwards (1974) study investigated 237 black students and 60 white students to determine the effects of race on self-esteem. Self-esteem was measured by Bachman’s version of the Rosenberg Self-Esteem Scale. The groups were similar in socioeconomic status and intelligence and were also found to have similar mean self-esteem scores.

Those studies utilizing school populations contradict the early view of low self-esteem among blacks. McDonald and Gynther’s (1965) study discovered blacks had higher self-esteem than whites. Research by Hunt and Hunt (1969), and Bachman (1970) found blacks to have higher self-esteem which increased when class, IQ, and family structure were controlled.

In their review of the literature regarding self-esteem and race, Hughes and Demo (1989) concluded the following: (A) There is a positive relationship between the quality of relationships with family and friends to self-esteem; (B) Social contact with whites is considered unimportant to Black Americans’ self-esteem; (C) Involvement in religious practices and beliefs is an important source of self-esteem. In addition, a type of self esteem called racial self-esteem is a factor. Racial self-esteem refers to
ethnic pride. Research suggests (A) an inverse relationship between age and racial self-esteem, (B) a positive relationship of racial self-esteem to being male and being middle class, and (3) a positive relationship between racial self-esteem and personal self-esteem.

The data used in the study were the National Survey of Black Americans in which 2,107 Black Americans, 18 years and older were interviewed. Dependent variables consisted of self-esteem, personal efficacy, and racial self-esteem, a more specific measure of a component of global self-esteem. Other variables included: social class and work variables, family, friendship, religion, ethnicity, and racial ideology as control variables.

Through regression analysis, ethnicity and racial ideology were found to be the most important predictors of self-esteem. System blame, black identity, and black separatism all enhanced racial self-esteem. In addition, contact with whites, positive relationships with family and friends, education, and occupational prestige proved to be important. Quality of family and friendship relations and religious involvement were the strongest influences on self-esteem.

On the basis of their research, Hughes and Demo (1989) concur that blacks have relatively high self-esteem, as compared to whites. This can be explained because inequality has a small effect on self-esteem. This conclusion suggests that the principle of reflected appraisals does not apply as successfully to the understanding of self-esteem formation as in other social structure relationships.
Gender and Self-Esteem. Wylie (1979) concluded, from her review of self-esteem theories in relation to gender, that theorists, for the most part, suggest that overall self-regard in females does not favorably match that of males. In other words, women typically report lower self-esteem than men. As the following studies indicate, the theories did not always match study results.

Hulbary (1975) included gender as a variable in his study of the relationship between race and socioeconomic status with self-esteem. This study utilized the Rosenberg Self-Esteem Scale to measure self-esteem. Eighty-eight black and 98 white adolescents were studied. Multiple regression was used to determine effects of these characteristics on self-esteem. The gender variable was statistically insignificant in influencing self-esteem.

A sample of studies using the Coppersmith Self-Esteem Inventory did not produce significant results linking gender to self-esteem (Simon & Bernstein, 1971). Wylie (1979) concluded after an extensive gender/self-esteem literature search that "although a popular variable, it was rarely a variable of statistical significance" (p. 328).

It is evident from this self-esteem literature review, that conclusions regarding these particular demographic variables were inconsistent. But, it can be concluded from the numerous studies on self-esteem (Rosenberg, 1989) that socioeconomic status and race do have an effect on self-esteem as supported by the principles of self-concept formation. On the other hand, the studies of the effect of gender on self-esteem have not proved significant.
Locus of Control

The concept of control refers to the generalized expectancy of the degree of control that an individual feels over what happens to him or her. Control is distinguished between those who have an internal versus those who have an external locus of control. An individual with an internal locus of control perceives good and bad outcomes as a result of their own actions. On the other hand, an external locus of control refers to the perception an individual has that outcomes are unrelated to his or her behavior and are beyond his or her personal control and responsibility (Rotter, 1966).

Personal efficacy is also a term that is utilized to explain control. Higher personal efficacy is equated with a more internal locus of control whereas lower personal efficacy is related to a more external locus of control.

As a component of self-esteem, locus of control is also influenced by various demographic or status differentiating variables. These relationships, which reflect the juncture of the objective environment and the person, will be reviewed first. Later in the literature review, a more comprehensive explanation of locus of control as an independent variable will be presented to explore the relationship between the person dimension and behavior.

Ethnicity and Locus of Control. Ethnicity has been studied as an explanatory factor of individual locus of control. Hunt and Hunt (1977) compared black and white school boys' self-attitudes which included self-esteem, sex role identification, and efficacy. The data were attained from Rosenberg and Simmon's 1968 study of 1,917 students, grades 3-12, in the
Baltimore Public School System. Interviewers obtained information about the self and related attitudes, values, and aspirations. The sample for this study included 690 male students, reduced from the original number because students below fifth grade were eliminated.

The black youth in this study were found to have lower personal efficacy, or higher external control, than white youth in the junior high and elementary school years. By the senior year in high school, black males had similar levels of efficacy as white males.

Other researchers have reported similar findings of lower personal efficacy and higher self-esteem for blacks (Coleman et al., 1966; Gordon, 1969; Hughes & Demo, 1989). Two explanations on comparative low personal efficacy for blacks have been offered. One is that the correlation between personal efficacy and self-esteem may be small or nonexistent with blacks (Hughes & Demo, 1989; Hulbary, 1975). The second explanation may stem from blacks blaming the system which reflects external locus of control (Pettigrew, 1967; Porter & Washington, 1979).

**Gender and Locus of Control.** Ryckman and Sherman (1973) investigated the relationship between gender and locus of control and self-esteem. Rotter's Internal-External Control Scale (1966) was administered to 178 men and 204 women to measure locus of control and Janis and Field's Feelings of Inadequacy Scale (1959) was administered to measure self-esteem. Men and women with higher self-esteem also tended to be more internally oriented. Neither locus of control nor self-esteem significantly differed
between men and women.

**Socioeconomic Status and Locus of Control.** Powell and Vega (1972) studied the hypothesis that internal locus of control is associated with greater achievement motivation, less anxiety, less psychopathology, a higher socioeconomic status, greater intellectual ability, and ethnic group membership. Tests measuring the above concepts were administered to 21 female teachers and 23 female teacher-aides. Locus of control was significantly correlated with socioeconomic status. Those respondents coming from higher socioeconomic classes reported higher internal control scores.

**Summary of the Objective Environment/Person Dimension Relationship**

Studies exploring the relationship between selected objective environment variables with self-esteem and locus of control were reviewed in the previous section. The literature review suggested that socioeconomic status affected both self-esteem and locus of control, as a correlate of self-esteem. Results indicated that the higher the socioeconomic status, the higher the self-esteem and the more internally oriented locus of control. Studies exploring the effect that ethnicity has on these concepts suggest that blacks tend to have higher self-esteem but a more external locus of control than whites. Finally, gender and self-esteem and gender and locus of control were not significantly related.
Objective Environment/Subjective Well-Being

Relationship (B)

The following section reviews the literature that explores the relationship between the objective environment and subjective well-being. Previous financial management researchers have primarily defined subjective well-being as financial satisfaction or perceived income adequacy. The variables defining the objective environment in the following studies vary.

Satisfaction with Financial Situation

A review of the family financial management literature reveals studies exploring satisfaction with financial management techniques as well as satisfaction with the financial situation. Both relationships will be reviewed. The following financial satisfaction or financial well-being studies incorporate objective environment characteristics as independent variables.

Danes and Morris (1989) explored those factors that motivate families to plan to change their financial situation. In addition, financial satisfaction/dissatisfaction with the financial situation was considered as a subproblem in the study. Data collected through interviews, for a project entitled "Quality of Life as Influenced by Area of Residence," were utilized. The random sample consisted of 485 households. Five demographic variables, age of household head, number of earners, household size, household income, and home equity, were included as independent variables in the study. Pearson product moment correlations were used to determine
which demographic variables affected financial satisfaction/dissatisfaction. Findings showed that those who were older heads of household, had higher incomes, had smaller households, and had higher home equity were more satisfied with their financial situation.

Regression equations indicated that 33% of the variance in satisfaction/dissatisfaction with the financial situation was explained by age, household income, household size, home equity, number of earners, and the gap between standard and level of consumption. The gap between standard and level of consumption was measured on a scale ranging from 1, the very worst situation to 10, the very best situation. Respondents were asked to place their families’ incomes on the scale. A larger number on the scale reflected a smaller gap between the level and the standard of consumption. The significant variables in predicting satisfaction with the family financial situation were age of the head, household income, and gap between standard and level of consumption, and household size. The strongest predictor of family financial situation satisfaction was the gap between the level and standard of consumption.

Lawrence et al. (1987) surveyed 203 extension home economics program participants in the State of Louisiana to determine the relationship between the adoption of selected financial management practices, as the independent variables, and the level of satisfaction with financial management, as the dependent variable. In addition, the relationship between financial management satisfaction and dissatisfaction and age of the
respondent, wage earner status, area of residence, membership in Extension Homemaker Clubs, number of household members was explored. In this section, only the relationship between demographic and financial satisfaction variables will be discussed, but the findings from the relationship between financial management practices and financial management satisfaction will be reviewed later. Frequency distributions, chi-square, and analysis of variance statistics were utilized procedures.

When asked about satisfaction with their financial management, 50% of the respondents reported being very satisfied, 42% were somewhat satisfied, and 8% were not satisfied. The researchers found that age of the respondent and number of people living in the home significantly affected financial satisfaction while wage earner status, area of residence, and member in Extension Homemaker Clubs did not have any effect on financial satisfaction. The older respondents reported being more satisfied with their financial management than younger respondents. The more people living in a household, the less satisfaction reported with financial management.

In a study of 300 married respondents, Greninger, Hampton, and Kitt (1982) attempted to determine the relationship between financial management and demographic, social psychological factors, and behavioral factors. The non-random sample selection resulted in respondents who were older, better educated, and better off financially than the general population according to census data. Four questions were asked to determine the respondents' attitudes and perceptions about financial management. Slightly
more than two-thirds of the respondents stated they were "somewhat" to "very satisfied" with their financial management techniques. The other respondents were equally divided between "somewhat dissatisfied" and "neutral."

Eight demographic variables (higher family income before taxes, higher husband's income before taxes, the older the wife, the longer the couple had been married, the older the youngest child, the husband and wife being white, protestant, and employed in a white-collar occupation) were significantly correlated to higher satisfaction with financial management techniques. In addition, if the husband provided the role of general money manager, investment manager, and checkbook balancer, financial management satisfaction was likely higher.

In a study relating measures of the objective environment, personal dimensions, behaviors, and subjective well-being, Williams (1985) investigated the relationships among personal management, resource satisfaction, sense of control, and quality of life. The data set used was part of the project, NC-128, Quality of Life as Influenced by Area of Residence collected by the Indiana Experiment Station in 1977 and 1978. Conceptually, variables were categorized by inputs, throughputs, and outputs as theorized by Deacon and Firebaugh (1981).

Multiple regression was used to formulate an equation predicting satisfaction with resources as a linear function of the independent variables. Two models were developed in order to compare input and output both with and without management practices as the throughput. The total sample was
tested using both models, as were four subsamples each of metropolitan and non-metropolitan men and women. Income was the strongest predictor of resource satisfaction for non-metropolitan men. Those who did not have a physical disability or health problem were more satisfied with their resources than those who had health problems. For non-metropolitan women, the higher the educational level, occupational level, and income, the higher the resource satisfaction. Various other aspects of this study will be reviewed under the appropriate model relationships considered later.

**Perception of Income Adequacy**

Strumpel's model of economic behavior would classify perception of income adequacy as a measure of subjective well-being. As such, the variables would be influenced by objective environment factors as well as personal dimensions of the individual. The family financial management research supports this relationship. Mammen, Helmick, and Metzen (1981) attempted to determine the factors that explain the variance in perceived adequacy of income over and above that explained by income. The randomly selected sample consisted of 404 adults from two communities in Missouri.

The independent variables included objective environment measures of financial condition, socio-demographic characteristics, non-money income, and recent improvements in life condition. The equations were run separately for men and women. As could be expected, family income accounted for the greatest amount of variance in the dependent variable.
Recent improvements in the financial condition contributed 7% to the explanation of variance for men and 12% for women. Therefore, both men and women perceived their incomes to be more adequate if there had been recent improvements in their financial conditions.

Danielewicz (1978) found, in a study of wives from 488 typical and 191 disadvantaged nuclear families, that the wives in the study perceived their family incomes as more adequate the more satisfied they were with their family’s level of living, the higher the family income, and the higher their educational level. Wives perceived their income as less adequate when they had sons, compared to not having sons, and when she was employed as a professional as compared to other occupations. Regression equations were used to arrive at these results.

A review of perceived income adequacy research by Shull (1981) revealed consistently significant relationships between wife’s perceived severity of financial problems, satisfaction with level of living, income, education of the wife, and perceived income adequacy.

Summary of Objective Environment/Subjective Well-being Relationship

As indicated in the literature review of the relationship between the objective environment and subjective well-being research reveals that various demographic variables have significantly related to financial satisfaction and perceived income adequacy. Income is consistently a significant predictor of financial subjective well-being measures. In addition, age of head of
household, household size, education, and occupation significantly affected subjective well-being.

**The Person Dimension/Subjective Well-being**

**Relationship (C)**

No family financial management research was found that explored a relationship between person dimensions and subjective well-being. Studies exploring the effect the person dimensions have on financial satisfaction, or subjective well-being are essential to more thoroughly examine an application of Strumpel's behavioral economic model to the explanation of financial behavior.

**The Person/Behavior Relationship (D)**

Although a relationship between the person dimensions and financial behavior has not been empirically studied, the effect that the person dimension has on behaviors has been explored. In the following section the relationship between the person dimension, as defined as self-esteem and locus of control, and various behaviors will be reviewed. Then, the proposed relationship between the person and money behavior, as presented in the popular literature, will be reviewed.

**Self-Esteem and Behavior**

In a review article exploring the self-concept as a social product and a
social force, Rosenberg (1981) illustrates how the self-concept affects behavior in occupational choice and political participation. In other words, self-concept is considered as a social force, or a determinant of behavior. However, it should be noted that there is evidence to support the self-concept as a social product of the choices people make.

As stated in Rosenberg's (1981) review article, the occupation an individual selects depends on the view they have about themselves. Occupational expectations and values have been shown to be effected by self-esteem. A study by Rosenberg (1965) showed that those individuals who reported low self-esteem wanted jobs in which they were free of supervision and wanted to avoid jobs that required the exercise of leadership.

Rosenberg (1962) also conducted a study to determine political participation among high school juniors and seniors. This study showed that those students reporting low self-esteem were more likely to be politically apathetic and less likely to be involved with political matters or interested in national or international affairs.

Locus of Control and Behavior

Sherman (1973) expressed the importance of control as a personality characteristic and as a concept that "is quite useful in helping to understand other individual behavioral and attitudinal differences" (p. 23). As previously stated, locus of control, or personal efficacy, is considered a component of self-esteem. The concept of locus of control is applied both sociologically and psychologically.
Sociologically, alienation is related to locus of control. This explanation of alienation refers to the feelings produced when the products of work no longer reflect the self, and the individual loses control over the direction and products of his work (Seeman, 1959). Psychologically, Seligman (1975) related locus of control to "learned helplessness" referring to a chronic sense of inefficacy which results from an individual learning that his or her actions have no effect on their environment. As a component of the self-concept, locus of control is implicated in behavior.

The Person Dimension and Money Behavior

As previously stated, research relating the concept of self-esteem with either an individual’s perception of satisfaction with financial situation or their related financial behavior is scarce. A number of authors (Domini, 1988; Hallowell & Grace, 1989; Krueger, 1986; Lindgren, 1980; Mundis, 1988) have stated their support for a relationship between financial satisfaction, or money, and self-esteem. But, unfortunately, these authors have lacked empirical research to support their theorized relationships.

Lindgren (1980) states that individuals treat money as if it is part of themselves. When the financial situation changes, changes take place within the self. He based his conclusions on self-theory, personality psychology that attempts to explain behavior through perception of an individual's environment. Conceptually, this explanation is similar to that of the four sociological principles (reflected appraisals, social comparisons, self-attribution, and psychological centrality) which explain the effect of status
differential variables (i.e. objective environment) on self-concept.

Money plays two roles in what Lindgren refers to as "money games with society." Money is used to gain the respect of others and in addition, is used as an indicator to others and the self as a degree of success. Self-esteem will rise or maintain its existing level if the financial position is improved. According to Lindgren, self-esteem is also likely to increase as a result of favorable social attitudes toward the individual.

Krueger (1986) suggests that financial worth is sometimes equated with internal value or esteem and confidence. He concludes that an increase in financial worth does not necessarily increase feelings of self-worth. Those individuals with low self-esteem typically do not rely on the internal factors to bolster their self-esteem as those with high self-esteem do. These individuals attempt to raise their self-esteem through a "relentless pursuit" when they depend on their wealth. In other words, those with low self-esteem who do depend on the external force of money to increase their self-esteem usually find that their search for higher self-esteem never ends.

Mundis (1988), through his experience with the Debtors Anonymous program, offered the basic reason behind why people get into debt originally. He states that "repeated debt results from dysfunctional (or distorted) attitudes and perceptions about money and self" (p.37). He also argues that these dysfunctional attitudes are usually subconscious, although they strictly guide an individual’s behavior. It would be reasonable to imply from his statement that financial satisfaction or related behaviors might also be
dependent upon these dysfunctional attitudes.

Fifteen common attitudes and perceptions were offered by Mundis (1988). Those that were considered applicable are: (1) the inability to understand money, (2) feeling a sense of worthlessness, (3) feeling that money is corrupting, and (4) the feeling that women can't handle money. These perspectives all affect the way a person feels about himself/herself and could therefore possibly affect their self-concept.

Domini (1988) refers to self-esteem as "the degree to which you like and approve of your identity" (p.4). She asserts that self-esteem is affected by having money or not having money. Domini explores the effect that money has on an individual and determines that those people who are comfortable with themselves and their lives can deal with the problems that money can bring. Her conclusions are based on a financial planning practice oriented toward wealthy individuals who have large inheritances.

Hallowell and Grace (1989) state that "for most of us, our self-esteem is to some extent bound up with how much money we have" (p. 12). Their beliefs are based on their work with clients in their respective occupations, psychiatry and stock market investing. They compare those with high and low self-esteem. Individuals with high self-esteem have a sense of who they are and how they feel about themselves without depending on money to make them like themselves. On the other hand, individuals with low self-esteem find that money, because of its importance in society, is a method of raising their self-esteem. Money then becomes a gauge of worthiness where
instead, other sources of raising self-esteem should be sought.

Gurney (1988), as president of the Financial Psychology Corporation, developed a questionnaire to determine "attitudes on 13 financial traits that influence money behavior and investment decisions". The financial traits included involvement, pride, emotionality, altruism, anxiety, power, work ethic, contentment, risk-taking, self-determination, spending, reflectivity, and trust. From these attitudes Gurney was able to identify and place individuals in nine distinct "Moneymax" groups. A large segment of the population was surveyed to determine how people think about and deal with money. Gurney also states in the "Moneymax" interactive model that self-regulation, self-concept, and self-expression impact upon the 13 financial traits. Information about sample size and methodology was not available.

In summary, a number of authors in the popular press have considered concepts and/or anecdotal experiences to support a relationship between self-esteem and financial behavior. These authors contend that how a person feels about themselves is extremely important in determining how they use money and their satisfaction with the financial situation. A few authors have empirically studied the relationship between self-esteem and financial satisfaction and these studies follow.

In 1981, Psychology Today conducted a Money Survey of over 20,000 respondents from the United States, Canada, and a number of other countries. This survey included a money contentment scale to gain an understanding of satisfaction with an individual's financial situation. Results
revealed that individuals aged 18 to 25 were most dissatisfied with their financial situation. Findings suggest that satisfaction with the financial situation does not depend on high income. Various psychological factors such as self-esteem, and satisfaction with one's job, friends, and personal growth more accurately reflect financial satisfaction (Rubenstein, 1981).

Lytton and Garman (1988) addressed the factors associated with the self-perception of financial difficulty in their research. This random sample consisted of 459 employees from a Washington, D.C. SMSA county government. Seventy-eight of the respondents stated that their "finances" had been "very difficult." These respondents were considered a subgroup as were the remaining respondents reporting better finances. The financially distressed subgroup reported a number of financial difficulties including not having enough money to meet daily expenses and basic needs, and being dissatisfied with their standard of living. The demographic characteristics were alike in both subsamples, except for race and income. The subset reporting financial difficulty consisted of more blacks and Native Americans than the subset reporting better finances. Those individuals with higher gross income were more likely to be financially satisfied. The sample reporting more positive finances had a more positive self-image than the financially distressed subgroup.

The support offered by the popular literature authors seems to explain a more cyclical view of the relationships than proposed in Strumpel's model. The argument that the self-concept could be considered either a product of
behavior or an antecedent of behavior lends credence to the possible cyclical nature of the relationships. In addition, a review of articles exploring a relationship between subjective well-being and behavior that follows will support this possibility. Future research should consider the cyclical nature of these relationships.

Research on occupational choice and political involvement provided support to indicate that self-esteem does have an effect on behavior. Also, locus of control orientations resulted in various sociological and psychological phenomenon. The dimensions of the person do play a role in affecting behavior.

The Subjective Well-Being/Behavior Relationship (E)

The relationship between subjective well-being and behavior has been explored very little in family financial management research, but behavioral economists have supported the importance of this relationship in their discipline. Strumpel (1976) states that subjective well-being which includes a "sense of adequacy and satisfaction with income, standard of living, savings and job" (p. 8) can be a motivator for different types of behavior. For example, "the expression of dissatisfaction can be an expression of resignation, or it can be a prelude to the initiation of constructive behavior" (p. 8).

A study by Lawrence et al. (1987) provided a cursory exploration of the affect that satisfaction with financial management had on the utilization
of financial management practices. More respondents who were "satisfied" with financial management used recommended financial management practices than those who were "somewhat satisfied" or "dissatisfied."

Various studies in family financial management have explored the opposite relationship that is defined in Strumpel's model. Again, this supports the possible cyclical nature of the relationships proposed in the model. Results of these studies follow.

Lawrence et al. (1987) surveyed 203 participants in the extension home economics program in the State of Louisiana. The primary purpose of the research was to explore the relationship between the adoption of selected financial management practices and the level of satisfaction with financial management. The participants in this study were found to have adopted a number of financial management practices. More than 75% of the respondents could find financial records when needed, kept records of bills paid, contacted creditors to reconcile differences, had a plan to pay basic expenses, had a realistic budget for the family, and balanced the checkbook monthly. Over half saved for emergency expenses, had personal spending allowances for family members, and saved for long-term goals. Through analysis of variance, findings indicated that the adoption of financial management practices was related positively to financial satisfaction.

Greninger, Hampton, & Kitt (1982) attempted to determine the relationship between demographic, social psychological factors, behavioral factors, and financial management. The sample was selected non-randomly
and consisted of 300 married respondents. The financial management practice variables of using a maintenance management style as opposed to a crisis management style, using a written budget, and spending more time on financial management significantly correlated with financial satisfaction. The more sophisticated the investment portfolio, the greater the number of jointly-owned investments, as opposed to separately-owned and controlled, and if separately owned, the more husband-oriented, also significantly correlated with financial satisfaction.

In Williams’ (1985) study examining the affect that family and personal resource management has on the quality of life, effective management procedures significantly contributed to resource satisfaction in the total sample and the subgroups of metropolitan men and non-metropolitan women. Some of the management activities considered included: estimates resources, plans for resource use, estimates expenditures, carries through plans, and figures net worth.

Jeries and Allen (1986) surveyed 184 wives in American student families in Iowa State housing to determine how important a number of financial management aspects were in explaining the satisfaction level with their financial management. Financial management characteristics included questions pertaining to: (1) usefulness of budgeting, (2) financial preparedness, (3) record-keeping, (4) budgeting, (5) debt-to-income ratio, and (6) anticipated changes in future income. The coefficient of multiple determination was utilized to determine the proportion of the variance in the
dependent variable explained by the independent variables. Results suggest that these six variables explained 31% of the variance in satisfaction with financial management practices among this convenience sample of students.

Review of Literature Summary

The purpose of this literature review was to address the individual relationships that have been defined through Strumpel's behavioral economic model as applied in this study. Many of the relationships have not been previously studied in the family financial management discipline. For those relationships that could not be empirically supported from past family financial management research, general explanations and applications were offered. The relationships will be summarized in the order they were previously explained as shown in Figure 3.

The objective environment/personal dimension relationship (A) focused on the effect that status differentials had on self-esteem and locus of control. According to research, socioeconomic status and ethnicity are likely to affect self-esteem and locus of control, whereas gender shows no significant influence. Various objective environment variables were found to affect subjective well-being (B). Income, age of the head of household, household size, occupation, and education affected satisfaction with financial situation and perceived income adequacy.

Studies exploring the relationship between personal dimensions and subjective well-being (C) are not available. Research should be conducted to
explain this relationship in family financial management.

The relationship between the person dimension and behavior (D) has not been previously studied in the family financial management discipline. A general explanation of the effect that the self-concept has on other behavior, such as occupational choice and political involvement, was offered to support the relationship.

The final relationship explored in this literature review, a relationship between subjective well-being and behavior (E), is conceptually supported by behavioral economists. The nature of the relationship, though, is not clear. Feelings of subjective well-being are thought to either initiate behavior, or suppress behavior.

The cyclical nature of many of the proposed relationships was determined through the literature review. Although this study is limited to the exploration of a linear relationship, further exploration of the cyclical nature of this phenomena is recommended for future research.
CHAPTER III

Methodology

This chapter reviews the data and methods of data analysis used in the study of financial management behaviors, as conceptualized on the basis of Strumpel's model of economic behavior. Specifically, objectives of the study were as follows:

1. Can financial management behavior be explained by factors such as income, education, occupation, financial life cycle stage, ethnicity, and gender which characterize the objective environment of the individual?

2. Can financial management behavior be explained by person dimensions such as self-esteem, specific money self-esteem, and locus of control?

3. Can financial management behavior be explained by dimensions of subjective well-being such as perceived adequacy of income and satisfaction with financial situation?

A description of the methodology and data collection procedures utilized with the Financial Practices and Attitudes of Virginia Citizens (1990) project, the questionnaire items which were used to specify the model, and the methods of data analysis follows.

Description of Data

The sample used for this study consisted of 521 Commonwealth of Virginia citizens. The data base is entitled Financial Practices and Attitudes
of Virginia Citizens and was collected by Lytton and Garman (1990) for the purpose of exploring "financial values, attitudes, behaviors, and perceptions of progress as well as preferences for continued learning about family financial management" (p. 2). In order to be included in the random sample selection, the respondents were 18 years of age or older and met minimum annual income requirements of at least $5,000 if single and at least $8,000 if married. All sample members had filed a 1988 Virginia state income tax form. Data were collected between October, 1989 and January, 1990. Survey instruments were mailed, according to a modified Dillman Total Design Method (1978), to 1,500 qualified households which resulted in a useable return rate of 40.7% (N=592).

The sample utilized in this study included the respondents who completed the survey questions measuring self-esteem, money self-esteem, locus of control, and financial management behaviors. Those respondents who had not completed each of the questions measuring these variables were not considered. These limitations on the sample reduced the number of usable respondents from 592 to 521.

**Specification of the Research Model**

Strumpel's behavioral economic model specifies variable groups that relate to behavior. These variable groups include the objective environment, personal dimensions, subjective well-being, and behavior (See Figure 4). The variables considered in the study were determined to measure one of the variable groups. The following questions and scales from the Financial
Figure 4. The identification of variables in this study as applied to Strumpel's model.
Practices and Attitudes Survey, were included in the research: New York State Self-Esteem Scale (Rosenberg self-esteem, 1979), three questions from James' Internal-External Locus of Control Scale (1957), two money self-esteem questions, a perceived income adequacy question, financial situation satisfaction scale, and 23 financial management behaviors. Demographic information was also used including gender, ethnicity, occupation, educational attainment, income, and stage in the financial life cycle. Each of these variables will be discussed relative to the definition within the adaptation of Strumpel's model of economic behavior.

Objective Environment Variables

The demographic characteristics were included because of their relevance to the objective environment category of variables in the conceptual model. The demographic variables considered were gender (V144), ethnicity (V145), financial life cycle stage (V143), income (V156), occupation (V152), and education (V157). The individual items as they appeared in the questionnaire are shown in Appendix A.

As categorical variables, gender, ethnicity, and financial life cycle stage were recoded as dummy variables so they could be correctly entered into the regression equations. Membership in a category for each of these variables resulted in an assignment of 1, while nonmembership in the category resulted in an assignment of 0 (Pedhazur, 1982).

Gender (SEX) was recoded as "1" if the respondent was male, and "0" if the respondent was female. Ethnicity (RACE) was recoded as "1" if the
respondent was black and "0" if the respondent was white. For ethnicity, responses to the categories of Hispanic, Native American, Oriental, and other were too few to be analyzed. Therefore, these responses were treated as missing data in the ethnicity category.

For the trichotomous variable, financial life cycle stage, respondents in the preservation stage of the financial life cycle were the reference group. Two other dummy variables were created. Respondents who identified themselves in the formation stage of the financial life cycle (FORM) were coded "1", if they were not a member, they were coded "0". Respondents identified in the accumulation stage of the lifecycle, were coded as "1" on the variable ACCUM, otherwise they were coded "0". Respondents were asked to report their household's annual gross income by indicating possible income responses in $5,000 intervals. Possible responses ranged from "under $10,000" to "$80,000 and over." Occupation was measured on a scale which listed possible employment positions ranked and categorized according to status. Respondents were asked to indicate an occupation category which most reflected their current employment. Education was measured on a scale ranging from "less than high school" to "graduate or professional degree." These variables were entered directly into the regression equations. They were assumed to represent interval scales with intervals between categories considered equal and therefore did not violate the assumption necessary for application of regression.
Person Dimensions

Three measures of the person dimension were considered in this study. The New York State (Rosenberg) Self-Esteem Scale (1979) was utilized to determine a global self-esteem score. Money self-esteem was measured through conceptually chosen items that more specifically determined the individual’s assessment of their themselves as money managers. Three items from the James’ Internal-External Locus of Control Scale (1957) were used to measure locus of control. Each of these measures will be discussed individually.

New York State (Rosenberg) Self-Esteem Scale

The self-esteem scale utilized in this survey was the New York State Self-esteem Scale (V104-V112, V114) frequently labeled the Rosenberg Self-esteem Scale (see Appendix A). The New York State Self-Esteem scale is a ten-item Guttman scale frequently scored by the Likert format (Rosenberg, 1979). The Guttman scoring method requires the individual items be combined into a number of groups. Each group is given a positive or negative self-esteem score and scores for each group are combined to determine an overall self-esteem score.

Rosenberg’s usage of the Guttman scale, where the scale is made up of statements "from the domain of one hypothetically unified construct" produces unidimensionality (Wylie, 1974, p. 181). Face validity, in addition to an acceptable Coefficient of Reproductivey of .92 (.90 or more has been
taken as an arbitrary minimum for a possible inference that it is a reliable, satisfactory unidimensional scale) provide evidence to support its unidimensionality (Wylie, 1974).

The Likert scoring method is most frequently used to determine a global self-esteem score from the New York State Self-Esteem Scale. This method is preferred to the Guttman scale because of its easier method of calculation. Robinson and Shaver (1975) stated that the Likert format of scoring, which measures attitudes by positive and negative ratings to each item, usually on a 5-point scale (Hollander & Hundt, 1972), provided self-esteem scores that were comparable with those scores determined by the Guttman scoring method. The Likert scoring method was used in the Financial Practices and Attitudes of Virginia Citizens project.

The items which combine to make-up this scale were included in the survey among questions that tested a number of psychological concepts. They were not listed in any specific order.

To arrive at an overall self-esteem score, the scales of the 10 self-esteem questions were manipulated so the lower numbers (1 and 2) would consistently represent low self-esteem and the higher numbers (4 and 5) would represent higher self-esteem. The individual item scores were then added to determine an overall self-esteem score. This is consistent with previous uses of this scale (Robinson & Shaver, 1975). The self-esteem scores ranged from 14 to 38 and the mean self-esteem score was 31.9 (SD=4.3). A Cronbach Coefficient Alpha test for reliability resulted in an alpha of .76.
Money Self-Esteem

Two questions from the instrument were determined through face validity to more specifically measure the individual's assessment of themselves regarding money and money management. This measure was included in the study to reflect the psychological centrality principle of the self-concept discussed in Chapter I. Rosenberg (1979) stated that the self-concept is composed of specific components or parts and the individual forms attitudes regarding these separate parts. The money self-esteem measure was included to explore another dimension of self-esteem which was considered applicable to this study. These two items (V43, V53, as shown in Appendix A) were conceptually chosen from statements in the survey that determined attitudes of the individual as related to money. The individual items were measured on a four point scale ranging from "strongly agree" to "strongly disagree." The items were included in this study in order to determine a money self-esteem score for each respondent.

Responses on the two questions were added together to determine a total money self-esteem score. The possible range of scores was 2 to 8. The actual range of scores reported in this study was 2 to 8 with a mean of 5.4 (SD=1.2). A reliability test produced a Cronbach Coefficient Alpha of .61.

Locus of Control

This instrument provided only 3 of the 30 questions posed to determine locus of control from James' Internal-External Locus of Control Scale (1957). Although incomplete, the items included in the questionnaire
were thought to conceptually give an indication of internal or external locus of control orientation. The scores of the three locus of control items (V114, V116, V117, as shown in Appendix A) were added to determine a total locus of control score. Scores could range from 3 to 15 and the items were measured from internal (1) to external (5). The responses reported in the study ranged from 3 to 12 with a mean of 6.6 (SD=2.0). The Cronbach Coefficient Alpha as a measure of reliability produced an alpha of .76.

**Dimensions of Subjective Well-Being**

Two variables, from this study, were determined to measure subjective well-being. Financial satisfaction (V69) and perceived income adequacy (V122) provided the subjective well-being measures.

Financial situation satisfaction was measured using a seven-point scale with defining endpoints as "very dissatisfied" and "very satisfied." Financial situation was one of eight areas included to determine satisfaction or dissatisfaction with the components of life. The mean financial satisfaction score in the study was 4.3 (SD=1.6).

Perceived income adequacy was measured from the response to the question "What is your perception regarding the adequacy of you family income?" The five response categories represented a range from inadequacy to surplus. The variable was entered into the regression equations as an interval level variable. The variable was assumed to represent an interval scale because of its assumed equal distances between categories. Therefore,
the scale was not dummy coded. See Appendix A for the item as it appeared in the research instrument.

**Financial Management Behaviors**

Twenty-three financial management behaviors (V81-V103) were included in the data base (see Appendix A). These behaviors were thought to reflect fundamental financial management tasks and conceptually were grouped according to the following areas: general financial behaviors, cash management, credit management, tax management, capital accumulation, risk management, and retirement/estate management (Lytton & Garman, 1990; Porter, 1990).

The questions were measured on a five-point scale ranging from one, "not very typical of yourself" to five, "very typical of yourself." The behaviors were considered to have a positive and negative label and the scales were manipulated in order to have the numerical response of 1 indicate a negative score and 5 indicate a positive score based on assumed effective family financial management behavior.

Initially, various individual behavior items were selected as dependent variables. However, results of the individual regression equations were statistically significant but were substantially insignificant. The preliminary regression equations resulted in R²'s of .10 or less. The R² is utilized to "assess the goodness of fit in a multiple regression equation" (Lewis-Beck, 1980, p. 52). Statistically, the R² indicates the proportion of the variation in
in the dependent variable explained by the independent variables. Therefore, less than 10% of the variation in the individual financial behaviors was explained by all the independent variables. In response to this dilemma, the 23 behavior items were factor analyzed using principal components factor analysis.

The purpose of factor analysis is to "find a way of condensing (summarizing) the information contained in a number of original variables into a smaller set of new composite dimensions (factors) with a minimum loss of information" (Hair, Anderson, Tatham, & Grabowsky, 1979, p. 218). Instead of conceptually grouping together similar financial behaviors, factor analysis was used to statistically determine similar concepts. Equimax rotation was chosen to simplify the factor loadings structure and to increase interpretability. The factors remain uncorrelated and the sum of the variance explained by the factors does not change in an orthogonal rotation. Cattell's (1966) scree plot of eigenvalues was used to determine which factors should be retained in the factor analysis. From this procedure, four factors were retained.

Kim and Mueller (1978) support the use of "simple index construction" when determining dimension scale scores from items. With the "simple index construction" approach, "a scale is built by summing all the variables with substantial loadings and ignoring the remaining variables with minor loadings. The scale created in this way is no longer a factor scale but merely factor-based.... The rule of thumb often used in this context is to consider factor
loadings less than .30 as not substantial" (p. 70).

A similar method of generating dimension scale scores was used to determine the items that would be included in each factor. A total dimension scale score for each factor was determined by adding the numerical responses from the individual items together. Only those items with factor loadings equal to or greater than .42 were included. These dimension scale scores were used as the dependent variables in the study.

Data Analysis

Descriptive statistics were run to produce a demographic profile of the respondents. Descriptive statistics also were used to present financial satisfaction, perceived income adequacy, financial management behavior participation, locus of control, money self-esteem and self-esteem score profiles.

The primary statistical procedure used to examine the research problem was multiple regression analysis. The analysis was run through the Statistical Analysis System (SAS Institute, 1985). Path analysis was considered the most applicable statistical procedure to study the relationships in the proposed model. But, based on the exploratory nature of this study, multiple regression was considered appropriate to determine the significance of the independent variables on which to base future study. To test for multicollinearity, zero order correlations were run (see Appendix B). Results revealed only moderate correlations, therefore, none of the variables were
eliminated from the analysis.

The independent variables (demographic characteristics, locus of control, money self-esteem, financial satisfaction, perceived income adequacy and self-esteem score) were regressed on each of the four dimension scale scores resulting from the factor analysis. In order to refer to the relative importance of the variables, standardized beta weights were utilized. Beta weights indicated the standard deviation level of change in the dependent variable when the independent variable was changed one standard deviation. Unstandardized beta weights were reported although they could not be used to compare independent variables because of the varied scales of measurement for the independent variables.

**Summary of the Chapter**

This study was designed to explore the factors which influence financial management behaviors, as those activities to plan for, use, or control money. Independent variables represented demographic factors, person dimensions, and subjective measures of financial well-being. Dependent variables were determined through factor analysis of 23 financial management behaviors resulting in four dimension scale scores. The *Financial Practices and Attitudes of Virginia Citizens* (1990) data served as the basis of the research. Ordinary least squares regression analysis was the primary method of analysis.
CHAPTER IV

Presentation of Findings

The purpose of this study was to explore financial management behavior through the application of Strumpel's conceptual model of economic behavior. Based on the model, three categories of variables were studied including the objective environment, the person dimensions, and subjective well-being. The purpose of this chapter is to present the data and findings. A description of the sample, descriptive statistics for the variables used in the study, and results of the statistical analysis are presented.

Demographic Characteristics of the Sample

The sample consisted of 521 respondents who met the requirements for inclusion in the study as described in Chapter 3. As shown in Table 1, the sample consisted of almost an equal number of male and female respondents, 50.6% and 49.4% respectively. The majority of the respondents (85.9%) were Caucasian while 11.2% were black.

As seen in Table 1, over half (63.0%) of the respondents were presently married. The second largest group (22.0%) were never married and 9.8% were divorced and presently unmarried. Less than five percent of the respondents (3.1%) were widowed. The overwhelming majority of the respondents (72.9%) were between 20 and 49 years of age. Over twenty percent (21.8%) were between the ages of 20 and 29, 28.9% were between 30 and 39, and 22.2% were between the ages of
Table 1

Demographic Characteristics of Respondents and Their Spouses

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>n</th>
<th>%a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>(N&lt;sup&gt;b&lt;/sup&gt; = 518)</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>262</td>
<td>50.6</td>
</tr>
<tr>
<td>Female</td>
<td>256</td>
<td>49.4</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>(N&lt;sup&gt;b&lt;/sup&gt; = 518)</td>
<td></td>
</tr>
<tr>
<td>White (Caucasian)</td>
<td>445</td>
<td>85.9</td>
</tr>
<tr>
<td>Black (African-American)</td>
<td>58</td>
<td>11.2</td>
</tr>
<tr>
<td>Hispanic (Spanish-American)</td>
<td>4</td>
<td>0.8</td>
</tr>
<tr>
<td>Native American</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Oriental</td>
<td>8</td>
<td>1.5</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>0.6</td>
</tr>
<tr>
<td>Marital Status</td>
<td>(N&lt;sup&gt;b&lt;/sup&gt; = 519)</td>
<td></td>
</tr>
<tr>
<td>Never Married</td>
<td>114</td>
<td>22.0</td>
</tr>
<tr>
<td>Divorced and Remarried</td>
<td>40</td>
<td>7.7</td>
</tr>
<tr>
<td>Married</td>
<td>287</td>
<td>55.3</td>
</tr>
<tr>
<td>Separated</td>
<td>11</td>
<td>2.1</td>
</tr>
<tr>
<td>Divorced Pres. Unmarried</td>
<td>51</td>
<td>9.8</td>
</tr>
<tr>
<td>Widowed</td>
<td>16</td>
<td>3.1</td>
</tr>
<tr>
<td>Respondents' Age (in Years)</td>
<td>(N&lt;sup&gt;b&lt;/sup&gt; = 515)</td>
<td></td>
</tr>
<tr>
<td>Less Than 20</td>
<td>10</td>
<td>1.9</td>
</tr>
<tr>
<td>20 to 29</td>
<td>112</td>
<td>21.8</td>
</tr>
<tr>
<td>30 to 39</td>
<td>149</td>
<td>28.9</td>
</tr>
<tr>
<td>40 to 49</td>
<td>114</td>
<td>22.2</td>
</tr>
<tr>
<td>50 to 59</td>
<td>73</td>
<td>14.1</td>
</tr>
<tr>
<td>60 to 69</td>
<td>33</td>
<td>8.2</td>
</tr>
<tr>
<td>70 to 79</td>
<td>12</td>
<td>2.3</td>
</tr>
<tr>
<td>80 or Over</td>
<td>3</td>
<td>0.6</td>
</tr>
<tr>
<td>Spouses' Age (in Years)</td>
<td>(N&lt;sup&gt;b&lt;/sup&gt; = 342)</td>
<td></td>
</tr>
<tr>
<td>Less Than 20</td>
<td>2</td>
<td>0.6</td>
</tr>
<tr>
<td>20 to 29</td>
<td>56</td>
<td>16.4</td>
</tr>
<tr>
<td>30 to 39</td>
<td>96</td>
<td>28.0</td>
</tr>
<tr>
<td>40 to 49</td>
<td>95</td>
<td>27.8</td>
</tr>
<tr>
<td>50 to 59</td>
<td>51</td>
<td>14.9</td>
</tr>
<tr>
<td>60 to 69</td>
<td>30</td>
<td>8.8</td>
</tr>
<tr>
<td>70 to 79</td>
<td>12</td>
<td>3.5</td>
</tr>
</tbody>
</table>

a Percentages may not add to 100 due to rounding.
b Number of respondents may not add to 521 due to non-response or nonapplicability of the question.
40 and 49. Only 11.1% of the respondents were aged 60 or older (see Table 1). Only 2 of the respondents' spouses (0.6%) were less than 20 years old. The majority of the spouses (72.2%) were between the ages of 20 and 49. Only 12.3% of the respondents' spouses were age 60 or above.

Table 2 describes the respondents' households. Five children were the most that any respondent had living in their household (0.8%). The majority of the respondents had no children living in their household. Almost an equal number of households had one or two children living in them (21.4% and 18.6%, respectively).

Most respondents were not financially responsible for other adults or children (86.5%). Only 13.5% of the households financially supported other adults or children.

Approximately twenty percent (20.6%) of the respondents' spouses were married before. Only 7.4% of the respondents were paying alimony or child support, and only 5.5% were currently receiving alimony or child support.

The majority of the respondents (70.5%) had an annual gross income of less than $50,000. Over 20% (21.9%) had incomes between $50,000 and $79,999 while only 7.5% of the sample had incomes of $80,000 and above (see Table 2).

Most of the respondents had attained at least a high school education. As shown in Table 3, only 5.5% of the respondents had less than a high school education. Almost one-quarter of the respondents in the sample
Table 2

Demographic Profile of the Households

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>n</th>
<th>%a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Children Living in Household</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>268</td>
<td>52.5</td>
</tr>
<tr>
<td>1</td>
<td>109</td>
<td>21.4</td>
</tr>
<tr>
<td>2</td>
<td>95</td>
<td>18.6</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td>5.9</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>0.8</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>0.8</td>
</tr>
<tr>
<td>Other Adults or Children Responsible for Financially</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>443</td>
<td>86.5</td>
</tr>
<tr>
<td>1</td>
<td>69</td>
<td>13.5</td>
</tr>
<tr>
<td>Spouse Married Before</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>343</td>
<td>79.4</td>
</tr>
<tr>
<td>Yes</td>
<td>89</td>
<td>20.6</td>
</tr>
<tr>
<td>Pay Alimony or Child Support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>439</td>
<td>92.6</td>
</tr>
<tr>
<td>Yes</td>
<td>35</td>
<td>7.4</td>
</tr>
<tr>
<td>Receive Alimony or Child Support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>449</td>
<td>94.5</td>
</tr>
<tr>
<td>Yes</td>
<td>26</td>
<td>5.5</td>
</tr>
<tr>
<td>Total Annual Gross Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $10,000</td>
<td>30</td>
<td>5.9</td>
</tr>
<tr>
<td>$10,000 to $19,999</td>
<td>85</td>
<td>16.7</td>
</tr>
<tr>
<td>$20,000 to $29,999</td>
<td>97</td>
<td>19.0</td>
</tr>
<tr>
<td>$30,000 to $39,999</td>
<td>79</td>
<td>15.6</td>
</tr>
<tr>
<td>$40,000 to $49,999</td>
<td>68</td>
<td>13.3</td>
</tr>
<tr>
<td>$50,000 to $59,999</td>
<td>47</td>
<td>9.2</td>
</tr>
<tr>
<td>$60,000 to $69,999</td>
<td>43</td>
<td>8.4</td>
</tr>
<tr>
<td>$70,000 to $79,999</td>
<td>22</td>
<td>4.3</td>
</tr>
<tr>
<td>$80,000 and Above</td>
<td>38</td>
<td>7.5</td>
</tr>
</tbody>
</table>

a Percentages may not add to 100 due to rounding.
b Number of respondents may not add to 521 due to non-response or nonapplicability of the question.
### Table 3

Profile of Educational Attainment and Occupational Status of Respondents and Their Spouses

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>Respondent</th>
<th>Spouse</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Educational Attainment</strong></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Less Than High School</td>
<td>28</td>
<td>5.5</td>
</tr>
<tr>
<td>High School Degree</td>
<td>118</td>
<td>23.0</td>
</tr>
<tr>
<td>Trade/Vocational Training</td>
<td>37</td>
<td>7.2</td>
</tr>
<tr>
<td>Some College (No Degree)</td>
<td>149</td>
<td>29.1</td>
</tr>
<tr>
<td>Bachelors Degree</td>
<td>109</td>
<td>21.3</td>
</tr>
<tr>
<td>Graduate or Professional Degree</td>
<td>71</td>
<td>13.9</td>
</tr>
<tr>
<td><strong>Employment Status</strong></td>
<td>(N^b = 507)</td>
<td></td>
</tr>
<tr>
<td>Full-Time Employment</td>
<td>396</td>
<td>78.1</td>
</tr>
<tr>
<td>Part-Time Employment</td>
<td>33</td>
<td>6.5</td>
</tr>
<tr>
<td>Unemployed</td>
<td>12</td>
<td>2.4</td>
</tr>
<tr>
<td>Full-Time Homemaker</td>
<td>10</td>
<td>2.0</td>
</tr>
<tr>
<td>Student</td>
<td>14</td>
<td>2.8</td>
</tr>
<tr>
<td>Retired</td>
<td>42</td>
<td>8.3</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td>(N^b = 505)</td>
<td></td>
</tr>
<tr>
<td>Not Employed for Money Income</td>
<td>67</td>
<td>13.3</td>
</tr>
<tr>
<td>Exec., Lge. Bus. Owner, Major Prof.</td>
<td>23</td>
<td>4.6</td>
</tr>
<tr>
<td>Manager, Med. Bus. Owner, Prof.</td>
<td>120</td>
<td>23.8</td>
</tr>
<tr>
<td>Adm. Personnel, Small Bus. Owner</td>
<td>86</td>
<td>17.0</td>
</tr>
<tr>
<td>Clerical, Sales, Technicians</td>
<td>95</td>
<td>18.8</td>
</tr>
<tr>
<td>Skilled Manual Employees</td>
<td>69</td>
<td>13.7</td>
</tr>
<tr>
<td>Machine Operators, Semi-Skilled</td>
<td>34</td>
<td>6.7</td>
</tr>
<tr>
<td>Unskilled Employees</td>
<td>11</td>
<td>2.2</td>
</tr>
</tbody>
</table>

\(^a\) Percentages may not add to 100 due to rounding.

\(^b\) Number of respondents may not add to 521 due to non-response or nonapplicability of the question.

\(^c\) 209 respondents noted that the question regarding spouse's occupation was not applicable or their spouse was not currently employed. Data is presented for the other 245 respondents.
(23.0%) had a high school degree and 7.2% had trade or vocational training. Almost one-third (29.1%) of the sample had some college but had not obtained a degree. Over one-fifth (21.3%) had attained a bachelor's degree while 13.9% had a graduate or professional degree. The respondents' spouses had achieved somewhat less educational attainment. Only 8.4% of the spouses had earned a graduate or professional degree and 15.9% had a bachelor's degree. In addition, 10.1% had not completed high school.

The overwhelming majority of the respondents (78.1%) were currently employed full-time where a somewhat smaller number of their spouses (62.4%) were employed full-time (see Table 3). After full-time employment, the next largest group of respondents were retired (8.3%). The next largest group of spouses were full-time homemakers (16.3%).

As seen in Table 3, the respondents were employed in a wide range of occupations. Almost 15% of the respondents in the sample (13.3%) were not employed for money income at the time of the survey. Less than 5% (4.6%) held executive or comparable positions, while the largest group, 28.8% held managerial or professional occupations. Less than 10% of the respondents were semi-skilled or unskilled employees (6.7% and 2.2%, respectively). Almost an equal number of spouses were employed as managers, medium business owners or professionals (20.0%), as administrative personnel or small business owners (21.6%), in clerical or sales positions (22.0%), or as skilled manual employees (20.0%).

As seen in Table 4, the majority (71.4%) of the sample owned their
Table 4

Description of Household Financial Situation of Respondents

<table>
<thead>
<tr>
<th>Financial Characteristics</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Housing Tenure</strong> (N^b = 518)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Own</td>
<td>370</td>
<td>71.4</td>
</tr>
<tr>
<td>Rent</td>
<td>108</td>
<td>20.8</td>
</tr>
<tr>
<td>Other</td>
<td>40</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>Financial Life Cycle Stages</strong> (N^b = 499)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formation Stage</td>
<td>279</td>
<td>55.9</td>
</tr>
<tr>
<td>Accumulation Stage</td>
<td>165</td>
<td>33.1</td>
</tr>
<tr>
<td>Preservation/Distribution Stage</td>
<td>55</td>
<td>11.0</td>
</tr>
</tbody>
</table>

^a Percentages may not add to 100 due to rounding.
^b Number of respondents may not add to 521 due to non-response.
houses. Slightly over one-fifth (20.8%) of the respondents rented while 7.7% had other arrangements. At the time the survey was administered, over half of the sample (55.9%) were in the formation stage of the life cycle. Porter (1990) had defined the "formation stage", in the survey, as:

Household is being established...children, if any, are financially dependent on the family...basic needs of food, clothing, shelter, etc. are being met...purchased with credit so that what you owe is greater than what you own...most valuable thing owned is often the home...little retirement or estate planning is done except for contributions that are made by employer or those required by the government.

Approximately three out of 10 of the respondents (33.1%) considered themselves a part of the "accumulation stage." The "accumulation stage" was described as:

Lifestyle is set...major financial costs of life are behind you, such as educating children, purchasing home, etc...what you own is now more than what you owe...for the first time there seems to be extra income available for saving and investing...planning and preparing for retirement becomes very important.

Slightly over 10% of the sample (11.0%) were in the "preservation/distribution stage" of their lifecycle. The "preservation/distribution stage" was characterized, in the survey, as:

Retirement of at least one individual within household means that income, savings, and investments need to be managed carefully so that they will last a lifetime...what you own has reached a lifetime peak...investments may be producing income to live on...debts have been reduced...planning for the distribution of your assets to other people has become very important.
Person Dimensions

As measures of the person dimension, self-esteem, money self-esteem, and locus of control were used in the study (See Table 5). Descriptive statistics for these three variables are discussed.

As described in the methodology section of the thesis, the self-esteem scores were determined by adding the responses to the 10 statements which comprised the total self-esteem score. Specific scores were not identified as being either low or high self-esteem as the categories of low and high self-esteem were not predetermined through the New York State Self-Esteem Scale (1979). Instead, the differentiation was made using the terms higher and lower self-esteem as reflected in the resulting interval level scale.

As shown in Table 5, the respondents' reported self-esteem scores ranged from 14 to 38 (from a possible scale ranging from 10, the lowest, to 40, the highest). The largest single group of respondents had scores between 30 and 34 (40.4%). The overwhelming majority of the respondents (94.4%) reported self-esteem scores of 25 or above. The mean self-esteem score was 31.9, indicating that respondents were skewed toward the higher self-esteem end of the scale. The standard deviation was 4.3.

Two questions measuring attitudes of success with handling and managing money. As shown in Table 5, the money self-esteem scores ranged from 2 to 8. The majority of the respondents (62.3%) reported scores in the middle range of the scale (between 4 and 6 points). The mean money self-esteem score was 5.4 with a standard deviation of 1.2.
Table 5

Respondents' Person Dimension Profile

<table>
<thead>
<tr>
<th>Person Dimension Measurement</th>
<th>n</th>
<th>%</th>
<th>Cumulative%</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Self Esteem Score*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less Than 20</td>
<td>6</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td>20 to 24</td>
<td>23</td>
<td>4.4</td>
<td>5.6</td>
</tr>
<tr>
<td>25 to 29</td>
<td>110</td>
<td>21.1</td>
<td>26.7</td>
</tr>
<tr>
<td>30 to 34</td>
<td>210</td>
<td>40.3</td>
<td>67.0</td>
</tr>
<tr>
<td>35 or Over</td>
<td>172</td>
<td>33.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Specific Money Self-Esteem Scoreb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less Than 4</td>
<td>34</td>
<td>6.6</td>
<td>6.6</td>
</tr>
<tr>
<td>4 to 6</td>
<td>422</td>
<td>82.3</td>
<td>88.9</td>
</tr>
<tr>
<td>7 or Over</td>
<td>57</td>
<td>11.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Locus of Control Scorec</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less Than 6</td>
<td>143</td>
<td>27.4</td>
<td>27.4</td>
</tr>
<tr>
<td>6 to 9</td>
<td>349</td>
<td>67.0</td>
<td>94.4</td>
</tr>
<tr>
<td>10 or Over</td>
<td>29</td>
<td>4.5</td>
<td>99.9</td>
</tr>
</tbody>
</table>

* Scores ranged from 14 to 38, M=31.9, SD=4.3.

b Scores ranged from 2 to 8, M=5.4, SD=1.2.

c Scores ranged from 3 to 12, M=6.6, SD=2.0.

d Percentages may not add to 100 due to rounding.
Three questions to determine the respondents' locus of control orientation were included in the study. Responses to the items were summated to arrive at a total locus of control scale. The lower the scale total, the more internal locus of control orientation while the higher scale total represents external locus of control. Grouping the locus of control scores, shown in Table 5, revealed that the majority of the respondents' scores (67.0%) were grouped around the middle of the scale (between 6 and 9 points). Combining the two responses at each end of the scale reveals that, more respondents reported internal locus of control orientations (15.7%) than external locus of control (2.8%). Locus of control scores ranged from 3 to 12. The mean score was 6.6 with a standard deviation of 2.0.

**Subjective Well-Being**

Respondents were asked to rate their satisfaction with their financial situation on a scale from 1 (completely dissatisfied) to 7 (completely satisfied). As seen in Table 6, over half (50.2%) of the respondents rated their satisfaction with their financial situation as a 4 or 5 on the scale of 7. Combining the three responses on each end of the scale resulted in slightly over one-quarter of the respondents (26.4%) reporting that they were dissatisfied with their financial situation, while almost half (49.6%) reported satisfaction. The mean financial satisfaction score was 4.3, with a standard deviation of 1.6, indicating responses grouped around the middle of the scale.

For the second measure of subjective well-being, respondents were
Table 6

Description of Respondents' Financial Situation

<table>
<thead>
<tr>
<th>Financial Situation Measurement</th>
<th>n</th>
<th>%</th>
<th>Cumulative%b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Satisfaction*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completely dissatisfied</td>
<td>1</td>
<td>8.3</td>
<td>8.3</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>6.9</td>
<td>15.2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>11.2</td>
<td>26.4</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>24.0</td>
<td>50.4</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>26.2</td>
<td>76.6</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>16.5</td>
<td>93.1</td>
</tr>
<tr>
<td>Completely satisfied</td>
<td>7</td>
<td>6.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Perceived Income Adequacy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all adequate</td>
<td>29</td>
<td>5.6</td>
<td>5.6</td>
</tr>
<tr>
<td>Can meet necessities only</td>
<td>55</td>
<td>10.7</td>
<td>16.3</td>
</tr>
<tr>
<td>Can afford some of the things I want</td>
<td>283</td>
<td>55.1</td>
<td>71.4</td>
</tr>
<tr>
<td>Can afford about everything I want</td>
<td>110</td>
<td>21.4</td>
<td>92.8</td>
</tr>
<tr>
<td>Can afford everything I want and still save money</td>
<td>37</td>
<td>7.2</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*M=4.30, SD=1.6.*

b Percentages may not add to 100 due to rounding.
asked to rate their perceived income adequacy. The majority of the respondents (55.1%) reported that they could "afford some of the things I want." Grouping the data reveals that over one-quarter of the respondents (28.6%) perceived their income as allowing them to "afford everything I want" or "afford everything I want and still save money" whereas 16.3% indicated that their income was less than adequate or "allowed for necessities only."

**Personal Financial Behaviors**

Respondents in the sample ranked their participation in 23 financial management behaviors on a scale ranging from 1 or "not typical of yourself" to 5 or "very typical of yourself". The results are presented in Table 7. The financial management behaviors were grouped under headings for discussion purposes only and did not appear in the survey in this format.

**General Management**

Responses were fairly evenly dispersed across the scale when respondents indicated if they "have an overall plan that will enable me to reach my financial goals." Combining the responses on each end of the scale resulted in almost an equal number of respondents stating this was "not typical" as "very typical" (35.1% and 35.0%, respectively). Combining each end of the scale resulted in the majority (56.4%) of the respondents in the sample indicating that they typically "have some specific financial goals for the future." On the opposite end of the scale, 24.8% of the respondents
### Table 7

**Respondents' Reported Financial Behaviors**

<table>
<thead>
<tr>
<th>Var #</th>
<th>Behaviors</th>
<th>Not Typical 1 %*</th>
<th>Not Typical 2 %*</th>
<th>Not Typical 3 %*</th>
<th>Very Typical 4 %*</th>
<th>Very Typical 5 %*</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>82</td>
<td>I have an overall plan that will enable me to reach my financial goals.</td>
<td>16.3</td>
<td>18.8</td>
<td>29.9</td>
<td>24.6</td>
<td>10.4</td>
<td>521</td>
<td>2.9</td>
<td>1.2</td>
</tr>
<tr>
<td>96</td>
<td>I have some specific financial goals for the future (for example, to buy a new car in two years).</td>
<td>15.2</td>
<td>9.6</td>
<td>18.8</td>
<td>24.0</td>
<td>32.4</td>
<td>521</td>
<td>3.5</td>
<td>1.4</td>
</tr>
<tr>
<td>98</td>
<td>I rarely discuss my personal financial matters with family or friends.</td>
<td>19.6</td>
<td>13.4</td>
<td>24.8</td>
<td>16.9</td>
<td>25.3</td>
<td>521</td>
<td>2.9</td>
<td>1.4</td>
</tr>
<tr>
<td>95</td>
<td>I often make financial decisions without much analysis.</td>
<td>46.3</td>
<td>17.9</td>
<td>19.2</td>
<td>10.2</td>
<td>6.3</td>
<td>520</td>
<td>2.1</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td><strong>Cash Management</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>81</td>
<td>I have a weekly or monthly budget that I follow.</td>
<td>20.2</td>
<td>14.0</td>
<td>23.6</td>
<td>23.2</td>
<td>19.0</td>
<td>521</td>
<td>3.1</td>
<td>1.4</td>
</tr>
<tr>
<td>83</td>
<td>My checking account pays me interest.</td>
<td>44.5</td>
<td>7.4</td>
<td>6.4</td>
<td>9.9</td>
<td>31.9</td>
<td>517</td>
<td>2.8</td>
<td>1.8</td>
</tr>
<tr>
<td>85</td>
<td>I never write bad checks or ones with insufficient funds.</td>
<td>22.5</td>
<td>5.2</td>
<td>6.3</td>
<td>6.3</td>
<td>59.7</td>
<td>521</td>
<td>3.8</td>
<td>1.7</td>
</tr>
<tr>
<td>86</td>
<td>In the recent past, I have received overdue notices because of late or missed payments.</td>
<td>60.1</td>
<td>11.7</td>
<td>10.2</td>
<td>7.7</td>
<td>10.4</td>
<td>521</td>
<td>2.0</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td><strong>Credit Management</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>88</td>
<td>I often spend more money than I have.</td>
<td>51.1</td>
<td>17.7</td>
<td>16.1</td>
<td>8.6</td>
<td>6.5</td>
<td>521</td>
<td>2.0</td>
<td>1.3</td>
</tr>
<tr>
<td>90</td>
<td>Overall, I am more in debt than this time last year.</td>
<td>46.8</td>
<td>15.5</td>
<td>13.6</td>
<td>11.3</td>
<td>12.7</td>
<td>521</td>
<td>2.3</td>
<td>1.5</td>
</tr>
<tr>
<td>84</td>
<td>I usually do not pay the total balance due on my credit card, but instead just make a partial payment.</td>
<td>40.9</td>
<td>8.3</td>
<td>9.4</td>
<td>16.5</td>
<td>25.0</td>
<td>521</td>
<td>2.8</td>
<td>1.7</td>
</tr>
<tr>
<td>94</td>
<td>In the recent past, I have obtained cash advances to pay money toward other credit balances.</td>
<td>79.7</td>
<td>6.0</td>
<td>4.2</td>
<td>5.4</td>
<td>4.8</td>
<td>521</td>
<td>1.5</td>
<td>1.1</td>
</tr>
<tr>
<td>103</td>
<td>Compared to a year ago, my use of credit cards has increased.</td>
<td>51.1</td>
<td>14.8</td>
<td>18.2</td>
<td>5.6</td>
<td>10.4</td>
<td>521</td>
<td>2.1</td>
<td>1.4</td>
</tr>
</tbody>
</table>

* Percentages may not add to 100 due to rounding.

b Number of respondents may not add to 521 due to non-response.
Table 7. (continued)

<table>
<thead>
<tr>
<th>Var #</th>
<th>Behaviors</th>
<th>Not Typical</th>
<th>Typical 1</th>
<th>Typical 2</th>
<th>Typical 3</th>
<th>Typical 4</th>
<th>Very Typical 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>n</td>
<td>M</td>
</tr>
<tr>
<td>Tax Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>92.</td>
<td>I usually fill out my own income tax forms.</td>
<td>35.7</td>
<td>5.4</td>
<td>4.8</td>
<td>5.6</td>
<td>48.6</td>
<td>521</td>
</tr>
<tr>
<td>101.</td>
<td>I usually itemize my income tax deductions.</td>
<td>22.6</td>
<td>4.6</td>
<td>8.8</td>
<td>8.4</td>
<td>55.5</td>
<td>521</td>
</tr>
<tr>
<td>89.</td>
<td>I do not deduct something on my taxes unless I have a receipt.</td>
<td>10.6</td>
<td>7.9</td>
<td>15.2</td>
<td>19.8</td>
<td>46.5</td>
<td>520</td>
</tr>
<tr>
<td>Capital Accumulation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>87.</td>
<td>I regularly set money aside for savings.</td>
<td>16.4</td>
<td>13.0</td>
<td>18.6</td>
<td>18.6</td>
<td>33.5</td>
<td>517</td>
</tr>
<tr>
<td>97.</td>
<td>This year, I invested some money in stocks, bonds, or mutual funds.</td>
<td>53.6</td>
<td>7.3</td>
<td>7.9</td>
<td>8.4</td>
<td>22.8</td>
<td>521</td>
</tr>
<tr>
<td>Risk Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>102.</td>
<td>I have a homeowner’s or renter’s insurance policy.</td>
<td>18.0</td>
<td>1.3</td>
<td>3.1</td>
<td>3.5</td>
<td>74.1</td>
<td>520</td>
</tr>
<tr>
<td>100.</td>
<td>My auto is adequately insured.</td>
<td>4.2</td>
<td>0.6</td>
<td>2.5</td>
<td>10.0</td>
<td>82.7</td>
<td>520</td>
</tr>
<tr>
<td>93.</td>
<td>I have trouble meeting monthly health care expenses, including premiums for health insurance.</td>
<td>71.4</td>
<td>11.1</td>
<td>8.1</td>
<td>3.8</td>
<td>5.6</td>
<td>521</td>
</tr>
<tr>
<td>Retirement/Estate Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>91.</td>
<td>In the past year I made a financial contribution to a private retirement program, such as an IRA or 401-k.</td>
<td>53.2</td>
<td>7.9</td>
<td>4.2</td>
<td>5.8</td>
<td>29.0</td>
<td>521</td>
</tr>
<tr>
<td>99.</td>
<td>I have a legal, written will.</td>
<td>58.0</td>
<td>6.1</td>
<td>1.9</td>
<td>4.2</td>
<td>29.8</td>
<td>521</td>
</tr>
</tbody>
</table>

* Percentages may not add to 100 due to rounding.

b Number of respondents may not add to 521 due to non-response.
reported specific goal setting for the future as "not typical."

Slightly over one-fourth of the respondents (25.3%) reported that it was "very typical" for them to "rarely discuss my personal financial matters with family or friends" where 19.6% indicated that this was "not typical" of them.

Almost half (46.3%) of the respondents in the sample report they do not "often make financial decisions without much analysis." Only 6.3% indicated that making "financial decisions without much analysis" was "very typical" behavior.

**Cash Management**

As shown in Table 7, the respondents in the sample were spread across the choices available when asked if they "have a weekly or monthly budget that I follow." Slightly over one-fifth of the respondents (20.2%) indicated that it was "not typical" of them to follow a "monthly or weekly budget" while an almost identical number 19.0% found this behavior "very typical."

When asked if "my checking account pays me interest," respondents grouped themselves at the extreme ends of the scale. Almost half of the respondents (44.5%) indicated that having an interest bearing checking account was "not typical" where slightly less than one-third (31.9%) reported this behavior as "very typical."

The majority of the respondents (59.7%) "never write bad checks or ones with insufficient funds, "although almost one-quarter (22.5%) did report
this behavior as "not typical." In other words, 22.5% indicated they did have some experience or instances in writing bad checks.

Over half (60.1%) of the respondents in the sample indicated that it was "not typical" behavior that "in the recent past, I have received overdue notices because of late or missed payments" where 10.4% had found this behavior "very typical." The mean for this behavior was 2.0, which suggests that many of the respondents had not missed payments that were due.

Credit Management

The majority of the respondents were grouped toward the "not typical" end of the scale for responses to "I often spend more money than I have." Slightly over half (51.1%) of the respondents reported "not typical" behavior of spending more money than they have as opposed to 6.5% of the respondents who reported this as "very typical" behavior.

Almost half (46.8%) of the respondents indicated they are not "more in debt than this time last year." Over one-tenth (12.7%) of the respondents indicated this situation as "very typical." The mean for this behavior was 2.3 suggesting that most respondents had not increased the amount of debt they incurred in the past year.

Combining response categories on either end of the scale and disregarding the middle response, resulted in almost an equal number of people stating that they "do not pay the total balance due on my credit card, but instead just make a partial payment" (41.5%) as those who do pay the total balance due on their credit card (49.2%). The standard deviation for
this behavior was 1.7, indicating a wide variation of responses from the mean of 2.8.

The overwhelming majority (79.7%) of the respondents in the sample reported that "in the recent past, I have obtained cash advances to pay money toward other credit balances," was "not typical" of them. The mean for this behavior was determined to be 1.5 indicating that most of the respondents did not have severe credit card debt that they could not control.

Slightly over half (51.1%) of the respondents had not increased their "use of credit cards" as compared to a year ago. Only 10.4% of the respondents in the sample indicated that an increased use of credit cards was "very typical."

Tax Management

Almost half (48.6%) of the respondents "usually fill out my own income tax forms." Over one-third of the respondents in the sample indicate that this is "not typical" behavior of themselves.

Over half (55.5%) of the respondents in the sample "usually itemize my income tax deductions." Almost one-quarter (22.6%) reported this behavior as "not typical."

Combining each end of the scale resulted in 66.3% of the respondents indicating they typically "do not deduct something on my taxes unless I have a receipt." Almost one-fifth (18.5%) of the respondents would potentially take tax deductions without a receipt.
Capital Accumulation

Approximately one-third of the respondents (33.5%) indicated that it was "very typical behavior to "set money aside for savings" where 16.4% reported this as "not typical" behavior. The mean for this behavior was 3.4 with a standard deviation of 1.5.

"This year I invested some money in stocks, bonds, or mutual funds" was "not typical" behavior for the majority (53.6%) of the respondents. Slightly less than one-quarter (22.8%) of the respondents of the sample reported investment in these instruments as "very typical."

Risk Management

Again, the majority of the respondents had homeowner's or renter's insurance. Almost three quarters (74.1%) reported having a "homeowner's or renter's insurance policy" whereas less than one-fifth (18.0%) reported this as "not typical" behavior.

The respondents in this sample also reported having adequate auto insurance. Combining each side of the scale resulted in 92.7% of the respondents indicating their "auto is adequately insured" where only 4.8% reported this as "not typical" of themselves.

The overwhelming majority of the respondents (71.4%) did not have "trouble meeting monthly health care expenses, including premiums for health insurance." Only 5.6% indicated problems with paying premiums for health insurance and health care expenses.
Retirement/Estate Planning

Respondents were asked to indicate if they "made a financial contribution to a private retirement program such as an IRA or 401-k." Over half of the respondents (53.2%) were not contributing to a private retirement program where 29% indicated this as "very typical" behavior.

Slightly over one-fourth of the respondents in the sample (29.8%) indicated they have "a legal, written will." Although, the majority of the respondents (58%) did not have "a legal, written will."

Personal Financial Behaviors, Dependent Variables

Preliminary regression equations run with individual behavior items as the dependent variable resulted in explanations of variance of less than 10%. Although these findings were significant, a different measure of financial behavior was sought to provide a more global behavior concept. Principal components factor analysis was utilized to determine the most appropriate groups of the financial management behaviors to compose the dependent variables (see Table 9).

The original factor loading resulted in eight factors to be considered on the eigenvalue greater than one criteria. Visual interpretation of a scree plot of eigenvalues produced the logical conclusion of a four factor solution. An Equimax rotation was used in the factor analysis procedure to simplify the factor loadings structure and to improve interpretability. The factor loadings with eight factors accounted for 57.5% of the variance (see Table 8).
<table>
<thead>
<tr>
<th>Factor</th>
<th>Eigenvalue</th>
<th>Percent of Variance</th>
<th>Cumulative Percent of Variance</th>
<th>Percent of Variance</th>
<th>Cumulative Percent of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.4273</td>
<td>0.1558</td>
<td>0.1558</td>
<td>.4146</td>
<td>.4146</td>
</tr>
<tr>
<td>2</td>
<td>1.7710</td>
<td>0.0805</td>
<td>0.2363</td>
<td>.2142</td>
<td>.6288</td>
</tr>
<tr>
<td>3</td>
<td>1.6484</td>
<td>0.0749</td>
<td>0.3112</td>
<td>.1993</td>
<td>.8281</td>
</tr>
<tr>
<td>4</td>
<td>1.4206</td>
<td>0.0646</td>
<td>0.3758</td>
<td>.1719</td>
<td>1.0000</td>
</tr>
<tr>
<td>5</td>
<td>1.1385</td>
<td>0.0517</td>
<td>0.4275</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1.1172</td>
<td>0.0508</td>
<td>0.4783</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1.0679</td>
<td>0.0486</td>
<td>0.5269</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1.0471</td>
<td>0.0476</td>
<td>0.5745</td>
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</tr>
</tbody>
</table>
Table 9

Financial Behavior Principal Component Factor Loadings for Factor Matrix

<table>
<thead>
<tr>
<th>Item Name</th>
<th>Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>V90</td>
<td>0.62904</td>
</tr>
<tr>
<td>V88</td>
<td>0.62745</td>
</tr>
<tr>
<td>V86</td>
<td>0.60862</td>
</tr>
<tr>
<td>V94</td>
<td>0.58780</td>
</tr>
<tr>
<td>V84</td>
<td>0.50828</td>
</tr>
<tr>
<td>V93</td>
<td>0.47686</td>
</tr>
<tr>
<td>V95</td>
<td>0.37121</td>
</tr>
<tr>
<td>V101</td>
<td>0.05992</td>
</tr>
<tr>
<td>V97</td>
<td>-0.04513</td>
</tr>
<tr>
<td>V91</td>
<td>0.02913</td>
</tr>
<tr>
<td>V102</td>
<td>0.23058</td>
</tr>
<tr>
<td>V99</td>
<td>0.23748</td>
</tr>
<tr>
<td>V83</td>
<td>0.21178</td>
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<td>V82</td>
<td>0.13335</td>
</tr>
<tr>
<td>V81</td>
<td>0.09755</td>
</tr>
<tr>
<td>V96</td>
<td>-0.11924</td>
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<td>V85</td>
<td>0.11314</td>
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<td>V92</td>
<td>0.01646</td>
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<td>V100</td>
<td>0.16227</td>
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<td>V89</td>
<td>0.13511</td>
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<td>V98</td>
<td>0.05142</td>
</tr>
<tr>
<td>V103</td>
<td>0.34055</td>
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</tbody>
</table>
The four factor solution accounted for 38% of the total variance. In Table 9 the factor loading patterns have been underlined to facilitate identification of the variables considered in each loading. Only items with factor loadings greater than or equal to .42 were included in the dimension scale score construction. Each factor was interpreted and labeled as follows:

Factor I: Credit Usage Practices
Factor II: Financial Planning Behaviors
Factor III: Financial Management Behaviors
Factor IV: Financial Control Behaviors

The components and a description of each factor will be discussed.

**Credit Usage Behaviors**

Six items which relate to credit usage were correlated with the first factor. The highest correlated item (V90) determined a comparative level of debt (.63) and the second highest correlated item (V88) ascertained if respondents spend more money than they have (.63). The next two highest correlated items refer to receiving overdue notices because of late or missed payments (V86) and obtaining cash advances to pay money toward other credit card debt (V94). Making only a partial payment on a credit card (V84) and having difficulty paying health care expenses (V93) were the last items in this factor. This factor describes a pattern of behaviors related to good and bad credit usage activities and credit payment history.

The range in the credit use dimension scale score was 9 to 30 (see Table 10). The mean score was 23.9 indicating that respondents generally
### Table 10

**Characteristics of Behavior Groups**

<table>
<thead>
<tr>
<th>Behavior Group</th>
<th>Range</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wise Credit Use</td>
<td>9 to 30</td>
<td>23.9</td>
<td>4.9</td>
</tr>
<tr>
<td>Financial Planners</td>
<td>5 to 25</td>
<td>15.1</td>
<td>5.5</td>
</tr>
<tr>
<td>Financial Managers</td>
<td>3 to 15</td>
<td>9.5</td>
<td>3.1</td>
</tr>
<tr>
<td>Financially in Control</td>
<td>3 to 15</td>
<td>10.9</td>
<td>2.9</td>
</tr>
</tbody>
</table>
reported more wise credit behavior than unwise credit behavior. The standard deviation was 4.9 indicating a wide variance of scores.

**Financial Planning Behaviors**

Five items which represented basic elements of financial planning loaded on the second factor. All items (V101, V97, V91, V102, V99) were related to retirement planning, investments, estate planning, risk management, and tax planning. Each of these items describe financial planning practices for expected and unexpected financial events. As shown in Table 10, the dimension scale scores for the financial planning behaviors ranged from 5 to 25 with a mean of 15.1. The higher the score the more typical were the practices of contributing to private retirement programs, investing, having a will, itemizing income taxes, and having homeowner’s or renter’s insurance. A lower score indicated that these behaviors were not typical of the respondent.

**Financial Management Behaviors**

The three items that loaded on factor three referred to budgeting and goal setting. The highest correlated item (V82, .81) ascertained following a plan to meet goals. The second (V81) and third (V96) highest correlated items (.79 and .65, respectively) refer to budgeting and financial goal setting. This factor clearly describes a cluster of behaviors that reflect specific efforts to guide and manage personal finances.

A mean of 9.5 in a range from 3 to 15 for the financial management
behavior dimension scale score suggests that it was more typical for people to participate in these planning behaviors than not (See Table 10). The higher the score, the more typical the behavior of having an overall plan for reaching financial goals, a weekly or monthly budget, and specific financial goals for the future.

Financial Control Behaviors

Three items which suggest involvement in and control over the financial situation were loaded on this factor. Item V85 (.53) referred to writing checks with insufficient funds, V92 (.44) determined who filled out income tax forms, and V103 (-.42) referred to increasing the use of credit cards. This factor proved difficult to interpret. First, on the assumption of wise financial management behavior, the expected behavior pattern might reflect that one never writes bad checks, is actively involved in tax filing, and has not increased credit usage over the past year. However, the negative loading shown in Table 9 suggests that credit card usage would be expected to have increased.

Kim and Mueller (1978) assert that signs on the factor loadings have no "intrinsic meaning... However, signs for variables for a given factor have a specific meaning relative to the signs for other variables; the different signs simply mean that the variables are related to that factor in opposite directions" (p. 77). Perhaps the increase in credit card usage, combined with the strong statement regarding checks with insufficient funds reflects an increasing reliance on credit to "make ends meet."
As seen in Table 10, dimension scale scores for this factor ranged from 3 to 15 with a mean response of 10.9 (SD=2.9).

**Multiple Regression Analysis**

Ordinary least squares regression was used to explore the research questions regarding the effects of objective environment, person, and subjective well-being factors on the explanation of selected financial management behaviors. Presentation of the multiple regression analysis findings was considered necessary before discussion of the individual research questions. The purpose of this section is to present the findings of the four individual regression models. The subsequent section will consider the application of the four regression models to the research questions.

Dimension scale scores resulting from the factor analysis were calculated for each of the four factors and entered in the equations as the dependent variables. Each of the behavior dimensions were independently regressed on the 12 independent variables according to the following equation:

\[
Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + \\
b_7x_7 + b_8x_8 + b_9x_9 + b_{10}x_{10} + b_{11}x_{11} + b_{12}x_{12} + b_{13}x_{13}
\]

where \( Y \) = Financial behavior type

\( a \) = Constant

\( b \) = Regression coefficient

\( x_i \) = Self-esteem score
\( x_2 = \text{Money self-esteem score} \)
\( x_3 = \text{Locus of control} \)
\( x_4 = \text{Financial satisfaction} \)
\( x_5 = \text{Perceived income adequacy} \)
\( x_6 = \text{Unemployed} \)
\( x_7 = \text{Occupation} \)
\( x_8 = \text{Educational attainment} \)
\( x_9 = \text{Household gross income} \)
\( x_{10} = \text{Gender (Male)} \)
\( x_{11} = \text{Ethnicity (Black)} \)
\( x_{12} = \text{Formation stage of the financial life cycle} \)
\( x_{13} = \text{Accumulation stage of the financial life cycle} \)

**Factor 1, Credit Usage Behaviors**

As shown in Table 11, entering all the variables into the multiple regression equation produced an \( R^2 \) of .3630 (\( p < .01, \text{df 13,378} \)) for the first behavior cluster. This means that 36% of the variance in credit usage practices was explained by the linear combination of all the predictor, or independent, variables.

Five individual variables significantly contributed to the explanation of the variance in credit use practices. Money importance (\( B = .28, p < .001 \)) and perceived income adequacy (\( B = .17, p < .01 \)) had a positive, moderate effect on credit practices while locus of control (\( B = -.10, p < .05 \)), unemployment
Table 11

Regression of All Individual Variables on Factor I, Credit Usage Behaviors

<table>
<thead>
<tr>
<th>Variable</th>
<th>b</th>
<th>B</th>
<th>t</th>
<th>R²</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELFESTM (Self-esteem)</td>
<td>.0653</td>
<td>.0576</td>
<td>1.167</td>
<td>.3630***</td>
<td>16.570</td>
</tr>
<tr>
<td>MI (Money self-esteem)</td>
<td>1.1131</td>
<td>.2775</td>
<td>5.566***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC (Locus of Control)</td>
<td>-.2358</td>
<td>-.0951</td>
<td>-2.083*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V69 (Financial satisfaction)</td>
<td>.2376</td>
<td>.0749</td>
<td>1.274</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V122 (Percvd. income adequacy)</td>
<td>.9269</td>
<td>.1680</td>
<td>3.077**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNEM (Unemployed)</td>
<td>-3.0400</td>
<td>-.0973</td>
<td>-2.018*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMP (Occupation)</td>
<td>.0508</td>
<td>.0152</td>
<td>0.272</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V157 (Education)</td>
<td>-.0044</td>
<td>-.0013</td>
<td>-0.026</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V156(Income)</td>
<td>.0198</td>
<td>.0177</td>
<td>0.319</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEX (Male)</td>
<td>-.7879</td>
<td>-.0799</td>
<td>-1.821</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RACE (Black)</td>
<td>-1.7347</td>
<td>-.1122</td>
<td>-2.584*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FORM (Formation Stage)</td>
<td>.7864</td>
<td>.0777</td>
<td>0.713</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACC (Accumulation Stage)</td>
<td>2.1395</td>
<td>.2063</td>
<td>1.881</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>12.3138</td>
<td>4.960</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05    **p < .01    ***p < .001
(B=.10, p<.05), and race (B=.11, p<.05) had negative effects. Interpretation of the findings suggest that one standard deviation change in money self-esteem would be associated with a .28 standard deviation change in the dimension scale score representing credit practices, on the average, with all other independent variables held constant. The same would be true for the effects of one standard deviation change in perceived income adequacy, although the impact, as measured by the beta weights, would be slightly less.

The negative relationship between locus of control and credit usage behaviors suggests that one standard deviation increase in locus of control, indicating movement from internal to external orientation, would be associated with a -.10 standard deviation change in credit usage practices. This suggests that respondents with a more external orientation (i.e. belief of having little control over life) would more likely report fewer wise credit practices (e.g. do not spend more money than they have, do not obtain cash advances, are not more in debt than this time last year, do not have difficulty in paying health care expenses).

Both unemployment and race were entered into the regression equation as dummy variables. Those respondents who indicated unemployment were assigned "1" while employed respondents were assigned "0". The standardized beta coefficients represent the difference in average dimension scale score for credit use behaviors between those who are unemployed and those who are employed. The negative beta weight suggests
that the dimension scale score for unemployed respondents would be lower than for the omitted group of employed respondents. In other words, wise credit practices would be less typical of the unemployed, or they would be more likely to receive overdue notices, to pay only partial payments on credit cards, to obtain cash advances, to be more in debt than last year, and to have trouble meeting health care expenses.

A similar interpretation exists for race, entered as a dummy variable, as well. The regression results suggest that black respondents would be less likely to report wise credit use practices than white respondents, the omitted group.

**Factor II, Financial Planning Behaviors**

Entering all the variables into the multiple regression equation produced an $R^2$ of .4070 ($p < .001$, df 13,378). This can be interpreted to mean that 41% of the variance in Factor II could be explained by the linear combination of predictor variables. (See Table 12.)

Two variables significantly contributed to the explanation of the group of behaviors which typify financial planning activities. The household’s total annual gross income had the strongest effect on the explanation of this behavior group (See Table 12). With all other variables held constant, a one standard deviation change in income would be associated with a .32 standard deviation increase in the behavior dimension scale score. The effect of an increase in financial satisfaction would have a similar, but smaller effect ($B = .22$). In other words, respondents more likely to report financial
Table 12

Regression of All Individual Variables on Factor II: Financial Planning Behavior

<table>
<thead>
<tr>
<th>Variable</th>
<th>b</th>
<th>B</th>
<th>t</th>
<th>R²</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELFESTM (Self-esteem)</td>
<td>-0.1079</td>
<td>0.0867</td>
<td>-1.822</td>
<td>0.4070***</td>
<td>19.961</td>
</tr>
<tr>
<td>MI (Money self-esteem)</td>
<td>0.3865</td>
<td>0.0879</td>
<td>1.828</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC (Locus of Control)</td>
<td>-0.0990</td>
<td>-0.0364</td>
<td>-0.827</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V69 (Financial satisfaction)</td>
<td>0.7700</td>
<td>0.2215</td>
<td></td>
<td>3.905***</td>
<td></td>
</tr>
<tr>
<td>V122 (Percvd. income adequacy)</td>
<td>0.3373</td>
<td>0.0558</td>
<td>1.059</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNEM (Unemployed)</td>
<td>1.1451</td>
<td>0.0334</td>
<td>0.719</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMP (Occupation)</td>
<td>0.2463</td>
<td>0.0672</td>
<td>1.247</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V157 (Education)</td>
<td>-0.2946</td>
<td>-0.0799</td>
<td>-1.625</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V156(Income)</td>
<td>0.3931</td>
<td>0.3204</td>
<td></td>
<td>5.987***</td>
<td></td>
</tr>
<tr>
<td>SEX (Male)</td>
<td>0.7139</td>
<td>0.0660</td>
<td>1.561</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RACE (Black)</td>
<td>-0.8333</td>
<td>-0.0492</td>
<td>-1.174</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FORM (Formation Stage)</td>
<td>-1.6344</td>
<td>-0.1474</td>
<td>-1.402</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACC (Accumulation Stage)</td>
<td>0.1335</td>
<td>0.0117</td>
<td>0.111</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>10.4503</td>
<td></td>
<td>3.981</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05  **p < .01  ***p < .001
planning behaviors (e.g. investments, wills, insurance, private retirement programs, and itemized tax deductions) would also be characterized by higher household income and reported levels of financial satisfaction.

**Factor III, Financial Management Behaviors**

Entering all the variables into the multiple regression equation for Factor III produced an $R^2$ of .1541. This means that 15% of the variance in the financial management behavior dimension scale score was explained by the linear combination of independent variables. This $R^2$ was statistically significant at the .001 level (df 13,378).

Financial management behavior was characterized by acknowledgement of specific future financial goals, an overall plan for reaching goals, and a periodic budget to follow. As shown in Table 13, the variables of money self-esteem ($B=.23$), self-esteem ($B=.14$), and race ($B=.14$) significantly contributed to the explanation of variance in this behavior cluster. It should also be noted that financial satisfaction, although not significant at the .05 level, was very close to the significance requirements ($B=.13$, $p=.0501$).

Interpretation of the findings suggests that a one standard deviation change in the measure of money self-esteem or global self-esteem, would be associated with a .23 (or .14, respectively) increase in the dimension scale score represented by the financial management behaviors, given that the effects of all other variables are controlled. An increase in the score typifies a greater likelihood of these goal setting/money management
Table 13
Regression of All Individual Variables on Factor III, Financial Management Behaviors

<table>
<thead>
<tr>
<th>Variable</th>
<th>b</th>
<th>B</th>
<th>t</th>
<th>R²</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELFESTM (Self-esteem)</td>
<td>.0997</td>
<td>.1417</td>
<td>2.493*</td>
<td>.1541***</td>
<td>5.296</td>
</tr>
<tr>
<td>MI (Money self-esteem)</td>
<td>.5814</td>
<td>.2339</td>
<td>4.070***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC (Locus of Control)</td>
<td>-.0561</td>
<td>-.0365</td>
<td>-.694</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V69 (Financial satisfaction)</td>
<td>.2618</td>
<td>.1331</td>
<td>1.195</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V122 (Percvd. income adequacy)</td>
<td>-.0457</td>
<td>-.0134</td>
<td>-.213</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNEM (Unemployed)</td>
<td>-.5314</td>
<td>-.0274</td>
<td>-.494</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMP (Occupation)</td>
<td>-.1275</td>
<td>.0615</td>
<td>-.955</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V157 (Education)</td>
<td>.0818</td>
<td>.0392</td>
<td>0.668</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V156(Income)</td>
<td>-.0264</td>
<td>-.0381</td>
<td>-.595</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEX (Male)</td>
<td>-.0465</td>
<td>-.0076</td>
<td>-.150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RACE (Black)</td>
<td>1.3412</td>
<td>.1400</td>
<td>2.797**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FORM (Formation Stage)</td>
<td>.3630</td>
<td>.0579</td>
<td>0.461</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACC (Accumulation Stage)</td>
<td>-.3062</td>
<td>-.0476</td>
<td>-.377</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>2.9329</td>
<td>1.734</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.05  **p<.01  ***p<.001
strategies. In other words, there is a direct positive relationship between these independent variables and the measured behavior.

Race of the respondent was entered in the regression equation as a dichotomous dummy variable scored "1" when race was black and "0", or the omitted group, when race was white. Thus, the standardized beta coefficient reports the difference in average financial management behavior (as reflected by the dimension scale score) between blacks and whites, after the influences of the other variables have been accounted for. Thus, the regression results suggest that black respondents would more likely report that the financial management behaviors were more typical, resulting in a slightly higher (.14 standard deviation) dimension scale score than for the white respondents, controlling for the effects of money self-esteem and self-esteem.

Factor IV, Financial Control Behaviors

Entering all the variables into the multiple regression equation for Factor IV produced an $R^2$ of .0914 ($p<.01$, df 13,378). This means that 9% of the variance in the fourth dependent variable behavior group was explained by the linear combination of independent variables.

As seen in Table 14, three variables were significant predictors in explaining behaviors which represent financial control. Two stages of the financial life cycle, the formation stage ($B=.40$) and the accumulation stage ($B=.36$) significantly contributed to the explanation of the variance in this behavior cluster. Self-esteem ($B=.18$) significantly contributed to the explanation of the variance in this behavior
Table 14

Regression of All Individual Variables on Factor IV, Financial Control Behaviors

<table>
<thead>
<tr>
<th>Variable</th>
<th>b</th>
<th>B</th>
<th>t</th>
<th>R²</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELFESTM (Self-esteem)</td>
<td>.1149</td>
<td>.1770</td>
<td>3.005**</td>
<td>.0914**</td>
<td>2.926</td>
</tr>
<tr>
<td>MI (Money self-esteem)</td>
<td>-.0422</td>
<td>-.0184</td>
<td>-.309</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC (Locus of Control)</td>
<td>.0316</td>
<td>.0223</td>
<td>0.408</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V69 (Financial satisfaction)</td>
<td>.2430</td>
<td>.1340</td>
<td>1.909</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V122 (Percvd. income adequacy)</td>
<td>-.1635</td>
<td>-.0518</td>
<td>-.795</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNEM (Unemployed)</td>
<td>.6662</td>
<td>.0373</td>
<td>0.648</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMP (Occupation)</td>
<td>.1440</td>
<td>.0753</td>
<td>1.128</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V157 (Education)</td>
<td>-.1501</td>
<td>-.0780</td>
<td>-1.282</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V156 (Income)</td>
<td>.0251</td>
<td>.0392</td>
<td>0.591</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEX (Male)</td>
<td>.2751</td>
<td>.0488</td>
<td>0.931</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RACE (Black)</td>
<td>-.4355</td>
<td>-.0493</td>
<td>-0.950</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FORM (Formation Stage)</td>
<td>2.3300</td>
<td>.4029</td>
<td>3.095**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACC (Accumulation Stage)</td>
<td>2.1516</td>
<td>.3628</td>
<td>2.771*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>4.3533</td>
<td></td>
<td>1.6952</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05    ** p<.01    *** p<.001
less than half that of the other two variables.

The trichotomous variable, financial life cycle stage, entered the regression equation as two dummy variables. The preservation/distribution stage was the omitted group. The standardized beta coefficient indicates the differences in the average dimension scale scores (for the cluster of behaviors reflecting financial control) between respondents in the formation stage and the preservation/distribution stage. A similar relationship holds true for the respondents in the accumulation stage as compared to those in the preservation/distribution stage of the financial life cycle.

Effects of the life cycle stage, on average, for the financial control behaviors are slightly stronger for the formation stage as compared to the accumulation stage (.40 and .36, respectively). In other words, respondents in the formation stage would be expected to have a .40 standard deviation higher dimension scale score than those respondents in the preservation/distribution stage. The beta coefficient of .36 for respondents in the accumulation stage suggests a similar behavior pattern in comparison to the omitted group of respondents in the preservation/distribution stage respondents. This effect suggests that the formation stage and accumulation stage respondents would likely be characterized by increased use of credit cards, personal income tax form preparation, and careful attention to avoid bank overdrafts.

A one standard deviation change in the level of self-esteem results in a .18 increase in the dimension scale score as a measure of behaviors
representing financial control. Therefore, an increase in one full standard
deviation of the self-esteem score produces a modest increase of the
behaviors that represent financial control.

Research Questions

On the basis of the factor analysis of the 23 financial management
behavior items, 4 dependent variables representing credit usage, financial
planning, financial management, and financial control behaviors were
identified. Each of these dependent variables was independently regressed
on the group of independent variables representing the objective
environment, person dimensions, and subjective well-being as conceptualized
by Strumpel's behavioral economic model. The variance explanation in the
regression equations was statistically and substantively significant, although
more of the variance was explained for the credit usage and financial
planning behaviors. These results generally support the model specified in
this research. Results of these regression models were applied to the three
research questions.

1) Can financial management behavior be explained by factors such as
income, education, occupation, financial life cycle stage, ethnicity, and
gender which characterize the objective environment of the individual?

The significance of the objective environment variables in the
explanation of selected financial management behaviors varied among the
behavior models. Income significantly contributed to the explanation of the
variance of the representative financial planning behaviors (B=.32, p<.01).
Income was the strongest predictor of financial planning behavior among the
independent variables.

In explaining credit usage behaviors, race (B=-.11, p<.05) and
unemployment (B=-.10, p<.05) were significant objective environment
variables. Race was also significant in explaining financial management
behaviors (B=.14, p<.01). The objective environment variable of financial
life cycle stage contributed to the explanation of behaviors that represented
financial control. Specifically, those respondents in the formation and
accumulation stages were more likely to report the financial control behaviors
(e.g. increased use of credit cards, don't write bad checks, involvement in tax
filing) than respondents in the preservation/distribution stage.

The objective environment variables of education, occupation, and
gender did not significantly affect any of the financial behavior types.
Although only one of the variables was significant in explaining the variance
in more that one regression model, the significant effect of the selected
objective environment variables on different behavior types supports the
inclusion of these variables in explaining financial behavior. When
considering the financial behavior models, income, ethnicity, unemployment,
and stage of the financial life cycle significantly contributed to the
explanation of variance. Therefore, the findings suggest that financial
behavior can be explained by factors which characterize the objective
environment of the individual.
2) Can financial management behavior be explained by personal dimensions such as self-esteem, money self-esteem, and locus of control?

Three of the financial behavior clusters considered were significantly affected by money self-esteem, global self-esteem, and/or locus of control as measures of the person dimension. The money self-esteem score was the strongest predictor ($B=0.28, p<0.01$) of those behaviors representing credit usage. A decrease in the money self-esteem score would be associated with a modest decrease in credit use practices (e.g., increased debt, spending more money than they have, receiving overdue notices, obtaining cash advances, making a partial payment on credit cards, and difficulty paying health care expenses).

Global self-esteem had a moderate effect on the explanation of those behaviors representing financial management ($B=0.14, p<0.05$) and financial control ($B=0.18, p<0.01$). The direct relationship implies that a positive (or negative) change in self-concept as measured by this variable would result in an increase (or decrease) in the behaviors typically associated with wise financial management or financial control factors. The relationship between self-esteem and these two behavior dimensions may be explained because both behavior clusters suggest involvement with and control of financial matters (through goal setting, planning and budgeting, tax preparation, and attention to banking and credit practices). Self-concept, as measured by self-esteem may be related to the extent of control exerted by an individual to
manage or handle money.

Locus of control had an effect on those behaviors representing credit usage (B=-.10, p<.05). This relationship suggests that a movement toward a more external locus of control orientation was associated with respondents being less likely to report wise credit usage behaviors.

The findings suggest that financial behavior can be explained by factors which characterize the person dimension of the individual. Measurements of self-esteem, money self-esteem, and locus of control, as well as other measures of the person dimension, should be considered in future efforts to explain financial behavior.

3) Can financial management behavior be explained by dimensions of subjective well-being such as perceived adequacy of income and satisfaction with financial situation?

Satisfaction with financial situation significantly explained the variance in one behavior dimension. Financial satisfaction significantly contributed to an explanation of the dimension scale score representing financial planning behaviors (B=.22, p<.001). Perceived income adequacy (B=.17, p<.01) significantly explained those behaviors reflecting credit usage. As the respondents perceived their income as being more adequate, the likelihood of wise credit practices increased.

The findings suggest that financial behavior can be explained by factors which characterize the subjective well-being dimension of the individual. Measurements of satisfaction with financial situation and perceived income
adequacy, as well as other measures of the subjective well-being dimension, should be considered in future efforts to explain financial behavior.

Summary

This chapter presented the characteristics of the sample as well as the empirical results of the study. Demographic, person dimensions, subjective well-being, and financial behavior characteristics of the sample were presented. The results of the factor analysis procedure used to determine the dependent variables and the results of the multiple regression analyses were presented. The chapter concluded with an evaluation of the research questions explored in this study.
CHAPTER V
Discussion of Results

This chapter discusses the results of the study designed to apply Strumpel’s model of economic behavior to explore financial management behavior. Three categories of variables were explored to determine their explanation of financial management behavior. The objective environment category included income, education, occupation, financial life cycle stage, ethnicity, and gender variables. The personal dimensions included self-esteem, money self-esteem, and locus of control measures. The dimensions of subjective well-being included perceived income adequacy and financial situation satisfaction.

First, a brief description of the sample and the variables included in the study will be presented. Results of the individual regression equations are discussed separately and then discussed relative to the conceptual model and the research questions considered in this study.

Demographic Characteristics of the Sample

The respondents in the sample were almost equally divided between males (50.6%) and females (49.4%). The typical respondent was Caucasian (85.9%), married (63.0%), and between 20 and 49 years of age (72.9%).

A description of the respondents’ households indicates that the majority had no children living in the household (52.5%) and most had no responsibility for other adults or children (86.5%). In addition, over three-
quarters (79.4%) of the respondents had spouses who were not previously married and the overwhelming majority did not pay (92.6%) or receive (94.5%) child support. The majority of the respondents (70.5%) had an annual household gross income of less than $50,000.

Many respondents were employed as managers, medium business owners or professionals (23.8%); administrative personnel, or small business owners (17.0%); and clerical or sales technicians (18.8%). Over three quarters of the respondents (78.1%) were employed full-time. The respondents' educational attainment varied, although over half (64.3%) had some college education or a bachelor's or graduate degree. Almost three-quarters (71.4%) of the respondents owned their houses and over half (55.9%) were in the formation stage of the financial life cycle.

**Specification of the Strumpel Model as Adapted to Explain Financial Management Behavior**

On a scale ranging from 10, the lowest, to 40, the highest self-esteem, the overwhelming majority (94.4%) of the respondents reported global self-esteem scores above 25. The mean self-esteem score was 31.9, indicating that respondents' self-esteem scores were skewed toward the higher end of the scale.

A measure of money self-esteem yielded scores in the middle of the scale. On a scale from 2 to 8, the mean money self-esteem score was 5.4.

The possible responses for the locus of control scale ranged from 3 to
12 points. The majority of the respondents in the study (67.0%) reported locus of control scores around the middle of the scale (between 6 and 9 points).

Respondents reported satisfaction with their financial situation on a seven point scale ranging from "completely dissatisfied" to "completely satisfied." Combining the three responses on each end of the scale resulted in slightly over one-quarter (26.4%) reporting dissatisfaction with their financial situation and almost half (49.6%) reporting satisfaction.

In response to an item measuring perceived income adequacy, the majority of the respondents (55.1%) indicated that they could "afford some of the things I want." Grouping the data revealed that over one-quarter of the respondents (28.6%) perceived their income as allowing them to "afford about everything I want" or "afford everything I want and still save money" whereas 16.3% indicated that their income was inadequate or "allowed for necessities only."

Financial management behavior was explored through 23 financial behavior items assumed to represent the breadth of behaviors related to using, spending, saving, and investing money. The financial behaviors were conceptually organized into seven areas of personal finance including general management, cash management, credit management, tax management, capital accumulation, risk management, and retirement/estate management.

Factor analysis identified 4 factors which were used to conceptualize and make-up the dependent variables. The four factors assessed behaviors
related to (a) credit usage, (b) financial planning, (c) financial management, and (d) financial control. The individual items constituting each factor were added together to determine a dimension scale score, or dependent variable.

For consistency across the variables, responses were recoded so the higher response score, or 5, represented what was presumed to be the wiser financial management behavior. Only the 17 items which loaded in the four factor principal component solution will be discussed here.

More respondents did not typically "have an overall plan" to meet financial goals (16.3%) than those who did (10.4%). Respondents typically had "some specific financial goals for the future" (32.4%). Almost an equal number of respondents typically had a "weekly or monthly budget" as compared to those who did not typically report this behavior, 19.0% and 20.2%, respectively.

Respondents typically did not "write bad checks" (59.7%) and did not "receive overdue notices because of late or missed payments" (60.1%). Over half of the respondents (51.1%) did not typically "spend more money than I have." The overwhelming majority (79.7%) did "not typically" need to obtain cash advances on their credit cards. Over half of the respondents (51.1%) reported that their credit card use had not increased compared to the previous year. Almost half (46.8%) of the respondents indicated they were not "more in debt than this time last year." Over half (60.1%) had not received overdue notices in the recent past. Almost an equal number of respondents, 41.5% and 49.2% respectively, make only a partial payment on
their credit card as compared to those who pay the entire balance. Approximately half of the respondents typically filled out their own income tax forms (48.6%), and itemized their income tax deductions (55.5%). Over half of the respondents (53.6%) did not utilize stocks, bonds, or mutual funds as investment techniques.

Respondents typically reported adequate insurance or some insurance coverage for their home (74.1%). Almost three-quarters of the respondents (71.4%) found it "not typical" to "have trouble meeting monthly health care expenses, including premiums for health insurance."

Over half of the respondents (53.2%) did not make a financial contribution to a private retirement program during the past year. An almost equal number, 58.0%, did not have a legal, written will.

Regression Analysis Models

Regression analysis was performed on four dependent variables representing various dimensions of financial management behavior. A discussion of the findings of the individual regression models is presented.

Factor I, Credit Usage Behaviors

As indicated in the findings of the regression equations, money self-esteem and perceived income adequacy had a positive, moderate effect on credit practices. The more positive assessment individuals make regarding themselves as money managers, and the more they perceive their income as adequate, the greater likelihood that they will report wise credit practices (i.e.
no recent increase in debt; do not spend more money than they have; do not receive overdue notices; do not obtain cash advances; do not make only a partial payment on a credit card; and do not have difficulty paying health care expenses) as opposed to unwise credit practices.

Individuals who hold a positive attitude toward themselves regarding their money management may strive to maintain a strong credit history to reinforce that positive feeling. Rosenberg's (1979) self-esteem motive reflects this relationship. It suggests that individuals have a desire to feel good about themselves and therefore act to meet that desire. Therefore, individuals may carefully manage credit practices to support those positive feelings of themselves as money managers. They may be less likely to overextend themselves because of the negative feelings that might accompany this behavior.

Locus of control was negatively correlated with reported credit practices. This finding suggests that as the locus of control score increases to reflect a more external orientation (i.e. no or little control over life), the more likely individuals are to report unwise credit behavior. Individuals with an external locus of control may feel that the environment controls money outcomes, and consequently do not attempt to personally control practices that would make a difference in that credit usage outcome. Therefore, these individuals might take advantage of the purchasing power that credit provides without much consideration of the results of the behavior.

Unemployed respondents also are more likely to report unwise credit
use. Those who are unemployed may turn to credit as a way of "making ends meet", a situation that would be more difficult as a result of loss of income. The possible financial distress resulting from unemployment may result in respondents exhibiting credit use that could be considered more negative (i.e. receiving overdue notices, paying only a partial payment on credit cards, spending more money than they have, increase in debt).

Black respondents were more likely to report unwise credit use practices than whites. This finding might be explained by the income differential between black and white respondents. Perhaps blacks were increasing the use of credit and risking overextension to compensate for the disparity. To further confirm this assumption, chi-square analysis was used to determine if the distribution of incomes differed by race. The obtained chi-square value (25.15, df=7) was significant at the .01 level, supporting the contention of a significant difference in income levels. Results are shown in Appendix C.

Cell frequencies of less than five make the test of significance "extremely liberal" according to Huck, Cormier, and Bounds (1974). Regardless of this limitation, the income differential trend is also evident in national data. The Census Bureau recently reported that the median white household income was almost twice that of black households (Rich, 1991).

Therefore, one could postulate that the income difference between blacks and whites may help to explain the effect of race on reported credit usage practices. Receiving overdue notices, paying only a partial payment on credit cards, spending more than they had, and increasing debt levels were credit
practices more typical of black respondents. However, it must be noted that the regression analysis did not identify income as a significant variable in the explanation of credit practices. This conflict in the findings suggests that the income difference by race may be a factor, but other characteristics of black consumers which are not accounted for may also be at issue.

**Factor II. Financial Planning Behaviors**

Two variables, income and satisfaction with financial situation, significantly affected financial planning behavior. Income had the strongest effect on explaining the variance in financial planning behavior (e.g. retirement, investment, estate, risk-management, and tax planning). Logically, those with higher incomes would have the financial resources that are necessary to participate in these financial planning activities. Furthermore, these individuals may be exposed to more financial planning tools because of their higher income. Those selling financial planning tools would most likely market their products to those with higher incomes. It is also logical to assert that those with higher incomes are more satisfied with their financial situation.

These findings also indicate a possible cyclical relationship. It is difficult to determine whether individuals are satisfied because they have their financial future in order or if they participate in planning behaviors because they are satisfied with their financial situation.

Future research to clarify this relationship is needed.

**Factor III. Financial Management Behaviors**

As indicated in the findings of the regression analysis, money self-esteem,
self-esteem, and race significantly contributed to the explanation of the variance in financial management behaviors (e.g. setting specific future financial goals, having an overall plan for reaching goals, and a periodic budget to follow). Again, the self-esteem motive (Rosenberg, 1979) can be reflected in this result. Those who see themselves as successful money managers may be more likely to participate in those behaviors representing financial management to reinforce that positive or successful feeling.

Popular literature authors have supported the importance of money to self-esteem in that self-esteem is frequently equated with financial worth (e.g. Lindgren, 1980; Hallowell & Grace, 1989). Those with dysfunctional attitudes about money possibly created by a sense of worthlessness (Mundis, 1988) may spend for immediate gratification. Therefore, they may participate less in financial management behaviors such as budgeting and goal setting. On the other hand, those with higher self-esteem may be planning for various life objectives and therefore be using these financial management tools. In other words, self-esteem may not be contingent on spending money or on what money can buy.

These findings suggest that these financial management behaviors might be more typically reported among black than white respondents. A clearer explanation of the relationship between black respondents and financial management behavior may be seen in the disparity of income level between blacks and whites. As reported earlier, chi-square analysis showed that there was a significant difference in the frequency of reported income between black
and white respondents and that black respondents reported lower incomes than whites. The combination of findings may suggest that because of lower levels of income, black respondents may find it more necessary to participate in financial management activities (i.e. following a periodic budget, setting specific goals for the future, having an overall plan) to successfully manage and live on that lower income.

Factor IV. Financial Control Behaviors

As indicated in the results of the regression equations, those respondents in the preservation/distribution stage, characterized by preservation of assets for the remainder of the lifetime, were less likely to report in those behaviors that represented financial control (i.e. do not write bad checks, are involved in tax filing, and recently increased use of credit cards). It is logical to assume that the participation in various financial behaviors would differ depending on the stage in the financial life cycle. Those in the preservation/distribution stage would be trying to conserve their assets and limit larger purchases to ensure adequate income for the future. Therefore, they would be limiting their credit card use and their debt to allow for an adequate long-term income. Complicated and frequent tax law changes and more complicated financial situations at this stage may provide the incentive to seek help with taxes therefore, reducing the involvement in tax filing.

Those in the formation and accumulation stages of the financial life cycle would be accumulating their assets and therefore might incur increased credit card debt to finance these purchases. The findings that those in the
accumulation stage do not participate in this behavior quite to the extent of those in the formation stage may indicate a peak in their accumulation of assets and therefore slightly less credit use. Also, these individuals might be more concerned about their financial history, therefore taking steps to keep from writing bad checks or ones with insufficient funds. Finally, these individuals may find the tax filing process comprehensible and their less complex financial situations may enable them to more easily complete the tax filing process themselves.

Self-esteem also significantly affected those behaviors reflecting financial control. Again, popular literature authors have expressed the idea that the self-concept is tied up with financial worth. Those with a higher self-esteem may participate in behaviors that provide them with control over their financial situation. Although increased credit use may, on the surface, indicate less control, the realization that credit use has increased may actually reflect being financially in control. Furthermore, these individuals apparently have control of their cash flow by keeping adequate bank records and avoiding overdrafts. Similarly, they are involved in the recordkeeping to support individual tax filing.

The Application of Strumpel’s Model: Relevance of Findings

Strumpel’s model of behavioral economics incorporates variables representing the objective environment, person dimensions, subjective well-being, and behavior. In this study, the model was applied to explain financial behavior and the research questions, which were posed in this exploratory study, provided
needed insight for continued analysis. The significant $R^2$ values and fairly substantial explanations of the variance in two behavior factors provide the evidence needed to support the use of Strumpel's model in predicting some types of financial management behavior. Furthermore, the conclusion that variables representing the objective environment, person dimensions, and subjective well-being can explain some financial behavior strengthens the support for the model.

The financial behaviors considered in this study were thought to represent a substantial array of financial management behavior. Factor analysis revealed that this range of representative behaviors separated into four unrelated dimensions of financial behavior. These dimensions include aspects of financial behavior that could possibly indicate disparity in various dimensions of the financial situation. The depth of these behaviors indicate that this study only begins to provide explanations for financial behavior. A considerable number of explanatory variables and implications of financial behavior types have not been considered.

The first dimension, credit usage behavior illustrates these ideas. The credit related behaviors describe a range of individuals from those who are not using credit wisely (i.e. receiving overdue notices, spending more money than they have, only paying the partial amount due on credit cards, and obtaining cash advances), which therefore indicates a high possibility of financial distress, to those who are using credit wisely. It is logical to assume that those who perceived their income as inadequate, would be more likely to use credit to
account for that inadequacy. The implications of each remaining behavior dimension, financial planning, financial management, and financial control, are similar. Each dimension provides information as to a range of resulting financial situations. Also, because of the complex nature of the financial behavior dimensions, underlying causes of the behavior may not be present and accounted for.

As demonstrated in this study, measures of the objective environment, person dimensions, and subjective well-being can explain personal financial behavior. Income, ethnicity, unemployment, and financial life cycle stage as indicators of the objective environment contribute to the explanation of financial behavior. On the other hand, education, occupation, and gender provide no contribution. The person variables of self-esteem, money self-esteem, and locus of control affect various financial behavior types. Both measures of subjective well-being, financial satisfaction and perceived income adequacy, contributed to the explanation of the various types of financial behaviors.

The significance of some variables representing each of the conceptual groups supports the inclusion of these measures in a model to explain financial behavior. Therefore, the application of Strumpel's model which incorporates these variable groups is supported and should be considered in future research to explore the relationships incorporated.

Summary

This chapter presented a description of the sample and a summary of the
independent variables in the study. In addition, results of the individual regression equations were discussed as well as the utilization of Strumpel’s model of economic behavior as a predictor of financial management behavior. Finally, the three research questions proposed in the study were discussed.
CHAPTER VI

Summary, Conclusions, Recommendations, and Implications

A summary of the purpose, problem, and findings of this research study are presented in this chapter. Conclusions based on the findings are discussed as well as recommendations for further research and implications of the study.

Summary

Purpose and Problem of the Research

Psychological variables, such as self-esteem and locus of control, have been supported by social scientists as important psychological and sociological variables. As such, they are considered relevant social products. Moreover, as social forces they are considered important concepts in understanding behavior. Researchers and authors in family financial management have supported the importance of incorporating psychological variables into the family financial management research (e.g. Cook & Lown, 1987; Gurney, 1988; Lovell & Gustafson, 1985; Lytton & Garman, 1988; Rubenstein, 1981) and the financial counseling process (Van Arsdale, 1982), but a theoretical basis to include these variables has alluded researchers.

The purpose of this research was to contribute to the theoretical and conceptual understanding of financial management behaviors. Strumpel’s conceptual model of economic behavior incorporates personality variables in a model explaining behavior. In addition, this model also considered
subjective well-being, a widely studied concept in financial management research, and objective environment concepts as related to behavior.

The problem of this study was to apply Strumpel’s conceptual model of economic behavior to explore financial management behavior. Relationships among environmental, person dimension, subjective well-being variables, and selected financial management behaviors were explored.

**Dependent Variables and Multiple Regression Analysis**

Through a factor analysis procedure of 23 financial behavior statements, four clusters of related behaviors were identified as dependent variables. The four groups were labeled as follows:

- **Factor I**: Credit Usage Behaviors
- **Factor II**: Financial Planning Behaviors
- **Factor III**: Financial Management Behaviors
- **Factor IV**: Financial Control Behaviors

All the independent variables were regressed on each of the four behavior groups identified above. The equations resulted in varied coefficients of determination depending on the behavior group predicted. The variables, as identified by Strumpel's model, were successful in accounting for 36% of the variance in credit usage behaviors, and 41% of the variance in financial planning behaviors. Smaller coefficients of determination resulted for the models characterized as a cluster of financial management behaviors ($R^2 = .1541$, $F = 5.296$, df 13,378) and those behaviors reflecting financial control ($R^2 = .0914$, $F = 2.926$, df 13,378).
Research Questions

The research questions and conclusions for this study were as follows:

1. Can financial management behavior be explained by factors such as income, education, occupation, financial life cycle stage, ethnicity, and gender which characterize the objective environment of the individual?

At least one of the variables comprising the objective environment was significant in three of the equations. Income, race, unemployment, and stage of the financial life cycle were significant in predicting financial behavior in separate regression equations. Therefore, findings suggest that these characteristics of the objective environment contribute to an explanation of selected financial behaviors.

2. Can financial management behavior be explained by person dimensions such as self-esteem, money self-esteem, and locus of control?

Self-esteem significantly contributed to the explanation of the variance in two behavior groups, financial management and financial control. The money self-esteem score was the most significant predictor of the credit usage and financial management dimensions. Locus of control also significantly contributed to the explanation of the variance in credit use. Findings suggest that person dimension variables contribute to an explanation of selected financial management behaviors.

3. Can financial management behavior be explained by dimensions of subjective well-being such as perceived income adequacy and satisfaction with financial situation?
Financial situation satisfaction contributed significantly to the explanation of variance in one of the behavior dimensions, specifically, financial planning. Perceived income adequacy was significant in explaining the credit usage behavior dimension. Therefore, findings suggest that these measures of subjective well-being contribute to an explanation of selected financial management behaviors.

Various individual variables, as defined by Strumpel's behavioral economic model, significantly contributed to the explanation of financial management behavior. Subjective well-being variables, which are frequently explored in family financial management research, and person variables, which are considered a research need in family financial management, significantly explained selected financial management behaviors. The incorporation of these variables as well as objective environment variables in this model provides a comprehensive model to explain behavior. The significant results from testing Strumpel's model provide the evidence needed to explore and apply this model further in explaining financial management behavior.

Conclusions

Although not consistently supported by all four models studied, the following conclusions were derived from the results of this research:

1) The concept of self-esteem should be considered in future research to explain financial behavior.
The findings of this study showed that self-esteem is significant in explaining some types of financial management behavior, specifically financial planning and financial management as measured in this study. Significant findings for both a global and a more specific measure of money self-esteem should indicate consideration for each in future studies.

2) The concept of locus of control should be considered in future research to explain financial behavior. The findings from this study indicate that locus of control is significant in explaining one dimension of financial behavior. This person dimension should be measured with a complete scale, to gain a better understanding of the impact of this variable.

3) Subjective well-being variables should be considered in future research to explain financial behavior. Satisfaction with financial situation and perceived income adequacy were significant in explaining the variance in two out of four of the behavior groups. Discussion of the effect of this variable suggest the cyclical nature of a relationship between financial satisfaction and financial behaviors.

4) The variable categories of objective environment, person dimensions, and subjective well-being define variables that significantly contribute to an explanation of financial management behavior. The combination of variables in the study produced significant results in predicting all four of the financial behavior concepts. The amount of the variance, however, depended on the type of financial behavior. An effort
should be made to continue to specifically define and consider other aspects of these three broad conceptual groups.

5) Strumpel’s conceptual model of economic behavior may be successfully applied to guide future research to explain financial management behavior.

The lack of a theoretical framework has hindered financial management research to date. Preliminary empirical testing of relationships defined in this model supports the applicability of this conceptual guide to future research. The consideration of sociology theory to help explain the relationships may also prove fruitful.

**Recommendations for Further Research**

The following recommendations are suggested for further research to explain financial management behavior.

1) Replicate the research by testing the application of Strumpel’s economic behavior model with different populations.

The data set utilized in this study was collected in only one state. Generalizability of the findings may improve if this research study was conducted with a broader population.

2) Conduct this study using different financial behaviors as dependent variables.

This research was limited to the 23 behaviors stated in the research
instrument. Future research could apply this model with different measures of financial behavior as the dependent variable. Research is needed to explore a valid, reliable measure of financial management behavior. Possible measures to capture the essence of the behavior include a single item as a global measure of financial behavior, or as suggested in this research, a cluster or group of related financial behaviors.

3) Replicate this study using a complete measure of locus of control. A limitation of this study was the incorporation of an incomplete measure of locus of control in the instrument. A complete locus of control measurement scale would contribute to a better understanding of the role locus of control plays in explaining financial behavior.

4) Replicate this study using a more in-depth exploration of money self-esteem. Future studies should focus on the psychological centrality (Rosenberg, 1979) concept and begin exploring the hierarchial nature of self-esteem in relation to money. The importance of successful money management and the importance of money to the individual should be considered in addition to the attitudes of success that individuals feel about they way they handle and manage money. This exploration will enable researchers to gain a better understanding of the psychological centrality principle in explaining financial behaviors.

5) Replicate this study including various other personality measures. Self-esteem and locus of control are only two of a number of
personality traits that could be included in the person dimension variable group. Other personality variables might be included to provide a more comprehensive understanding of the model.

6) Replicate this study using more and varied measures of subjective well-being.

The measurements of satisfaction with financial situation and perceived income adequacy may not represent a comprehensive view of subjective well-being. Other representations of subjective well-being may include satisfaction with other areas of life (i.e. friends, housing, family, etc.). Studies should be conducted with a variety of subjective well-being measurements to lend to the further development of Strumpel's model as a framework to explain financial behavior.

7) Test this model with the inclusion of other objective environment variables.

This study was delimited to using only financial life cycle stage, education, income, occupation, gender and ethnicity as objective environment variables. Additional demographic variables, such as individual or personal income, number of people in the household, marital status, and physical or mental health status may increase the explained variance in financial behaviors.

8) Test the full-scale model with the inclusion of a measure of societal discontent.

The data set utilized in this study did not provide a measure of the respondent's attitudes on the economy. To test the full model as presented
by Strumpel this variable should be considered.

9) Test Strumpel's model using path analysis.

Path analysis is probably a more effective statistical analysis to explore the individual and interrelated relationships.

10) Empirically test the cyclical nature of the relationships explored in this study.

Popular literature authors as well as social scientists view many of the variables in the study as both dependent and independent variables thus the relationship appears cyclical. Statistical procedures which could accommodate and explore the cyclical nature of the relationships should be utilized.

Implications

The following are three implications of this research.

1) The empirical test of Strumpel's conceptual model of economic behavior suggests the successful application of this model to explain financial behavior.

Although this was only a limited empirical test, there is evidence to support further research utilizing this model. This model's importance is supported through its conceptually based inclusion of personality characteristics. Personality characteristics have been postulated as an important component for a better understanding of financial management behavior. It also includes subjective well-being dimensions and objective environment variables
which have been studied in the family financial management research.

2) This model provides an integrated conceptual foundation for explaining financial management behavior.

This model, through its economic, psychological, and sociological foundations, begins to offer explanations of behavior that had only been observed in the past. Empirical research guided by Strumpel's model to explain financial behavior, may yield results which can be used to construct the foundation that family financial management currently lacks. Continued application of the conceptual model and appropriate theory could contribute to the eventual development of theory in financial behavior research.

3) Studies such as this are helpful to financial counselors. Studies based on this model can begin to provide a better understanding of why individuals participate or do not participate in certain financial behaviors. This can possibly contribute to a better understanding of the financial counseling process and more successful outcomes of that process. Strumpel's model also allows for the consideration of the effect that learning has on behavior. Further exploration of the relationship between learning and financial behavior would give financial counselors a new insight to effective educational techniques. For example, the model could be used to explore how changes in the person dimension, as affected by education or counseling, might impact future financial behavior.


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APPENDIXES
Appendix A

Items and Variable Numbers in the Study
Appendix A

Items and Variable Numbers in the Study

For each of the following statements, circle the response to indicate the extent to which you agree or disagree, using the following scale:

1 = STRONGLY DISAGREE
2 = DISAGREE
3 = AGREE
4 = STRONGLY AGREE

V043 I am proud of the way I handle money.

V053 I am pleased with my overall financial success.

Think about your life over the PAST YEAR. Considering the scale of "1" to indicate that you are completely dissatisfied to "7" to indicate that you are completely satisfied, please circle the response which best represents your life as a whole these days.

V069 Financial Situation

Using a scale of "1" to indicate not typical of yourself, respond to each of the following statements about financial practices. Circle the number of your response.
V081 I have a weekly or monthly budget that I follow.
V082 I have an overall plan that will enable me to reach my financial goals.
V083 My checking account pays me interest.
V084 I usually do not pay the total balance due on my credit card, but instead just make a partial payment.
V085 I never write bad checks or ones with insufficient funds.
V086 In the recent past, I have received overdue notices because of late or missed payments.
V087 I regularly set money aside for savings.
V088 I often spend more money than I have.
V089 I do not deduct something on my taxes unless I have a receipt.
V090 Overall, I am more in debt than this time last year.
V091 In the past year I made a financial contribution to a private retirement program, such as an IRA or 401-k.
V092 I usually fill out my own income tax forms.
V093 I have trouble meeting monthly health care expenses, including premiums for health insurance.
V094 In the recent past, I have obtained cash advances to pay money toward other credit balances.
V095 I often make financial decisions without much analysis.
V096 I have some specific financial goals for the future (for example, to buy a new car in two years).
This year, I invested some money in stocks, bonds, or mutual funds.

I rarely discuss my personal financial matters with family or friends.

I have a legal, written will.

My auto is adequately insured.

I usually itemize my income tax deductions.

I have a homeowner’s or renter’s insurance policy.

Compared to a year ago, my use of credit cards has increased.

For each of the following items, circle the response to indicate the extent to which you agree or disagree with each, using the following scale:

1 = STRONGLY DISAGREE
2 = DISAGREE
3 = AGREE
4 = STRONGLY AGREE

I feel that I have a number of good qualities.

I take a positive attitude toward myself.

All in all, I am inclined to feel that I am a failure.

I am able to do things as well as most other people.

I feel I do not have much to be proud of.

I feel that I am a person of worth, at least on an equal basis with others.
V110 On the whole, I am satisfied with myself.
V111 I certainly feel useless at times.
V112 At times I thing I am no good at all.
V114 When things are going expesially well for me I consider it due
to good luck.
V115 I wish I could have more respect for myself.
V116 Success is often a matter of getting good breaks.
V117 I often feel that I have little influence over the things that
happen to me.

V122 What is your perception regarding the adequacy of your family
income?

1 NOT AT ALL ADEQUATE
2 CAN MEET NECESSITIES ONLY
3 CAN AFFORD SOME OF THE THINGS I WANT
4 CAN AFFORD ABOUT EVERYTHING I WANT
5 CAN AFFORD EVERYTHING I WANT AND
STILL SAVE MONEY

V143 Which of the following stages of the "financial life cycle" most
describes your situation? You may not fit into one category exactly,
however, please circle the number of the stage that is most like you.

1 FORMATION STAGE - Household is being
established...children, if any, are financially dependent on
the family...basic needs of food, clothing, shelter, etc. are
being met...possessions are being accumulated, but are often purchased with credit so that what you owe is greater than what you own...most valuable thing owned is often the home...little retirement or estate planning is done except for contributions that are made by employer or those required by the government.

2 ACCUMULATION STAGE - Lifestyle is set...major financial costs of life are behind you, such as educating children, purchasing home, etc....what you own is now more than what you owe...for the first time there seems to be extra income available for saving and investing...planning and preparing for retirement becomes very important.

3 PRESERVATION/DISTRIBUTION - Retirement of at least one individual within household means that income, savings, and investments need to be managed carefully so that they will last a lifetime...what you own has reached a lifetime peak...investments may be producing income to live on...debts have been reduced...planning for the distribution of your assets to other people has become very important.

The following questions are necessary only for us to be able to describe the people who responded to our survey.

V144 Your sex. (Circle the number of your choice.)

1 MALE
2 FEMALE

V145 Your race. (Circle one)

1 BLACK
2 WHITE
3 HISPANIC (SPANISH-AMERICAN)
4 NATIVE AMERICAN (AMERICAN INDIAN)
5 ORIENTAL

6 OTHER--SPECIFY

V152 If employed for money income, how would you describe YOUR occupation? (Circle one) If you are not employed, circle number 1.

1 NOT CURRENTLY EMPLOYED FOR MONEY INCOME

2 HIGH EXECUTIVES, OWNERS OF LARGE BUSINESSES, MAJOR PROFESSIONALS

3 BUSINESS MANAGERS, OWNERS OF MEDIUM-SIZE BUSINESSES, PROFESSIONALS

4 ADMINISTRATIVE PERSONNEL, SMALL BUSINESS OWNERS, SEMI-PROFESSIONALS

5 CLERICAL AND SALES WORKERS, TECHNICIANS, OWNERS OF VERY SMALL BUSINESS

6 SKILLED MANUAL EMPLOYEES

7 MACHINE OPERATORS AND SEMI-SKILLED EMPLOYEES

8 UNSKILLED EMPLOYEES

V156 Which of the following ranges of income represents your household’s TOTAL ANNUAL GROSS INCOME? (Please consider ALL sources of income from all contributing adults, such as wages, salaries, tips, Social Security, pensions, interest, dividends, trusts, child support, alimony, welfare, etc.) (Circle one)

1 LESS THAN $10,000  
2 $10,000 to $14,999  
3 $15,000 to $19,999  
4 $20,000 to $24,999  
5 $25,000 to $29,999  
6 $30,000 to $34,999  
7 $35,000 to $39,999  
8 $40,000 to $44,999  
9 $45,000 to $49,999  
10 $50,000 to $54,999  
11 $55,000 to $59,999  
12 $60,000 to $69,999  
13 $70,000 to $79,999  
14 $80,000 to $89,999  
15 $90,000 to $99,999  
16 $100,000 or MORE
4 $20,000 to $24,999  12 $60,000 to $64,999
5 $25,000 to $29,999  13 $65,000 to $69,999
6 $30,000 to $34,999  14 $70,000 to $74,999
7 $35,000 to $39,999  15 $75,000 to $79,999
8 $40,000 to $44,999  16 $80,000 AND ABOVE

V157 What is the highest level of education you have completed?

(Circle one)

1 LESS THAN HIGH SCHOOL
2 HIGH SCHOOL DEGREE
3 TRADE/VOCATIONAL TRAINING
4 SOME COLLEGE (NO DEGREE)
5 BACHELORS DEGREE
6 GRADUATE OR PROFESSIONAL DEGREE
Appendix B

Correlations
### APPENDIX B

#### Correlations

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Appendix C

Chi-Square Calculation Between Ethnicity and Income
Appendix C

Chi-Square Calculation Between Ethnicity and Income

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Chi-Square = 25.15, df=7

p<.01
VITA

Toni Lynn Toccafondi was born January 1, 1968 in Wilmington, Delaware. She lived in Newark, Delaware and Johnstown, Pennsylvania before graduating from Sussex Central High School in Georgetown, Delaware in 1985.

She attended Mary Washington College in Fredericksburg, Virginia for her freshman year of undergraduate studies. After transferring to the University of Delaware in Newark, Delaware she graduated in 1989 with a Bachelor of Science degree in Consumer Economics with an emphasis in business. She immediately entered the Master’s program in Family Financial Management at Virginia Polytechnic Institute and State University. The requirements for a Master of Science degree were completed in May, 1991.

During the Master’s program, she was employed as a graduate assistant in both teaching and research capacities. Upon graduation she will begin employment as a business manager at a campground in Rehoboth Beach, Delaware.

Toni Lynn Toccafondi