Financial management competencies of money managers: bases for household net worth and satisfaction

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Financial management competencies of money managers: Bases for household net worth and satisfaction

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Financial management competencies of money managers:
Bases for household net worth and satisfaction

by
Patricia Mahoney Titus

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INTRODUCTION

The growing amount of consumer debt and the number of personal bankruptcies suggest that many American families are experiencing increased financial difficulties in acquiring and using financial resources. There were 297,885 nonbusiness bankruptcy petitions commenced in 1985 compared with 182,710 in 1980 (Administrative Office of the United States Courts, 1986). In addition, there are many families on the edge of financial disaster. Factors contributing to the financial problems of households include the complexity of financial management, the lack of financial resources, the debt loads assumed by households, and the uncertain economic environment.

Financial difficulties contribute to stress-related problems within families. Illness, marital discord, child abuse, and loss of home often coincide with financial failure (Brenner, 1973; Heck, 1981; Shepard, 1984; Ulrichson & Hira, 1985). Thus, it is important to address financial management when designing programs to help families.

The Carl D. Perkins Vocational Education Act (U.S. Congress, 1984) mandates "program development and improvement of instruction and curricula . . . in the area of managing individual and family resources." Hence, it is important for educators to address financial management when planning and implementing home economics programs for secondary and adult settings.

In order to develop educational strategies to assist families in becoming effective managers of their financial resources, there is a
need to understand the financial management competencies of household money managers and the system in which they make financial decisions.

Deacon and Firebaugh (1981) offer a conceptual framework to describe how money managers plan and implement resources to meet demands. Their view of management incorporates a holistic approach to management with its inputs of demands and resources, throughputs of planning and implementing, outputs of met demands and used resources, and feedback. Managerial actions are viewed as not isolated in time but related to the past and future.

Most of the research in the area of financial management is descriptive or has examined the financial management of a subpopulation such as low-income or dual-career families. Few studies have analyzed the relationships between the input, throughput, and output variables. Hence, studies are needed to explore these relationships.

The purpose of this research was to study the relationships between the financial management competencies of household money managers and the financial well-being of the household. Data for this study were provided by 123 household money managers in Iowa who were interviewed in fall 1986.

The first major objective was to test a family resource management model in the context of financial management. Inputs of age, household size, net income, and knowledge; throughputs of planning and implementing; and outputs of net worth and satisfaction
were included in the model. The second major objective was to examine the differences in money management behaviors, net worth, debt payments-to-income ratio, and satisfaction between household money managers with more knowledge of financial management and those with less financial knowledge.

Explanation of Dissertation Format

The format for this dissertation has been approved by the Graduate Faculty at Iowa State University. In this format research is presented in manuscript form suitable for publication in professional journals.

The dissertation begins with an introduction and review of the literature which provides background for the total research project. The body of the dissertation is composed of two sections which address two distinct aspects of the research. The first section is a manuscript describing the relationships between the financial management inputs of income, knowledge, age, and household size; the throughputs of planning and implementing; and the outputs of net worth and satisfaction. This manuscript was written for a professional journal for home economics researchers. The second manuscript provides information on the differences in money management behaviors, net worth, debt payments-to-income ratio, and satisfaction between money managers with more knowledge of financial management and
those managers with less knowledge. The second manuscript was written for a professional journal for vocational home economics educators.

The authorship for the two manuscripts was shared with Dr. Alyce M. Fanslow, major professor for the dissertation, and Dr. Tahira K. Hira, co-director of the research project of which this research was a part. The research project, Financial Management Competencies of Money Managers: Bases for Adult Education, was partially funded by the Agriculture and Home Economics Experiment Station, Iowa State University, project number 2773.

The final chapter is a summary of the total research and presents overall findings. Recommendations for future research also are included in this chapter.
LITERATURE REVIEW

A theoretical, conceptual framework is important in explaining how managers plan and implement resources to meet demands. Hence, background will be given on the evolution of the systems approach in home management followed by its application to financial management. Research findings pertaining to financial management inputs, throughputs, and outputs will be summarized and the need for and direction of further research will be addressed.

Systems Approach to Management

Management has long been a focus of home economics. The field of home economics had its inception in the early 1900s at the Lake Placid Conferences. Among the topics initially discussed was the concern with values and goals which underlie managerial decisions.

Six stages, not mutually exclusive, have been identified in the evolution of home management as a field of study (Gross, Crandall, & Knoll, 1980). In the first stage, home management courses were largely dumping grounds for any home economics material that was definitely not food, clothing, or shelter. Resource-centered emphasis occurred during the second stage and an attempt was made to analyze the dimensions of the field. The third stage was human-centered. Emphasis was on the individuals in the home and their goals and values. The fourth stage in the evolution of home management was the beginning of a theoretical framework specific to the field. The focus
at this stage was on process. Decision making as well as the choice of values underlying decisions were emphasized in the fifth stage.

Knoll (1963) questioned the management process as a basic concept. According to her, theory in home management benefits from recognition that management cannot be studied apart from the characteristics of the managerial situation. Gross (1966) admonished, "The home economist can no longer blindly apply 'rules' of management but must see the handling of resources in the home as a human problem based on knowledge of human motivation and behavior" (p. 452). The focus of management had shifted from the practical with the emphasis on handling resources to the theoretical with the emphasis on process, values, and decision making.

Schlater (1967) viewed management as a process involving decision making as well as decision implementing. The emphasis on performance as well as mental activity is an important concept in the development of management theory. Edwards (1970) introduced a conceptual framework for goal-oriented behavior. Goal-oriented behavior involves the setting of goals, determination of means by which goals will be achieved, and the development and allocation of resources toward achieving goals. Goal setting and goal effectuation are two processes that occur in goal-oriented family behavior. The latter process involves decision making and implementation.

Family management is currently viewed from a holistic perspective or systems approach whereby the family is related to its overall
environment. Maloch and Deacon (1966) proposed a systems approach to the analysis of home management with input from and output to the larger environment. The family influences and is influenced by its environment.

Deacon and Firebaugh (1975, 1981) clarified the systems approach and provided a conceptual framework for understanding the components and relationships among aspects of family management. A unique contribution of Deacon and Firebaugh's managerial framework is that it addresses management as one vital family function (Guadagno, 1981).

Deacon and Firebaugh (1981) have identified two subsystems operating within the family system, the personal and managerial. The personal subsystem encompasses the affective components of family living. The managerial subsystem addresses the process of planning and implementing available resources to meet individual and family demands. Management as conceptualized by Deacon and Firebaugh (1981) is flexible and dynamic. Management is goal-oriented and related to available or obtainable resources. Managerial actions are viewed as not isolated in time but related to the past and future. "Management is a dynamic process that permits alteration of and adjustment to changing conditions in the external physical and social setting or in internal situations affected by the ebb and flow of life processes" (p. 6).

The environment of a system consists of the conditions and properties that influence a given system but are not an integral part
of it (Deacon and Firebaugh, 1981). The microenvironment is the immediate physical and social setting of the family system. The social systems that surround the microenvironment, i.e., the socio-cultural, political, economic, and technological, provide a system of interchanges for meeting individual and family needs. These social systems are known as the macroenvironment.

The systems approach as conceptualized by Deacon and Firebaugh (1981) uses the input components of demands and resources, the throughputs of planning and implementing, the outputs of met demands and used resources, and feedback. In addition, the model provides a basis for examining the interactions of the family with its environments.

Managerial inputs include demands and resources (Deacon & Firebaugh, 1981). Demands are goals or events that motivate and require action. Resources are the means for meeting demands and may be either material, i.e., money or other goods, or human, i.e., skills, abilities, and knowledge of individuals. Both demands and resources may originate from within or outside the family system.

Managerial throughputs as conceptualized by Deacon and Firebaugh (1981) consist of two components: planning and implementing. Planning is a series of decisions involving standards and/or sequences of action. Standard setting is a measure of quality or quantity resulting from the family's attempt to balance resources with demands. Sequencing refers to the ordering of activities. Implementing
involves actuating standards and sequences, i.e., putting the plan into effect, and controlling the action, i.e., checking the activities for conformity to plans and adjusting standards or sequences if necessary.

Outputs of the managerial system are the met demands and used resources that result from managerial action within the system in response to demands and resource inputs (Deacon & Firebaugh, 1981). The met demands component of output is the satisfaction and meaning derived from achieving goals. Used resources show the change in the family's stock of available means. Feedback is the portion of output that reenters the system as input to affect succeeding goals and activities. It may be either positive or negative.

The Deacon and Firebaugh conceptualization is not the only systems approach to management. Paolucci, Hall, and Axinn (1977) view the family as an ecosystem. "Family members, their external environments as perceived by them, and the web of human transactions carried out through the family organization constitute the basic elements of the family ecosystem" (p. 15). An ecological approach to viewing family decisions examines both the persons involved in decision making and the conditions that surround them. The focus is on the decision points where family members interact with their environment. Inputs from the environment enter the family and influence the family's decisions. Families, in turn, help shape environments by the decisions they make.
Suggestions for the future direction and focus of family management research include the systematic and empirical testing of existing conceptual frameworks in family management (Heck & Douthitt, 1982). Before actual empirical testing may begin, the research issues that need to be addressed and resolved are the unit of analysis, the measurement of variables, the simultaneous nature of management goals, and the functional form, i.e., whether variables are related in a linear or nonlinear manner.

A preliminary test of a family research model by Heck (1983) shows some validity for the conceptualizing of family management frameworks. Satisfaction with 11 types of family outputs were examined in relation to specific input and throughputs. Results demonstrate the need to collect better and relevant data and to develop improved measures of the management concepts as the first steps in a more complete and rigorous testing of the frameworks.

Research by Huguley (1976) and Newton (1979) supports the Deacon and Firebaugh managerial framework. Both individuals tested the relationship between managerial behavior, as reported by respondents, and output. Huguley used measures of the respondents' level of living relative to food consumption and housing while Newton used both satisfaction with managerial behavior and reported goal achievement as measures of output.

The need to operationalize managerial behavior in a manner that permits differentiation of effective and noneffective thought
processes and behavior resulting in met demands and satisfaction is expressed by Sharpe and Winter (1982). They propose the development of operational definitions that outline the key thought processes and behaviors of the effective manager as a preliminary step to empirical testing.

The systems approach has the potential to contribute to the understanding of how managers plan and implement resources to meet demands. Professionals working with families need to understand the managerial processes that make a difference in helping families meet the complexities with which they are faced.

Systems Approach Applied to Family Financial Management

Aggregate statistics on income, consumption, and saving while helpful in the macroenvironment do not help to understand family economic behavior. Aggregate statistics fail to explain how an individual's or family's financial management strategies affect the economic well-being of the family. There is a need to understand the family financial management process within the context of the microenvironment.

Family economic decisions may be separated into two types, financial decisions and nonfinancial decisions (Ferber, 1972). Financial decisions involve money management, saving decisions, spending decisions, and asset management. Nonfinancial decisions include all other types of economic decisions, e.g., family size, and
work vs. leisure. Ferber's model includes the exogeneous forces of reference groups, characteristics of individual family members, and external events; attitudes of husband and wife; financial resources; family goals; and family structure. The focus of his model is on the dynamics of the decision making process within the family but his model lacks a comprehensive picture of the whole.

A systems approach provides a framework to help one understand the components and relationships among aspects of family financial management. As expressed by Guadagno (1981),

Given the lack of substantive theory for explaining and predicting family financial managerial processes and effective family functioning within the context of other social, economic, political, and technological systems, a conceptual framework is needed to integrate pertinent concepts, relations and theories from previous, often fragmented studies across scientific disciplines. (pp. 3-4).

Applied to financial management, input consists of the demands of goals and events and available human and material resources. Age, education, occupation, race, and income are sociodemographic variables that may influence financial management practices. Also included are the knowledge and attitudes of the money manager toward financial management. Throughput consists of the actual financial management practices of the money manager, i.e., the budgeting, record keeping, credit usage, savings, and risk management. How these activities are
accomplished affects whether or not financial goals are met and resources are maximized. Output may be expressed as solvency, net worth, or satisfaction. Feedback is that portion of output, e.g., net worth, that reenters the system as input to affect succeeding financial decisions.

A review of the literature related to the financial management of households shows a paucity of research. Abdel-Ghany and Nickols (1984), in a survey of the literature from 1972 to 1982, identified only 13 articles in the Home Economics Research Journal and the Journal of Consumer Affairs that related to the subject. Most of the research in the area of financial management is of a descriptive nature and does not suggest the relationships between inputs of knowledge and sociodemographic characteristics, the throughput practices, and outputs of household solvency and satisfaction.

**Inputs**

Managerial inputs include demands and resources. Why resources are allocated in a particular way, what resources are allocated, and whether or not resources are allocated are contingent upon input factors (Deacon & Firebaugh, 1981).

**Demands.** Related to financial management, demands can be money-related goals (e.g., college education for children and
financial security in retirement) or events (e.g., catastrophic illness in family or death of wage earner).

In addition to goals and events, demands also involve characteristics of the manager. Three categories of personal characteristics identified by Guadagno (1981) as inputs to management are demographic characteristics (e.g., age of household head, educational level, sex, and occupation), situational characteristics or factors concerning the family's managerial situation (e.g., social class, employment status of the wife, location of residence, and stage of life cycle), and the psychological state of family members (e.g., personality, expectations, and aspirations of the family). Studies that have examined the effect of demands on throughputs and outputs are presented elsewhere in the review.

**Resources.** Resources are the means to meet demands placed upon the family by goals, events, and personal characteristics. Financial knowledge and skills are examples of human resources; money is a material resource.

Income is important as a factor influencing the saving and spending decisions of consumers. Without adequate income to meet current needs, families are handicapped in planning for the future. In expressing income, the method of presentation and sources of data must be addressed (Schwenk, 1985). Income statistics may be expressed as household income or family income. Household income differs from
family income in that household income includes the income of all individuals in the house, regardless of relationship. Family income is limited to income of only related persons in the household. Further, comparisons between years must be made in constant dollars.

The proportion of families with incomes of $25,000 or more (in constant 1982 dollars) fell to 39% in 1982 after remaining nearly constant at about 45% from 1969 to 1976 (Avery, Elliehausen, Canner, & Gustafson, 1984a). In 1982, mean real family income was $26,259, a decline of 9% from 1976; median real family income of $19,446 was 16% lower. This decline in real income reflects differences in economic activity in the United States as well as changes in family composition, i.e., more family units comprised of single individuals.

Family income tends to increase with the age of the head of house up to retirement and with the level of education. Also, whites tend to have higher family incomes than nonwhites and Hispanics (Avery, Elliehausen, Canner, & Gustafson, 1984a).

Knowledge is another input resource. More discussion occurs on what topics should be included in consumer education than on its effectiveness. Little research has been done on the effect of consumer education content on student' competencies and upon the subsequent behavior of students after they have had opportunity to implement information.

Existing research reveals conflicting results as to the effectiveness of consumer education. Using a stratified, random
sample from a population of all seniors in Kansas, Hawkins (1977) studied whether students who did and did not take a consumer education course as high school seniors differed two years later in the areas of money management, use of credit, and borrowing and general purchasing habits. Results revealed that students having completed a consumer education course felt it useful. Budgeting and record keeping were most often identified as being useful. A study of the stock market was referred to most often as not being helpful. Examination of the differences in the behavior of the two groups, however, reveals that only in the practice of putting money in savings regularly did the two groups differ. Generally, the subsequent behavior of students who took a consumer education course in high school differed little from those who did not take a course.

High school students in Illinois, where consumer education is mandated, were compared with students in Alabama where it is not required (Langrehr, 1979; Langrehr & Mason, 1978). Students who took a course specifically designed to present consumer education improved their consumer economics competency. Information was presented on credit usage, money management, savings, investments, and insurance. Males, lower social class students not planning on attending college benefited the most from instruction in consumer education.
Throughputs

Planning and implementing are throughput processes conceptualized by Deacon and Firebaugh (1981). Planning involves establishing goals whereas implementing includes determining procedures by which to accomplish goals.

**Planning.** Deacon and Firebaugh (1981) view planning as a series of decisions about future standards and/or sequences of action. Included in standard setting are goal clarification and resource assessment. Goal clarification results in objectives consistent with values and available or attainable resources. Through resource assessment, the manager analyzes ways to meet particular demands. In addition to identifying available resources, consideration is given to ways of increasing resources. Standards are the output of goal clarification and resource assessment.

Action sequencing involves specifying succession among activities (Deacon & Firebaugh, 1981). Through conscious sequencing the manager places one activity in relation to another to accomplish the standards set for the activity.

**Implementing.** Implementing includes actuating standards and sequences and controlling the action. Actuating is putting plans into effect. It most likely occurs when there is high goal intensity, when
plans are clear and feasible, and when there are sufficient resources to meet needs (Deacon & Firebaugh, 1981).

The controlling part of implementing involves checking or comparing actions and outputs with plans and, if necessary, adjusting the planned standards and sequences of the actions to increase the likelihood of obtaining the desired output. Changes or adjustment also may require a new plan.

Although throughputs may be broken down conceptually into planning and implementing components, the literature review reveals that, for the most part, studies have examined actual financial management practices of the household financial manager. Thus, the throughput review will focus on specific behaviors practiced by households.

Ferber (1972) identifies four conceptual areas for planning in financial terms. These are money management, spending behavior, savings behavior, and asset management. Included in money management are the handling of money, paying bills, budgeting, and record keeping. Spending behavior is buying behavior, i.e., planning what to buy, how to pay, when to buy, and where to buy. Saving behavior is concerned with saving money or assets for future return. It includes planning what, how, when, and where to save. In addition, risk management and retirement and estate planning are important areas for planning and implementing.
Families generally are aware of the importance of financial practices such as savings, written financial goals, and formalized budgets, but few families practice recommended financial management behaviors. Godwin and Carroll (1986) found, on average, fewer than 6 of 18 recommended financial management behaviors to be practiced. The number of years married, completion of a course in consumer education, and occupational status of the wife were found to contribute to financial management attitudes and behaviors.

Walker, Tremblay, and Parkhurst (1984) reported that the socioeconomic characteristics of marital status, length of present marriage, number of parents in families with dependent children, family size, education, and family income significantly influence financial management practices. Respondents with higher financial management practices scores were college graduates, had childless families or were in two-adult families with no dependent children, were in two-member families, were in present marriage a long period of time, and had high income. Residential location and number of earners within the family were the only variables in the study that were found to be unrelated to financial management practices.

Budgeting. Budgeting is planning for the future use of resources. A budget is a plan that indicates how and when to allocate available financial resources among various needs and wants (Deacon & Firebaugh, 1981). A budget may be mental or written, general or
specific. It requires the ability to predict, consider alternatives, make decisions, and communicate effectively within the family (Gross, Crandall, & Knoll, 1980). Budgeting should not be confused with record keeping which accounts for expenditures as or after they take place. Record keeping is the checking component of budgeting.

Equal proportions (49%) of the 1247 families in the 1974-1975 General Mills Study (Yankelovich, 1975) budgeted and did not budget. Of the families who budgeted, approximately 75% described their budgeting as informal. The major difference between the budgeting and nonbudgeting groups was in their attitude toward budgeting. Families that budgeted felt the budget process helped them to keep track of spending, avoid overspending, and save.

Mullis and Schnittgrund (1982) and Schnittgrund and Baker (1983) also reported that the majority of their sample of low-income families used a very informal, unwritten style of budgeting. Both budgeting and nonbudgeting families believed that few families manage their money well. However, significantly more budgeters believed that greater satisfaction could be achieved through the planning of expenditures.

A third of the sample in a study by Beutler and Mason (1987) did not practice formalized budgets and another third did so at only a low level. Households that implemented more formalized budget plans were young, married, and well-educated households with high demands on the available resources, i.e., circumstances, household size, and stage of
the life cycle. Income is usually found to be an important predictor variable in financial models. However, the authors found that income was not a factor that directly influenced the use of formalized budgeting.

Credit. Credit also can be an indicator of financial management or mismanagement. Most credit studies have been descriptive. More is known about who uses credit, how frequently credit is used, what items are purchased with credit, and the knowledge of the costs of using credit than is known about the effect of credit on the financial management outputs of solvency and satisfaction.

A preliminary understanding of the credit practices of households can be obtained by studying aggregate consumer indebtedness. The documented inputs that appear to influence indebtedness include age, income, race, and type of household. One must use caution, however, in using aggregate figures as a measure of the financial situation of households. It may be argued that aggregate debt figures inflate the magnitude of consumer indebtedness. Consumers who use credit cards as a convenient alternative to cash or checks rather than as a means of borrowing are counted in the aggregate consumer credit figures.

Debt of the household sector has increased. Mortgage continues to be the largest financial obligation of many American families. In 1983, of the 64% of families who were homeowners, 57% owed mortgage
debt (Avery, Elliehausen, Canner, & Gustafson, 1984b). The mean mortgage debt was $27,147 and the median was $21,010.

The proportion of homeowners owing mortgage debt increases steadily from the lowest to the highest income group, as does both mean and median mortgage debt (Avery, Elliehausen, Canner, & Gustafson, 1984b). Although homeowners with lower incomes are less likely to owe mortgage debt, they are more likely to have higher mortgage payment ratios, i.e., ratio of monthly mortgage payment to monthly income, when they owe debt.

The proportion of homeowners who owe mortgage debt declines with age (Avery, Elliehausen, Canner, & Gustafson, 1984b). Of homeowner families with the head in the 25 to 34 year age group, 61% owed mortgage debt but only 5% of those over 75 did. In addition, families with younger heads had higher ratios of mortgage payment to income.

Whereas mortgage debt is the largest single financial obligation of most American families, more families owe consumer debt. Approximately 62% of families had some outstanding consumer debt in 1983, i.e., installment and noninstallment debt; 34% had debt over $2,000 (Avery, Elliehausen, Canner, & Gustafson, 1984b). Mean real consumer debt outstanding for families with such debt increased from $4,450 in 1977 to $5,400 (in constant 1983 dollars) while median real consumer debt declined from $2,622 to $2,382.

A large part of the growth in consumer debt is accounted for by households with the highest income (Luckett & August, 1985). The
proportion of these families in debt has increased as has their share of all debt. Whereas 32% of households in the lowest income quintile owed some credit card (installment) debt in 1983, 72% of the highest income group did. For the lowest income quintile, this proportion remained stable from 1977. However, the incidence of debt in the higher income group increased by 16% from 1977 to 1983. The top 20% of households by income level owed about 45% of the installment debt in 1983 compared to 36% in 1977. By comparison, the lowest 20% of households by income held only 5% of credit card debt in 1983 compared to 4.5% in 1977.

Schnittgrund and Baker (1983) found the use of credit to be common among low-income, urban families. In an exploratory study on the changes in the credit repayment performance of low-income consumers, Bowers and Crosby (1980) followed a group of low-income persons who received bank credit cards upon completion of a consumer education course. During the first year, banking affiliation and knowledge about one's credit card account were significant in explaining repayment behavior. By the end of the second year, knowledge did not explain repayment behavior, but occupation, marital status, and months at present address did. These latter variables are similar to the criteria used by financial institutions to judge the credit worthiness of individuals.

Ethridge (1982) related repayment method with selected socioeconomic and attitudinal variables. Installment users were more
likely to have children under age 18, be nonwhite, and have a lower income. Age of husband and mortgage on home were not significant variables. In addition, installment users were more likely to have the attitude it is difficult to save in advance for purchases of large consumer durables and that it is appropriate to borrow to finance hobbies and furniture.

Kinsey and McAlister (1981) addressed knowledge of the dollar cost of open-ended credit as well as knowledge of annual percentage rate. Findings revealed that knowledge of the cost of credit was higher among those with college education; those with higher levels of income; those of middle age, those with white collar, professional, and technical occupations; and those living in cities. The percentage of respondents who knew both the annual percentage rate and corresponding dollar finance charge was only 6.4%.

In addition to demographic variables, Luckett and August (1985) identified other influences on the current growth of consumer credit. These include the convenient use of credit cards, the lengthening of maturities, and credit market innovations. Examples of credit market innovations are cash management accounts, second mortgages, adjustable-rate financing, secondary markets for consumer loans, deductibility of interest payment in computing federal income taxes, and individual retirement accounts. Although the latter are considered illiquid, they are a substitute for other forms of saving, thereby leading to increased borrowing to finance purchases.
Clearly credit plays a role in financial difficulties. For there to be a negative net worth, households have had to employ credit. Ulrichson (1982) found overuse of credit to be the major factor leading to bankruptcy. Likewise in her examination of bankruptcy files, Hira (1982b) also found the major cause of bankruptcy to be a lack of prudent financial management in 52% of the cases. The second largest cause (23%) was involuntary assumption of debts due to marital problems and illness. Loss of income due to unemployment comprised 12.3% of the cases.

The number of bankruptcies has increased. There were 297,885 consumer bankruptcy petitions commenced in 1985 compared with 182,710 in 1980 (Administrative Office of the U.S. Courts, 1986). Federal courts are now processing more than 200 personal bankruptcies each hour they are in session (Shepard, 1984).

The costs associated with personal bankruptcies are significant for the individuals involved. Personal stress, marital discord, child abuse, and loss of home often coincide with financial failure (Brenner, 1973; Heck, 1981; Shepard, 1984; Ulrichson & Hira, 1985).

Sociodemographic factors offer additional insight into what is happening in abuse of this particular throughput. Shepard (1984), in reviewing the literature, characterized the "typical" bankrupt as a head of household with a twelfth grade education, a blue collar worker, and a member of the lower middle class. The bankrupt is more
likely to be recently divorced, unemployed, a racial minority, and a heavy user of credit.

Males (84%), married individuals living with spouse (79%), and individuals under age 40 (70%) comprised the majority of Hira's (1982) sample of bankrupts. An increase was noted, however, in the proportion of females and single individuals filing for bankruptcy as well as in the proportion of separated, divorced, and widowed. This latter increase suggests that families facing financial problems due to separation, divorce, or death of spouse perceive bankruptcy as a solution to these problems or that the sudden reduction in income because of these events makes bankruptcy the most viable solution.

Medical debt was the most consistently significant variable in Marlowe's (1981) study of variables associated with successful debt liquidation. Individuals who had completed a debt liquidation program through a consumer credit counseling service were compared to individuals who had dropped out of the program. Individuals successfully completing debt liquidation had a higher medical debt than the dropouts. Medical debt is different from other debt in that it is largely unplanned. Medical expenditures do not reflect personal consumption patterns but, rather, a form of forced consumption. Thus, such families may be able to overcome the problem without fundamental changes in their consumption pattern.

Consumers face bankruptcy not because their income is low but because their income is low in relation to debts. The ratio of
consumer credit outstanding (excluding mortgage debt) to disposable personal income was 22% in 1984, up from 20% in 1970 and 1980 (U.S. Bureau of the Census, 1986b). The ratio of all household debt to personal income reached a post-ward high of almost 84% at the end of 1985 (Wilson, Foger, Freund, & van der Ven, 1986).

Two-fifths of the low-income bankruptcy cases examined by Hira (1982) had a debt-to-income ratio of at least 1.0 excluding mortgage debt. Another one third had debts accounting for 50 to 100% of their income.

In a study of 2,800 families who used a debt counseling service, Wright (1978) found that a family's total debt load and the number of its creditors did not affect its success in resolving its debts. The ratio of debt to income did significantly affect the family's ability to repay its debts.

Marlowe (1981) in another study of factors associated with successful debt liquidation, also reported the debt-to-income ratio to be a strong discriminator. Individuals successfully completing a debt liquidation program had a mean ratio of debt to adjusted income of 29.1, whereas dropouts had a mean ratio of 43. This suggests that is a family is going to be able to liquidate its debts, this ratio must be lowered.

Shepard (1984) in analyzing aggregate bankruptcy data from 1945 to 1981 found the ratio of consumer debt to income to exhibit a positive relationship with bankruptcy rates. There was an increase of
over three bankruptcies for every percentage point change in the debt-to-income ratio. However, his data indicate that debt-to-income ratios explain only about one half of the postwar increase in straight bankruptcy rates. Clearly more is happening to account for financial difficulties of households.

The ratio of monthly debt payments to monthly income also is a useful indicator of debt burden because repayments of debts are generally made out of current income. The size of the monthly payment is generally more important to decisions on spending than is the size of the total debt which may be payable over several years.

In 1983, 25% of families had installment debt payments that was up to 9% of their monthly income; 11% were in the 10-19% category; 5% of the families had installment debt payments that accounted for 20% or more of monthly income (U.S. Bureau of the Census, 1986b).

According to research conducted by Wright (1978), the monthly amount of net income and debt repayment significantly affects the family's ability to repay debts. Ryan and Maynes (1969), in analyzing a sample of 1,223 debtor households, also concluded that the greater the debt payment-to-income ratio, the greater the probability that a family's debt position will lead to trouble. Likewise, Marlowe (1981) concluded that a greater reduction in monthly debt payments leads to liquidation of debts.

Traditionally the wise use of credit has centered on the income-debt relationship. This is an important consideration, but as
discussed well by Smythe (1971), families planning to assume consumer debt should also take into account other factors. In addition, families should consider credit commitments in relation to net worth; anticipated future family size, income, and expenditures; and the possibility of sudden change in financial situation due to unemployment or unexpected expenses such as medical payments. It is also important that these factors be considered at each stage of the life cycle.

The determination of safe credit levels should be made individually by each family on the basis of its own financial situation. Professionals working with families should be aware of factors involved in excessive indebtedness so as to help those currently in financial difficulty as well as to assist in preventing future problems.

**Asset Management.** Liquid assets include checking, money market, and saving accounts; certificates of deposit; and savings bonds. Financial assets include stocks and bonds in addition to liquid assets. Property and business holdings comprise illiquid assets.

For most Americans, homeownership is a major social and economic objective. Equity in a home, defined as the current value of the property less the amount of mortgage debt, is the largest asset for many homeowners. Although the rate of homeownership increased between
1970 and 1977, it declined between 1977 and 1983 (Avery, Elliehausen, Canner, & Gustafson, 1984a). Factors that could explain this decline include an increase in the number of families with an unmarried head, rising mortgage interest rates, and a change in the perception that homeownership is a hedge against inflation.

Frequency of homeownership is not uniform among all groups. Older persons, whether working or retired, had the highest frequency of homeownership in 1983. Single, childless individuals under age 45 increased their homeownership from 14% in 1977 to 23% in 1983 (Avery, Elliehausen, Canner, & Gustafson, 1984a).

Homeownership rates vary by family income and race. Only 35% of families with incomes less than $10,000 but 89% of families with incomes over $50,000 were homeowners in 1983 (Avery, Elliehausen, Canner, & Gustafson, 1984a). Ownership rates fell for nonwhites and Hispanics but remained stable for whites during this period. Whites had a 60% higher rate than nonwhites and Hispanics.

Mean holdings of liquid assets increased 15% in constant dollars from $11,274 in 1970 to $12,934 in 1983; median holdings decreased 4% during this period, from $2,051 to $1,964 (Avery, Elliehausen, Canner, & Gustafson, 1984a). The mean holdings were much higher than the median because of the very large holdings by a few families. In 1983, the proportion of families that did not report liquid assets was 12%, a slight decline from 16% in 1970.
Mean financial assets increased from $23,295 in 1970 to $24,128 in 1983 constant dollars (Avery, Elliehausen, Canner, & Gustafson, 1984a). Median financial assets remained stable at close to $23,000. Economic developments during this period altered markedly the selection of financial assets by families. The proportion of families with savings accounts, savings bonds, and stocks declined.

The proportion of owners and dollar amount of holdings vary by age, stage in the life cycle, education, occupation, housing status, and race (Avery, Elliehausen, Canner, & Gustafson, 1984a). Although in general, nonwhites and Hispanics were less likely to hold assets, those who did apparently held amounts similar to those held by white families.

The proportion of owners and the dollar amounts of holdings of liquid assets, and of financial assets generally, increase with income (Avery, Elliehausen, Canner, & Gustafson, 1984a). The proportion of families having liquid assets increased from 57% for families with income under $5,000 to 97% or more for families with income above $25,000 in 1983. Financial assets are concentrated in a small number of families with very high incomes. The top 2% of families with incomes that exceeded $100,000 held more than 70% of dollar holdings of nontaxable bonds, 50% of stock holdings, and 39% of other bonds. Ownership of every type of asset increases as a function of income.

The 1983 Survey of Consumer Finances (Avery & Elliehausen, 1986) presents the most comprehensive view of wealth since 1962. Even after
adjusting for inflation, the number of wealthy has increased significantly. In 1982, 14% of families were estimated to have a net worth of $163,000 and above compared to about 6% of families in 1962. Even for the very high income groups, most wealth was saved out of accumulated earnings rather than inherited. A significant concentration of wealth was found. More than 19% of total assets and 34% of financial assets were estimated to be held by families in the top one half of 1% of the income distribution.

As their incomes rose, families were increasingly more likely to own every type of financial asset, except savings accounts (Avery & Elliehausen, 1986). Likewise, families increased their relative holdings of nonliquid assets as their incomes rose. Even among high-income families, ownership of some types of financial assets is not widespread. Less than 50% of families with incomes of $50,000 to $99,999 owned publicly traded stock in 1983. There also were age differences in the portfolio composition of the wealthy. The value of their home dominated the portfolios of high-income families headed by individuals less than age 45, whereas individuals age 55 and over placed their largest share of investments into other nonliquid financial assets.

High-income families are more likely to show a difference in attitudes toward financial risk and liquidity than the population as a whole (Avery & Elliehausen, 1986). While few families in any income group indicated a willingness to take substantial financial risk,
high-income families were much more likely to report a willingness to take average or above financial risk to earn higher returns. Whereas nearly one half of all families indicated they were not willing to take any risk, less than 20% of high-income families reported this aversion to risk.

High-income families are more likely than other families to be willing to invest their savings in illiquid assets in the expectation of earning higher returns. More than two-thirds of high-income families, but only 38% of the population as a whole, reported being willing to invest money for an intermediate or long period of time in order to earn higher returns. Only 5% of high-income families were not willing to commit money at all, compared to 29% of all families.

There also are differences between high-income families and the population as a whole in stock ownership (Avery & Elliehausen, 1986). In 1983, 81% of all families owned no publicly-traded stock; 10% owned shares in one company; only 8% owned shares in two or more companies. More than half of families with incomes over $50,000 owned stock in two or more companies. The differences are even more striking when considering stock trading activity. Only 6% of all families purchased or sold stock in the previous year, whereas the percentage was nearly 25% for families with incomes of $50,000 to $99,999, about 50% for families with incomes of $100,000 to $279,999, and 75% for families with income of $280,000 and above.
High-income families are about twice as likely as the population as a whole to seek financial advice from a professional. According to Avery and Elliehausen (1986) about one-half of high-income families reported seeking financial advice, with the source of advice varying by income. Banks, the primary source of advice for the population as a whole, were identified more frequently than tax advisors and lawyers by the $50,000 to $99,999 income group, but became relatively less important as income increased.

Hefferan (1982) identifies three aspects to the saving decision within a household: 1) the decision to defer the spending of current income; 2) the decision to save a specific amount of money; and 3) the decision to allocate savings to a specific instrument. Household saving may also be seen as being related to: 1) the strength of current consumption needs and the income constraints on the ability to meet those needs; 2) the strength of future financial goals; and 3) the household's perceived efficacy of saving as a way to meet financial goals (Strumpel, 1975).

Changing economic conditions may influence some financial management practices of families. The savings behavior of families persists, however, during uncertain economic times. Deposits to household savings accounts have remained stable or even risen during times when the net rate of savings, i.e., asset accumulation minus debt creation, has dropped (Hefferan, 1982). Thus, families continue
to try to save money while they also may be acquiring new debt or liquidating other assets.

Although saving rates among households vary by composition, life cycle stage, and economic status, the average rate of household savings has fluctuated around 6% of disposable income during the past 25 years (Corrado & Steindel, 1980). Findings by Hefferan (1982) suggest that while income is the primary determinant of families' initial decision to save, their level of saving is best explained by their current wealth position. Once a threshold of ability to save is met, the level of savings with a family depends not so much on income as on their past experience with saving as expressed in the level of assets held by the family. In absolute dollars, as well as proportion of total income, two-earner families and female-headed families saved less than traditional, two-parent, one-earner families. Although the income and income adequacy of two-earner families were significantly higher, only in expenditures of education and reading did they invest or save significantly more than traditional families. Differences in the saving patterns of female-headed families most likely relate to differences in income.

Primary factors determined by Hira (1985) to influence types and amounts of assets owned were net income and occupation. Employment status, housing tenure, household size, marital status, and age of money manager were also contributory factors. Most of the households
still largely invested in conventional types of assets such as savings accounts, certificates of deposit, and real estate.

Risk Management. Few studies have examined risk management practices of households, i.e., life insurance, health insurance, disability insurance, property and liability insurance. The two studies that were found relate to life insurance holdings of families.

Although some families have life insurance surpluses, a pilot study by Maynes and Geistfeld (1974) also indicates one half of families may suffer a life insurance deficit in excess of $15,000. This deficit is influenced by net worth, educational objectives, age and number of children, age of household head, and family income goals. Geistfeld (1976) also found that families are more likely to purchase life insurance where they perceive a need.

The demand for individually purchased life insurance varies with the cost of the premium (Geistfeld, 1976). As the net premium rises, individuals purchase less life insurance. Further, families do not purchase additional life insurance in proportion on increased income.

Outputs

Outputs as conceptualized by Deacon and Firebaugh (1981) consist of used resources and met demands. The expected outcome of financial management is to meet demands that focus on the use of money as effectively as possible.
Used Resources. Used resources in financial management refer to the change in the stock of available resources resulting from consumption, sharing, producing, saving, and investing (Guadagno, 1981). This change is typically reflected in the net worth of the household.

Net worth is important because it influences savings and consumption and serves as an indicator of economic well-being. The median household net worth was $32,670 in 1984 (U.S. Bureau of the Census, 1986a). Net worth shows a relationship to income with wealth concentrated in the top of the income distribution. As expected, age correlates with net worth reflecting the increased opportunity to accumulate wealth. Net worth varied from $5,760 for the youngest households in the 1984 census study to $73,660 for households in the 55 to 64 age group.

Analysis of data in the 1972-1973 Consumer Expenditure Survey suggests that household size, income, and labor force characteristics are associated with household saving behavior (Hefferan, 1980). In the survey, household saving was measured by the change in the assets and liabilities held by the household, i.e., net worth change. The single most important determinant of household saving was total household income. Income, education, occupation of the household head, and the wife's contribution to household income explained 27% of the variance in change in net worth.
Reporting current statistics on net worth was one of the objectives of the 1983 Survey of Consumer Finances (Avery, Elliehausen, Canner, & Gustafson, 1984b). Net worth, adjusted for inflation, increased substantially between 1970 and 1983. Mean net worth was $66,050 in 1983 compared to $56,781 (in 1983 constant dollars) in 1970; median net worth was $24,574 in 1983 compared to $18,425. Other noteworthy findings were that net worth increased with family income, with later stages in the life cycle, and with the education and age of the family head. Over 94% of families with a net worth of more than $50,000 in 1983 were homeowners. Mean consumer debt outstanding did not show a strong relationship to net worth. However, mean home mortgage debt outstanding was highest for families with the greatest net worth. Families who were retired or near retirement had the largest net worth while unmarried persons of all ages had the least net worth.

Williams and Manning (1972) conducted a study of 60 selected families during a two-year period to determine the association of certain factors with net worth change. The percentage of durable goods obtained by the use of credit was found to be negatively associated with a change in net worth. Current income and change in income were positively correlated with net worth change. Neither past income, perceived and anticipated progress, nor the percentage of fixed commitments to annual income were found to be significantly
correlated with change in net worth. Real estate mortgage was not
found clearly to decrease as net worth increased.

Although demographic characteristics were not examined
statistically by Williams and Manning (1972), the highest net worth
change was found in the middle age group with family heads 40 to 44
years old. Families that owned their homes had a mean dollar net
worth change about twice the change of those families who did not own
their homes. Families receiving their primary income from self-
employment had a mean dollar change in net worth over three times as
high as those families not self-employed or self-employed as a second
source of income.

Size of family income, age of household head, homeownership
status, and self-employment status are among the factors consistently
found to influence net worth. However, the effect of source of income
such as wife's earning status is not as clear. Friedman (1957) in his
permanent income hypothesis proposed that a wife's earnings are
considered more transient than other income sources and thus there is
a greater marginal propensity to save from wife's earnings. However,
Strober (1977), among others, concluded that working wife families
save less than nonworking wife families at comparable income levels.
In addition to greater work-related expenditures associated with two
earners is the tendency of working-wife families to substitute market
goods for household production.
Foster and Metzen (1981a, 1981b) analyzed data from the 1967 and 1972 National Longitudinal Surveys of Labor Market Experience. The findings suggest that the most important influence on net worth is the absolute amount of family income, not its source. Wife's earnings had no significant impact on the net worth position among the three income groups in the study. Wife's earnings may have contributed significantly to family net worth position, however, because income among working-wife families would have been considerably less if the wife had not worked.

Working-wife families in the Foster and Metzen (1981a, 1981b) studies had significantly higher incomes than nonworking-wife families. The additional income in conjunction with increased labor force participation by women whose husbands are at higher earning levels could widen the income differential further and result in greater inequality of income and net worth accumulation between such families.

Homeownership was found to be positively associated with net worth for all income categories in the Foster and Metzen studies (1981a, 1981b). However, this impact was greater among low and moderate income families due to the fact that equity in a home decreases as a percentage of net worth as family income increases.

Hira and Mueller (1987) examined the influences of selected sociodemographic characteristics and money management practices on household solvency status. Results indicated that money management
practices were more significant in predicting solvency status than were sociodemographic characteristics. Specifically, practices related to credit card management were the most significant predictors of household solvency status.

Dunkelberg and Stafford (1971) utilized a stock adjustment model to examine aspects of consumer behavior with respect to management of the installment debt in a portfolio. Their model included estimates of the direct impact of the stock of net worth on net changes in installment liabilities, i.e., new borrowing less repayments, in addition to the indirect effects of disequilibria in stocks of liquid assets and consumer durable goods. Also included in their analysis were the effects of the maturity composition of installment obligations and the labor force participation of other family members relative to expected levels.

Bryant (1986) proposed a theoretical framework whereby the household is presumed to adjust the amounts and kinds of assets it has when there are changes in both the economic environment and within the household. Thus, there is a demand for each asset and debt in the portfolio with the demands having as their determinants the current and anticipated prices, interest rates, family income, family structure, household size, and stage of life cycle. Also theorized is an interdependence between assets and debts. In addition, a family's actual portfolio is rarely equal to its desired portfolio; disequilibrium results from transaction costs and household inertia.
To test the proposed model, Bryant (1986) analyzed data from 2,191 families responding to the 1977-78 Survey of Consumer Credit. In addition to specific assets, debts, and family demographic variables, also included was the respondents' perception of their financial condition in 1978 compared to the prior year. Results suggested that adjustments to equilibrium are not instantaneous; rather, adjustments depend on disequilibria elsewhere in the portfolio. Not surprisingly, the interrelations in the adjustments appeared to be grouped, with strong relationships existing among assets and debts specific to the assets, e.g., among owned housing, house mortgage, and other real estate debts.

Adjustment rates tended to be slower for black and female-headed households in the Bryant (1986) study as well as less dependent on disequilibria elsewhere in the portfolio. It was suggested that the adjustment takes longer for such families due to lower incomes as well as discrimination in the housing and credit markets.

Net worth is important because it influences savings and consumption as well as other money management behaviors of families. An understanding of those factors that contribute to net worth assists professionals helping families achieve financial independence.

**Met Demands.** Met demands as a component of output represent the satisfaction derived from the management process. Satisfaction is the sense of well-being associated with financial management.
decisions. The nature of the satisfaction is influenced by the source and purpose of the demands, goals, and events, and by the planning and implementing processes used to meet them (Deacon & Firebaugh, 1981).

Researchers have measured families' satisfaction with their financial well-being through single items [i.e., "How satisfied are you with your present standard of living?" (Hafstrom & Dunsing, 1973); "How satisfied are you with your quality of life?" (Berry & Williams, 1987)] and multiple measures. Hira (1987) determined satisfaction in regard to specific aspects of financial management in addition to satisfaction with level of living. Winter, Bivens, and Morris (1984) utilized a satisfaction index comprised of scores on three satisfaction measures: satisfaction with current total family income, satisfaction with current savings, and satisfaction with present standard of living.

Moen (1980) criticizes using only one indicator to assess a family's economic well-being. Instead, she advocates using multiple indicators tied to four dimensions: objective-actual, objective-relative, subjective-actual, and subjective-relative.

Wilhelm, Iams, and Rudd (1987) explored the extent of agreement between husbands and wives on different types of measures of economic well-being as defined by Moen (1980). Overall, husbands and wives had moderate correlations in their responses to most of the measures of economic well-being. Although findings suggest that overall researchers can use a single-respondent method to assess family
economic well-being, the authors recommend caution when collecting data from only one family member.

In analyzing factors affecting overall life satisfaction, Sheffield (1976) found presence of spouse and sex of the head of household had significant effects on overall life satisfaction. Households comprised of husband and wife were more likely to express a greater satisfaction with life. Female-headed households were more likely to be dissatisfied with life than male-headed households. Income, age, and number of children did not have a significant effect on overall life satisfaction.

Newton (1979) reported income, household size, and education to be significantly related to overall life satisfaction. The higher the income, the more satisfied households were with their quality of life. Household size and education were negatively related to the level of satisfaction.

Dollar (1983) identified four financial management practices as significant in predicting satisfaction with financial management practices. Savings was the greatest contributor to satisfaction, followed by comparing expenses, meeting deadlines on time, and rarely paying finance charges. Households that were more satisfied with their financial management practices had older heads of household, smaller households, fewer persons working outside the home, and higher incomes. Type of household, i.e., female-headed or dual-headed, did
not significantly influence the household money manager's satisfaction with the financial practices.

Hira (1987) reported two-income families to be satisfied overall with their money management practices and level of living, although they were not satisfied with specific aspects of their financial situation such as the level of their savings. Amount of savings and percentage of income saved were two financial management practices that contributed to the satisfaction level as were monthly debt payments and outstanding loans on credit cards and autos. Interestingly, the total amount of debt did not impact the level of satisfaction. Household size was the only sociodemographic variable found to influence satisfaction.

In a study of low-income urban families, Schnittgrund and Baker (1983) reported families to be relatively dissatisfied with savings and investments. Interestingly, the families were optimistic regarding their own ability to handle money and resolve financial problems but were generally negative toward the ability of others to manage money, use credit wisely, and plan purchases.

Hira and Mugenda (1986) reported older money managers with higher incomes, a home, and some savings to be more satisfied with their level of living. Satisfaction also was higher among money managers who shared financial decision making with their spouse. A larger proportion of respondents reported satisfaction with level of living than with specific aspects of their financial situation. Age of money
manager, housing tenure, and amount saved were positively related to satisfaction with the level of assets.

In a study of factors contributing to satisfaction with quality of life for married couples, Berry and Williams (1987) reported satisfaction with income, satisfaction with spouse, net worth, perceived future security, and management procedures to be significant. In addition, path analysis revealed that agreement over financial expenditures contributed to satisfaction with quality of life indirectly, through satisfaction with spouse for husbands and through satisfaction with spouse and income for wives.

The homemaker's perception of the adequacy of family income was the most important factor in explaining satisfaction with level of living in a study by Hafstrom and Dunsing (1973). The more adequate the homemaker felt family income to be, the more satisfied she was with the family's level of living. Other factors impacting the homemaker's satisfaction with the family's level of living in order of their contribution to explaining satisfaction were satisfaction with other areas of life, satisfaction with housing, perception of current financial situation as compared to five years ago, and size of family income.

Households reporting higher levels of income rate their financial situation higher than households reporting lower levels of income (Winter, Bivens, & Morris, 1984). In addition, savings, equity in home, and recent positive change in the family's financial situation
also contributed significantly to a higher rating of the household's financial situation. The higher households rated their financial situation, the more likely they were to be satisfied with their financial situation. Recent change, savings in prior year, and age of household head also contributed to a higher satisfaction with the household's financial situation.

Walker, Tremblay, and Parkhurst (1984) examined the relationships between sociodemographic characteristics, financial management practices, perceived quality of financial management, and the family's satisfaction with its perceived quality of life. Results indicated that sociodemographic characteristics influenced financial management practices and perceived quality of financial management, that financial management practices and perceived quality of financial management were significantly related, and that financial management quality alone influenced perceived family quality of life.

Although sociodemographic variables are important to the understanding of household well-being, also of importance subjective measures such as households' perceptions of their current financial status and satisfaction with it. Likewise, change in financial situation may not be as important as how the household itself views such changes. The contribution of specific financial management practices to the level of satisfaction within the household should be considered when developing strategies to improve the economic well-being of households.
Summary

A wealth of composite statistics exist on the economic characteristics of households by income, race, education, age, and type of household. Likewise, descriptive studies focus on specific financial management practices such as budgeting and credit usage. Few studies exist, however, on the relationships between inputs, throughputs, and outputs. Studies are needed to address the relationship of sociodemographic characteristics and money management practices with the financial solvency and satisfaction of households. Such an approach would help to explain what Boulding (1970) describes as "the black box" in human behavior, i.e., the lack of understanding by researchers of what behaviors individuals use between inputs and outputs.

This research will focus on a systems approach to financial management. The first study will explore the relationships between the inputs of age, household size, income, and knowledge; throughputs of planning and implementing; and outputs of net worth and satisfaction. The second study will examine the effect of knowledge on specific financial management behaviors when controlling for income and education. These studies should be of particular interest to professional working with the financial status of families because the results help to explain how families plan and implement resources to meet goals.
SECTION I. NET WORTH AND SATISFACTION AS A FUNCTION OF
HOUSEHOLD MONEY MANAGERS' COMPETENCIES
Net Worth and Financial Satisfaction as a Function of 
Household Money Managers' Competencies

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ABSTRACT

The purpose of this study was to test hypotheses derived from the systems theory of family resource management in the area of family financial management. Money managers in 123 households in central Iowa were interviewed during fall 1986. A path analysis model based on multiple regression analyses was tested. The typical household money manager was a married 49-year-old woman in a two-member household with a median after-tax income of $20,760. Money managers who were more knowledgeable practiced more recommended planning and implementing behaviors than less-knowledgeable money managers. Households were more likely to have a higher level of net worth if the money manager used optimum planning practices and were more satisfied if the money manager used recommended implementing practices. Because this study suggests that money managers who use the principles of financial management do achieve greater net worth and satisfaction, educators should target their efforts toward the identified competencies.
INTRODUCTION

American families are increasingly encountering financial difficulties. Factors contributing to this problem are the complexity of financial management, the debt loads assumed by households, and the uneven performance of the economy.

Total financial assets of households increased 72% during the 5-year period of 1980 to 1985 from $4.5 trillion to $7.7 trillion. However, debt of the household sector also has increased. Consumer credit expanded to $666 billion at the end of 1985, an increase of 77% from 1980 to 1985 (Wilson, Folger, Freund, & van der Ven, 1986). Concurrently, the number of bankruptcies also has increased. There were 297,885 consumer bankruptcy petitions commenced in 1985 compared with 182,710 in 1980 (Administrative Office of the United States Courts, 1986). Bankruptcy figures, however, do not tell the whole story. For every bankruptcy, there are hundreds of other families facing serious debt problems (Marlowe, 1981). In addition, families may face financial problems as a result of poverty and unemployment.

The costs associated with financial difficulties are significant for the individuals involved. Personal stress, illness, marital discord, child abuse, and loss of home often coincide with financial failure (Brenner, 1973; Heck, 1981; Shepard, 1984; Ulrichson & Hira, 1985). The association between financial difficulties and stress-
related problems within the family indicates the need to address financial management when designing programs to help families.

Theoretical Framework

Before educational strategies related to financial management can be developed to assist families, there is a need to understand the financial management competencies of household money managers and the system in which they make financial decisions. The systems approach to family resource management as conceptualized by Deacon and Firebaugh (1981) offers a framework to describe how money managers plan and implement resources to meet demands. Composed of the inputs of demands and resources, the throughputs of planning and implementing, and the outputs of met demands, used resources, and feedback, this view of management acknowledges the wholeness of decision making. Managerial actions are viewed as not isolated in time but related to the past and future.

Applied to financial management, inputs consist of the demands of goals and events and available human and material resources. Age, education, occupation, and income are sociodemographic variables that may influence financial management practices. Also included are the knowledge and attitudes of the money manager toward financial management. Throughputs consist of the actual financial management practices of the money manager, i.e., the budgeting, record keeping, credit usage, savings, and risk management. How these activities are
accomplished affects whether financial goals are met and resources are maximized. Output may be expressed as solvency, net worth, and satisfactions. Feedback is that portion of output (i.e., net worth) that reenters the system as input to affect succeeding financial decisions.

Related Literature

Perusal of the literature shows there is a paucity of research related to the financial management of households. Abdel-Ghany and Nickols (1984), in a study of the literature from 1972 to 1982, identified only 13 articles in the Home Economics Research Journal and the Journal of Consumer Affairs that relate to the subject. Most of the research in the area of financial management is descriptive. More is known about who is more likely to have a budget, use credit cards, or save than is known about the relationships between the input variables of knowledge, attitudes, and sociodemographic characteristics; the throughput variables of specific management practices; and the output variables of solvency, net worth, and satisfaction of household money managers. Almost no studies have analyzed the relationships between the input, throughput, and output variables.

Families generally are aware of the importance of financial practices such as savings, written financial goals, and formalized budgets, but few families practice recommended financial management
behaviors. Godwin and Carroll (1986) found, on average, fewer than 6 of 18 recommended financial management behaviors to be practiced. The number of years married, completion of a course in consumer education, and occupational status of the wife were found to contribute to financial management attitudes and behavior.

Studies that have examined throughputs have looked primarily at the specific practices of budgeting, savings, and credit. Budgeting is viewed to be a critical financial management practice. Families are more likely to maintain written records of expenditures than formalized budgets that include some future planning (Godwin & Carroll, 1986; Schnittgrund & Baker, 1983; Yankelovich, 1975). Households that implement more formalized budget plans are more likely to be young, married, and well-educated households with high demands on the available resources, i.e., circumstances, household size, and stage of the life cycle (Beutler & Mason, 1987).

Budgeting has been viewed to be especially important for low-income households. Income, however, seems to have no effect on the level of budgeting (Beutler & Mason, 1987). Most low-income households practice informal, unwritten budgeting (Mullis & Schnittgrund, 1982). Both budgeting and nonbudgeting families believed that few families manage their money well. However, significantly more budgeters believed that greater satisfaction could be achieved through the planning of expenditures.
How a family allocates its limited resources influences its financial well-being. During a particular period, a family may choose to use all of its current income to meet consumption needs and increase its level of living, or it may elect to save some of this current income to increase its net worth and financial security. Household size, income, age of household head, and labor-force characteristics are among the factors found to influence the savings behavior of families (Corrado & Steindel, 1980; Hefferan, 1980). Hefferan (1982) presents a complex picture of household savings whereby the decision to save is influenced by income, and the level of saving is influenced by total assets, housing tenure, and education.

Credit also can be an indicator of financial management or mismanagement. Most credit studies have been descriptive. More is known about who uses credit, how frequently credit is used, what items are purchased with credit, and the knowledge of the costs of using credit than is known about the effect of credit on the financial management outputs of solvency and satisfaction. Practices related to credit-card management were the most significant predictors of household solvency status in a study by Mueller and Hira (1984). The greater the number of credit cards and the larger the amount the household was willing to charge on those cards, the lower was the level of solvency.

Net worth is another important output because it influences savings and consumption as well as other money-management behaviors of
families. Household size, income, age of household head, education, employment, and homeownership status are among the factors found to influence net worth (Avery, Elliehausen, Canner, & Gustafson, 1984; Hefferan, 1980; Williams & Manning, 1972).

Achieving satisfaction with the family's financial management can be viewed as a goal. Satisfaction may be achieved through met demands, resources available to the family, and management skills used to meet the demands (Deacon & Firebaugh, 1981). Savings and investment are areas of financial management in which families are relatively dissatisfied (Schnittgrund & Baker, 1983). Dollar (1983) identified four financial practices as significant in predicting satisfaction with financial management practices. Savings was the greatest contributor to satisfaction, followed by comparing expenses, meeting deadlines and appointments on time, and rarely paying finance charges. Households that were more satisfied with their financial management practices had older heads of household, smaller households, fewer persons working outside the home, and higher incomes.
PURPOSE

The purpose of the study was to test a model (Figure 1) developed from the theoretical framework presented in the literature review. Inputs of age, household size, net income and knowledge; throughputs of planning and implementing; and outputs of net worth and satisfaction were included in the model. Specifically, the following hypotheses were tested:

1. Age, household size, net income, and knowledge of financial management influence the planning practices of the household money manager.

2. Age, household size, net income, knowledge of financial management, and planning practices affect the implementing practices of the household money manager.

3. Age, household size, net income, knowledge of financial management, and planning and implementing practices of the household money manager contribute to the net worth of the household.

4. Age, household size, net income, knowledge of financial management, planning and implementing practices, and net worth impact on the money manager's satisfaction.

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Insert Figure 1 About Here
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METHODOLOGY

Individuals in 123 households in central Iowa from an area sample of 164 housing units were interviewed during fall 1986. The data were collected by trained interviewers from the individual in the household who had the major responsibility for the household’s financial management.

The interview schedule had questions related to the money manager’s knowledge of financial management; planning and implementing practices the areas of record keeping, risk management, credit usage, capital accumulation, and retirement and estate planning; and satisfaction with the financial situation. Information also was obtained on the household’s net income, assets, liabilities, and sociodemographic characteristics.

Descriptive statistics were calculated to obtain preliminary information about the variables. Indices related to knowledge, planning, implementing, and satisfaction were computed by summing scores of individual items, dividing by the number of items for which responses were obtained, and converting to a scale of 0 to 100. The knowledge index was obtained from 22 true-false items with a computed coefficient alpha of .67. A planning index was computed from 10 items pertaining to planning practices; the reliability (coefficient alpha) was .74. Similarly, the implementing index (alpha = .65) was developed from responses to 14 items. A satisfaction index was derived from 10 Likert-type items on aspects of financial management;
the reliability was .85. Net worth was computed by subtracting the
total identified liabilities of the household from their identified
total assets.

A correlation matrix between all variables was computed to study
the intercorrelations of the variables. Computation of the matrix is
a preliminary step in model testing because it can demonstrate that
relationships exist as hypothesized (Warren, Klonglan, & Faisal,
1977).

The proposed model was tested by using path analysis. Path
analysis uses a series of multiple regression analyses to test the
relationship among the dependent and independent variables. Each
dependent variable is represented by a regression equation consisting
of the independent variables hypothesized to influence the dependent
variable. The standardized regression coefficients of ordinary
regression analysis (betas) are the path coefficients in path analysis
(Pedhazur, 1982). The percentage of variance explained ($R^2$) was
computed for each regression equation.

The four recursive linear regression equations for the model
under consideration were:

Planning $= a + \sum_{l=1}^{4} b_{il} X_{il}$

Implementing $= a + \sum_{l=1}^{5} b_{il} X_{il}$

Net worth $= a + \sum_{l=1}^{6} b_{il} X_{il}$

Satisfaction $= a + \sum_{l=1}^{7} b_{il} X_{il}$
where

\[ b_1 \text{ = age} \]
\[ b_2 \text{ = size of household} \]
\[ b_3 \text{ = net income} \]
\[ b_4 \text{ = knowledge} \]
\[ b_5 \text{ = planning} \]
\[ b_6 \text{ = implementing} \]
\[ b_7 \text{ = net worth} \]

In path analysis, it also is possible to solve reduced-form equations to decompose the total effects into their indirect and direct effects. "A total effect [indicates] how much change in a consequent variable is induced by a given shift in an antecedent variable. . . . Indirect effects are those parts of a variable's total effect which are transmitted or mediated by variables specified as intervening between the cause and effect in a model. . . . The direct effect of one variable on another is simply that part of its total effect which is not transmitted via intervening variables. It is the effect which remains when intervening variables have been held constant" (Alwin & Hauser, 1975, p. 39).
RESULTS AND DISCUSSION

The typical household money manager in the study was a married 49-year-old female with a twelfth grade education living in a 2.8-member household. The mean after-tax income was $24,506, and the median net worth including real estate was $59,200. Comparable figures from a nationwide sample (U.S. Bureau of the Census, 1986a,b) show mean after-tax income as $21,564 and median net worth as $32,677 in 1984. Adjusted to 1986 dollars, the figures are $22,908 and $35,309, respectively. If one looks at net income, these comparison figures suggest that the sample in this study is representative of money managers in the United States. However, if one looks at net worth, the sample is atypical in that they are more solvent than the typical American household.

Results indicated that money managers had a wide range of knowledge about financial management (mean = 66.67 of 100; standard deviation = 12.26). More than 90% of the respondents correctly answered the following items:

A person needs a will only if there is a large estate to be left to the heirs.

To have a good credit rating, one must make purchases on credit and make payments according to the credit contract.

Insurance is a way to reduce the risk of a financial disaster.

Life insurance needs vary with age and the size of a family.

A person is more likely to reach personal financial goals by planning for the future.
People are more likely to make better financial decisions if they base those decisions on their financial records.

One should preplan an amount to save or invest each month.

Fewer than 50% answered correctly the following items:

Social Security records of earnings should be checked for errors at least every 5 years.

All credit card companies offer a no-interest plan if you pay your bills in 30 days.

Marital status can be used by a lending institution in determining whether or not credit is granted.

There is no federal legislation or regulation dealing with credit card billing errors.

Term insurance is the best form of life insurance protection available for one's dollar.

The interest one pays on a home mortgage is directly deductible from the amount of income tax one pays.

Pearson correlations for the variables in the model are shown in Table 1. Inspection shows that, for the most part, correlations that typify hypothesized paths have significant values; e.g., knowledge correlates with planning ($r = .47$), and implementing correlates with net worth ($r = .28$). Hence, path analysis is appropriate for analyzing the variables in the model.

Planning Index

Most household money managers in the sample were not proficient in their overall planning behavior (mean = 54.12 on a scale of 0 to 100;
standard deviation = 26.45). The respondents were strongest in the planning behaviors of resolving arguments positively, estimating household income and expenses, figuring net worth, reviewing spending habits, and having financial goals (Table 2). The practices least likely to be utilized included having a written financial plan and reviewing wills in a timely fashion.

Knowledge of financial management was the largest contributing variable to the planning index (Table 3, beta = .42). Household money managers with more financial knowledge used more planning behaviors than did those money managers with less knowledge.

Age also contributed significantly to the money manager's level of financial planning (beta = -.18). The relationship was negative, indicating that younger money managers planned to a greater extent than older managers. The independent variables of household size and net income did not significantly affect financial planning.

Implementing Index

The respondents displayed more optimum implementing behaviors than planning behaviors (mean = 86.03 out of 100; standard deviation = 13.42). Specific implementing behaviors are identified in Table 4.
The money managers in the study saved receipts for major purchases, paid bills as due, paid for yearly expenses out of current income or savings, seldom paid finance charges, and had some liquid assets. The respondents had implemented fewer strategies for planning for disposition of their assets.

Net income was the only input variable in the model that had a significant direct effect on implementing (Table 3, beta = .41). The higher a household’s net income, the more likely the money manager was to use optimum implementing practices.

Knowledge of financial management did not have a significant direct effect on the money manager’s level of implementing. The indirect effect of knowledge via the planning variable combined with its direct effect, however, to create a total effect that was significant (beta = .21).

Net Worth

Age (Table 3, beta = .39), household size (beta = -.22), net income (beta = .43), and level of planning (beta = .19) contributed significantly to the household’s net worth. Households with older money managers, smaller size, and higher net income had greater net worth. Most interesting is the finding that households are more
likely to have a higher level of net worth if the money manager uses optimum planning practices.

As to the total effect of the variables on net worth, no additional variables contributed to explaining net worth. Thus, knowledge and implementing did not demonstrate either a significant direct or indirect effect on net worth.

Satisfaction Index

Satisfaction of household money managers on a scale of 0 to 100 shows a mean of 62.72, a range of 7.57 to 95.95, and a standard deviation of 16.66. Satisfaction on individual items ranged from a low of 2.85 for satisfaction with the amount currently in savings and with the ability to meet large emergency expenses to a high of 3.91 for satisfaction with overall quality of life, 3.99 for willingness of family members to discuss money matters, and 4.06 for ability to pay back money owed (Table 5).

Table 5

The variables that significantly impacted satisfaction directly (Table 3) were age (beta = .25), household size (beta = -.21), and implementing behaviors (beta = .20). Households with older money managers, smaller size, and greater use of implementing behaviors were more likely to have members satisfied with their financial status.
Although net income did not directly influence the money manager's level of satisfaction, it did have a significant total effect beyond the .001 level (beta = .37). Inspection of Table 3 suggests not only that net income affects satisfaction, but also that net income effect is moderated by implementing behaviors.

Systems Approach to Financial Management

This study provides support for a systems approach to family financial management. Results indicate that it is the combined effect of inputs and throughputs that affects the outputs of net worth and satisfaction.

Percentages of variance explained ranged from 25.65 for the implementing index to 36.61 for the net worth index. With a criterion of 25% variance explained for social science studies, it is evident that the variables studied are providing an explanation of the important variables impacting family financial management.
IMPLICATIONS

Although the sample size is limited, findings probably can be generalized to a broader population because of the similarity of the sample to broader population characteristics. The typical household money manager in the study was representative of a broader population in terms of education, household size, and income.

The focus of financial resource management is helping families gain the knowledge and skills to manage their financial resources effectively. This study is significant because it shows that effective financial management strategies as well as increased resources affect a household's net worth and satisfaction. Although the variables of age, household size, and income are not readily affected by individuals outside the household, the planning and implementing practices are behaviors that can be targeted by professionals in the field.

Also important for home economists working with families is the finding that knowledge of financial management contributes to the level of planning and implementing by the household money manager. Thus, a high priority should be placed on providing basic information on record keeping, credit usage, asset accumulation, risk management, and retirement and estate planning.
REFERENCES


Table 1. Correlations between input, throughput, and output variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Age</th>
<th>Household Size</th>
<th>Net Income</th>
<th>Knowledge</th>
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<td>.25**</td>
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<td>Satisfaction</td>
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<td>.17*</td>
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* p ≤ .05.

** p ≤ .01.

*** p ≤ .001.
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<td>.16*</td>
<td>.28***</td>
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<td>-.06</td>
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Table 2. Use of planning behaviors by money managers

<table>
<thead>
<tr>
<th>Behaviors in Planning Index</th>
<th>N</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Resolves arguments over money in positive manner</td>
<td>74</td>
<td>82.2</td>
</tr>
<tr>
<td>Estimates household income and expenses</td>
<td>86</td>
<td>69.9</td>
</tr>
<tr>
<td>Figures net worth</td>
<td>83</td>
<td>67.5</td>
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<tr>
<td>Reviews and evaluates spending habits</td>
<td>82</td>
<td>66.7</td>
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<tr>
<td>Has financial goals</td>
<td>78</td>
<td>63.4</td>
</tr>
<tr>
<td>Reviews adequacy of life insurance</td>
<td>68</td>
<td>55.3</td>
</tr>
<tr>
<td>Has plans to achieve goals</td>
<td>67</td>
<td>54.5</td>
</tr>
<tr>
<td>Reviews total financial situation</td>
<td>52</td>
<td>42.3</td>
</tr>
<tr>
<td>Reviews will periodically</td>
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<td>32.5</td>
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<tr>
<td>Has written plans as part of financial review</td>
<td>23</td>
<td>18.7</td>
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aN = 90 for the first behavior and 123 for all other behaviors.
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<td>Net income</td>
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<td>F = 13.84&lt;sup&gt;***&lt;/sup&gt;</td>
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<td>F = 11.17&lt;sup&gt;**&lt;/sup&gt;</td>
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<tr>
<td>Satisfaction Index</td>
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<sup>a</sup>Direct and indirect effects do not sum to total effect due to rounding.

*<sup>p </sup>&#60; .05.

**<sup>p </sup>&#60; .01.

***<sup>p </sup>&#60; .001.
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Table 4. Use of implementing behaviors by money managers

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<th>Behaviors in Implementing Index</th>
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<td>Pays for yearly expenses out of current income or savings</td>
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<td>Pays finance charges rarely</td>
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<td>Pays bills as due</td>
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</tr>
<tr>
<td>Saves receipts for major purchases</td>
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<tr>
<td>Has financial assets</td>
<td>120</td>
<td>97.6</td>
</tr>
<tr>
<td>Has homeowners/renters insurance</td>
<td>114</td>
<td>92.7</td>
</tr>
<tr>
<td>Makes payments on large debts as scheduled</td>
<td>77a</td>
<td>89.5</td>
</tr>
<tr>
<td>Has major medical insurance</td>
<td>106</td>
<td>86.2</td>
</tr>
<tr>
<td>Compares checking account records with monthly statement</td>
<td>102b</td>
<td>85.7</td>
</tr>
<tr>
<td>Has life insurance</td>
<td>102</td>
<td>82.9</td>
</tr>
<tr>
<td>Compares credit card receipts with monthly statement</td>
<td>73c</td>
<td>76.0</td>
</tr>
<tr>
<td>Has disability insurance if not retired</td>
<td>67d</td>
<td>67.7</td>
</tr>
<tr>
<td>Has retirement fund/annuity</td>
<td>85</td>
<td>69.1</td>
</tr>
<tr>
<td>Has written will</td>
<td>71</td>
<td>57.7</td>
</tr>
</tbody>
</table>

^Out of a possible 86.

^Out of a possible 119.

^Out of a possible 96.

^Out of a possible 99.
Table 5. Satisfaction of money manager with household's financial status

<table>
<thead>
<tr>
<th>Items in Satisfaction Index</th>
<th>Mean&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to pay back money owed</td>
<td>4.1</td>
</tr>
<tr>
<td>Overall quality of life</td>
<td>4.0</td>
</tr>
<tr>
<td>Willingness of family members to discuss money matters</td>
<td>4.0</td>
</tr>
<tr>
<td>Ability to stay out of debt</td>
<td>3.8</td>
</tr>
<tr>
<td>Family's present level of living</td>
<td>3.7</td>
</tr>
<tr>
<td>Current level of assets</td>
<td>3.5</td>
</tr>
<tr>
<td>Retirement planning</td>
<td>3.2</td>
</tr>
<tr>
<td>Planning made for distribution of assets</td>
<td>3.1</td>
</tr>
<tr>
<td>Financial ability to meet large emergency expenses</td>
<td>2.9</td>
</tr>
<tr>
<td>Amount current in savings</td>
<td>2.9</td>
</tr>
</tbody>
</table>

<sup>a</sup>Means could range from 1 to 5, with 5 being extremely satisfied and 1 being extremely dissatisfied.
Figure 1. Systems approach to family financial management
SECTION II. EFFECT OF FINANCIAL MANAGEMENT KNOWLEDGE OF
HOUSEHOLD MONEY MANAGERS ON BEHAVIORS AND
FINANCIAL OUTPUTS
Effect of Financial Management Knowledge
of Household Money Managers
on Behaviors and Financial Outputs

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ABSTRACT

The purpose of this exploratory study was to examine the differences in money management behaviors and financial outputs between household money managers with more knowledge of financial management and those with less knowledge. A total of 123 money managers responded to a financial management interview; from these, 39 less-knowledgeable managers and 47 more-knowledgeable managers were identified. Analyses of covariance were computed to determine the effect of knowledge on money management behaviors, net worth, debt payments-to-income ratios, and satisfaction; income and education were the covariates. More-knowledgeable managers used more financial management behaviors than did less-knowledgeable money managers. Although money managers with greater knowledge had a larger net worth than less-knowledgeable money managers (mean of $179,829 vs. $74,054), covariance results suggest that income seems to override the other input variables contributing to net worth. Results are important because an understanding of the factors contributing to financial behaviors and outputs could assist professionals in helping families achieve financial independence.
INTRODUCTION

Management has long been a focus of home economics. Among the topics initially discussed at the Lake Placid Conferences in the early 1900s was concern with values and goals that underlie managerial decisions. Management continues to be a concern in home economics as evident by Public Law 98-524, also referred to as the Carl D. Perkins Vocational Education Act (U.S. Congress, 1984). This law mandates program development in the area of managing individual and family resources. Such programs would focus on the competencies needed by household money managers to more effectively manage the financial resources available to them.

Before educational strategies related to financial management can be developed, there is a need to understand the financial management competencies of household money managers and the system in which they make financial decisions. The systems approach to family resource management as conceptualized by Deacon and Firebaugh (1981) offers a framework to describe how families plan and implement resources to meet demands.

The systems approach to management uses the components of inputs, throughputs, and outputs in addition to feedback. Applied to financial management, inputs consist of available human and material resources and the demands of goals, events, and personal characteristics. Throughputs consist of the actual financial management practices of the money manager; i.e., the budgeting/record
keeping, credit usage, risk management, capital accumulation, and retirement/estate planning. Outputs may be expressed as solvency, net worth, or ratio of debt payments to income. In addition, satisfaction of the family toward their financial practices contributes to output.

One input hypothesized to contribute to meeting demands placed upon the family is the financial management knowledge of the money manager. Little research has been done on the effect of knowledge on the subsequent behavior of individuals after they have had opportunity to implement information. What little has been done has occurred in the broader area of consumer education.

Existing research reveals conflicting conclusions as to the effectiveness of consumer education. Hawkins (1977) found that subsequent behavior of students who took a consumer education course in high school differed little from those who did not take a course. Langrehr (1979) and Langrehr and Mason (1978) concluded that students who took a course specifically designed to present consumer education improved their consumer economics competency as measured by a test of consumer knowledge.

Evidence on the effect of knowledge on throughput practices and outputs is limited to what people do. Families generally are aware of the importance of financial practices such as savings, written financial goals, and formalized budgets, but few families practice recommended financial management behaviors. Godwin and Carroll (1986) found, on average, fewer than 6 of 18 recommended financial management
behaviors to be practiced. The number of years married, completion of a course in consumer education, and occupational status of the wife were found to contribute to financial management behaviors.

Walker, Tremblay, and Parkhurst (1984) reported that the socioeconomic characteristics of marital status, length of present marriage, number of parents in families with dependent children, family size, education, and family income significantly influence financial management practices. Respondents who used more financial management practices were college graduates, had childless families or were in two-adult families with no dependent children, were in present marriage a long time, and had high income.

The degree to which desirable financial management practices are used affects whether financial goals are met and resources are maximized. Consumption, sharing, producing, saving, and investing result in a change in resources (Guadagno, 1981). This change is typically reflected in the net worth of the household. Family income, education, and age of household head are among the factors consistently found to influence net worth.

Because repayments of debts are generally made out of current income, the ratio of monthly debt payments to monthly income is a useful indicator of debt burden and, hence, of the financial well-being of households. The debt payment-to-income ratio has been found to affect household financial solvency (Marlowe, 1981; Ryan & Maynes,
1969; Wright, 1978). The greater the ratio, the greater is the probability that a family's debt position will lead to trouble.

Met demands as a component of output represent the satisfaction derived from the management process. Satisfaction is the sense of well-being associated with financial management decisions (Deacon & Firebaugh, 1981). Income and perception of current financial situation have been found to contribute to satisfaction with level of living (Hafstrom & Dunsing, 1973), quality of life (Berry & Williams, 1987), and financial situation (Winter, Bivens, & Morris, 1984). Savings is a throughput practice that contributes to satisfaction (Hira, 1987; Winter, Bivens, & Morris, 1984).

Walker, Tremblay, and Parkhurst (1984) and Hira and Mueller (1987) are among the few researchers to have used a systems approach to examine the relationships between financial management inputs, throughput practices, and outputs. Such an approach helps to explain what Boulding (1970) describes as the "black box" in human behavior, i.e., what occurs between inputs and outputs.

Little is known as to the effect of financial management knowledge on throughput behaviors or on the outputs of net worth or satisfaction. Thus, there is a need to focus on this input variable and its contribution to helping families meet demands.
PURPOSE

The purpose of the study was to examine the differences in money management behaviors, net worth, ratios of debt payments to income, and satisfaction between household money managers with more knowledge of financial management and those with less financial knowledge when income and educational level are controlled. Specifically, the null hypotheses tested were:

1. There is no significant difference between the throughput behaviors practiced by household money managers with more knowledge of financial management and those with less knowledge irrespective of educational level and income.

2. There is no significant difference between the outputs variables of net worth, debt payments-to-income ratios, and satisfaction of household money managers with more knowledge of financial management and those with less knowledge irrespective of educational level and income.
METHODOLOGY

Individuals in 123 households in a nonmetropolitan midwestern city from an area sample of 164 housing units were interviewed during fall 1986 to ascertain their knowledge of financial management. Data were collected by trained interviewers from the individual in the household who was the money manager. The knowledge test consisted of 22 true-false items with a reliability (coefficient alpha) of .67. Information also was obtained on sociodemographic characteristics of the household; net income; monthly debt payments; throughput behaviors in the areas of budgeting/record keeping, risk management, credit usage, capital accumulation, and retirement/estate planning; debts and assets of the household; and satisfaction with the financial situation of the household as derived from 10 Likert-type items (coefficient alpha reliability = .85).

A knowledge score was obtained by calculating the percentage of correct answers. The percentages were arrayed from high to low, and the sample was divided into three groups of approximately equal size. The 39 money managers who scored below 60% were characterized as less-knowledgeable managers; the 47 individuals who scored above 70% were described as more-knowledgeable managers. The more- and less-knowledgeable managers were selected so as to have participants who clearly were differentiated in degree of knowledge. Thus, 86 household money managers were retained for this study.
Preliminary information was obtained on the input variables of income, education, and knowledge by calculating descriptive statistics. In addition to the means for the 24 individual throughput behaviors, a throughput index was computed. Likewise, a satisfaction index was computed from individual items pertaining to satisfaction with financial aspects of the household. The throughput and satisfaction indices were derived by summing responses on the individual items, dividing by the number of items for which responses were obtained, and converting to a scale of 0 to 100. Net worth was computed by subtracting the total identified liabilities of the household from their identified total assets. Debt payments-to-income ratio was calculated in two ways: 1) by dividing the total identified monthly debt payments, including mortgage, by the monthly net income of the household, and 2) by dividing the total identified monthly debt payments, excluding mortgage, by the monthly net income of the household.

T-tests were calculated on differences between the two knowledge groups on individual knowledge items. Analyses of covariance were computed to test the differences between the two knowledge groups in their throughput behaviors, net worth, debt payments-to-income ratios, and satisfaction. The covariates were net income and educational level of the money manager.
RESULTS AND DISCUSSION

The mean percentage of correct answers on the knowledge test for household money managers characterized as having more financial knowledge was 78.7%, whereas the mean for less-knowledgeable managers was 52.7%. With the exception of one item, respondents with more financial management knowledge consistently answered individual items correctly than did respondents with less knowledge (Table 6). T-values were significant beyond the .05 level for 16 of the 22 items in the test.

The greatest difference between the two groups (F = 8.04, p ≤ .001) occurred on the understanding of the importance of financial planning. Less-knowledgeable managers (26% compared with 91% of more-knowledgeable managers) were less likely to identify as a misconception the belief that not many families have enough assets to be concerned about financial planning. Less-knowledgeable managers (26% compared with 81% of more-knowledgeable managers) also were less likely to recognize that managers should correct poor investment decisions even if there are costs associated with the change. Only 3% of less-knowledgeable and 4% of more-knowledgeable managers were aware that, if a person dies without a will, the assets are distributed according to state law. These misconceptions need emphasis in financial management education.
Results indicated that money managers with greater knowledge of financial management had a significantly higher net income. The mean net income for the more-knowledgeable group was $30,292 contrasted with $17,117 for money managers with less knowledge. This compares with a mean after-tax income in the United States of $21,564 in 1984 (U.S. Bureau of the Census, 1986a). Adjusted to 1986 dollars, this nationwide figure is $22,908. In addition, money managers with a higher level of knowledge were younger (49.32 years compared with 52.77 years for the less-knowledgeable group), resided in a slightly larger household (2.89 members compared with 2.49), and had attained a higher educational level (13.49 years compared with 11.62) than the less-knowledgeable managers.

Throughput Practices

The degree to which more- and less-knowledgeable managers practiced individual throughput practices is shown in Table 7. The differences between the two groups are portrayed in Figure 2. Perusal of the figure shows that the more-knowledgeable managers consistently executed optimum throughput behaviors (20 of 24 behaviors) more often than the less-knowledgeable group.

The two behaviors that were practiced by a slightly higher percentage of less-knowledgeable money managers were including a written plan in a financial review (21% compared with 19%) and comparing checking account with monthly statement (86% compared with
Two behaviors were practiced by all the money managers (100%) in both groups. They were using current income or savings to pay for yearly expenses and seldom paying finance charges.

Further examination of the individual throughput behaviors shows that the behaviors more likely to be practiced within both groups were behaviors of an implementing nature; e.g., paying for yearly expenses out of current income or savings and paying bills as due. Planning behaviors (e.g., reviewing total financial situation, wills, and life insurance) were less likely to be used within both knowledge groups.

The mean throughput score for individuals in the more-knowledgeable group was 79.86. For the less-knowledgeable group, the mean throughput score was 61.85. Thus, the typical money manager with greater knowledge practiced almost 80% of the 24 behaviors, whereas the less-knowledgeable manager used 62% of the behaviors.

Analysis of covariance reveals that throughput scores were influenced by the covariates of net income ($F = 22.82, p \leq .001$) and educational level ($F = 18.40, p \leq .001$). The two knowledge groups significantly differed beyond the .001 level in their mean throughput scores when income and educational level were controlled ($F = 18.40$). Thus, the first null hypothesis is rejected. The alternate hypothesis is accepted, which states that there is a significant difference in the throughput behaviors practiced by household money managers with
more knowledge of financial management than by managers with less knowledge irrespective of educational level and income.

Net Worth

Money managers in the more-knowledgeable group had a mean net worth of $179,829 and a median of $109,000 compared with a mean of $74,054 and median of $36,625 for individuals in the less-knowledgeable group. Median net worth for households in the United States was $32,677 in 1984 (U.S. Bureau of the Census, 1986b). Adjusted to 1986 dollars the figure is $35,389. Thus, both knowledge groups are more solvent than the typical American household.

Income is a significant contributor to the net worth of the sample (F = 11.84, p ≤ .001, Table 7). Educational level, however, does not significantly influence net worth. With both income and educational level controlled, significant differences do not exist in net worth of less- and more-knowledgeable managers. Seemingly the effect of income is so great that other inputs are not making significant contributions to net worth.

Debt Payments-to-Income Ratio

The monthly debt payments, including mortgage payment, ranged from $0 to $857 for the less-knowledgeable money managers and from $0 to $3,400 for the more-knowledgeable managers; mean payments were $167 and $519, respectively. The mean total of debt payments, excluding
mortgage, was $93 for less-knowledgeable money managers (range of $0 to $255) and $266 for the more-knowledgeable group (range of $0 to $700).

Because repayment of debts is generally made out of current income, the size of the monthly payments is generally more important to household money managers than is the size of the total debt, which is payable over several years. Hence, the ratio of debt payments to income is another useful indicator of the financial well-being of a household. A "rule of thumb" is that the debt payments, including mortgage payment, should be no more than 30 to 40% of income. It is advisable that no more than 15 to 20% of after-tax income be committed to non-mortgage credit payments.

The mean ratio of debt payments to income, including mortgage, for the more-knowledgeable money managers was .21 (range of .00 to .73), whereas it was .10 (range of .00 to .47) for the less-knowledgeable group. Although the mean ratios suggest that the typical money manager in both groups is well within acceptable limits, the more-knowledgeable group has a significantly higher ratio than the less-knowledgeable group when income and educational level are controlled (F = 3.97, p ≤ .05, Table 7).

Because of the tax benefits of the interest portion of a mortgage payment, a more accurate picture of the debt load of households may be had by also examining the percentage of income committed to debt payments excluding the mortgage payment. The mean ratio of debt
payments to income, excluding mortgage, was .05 for the less-knowledgeable group (range of .00 to .28) and .09 for the more-knowledgeable managers (range of .00 to .63). Again, both groups, on average, have manageable consumer debt loads in relation to income. No significant differences in the ratio exist between less- and more-knowledgeable managers when educational level and income are controlled ($F = .75$).

Mortgage payments thus contribute to the difference in total debt payments-to-income ratio between more- and less-knowledgeable money managers. It is possible that more-knowledgeable managers feel more capable to undertake a higher financial commitment. Although the mean total debt payment is manageable for both groups, further examination of the data shows that 10 money managers in the more-knowledgeable group and 1 individual in the less-knowledgeable group had a ratio of .40 or above and, thus, are at risk for financial difficulty. Of particular concern are the 7 more-knowledgeable and 1 less-knowledgeable managers having incomes under $30,000 and ratios of .40 or above. A possible explanation for these high ratios may be that these individuals obtained a mortgage at a time when payments were more in line with income and changes in financial circumstance within these households is now impacting their ability to meet previously established payments.
Satisfaction

Little difference exists between the two groups in their satisfaction with the household's financial situation. Household money managers with more knowledge had a mean satisfaction index of 63.61 (on a scale of 0 to 100), whereas less-knowledgeable individuals had a mean of 61.85. Analysis of covariance reveals neither income (F = 2.84, Table 7) nor educational level (F = .05) to be significant in contributing to differences in satisfaction level. Likewise, knowledge (F = .01) did not contribute to satisfaction differences when income and educational level are controlled.

Individual inspection of the aspects included in the satisfaction index reveals significant differences in two components when controlling for both income and educational level. More-knowledgeable managers were more satisfied with their family's discussion of money but were less satisfied with their current level of assets. The dissatisfaction with the level of assets may be a motivating influence contributing to the higher net worth of money managers with a higher level of financial knowledge.
CONCLUSIONS

Results are mixed as to the effect of knowledge on throughput behaviors and outputs. This exploratory study provides preliminary evidence that knowledge has an effect on throughput behaviors practiced by household money managers. Less-knowledgeable managers seem to be unaware that all families need financial planning and that poor financial decisions should be corrected.

The relationship between knowledge and outputs, however, becomes less clear when the output components of net worth, debt payments-to-income ratio, and satisfaction are examined. A cursory interpretation suggests that knowledge does not have a direct effect on the identified output variables and that income overrides the other input variables in contributing to net worth.

Although the mean ratios of debt payments to income, including mortgage, were well within the acceptable guidelines of 30 to 40% of income, more-knowledgeable money managers had higher mean ratios than less-knowledgeable money managers (.21 compared with .10). Further, 7 more-knowledgeable managers with net incomes of less than $30,000 had ratios greater than .40, whereas only 1 money manager with net income less than $30,000 had a similarly high ratio.

This study contributes to understanding the effect financial knowledge has on recommended financial management behaviors. Additional research is needed to understand better the relationship between inputs and outputs overall and, especially, the effect of
knowledge on household net worth. An understanding of these factors would assist professionals in helping families understand the managerial processes that make a difference dealing with the financial complexities with which they are faced. Armed with such information, educators could help families achieve financial independence.
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Table 6. Percentage of money managers knowing content by knowledge level

<table>
<thead>
<tr>
<th>Knowledge Item</th>
<th>Low Group</th>
<th>High Group</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A person is more likely to reach personal financial goals by planning for the future. (true)</td>
<td>95</td>
<td>100</td>
<td>1.58</td>
</tr>
<tr>
<td>One should preplan an amount to save or invest each month. (true)</td>
<td>92</td>
<td>100</td>
<td>1.96*</td>
</tr>
<tr>
<td>A person needs a will only if there is a large estate to be left to the heirs. (false)</td>
<td>77</td>
<td>100</td>
<td>3.38***</td>
</tr>
<tr>
<td>Life insurance needs vary with age and the size of a family. (true)</td>
<td>90</td>
<td>98</td>
<td>1.52</td>
</tr>
<tr>
<td>If a person dies without a will, the assets are distributed according to state law. (true)</td>
<td>64</td>
<td>98</td>
<td>4.19***</td>
</tr>
<tr>
<td>Insurance costs can be reduced by having high deductible clauses in the contracts. (true)</td>
<td>59</td>
<td>98</td>
<td>4.71***</td>
</tr>
<tr>
<td>People are more likely to make better financial decisions if they base those decisions on their financial records. (true)</td>
<td>95</td>
<td>96</td>
<td>.19</td>
</tr>
<tr>
<td>Insurance is a way to reduce the risk of a financial disaster. (true)</td>
<td>85</td>
<td>94</td>
<td>1.31</td>
</tr>
<tr>
<td>Having different types of investments and savings decreases financial risk. (true)</td>
<td>59</td>
<td>94</td>
<td>3.96***</td>
</tr>
</tbody>
</table>

*p ≤ .05.

***p ≤ .001.
<table>
<thead>
<tr>
<th>Knowledge Item</th>
<th>% Correct</th>
<th>Low Group</th>
<th>High Group</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>To have a good credit rating, one must make purchases on credit and make payments according to the credit contract. (true)</td>
<td>92</td>
<td>91</td>
<td></td>
<td>-.14</td>
</tr>
<tr>
<td>Not many families have enough assets to be concerned about financial planning. (false)</td>
<td>26</td>
<td>91</td>
<td></td>
<td>8.04***</td>
</tr>
<tr>
<td>All financial risks can be covered by insurance. (false)</td>
<td>44</td>
<td>89</td>
<td></td>
<td>4.95***</td>
</tr>
<tr>
<td>Borrowing money to purchase an item decreases money available for future spending. (true)</td>
<td>54</td>
<td>87</td>
<td></td>
<td>3.53***</td>
</tr>
<tr>
<td>Retirees need 70 to 80% of current income to maintain the same standard of living during retirement. (true)</td>
<td>56</td>
<td>81</td>
<td></td>
<td>2.52*</td>
</tr>
<tr>
<td>A budget provides only for expected expenses. (false)</td>
<td>41</td>
<td>81</td>
<td></td>
<td>4.12***</td>
</tr>
<tr>
<td>One should stick with investment decisions because of the costs involved in making changes. (false)</td>
<td>26</td>
<td>81</td>
<td></td>
<td>6.09***</td>
</tr>
<tr>
<td>All credit card companies offer a no-interest plan if you pay your bill in 30 days. (false)</td>
<td>26</td>
<td>62</td>
<td></td>
<td>3.54***</td>
</tr>
<tr>
<td>Term insurance is the best form of life insurance protection available for one's dollar. (true)</td>
<td>33</td>
<td>60</td>
<td></td>
<td>2.48*</td>
</tr>
<tr>
<td>There is no federal legislation or regulation dealing with credit card billing errors. (false)</td>
<td>23</td>
<td>53</td>
<td></td>
<td>2.95**</td>
</tr>
</tbody>
</table>

**p ≤ .01.
Table 6. Continued

<table>
<thead>
<tr>
<th>Knowledge Item</th>
<th>% Correct</th>
<th>Low Group</th>
<th>High Group</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital status can be used by a lending institution in determining whether or not credit is granted. (false)</td>
<td></td>
<td>18</td>
<td>45</td>
<td>2.71**</td>
</tr>
<tr>
<td>The interest one pays on a home mortgage is directly deductible from the amount of income tax one pays. (false)</td>
<td></td>
<td>3</td>
<td>30</td>
<td>3.77***</td>
</tr>
<tr>
<td>Social Security records of earnings should be checked for errors at least every five years. (false)</td>
<td></td>
<td>3</td>
<td>4</td>
<td>.42</td>
</tr>
</tbody>
</table>
Table 7. Analysis of covariance results for money management throughputs and outputs

<table>
<thead>
<tr>
<th>Throughput Practices</th>
<th>F-Ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Covariates</td>
</tr>
<tr>
<td></td>
<td>Net Income</td>
</tr>
<tr>
<td>Throughputs/Outputs</td>
<td></td>
</tr>
<tr>
<td>1. Pays for yearly expenses out of current income or savings</td>
<td></td>
</tr>
<tr>
<td>2. Pays finance charges rarely</td>
<td></td>
</tr>
<tr>
<td>3. Has liquid assets</td>
<td>1.01</td>
</tr>
<tr>
<td>4. Saves receipts for major purchases</td>
<td>1.10</td>
</tr>
<tr>
<td>5. Has homeowners/renters insurance</td>
<td>2.52</td>
</tr>
<tr>
<td>6. Pays bills as due</td>
<td>0.03</td>
</tr>
<tr>
<td>7. Resolves arguments over money in positive manner</td>
<td>0.70</td>
</tr>
<tr>
<td>8. Compares credit card receipts with monthly statement</td>
<td>2.52</td>
</tr>
</tbody>
</table>

\*F-ratios not calculated because 100% of sample did the practice.

\*p \leq 0.05.

\**p \leq 0.01.

\***p \leq 0.001.
Table 7. Continued

<table>
<thead>
<tr>
<th>Throughputs/Outputs</th>
<th>F-Ratios</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Covariates</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Net Income Education Main Effect Knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Makes payments on large debts as scheduled</td>
<td>3.22</td>
<td>.79</td>
<td>.65</td>
</tr>
<tr>
<td>11. Has major medical insurance</td>
<td>6.55**</td>
<td>1.26</td>
<td>.29</td>
</tr>
<tr>
<td>12. Has life insurance</td>
<td>8.19**</td>
<td>.69</td>
<td>.69</td>
</tr>
<tr>
<td>13. Compares checking account records with monthly statement</td>
<td>1.24</td>
<td>2.15</td>
<td>1.34</td>
</tr>
<tr>
<td>14. Estimates household income and expenses</td>
<td>.57</td>
<td>.83</td>
<td>9.98**</td>
</tr>
<tr>
<td>15. Has retirement fund/annuity</td>
<td>9.07**</td>
<td>2.05</td>
<td>.83</td>
</tr>
<tr>
<td>16. Has financial goals</td>
<td>2.37</td>
<td>4.63*</td>
<td>5.29*</td>
</tr>
<tr>
<td>17. Reviews and evaluates spending habits</td>
<td>1.12</td>
<td>.26</td>
<td>2.22</td>
</tr>
<tr>
<td>18. Has disability insurance if not retired</td>
<td>7.10**</td>
<td>2.15</td>
<td>.50</td>
</tr>
<tr>
<td>19. Has written will</td>
<td>2.38</td>
<td>.04</td>
<td>4.78*</td>
</tr>
<tr>
<td>20. Has plans to achieve goals</td>
<td>2.49</td>
<td>10.59**</td>
<td>3.93*</td>
</tr>
<tr>
<td>21. Reviews adequacy of life insurance</td>
<td>2.84</td>
<td>4.65*</td>
<td>10.48**</td>
</tr>
<tr>
<td>22. Reviews total financial situation</td>
<td>1.27</td>
<td>3.91*</td>
<td>.73</td>
</tr>
<tr>
<td>Throughputs/Outputs</td>
<td>F-Ratios</td>
<td>F-Ratios</td>
<td>F-Ratios</td>
</tr>
<tr>
<td>----------------------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td>Covariates</td>
<td>Main Effect</td>
<td>Main Effect</td>
</tr>
<tr>
<td></td>
<td>Net Income</td>
<td>Education</td>
<td>Knowledge</td>
</tr>
<tr>
<td>23. Reviews will periodically</td>
<td>0.39</td>
<td>2.52</td>
<td>2.21</td>
</tr>
<tr>
<td>24. Has written plans as part of financial review</td>
<td>0.19</td>
<td>0.52</td>
<td>0.40</td>
</tr>
<tr>
<td>Total Throughput Score</td>
<td>22.82***</td>
<td>14.50***</td>
<td>18.40***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outputs</th>
<th>F-Ratios</th>
<th>F-Ratios</th>
<th>F-Ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Worth</td>
<td>11.84***</td>
<td>0.03</td>
<td>0.98</td>
</tr>
<tr>
<td>Debt Payment-to-Income Ratio</td>
<td>1.16</td>
<td>10.02**</td>
<td>2.98</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>2.84</td>
<td>0.05</td>
<td>0.01</td>
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</table>
Figure 2. Throughput behaviors by level of knowledge
SUMMARY AND RECOMMENDATIONS

The purpose of this study was to examine the relationships between the financial management competencies of household money managers and the financial well-being of the household. Specific objectives were (a) to test a path analysis model of a systems approach to family resource management with inputs of age, household size, net income, and knowledge; throughputs of planning and implementing behaviors; and outputs of net worth and satisfaction, and (b) to study the differences in the financial management behaviors, net worth, debt payments-to-income ratios, and satisfaction between household money managers with more knowledge of financial management and those with less financial knowledge.

The theoretical base for this study was the Deacon and Firebaugh (1981) systems approach to family resource management. This holistic view of management describes how money managers plan and implement resources to meet demands. It is composed of inputs of demands and resources, throughputs of planning and implementing, and outputs of met demands and used resources.

Money managers in 132 households in central Iowa from an area sample of 164 housing units were interviewed during fall 1986; 123 money managers produced usable data. The data were collected by trained interviewers from the individual in the household who had the major responsibility for the household's financial management.
The interview instrument included questions on the money manager's knowledge of financial management; planning and implementing practices in the areas of budgeting/record keeping, credit usage, risk management, capital accumulation, and retirement/estate planning; and satisfaction with the household's financial situation. Information also was obtained on the household's net income, monthly debt payment, assets, liabilities, and sociodemographic characteristics. The instrument was adapted from a prior interview schedule developed by Hira (1982b).

Indices related to knowledge, planning, implementing, total throughput level, and satisfaction were computed. In addition, net worth and debt payment-to-income ratio were calculated. The other independent variables in addition to knowledge were net income, age, education, and household size. Data analyses included descriptive statistics, Pearson product moment correlations, multiple regression, and analysis of covariance.

The typical household money manager in the study was a married 49-year-old female in a two-member household with a mean after-tax income of $24,506 and a median net worth of $59,200. Whereas the sample was comparable to the national average in its net income, they were more solvent than the typical American household.

Results of the study showed that household money managers had a wide range of knowledge about financial management (mean of 66.67 out of 100, standard deviation = 12.26), were not proficient in their
planning behaviors, utilized more optimum implementing behaviors than planning behaviors, and were reasonably satisfied with their financial situation (mean of 62.72 out of 100, standard deviation = 16.66).

Younger money managers planned to a greater extent than older money managers. Implementing behaviors were influenced by knowledge and income.

Households with older money managers, smaller size, and higher net income had greater net worth than other managers. In addition, greater net worth existed for those households where the money manager used recommended planning practices. Households with older money managers, smaller size, greater income, and higher level of implementing behaviors were more likely to have members satisfied with their financial status.

Knowledge is an input variable professionals have some ability to change and thus, warrants additional examination. Results provide preliminary evidence that knowledge has an effect on the behaviors practices by household money managers. More-knowledgeable managers employed more optimum throughput behaviors than less-knowledgeable managers. Such throughput behaviors included estimating household income and expenses (81% vs. 49%), figuring net worth (89% vs. 41%), and having financial goals (76% vs. 49%).

Income was a significant contributor to the net worth of both less-and more-knowledgeable money managers. When controlling for both income and educational level, significant differences did not exist in
the net worth of less- and more-knowledgeable managers. Apparently the effect of income is so great that other inputs are not making significant contributions to net worth.

Few differences existed between more- and less-knowledgeable money managers in their overall satisfaction with the financial situation of the household. However, managers with more financial management knowledge were more satisfied with the family's discussion of money and were less satisfied with their current level of assets.

A focus of financial resource management is assisting families in developing the knowledge and skills needed to effectively manage the family's financial resources. Professionals working with families need to understand the managerial processes that make a difference in helping families meet the financial complexities with which they are faced. This study shows that household money managers who know the principles of financial management and who plan and implement optimum practices achieve greater financial outputs. Targeting these practices in financial management education would help families achieve financial independence.

Recommendations for Future Study

The sample is atypical in its solvency. Thus, there is a need for this study to be replicated with a broader sample that is more heterogeneous in its income, debt load, and net worth. Such a sample would permit a more definitive study of the relationships between
inputs, throughputs, and outputs. A larger sample also would allow examination of the financial management competencies of money managers at different stages in the family life cycle.

Additional information could be obtained on the money manager's perceptions of the household's financial situation, their tolerance level toward credit, and their concept of risk. These affective components would add another dimension to the understanding of the financial management competencies of households.
BIBLIOGRAPHY


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In a very special way I want to thank my son, Jonathan, for cheerfully adapting to the changes in his life. His durability has contributed to a successful refocusing of my life.
APPENDIX. HUMAN SUBJECTS APPROVAL
INFORMATION ON THE USE OF HUMAN SUBJECTS IN RESEARCH
IOWA STATE UNIVERSITY

(Please follow the accompanying instructions for completing this form.)

1. Title of project (please type): Financial Management Competencies of Money Managers: Bases for Adult Education

2. I agree to provide the proper surveillance of this project to ensure that the rights and welfare of the human subjects are properly protected. Additions to or changes in procedures affecting the subjects after the project has been approved will be submitted to the committee for review.

Alyce M. Fanslow
Typed Name of Principal Investigator
4/29/86
Date
Signature of Principal Investigator

3. Signatures of others (if any) Date Relationship to Principal Investigator

4. ATTACH an additional page(s) (A) describing your proposed research and (B) the subjects to be used, (C) indicating any risks or discomforts to the subjects, and (D) covering any topics checked below. CHECK all boxes applicable.

☐ Medical clearance necessary before subjects can participate
☐ Samples (blood, tissue, etc.) from subjects
☐ Administration of substances (foods, drugs, etc.) to subjects
☐ Physical exercise or conditioning for subjects
☐ Deception of subjects
☐ Subjects under 14 years of age and/or ☐ Subjects 14-17 years of age
☐ Subjects in institutions
☐ Research must be approved by another institution or agency

5. ATTACH an example of the material to be used to obtain informed consent and CHECK which type will be used.

☐ Signed informed consent will be obtained.
☒ Modified informed consent will be obtained.

6. Anticipated date on which subjects will be first contacted: Month Day Year
Anticipated date for last contact with subjects: Month Day Year

7. If Applicable: Anticipated date on which audio or visual tapes will be erased and/or identifiers will be removed from completed survey instruments: Month Day Year

8. Signature of Head or Chairperson Date Department or Administrative Unit

9. Decision of the University Committee on the Use of Human Subjects in Research:
☒ Project Approved ☐ Project not approved ☐ No action required

Name of Committee Chairperson Date Signature of Committee Chairperson