

AN ABSTRACT OF THE THESIS OF

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Title: Children's Financial Management Competence: A Gender Specific Socialization Process

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This study was conducted to determine, first, if there are gender differences in children's financial management competencies; second, to ascertain relevant parental financial behavior that may affect the child's financial management socialization; and third, to test the validity of a proposed model. This model, based on research of existing literature, provides a theoretical model for predicting the influence specific variables have on a child's money management competence.

The sample consisted of eighty-six families, each of which was required to have at least one child in the fourth grade, have two or more children, and have both biological parents living in the home. Results of the study suggested that there was not a gender-based difference in the children's money-management competence, nor in the child's money management knowledge, nor in the parents' perception

of the boys' and girls's savings behavior. However, a gender difference existed in the parents' perception of the child's spending behavior. Additionally, parents were found to employ a division of labor with respect to money management tasks based on gender. The data indicated that mothers tended to perform short-term money management tasks while fathers tended to perform long-term money management tasks.

Further findings revealed significant positive relationships between the child's income and the parents' money management socializing effort, the child's income and his/her financial competence, and between the mother's performance of long-term money-management tasks and the child's financial competence. Additionally, a significant inverse relationship was found to exist between the family's stage in life and the parents' money management socializing effort.

Clearly money management plays a pivotal role in the quality of life and thus the need to identify and understand the mechanisms by which personal money management can be improved is of great concern. The results of this study can aid in the development of programs that will not only supplement, but facilitate the family's effort to produce children who are competent money managers.

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Children's Financial Management Competence:
A Gender Specific Socialization Process

by

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**CHILDREN'S FINANCIAL MANAGEMENT COMPETENCE:
A GENDER SPECIFIC SOCIALIZATION PROCESS**

INTRODUCTION

The socialization of children with respect to financial management is of concern and interest to businesses, educators, consumer advocates, and families. In general, they are concerned about what goods and services are being purchased, how much these items cost, and what values are being developed within today's children. For business organizations, particularly retailers that cater to children, the reason for the interest is focused largely on financial issues. These organizations view children not just as a single consuming group, but as an entity having substantial influence in at least three distinct segments of the marketplace.

- Children are major purchasers of goods and services. For example, children between the ages of four and 12 spent over \$4.2 billion and saved \$.5 billion in 1987 (Stipp, 1988).
- In addition, children exert substantial influence on the buying habits of their parents (McNeal, 1987).
- Also, retailers view children not only as current consumers, but as future consumers as well. For this reason, they attempt to develop brand loyalty as a means of building long-term profitable relationships (Bailey, 1992; McNeal, 1987).

Educators and consumer protection groups, realizing the potential for businesses to unduly influence children, have recognized the need to improve the education of children in basic financial management skills (Stipp, 1988). Recent research legitimizes these concerns and strongly suggests a need for increased education in financial management to enhance the well-being of today's families, as well as tomorrow's. This research indicates:

- Approximately 20% of the American adult population lacks the skills necessary to function as competent consumers on a daily basis (Turner & Brandt, 1978).
- Of young couples that divorced, almost 80% identified financial problems as a primary cause of the dissolution of their marriage (Burkett, 1989).
- Despite increases in real income through most of the 1980s due to the growing economy, the percentage of families declaring bankruptcy increased (Godwin, 1990).
- Traditional family financial management practices have been altered due to changes in lifestyle such as marriage at an older age, decreasing family size, increasing number of single-parent families, increasing number of two-wage earner families, and changing attitudes regarding parental roles (Roberts, 1981).

In addition, families having a finite supply of financial resources must learn to set priorities as they attempt to meet a nearly inexhaustible quantity of wants,

needs, and/or desires. While it is recognized that not all human needs, wants, and desires can be acquired with money, there is nonetheless a sufficient number of these that require money that most families cannot possibly have sufficient funds to purchase them all. Thus, good financial management practices can help families improve their decision making capabilities, protect financial resources, and increase familial satisfaction (Williams, 1985; Godwin & Carroll, 1985; Hira, 1987; Beutler & Mason, 1987; Titus, Fanslow, & Hira, 1989; Godwin, 1990).

Many scholars consider families the main financial management socializing agents in the United States (Phelan & Schvaneveldt, 1969; Turner & Brandt, 1978; McNeal, 1987; Weinstein, 1991). Consequently, the responsibility for teaching children how to manage their financial resources is borne by the parents (Berger & Berger, 1979; John & Whitney, 1986; McNeal, 1987; Weinstein, 1991). Parents must not only teach financial skills, but also impart a value system and the character needed to face the complexities of today's financial and economic environment (Ward, 1974; Ozgen & Gonen, 1989). The methods parents employ in teaching their children essential financial management skills have been examined by a number of researchers (Cohen & Xiao, 1992; Peracchio, 1992; Weinstein, 1991; McNeal, 1987; Ward, Wackman, & Wartella, 1977).

It is fundamental to realize, however, that not all of the child's learning about money management is a result of the parents' purposeful endeavors to teach fundamental money management concepts. McNeal (1987) indicates that much of what a child learns is the result of observing money management activities. As the child assumes a relatively proactive position in the learning process (i.e., that of observer), what the child observes will be fundamental to his or her development. It follows then that the opportunities to observe money management practices will depend heavily on the parents. Research indicates that the money management practices of parents are influenced substantially by such things as the family's stage in the life cycle, its socioeconomic status, and its relative openness to interactions with the external environment (Constantine, 1983; McNeal, 1987; Mullis & Schnittgrund, 1982; Fitzsimmons, 1987; Ferber, 1973; Davis & Schumm, 1987; Deacon & Firebaugh, 1988). Thus, what the child observes in the family will be equally influenced by these factors.

Dr. Gary S. Becker, a Nobel Prize winning economist, has proposed a gender-based rationale that can be used to explain how parents teach financial management skills to their children (Becker, 1981). His approach centers on the concept of comparative advantage (i.e., utility theory). In this context, comparative advantage is the knowledge, capacity, or skill of one parent to perform a particular

financial management task. This comparative advantage of one parent over the other could be the result of many factors, including education, work experience, communication skills, available time, etc. Becker indicates that to maximize utility and efficiency, only one spouse should have primary responsibility for performing market-based activities (i.e., those activities which take place outside of the home for income). The parent responsible for performing a particular function should be the one best able to complete it -- the one with the comparative advantage. Therefore, to the extent parents perceive specific money management activities as being market-based or home-based, they should work with their children on developing those skills that are most likely to benefit each individual child.

While the comparative advantages as viewed by Becker are gender neutral, in reality the marketplace is not. Bryant of Cornell University, in a response to Becker's theory, points out that the existence of wage discrimination against females and the lack of family leave policies, along with other factors, have served to essentially make comparative advantages gender specific (Bryant, 1991).

Other facts that can be brought to bear are rigid work schedules and the lack of family leave policies in the labor market. In concert with wage discrimination against females, they distort the natural comparative advantages spouses may possess. As a result, they force a specialization of function and division of labor in the home by

gender that might not otherwise exist (Bryant, 1991, p. 24).

Thus, what and how parents teach their children reflects their determination as to whether financial management is a home-based or market-based activity and their perception of whether their child's future domain will be the home or the market place.

In connection with Becker's theory, research suggests that much of the teaching of money management is often an informal process with little direct adult instruction or supervised training.

... Too frequently, consumer socialization practices reflect the influences of subtle social learning processes, rather than purposive and systematic parent-child interactions (Cohen & Xiao, 1992, p. 43).

Therefore, for parents, educators, and public policy makers to increase their effectiveness in preparing children -- irrespective of gender -- to meet the demands of today's complex financial environment, it is essential to understand the methods employed by parents in teaching financial management, as well as the child's role in this process.

Statement of Purpose

This study was conducted to determine, first, if there are gender differences in children's financial management competencies; second, to ascertain relevant parental financial behavior that may affect the child's financial management socialization; and third, to test the validity of

a proposed model with respect to the financial management socialization employed by families. Based on research of existing literature, a theoretical model was developed to predict a child's money management competence. This information indicated that the child's money management competence is influenced directly by: the parents' purposeful activities to socialize the child with respect to money management, the parents' modeling of financial behavior, and the role expectations outside the family that are gender specific. The child's money management competence would also be indirectly influenced by the social and economic characteristics encompassing the family. In order to validate the model, this study specifically investigates whether there is a gender bias within families with respect to who is responsible for money management and whether or not the "relative efficiencies" spoken of by Becker (1981) could be a product of the family socialization process.

The following questions are addressed:

- (1) To what extent can one use the socializing effort of the parents, the gender of the child, and the parents' money management behavior to predict the child's money management competence?
- (2) To what extent do family social status, family life cycle stage, mothers' working status, and

family cohesiveness and adaptability influence the money management behavior of parents?

- (3) To what extent can parents' socializing efforts be predicted by their money management behavior, social status, life cycle stage, adaptability and cohesiveness, mothers' working status, and their child's income and gender?

Definition of Terms

Financial Management In the context of this study, financial management will be used when referring to the wide range of activities in which families engage during the allocation of financial resources. Inherent within those activities are the concepts of rational consumer behavior, goal setting, planning, budgeting, record keeping, and risk management.

Financial Management Socialization The process by which young people acquire the knowledge, skills, and dispositions that enable them to participate as effective members of society with respect to financial management (Ward, 1974).

Content of Financial Management Instruction The subject/subjects with respect to financial management discussed by the parent and the child in the last month.

Duration of Financial Management Instruction The amount of time the parents and child reported they spent discussing financial management with each other in the last month.

Frequency of Financial Management Instruction The number of times in the last month the parent and child reported having a dialogue with each other about financial management.

Parents' Financial Management Behavior Specific money management behavior in which parents engage while performing money management tasks that can be observed by the child, such as bill paying or making investment decisions.

Financial Management Competence The possession of the skills, knowledge, and ability to engage in a wide range of financial management activities with a degree of proficiency commensurate with the child's cognitive development.

Gender of Child Includes not only the gender of the child, but also a wide range of gender specific expectation from outside the family that could influence the child with respect to money management competence.

Family Dynamics The cohesiveness and adaptability of the family as measured by Faces III.

REVIEW OF LITERATURE

The purpose of this chapter is to review the literature related to financial management within families, to establish a predictive model based on relevant research regarding how parents' socialize their children, and to identify family characteristics influencing the money management competence of children.

Family Money Management Practices

Current family practices

As indicated in the definition of terms, "financial management" involves a wide range of activities. Garman & Forgue (1991) indicate that to be effective in meeting family and personal needs, the financial management process should include planning, analyzing, and controlling of financial resources.

It has to do with how people spend, save, protect, and invest their money. Topics typically include budgeting, cash management, using credit cards, borrowing, tax management, major expenditures, risk management, investments, retirement planning, and estate planning (Garman & Forgue, 1991, p. 4).

Much of the available literature discusses financial management from a prescriptive standpoint (i.e., what families should do), rather than focusing on what families actually do. However, the research that does exist indicates that families engage in very little systematic financial management behavior (Godwin, 1990). For example,

Beutler and Mason (1987), in a study of 655 households in Iowa, found that irrespective of income fewer than ten percent of the families had written plans, records of expenditures, or a planning horizon of more than one year. Interestingly, many of the families reported having a planning time frame of only one day or less. Mullis and Schnittgrund (1982), studying 199 low-income families from Phoenix, Arizona, found that despite the economic vulnerability of this group, relatively few (less than 25%) engaged in any formal budgeting. Titus, et al. (1989), in studying 123 households in Iowa, found that only 18.7 percent had written plans and only 32.5 percent reviewed their will periodically. They concluded that most money managers were not very proficient in overall planning. In addition, Godwin and Carroll (1985) found that out of the 18 activities considered important by professional financial planners the average family engaged in only six.

However, it is important to note that while most families do little formal planning, a large percentage do have specific activities in which they engage. For example, Godwin and Carroll (1985) reported that 80.8 percent of the participating families had a fixed place in their home for keeping track of bills, over 78 percent had discussed financial goals within the past three months, and 73 percent kept monthly records. Titus, et al. (1989) reported that 98.4 percent paid bills as they came due, 98.4 percent saved

receipts from major purchases, and 85.7 percent compared checking account records with monthly bank statements. Thus, it appears that families rarely engage in formal financial management planning and budgeting, instead concentrating on day-to-day management of their financial resources.

Who in the family does it?

In a research study conducted by Pahl (1983), money management practices in families were examined. He indicated that it is imperative to make distinctions between control (i.e., which spouse should have the final say on purchases, method of allocating finances, amount of personal spending money, and accessibility to joint funds), management (i.e., putting into operation allocated finances for purchasing category items such as food, clothing, and housing), and budgeting (i.e., buying furniture rather than taking a vacation). This is significant because research indicates that in most families these functions are not performed by both marital partners equally (Godwin, 1990; Hira, 1987; Blumstein & Schwartz, 1983; Pahl, 1983; Green & Cunningham, 1975; Ferber & Lee, 1974). The decision as to who performs these functions in the family seemed to be tied to power and gender issues within the family. More specifically, these gender issues were associated with the

socioeconomic status of the family and the number of wage earners within the family (Kandel & Lesser, 1972).

In Pahl's study (1983) families were found to use one of four distinct systems in allocating funds for the operation of their household. In the first system, "whole wage system," one spouse was responsible for managing all the family's finances except those funds allocated for personal spending. The wife was the one most often designated to perform these functions. The second system, identified as the "allowance system," was the most often encountered form of family money management. In this system, the husband gave the wife an allowance for certain predetermined household expenditures; for example, from these funds she was to purchase the groceries for the family. The amount of money given and the number of expenditure categories for which these funds were used varied among families, but the husband often maintained a great deal of control. Thirdly, in the "shared management system" both partners seemed to have equal access, as well as responsibility, for management of a common pool of money. Lastly, the "independent management system" required both spouses to have income, with each partner having access to their own income but not the other's. Expenditures were identified as either the responsibility of one or the other, but funds were not intermingled.

It was further suggested that there are three main variables that influenced which allocation method was used within the family: (1) the income level of the couple, (2) the sources of income of the couple, and (3) the normative expectations about the allocation of money. From his research Pahl concluded that financial management seems to be gender related based upon the power structure of the family.

It seems that a high degree of separation between control and management is associated with a rigid separation of spheres in terms of the sexual division of labor... The fact that financial arrangements within marriage were regarded as essentially a private matter reflected the importance of privacy as a way of maintaining, by concealing them, particular power relations within the household (Pahl, 1983, pp. 257 - 258).

In a study that preceded Pahl's, Ferber (1973) identified five alternative methods in which husbands and wives allocate financial resources:

1. The husband doled out the funds to the wife as needed, and he usually paid the bills.
2. The husband gave the wife a regular allowance which she uses for specific purposes, and he used the rest.
3. The husband turned his pay over to the wife, she gave him an allowance and used the rest.
4. The wife received the entire income; she doled out funds to the husband as needed, and she usually paid the bills.

5. The husband and wife decided jointly at the start (or end) of every pay period how the money should be spent and each then assumed a specific task.

Ferber suggested that methods three and four were more likely to be used if the wife worked full- or part-time, if the husband's education was below college level, or if the husband's occupation was in a blue collar profession. He further indicated that decisions regarding money management were likely to be shared with respect to some functions, while others were divided between the spouses. For example, saving for the future was found to be a joint responsibility in 48 percent of the families. In 40 percent of the families accounting and record-keeping functions were performed by the wife only. On the other hand, in 43 percent of the families investments were the responsibility of the husband (Ferber, 1973). More recent studies confirm that while some changes have occurred, there remains a division of labor within families with respect to money management (Rosen & Granbois, 1983; Hira, 1987; Fitzsimmons, 1987).

In a study of money in marriage relationships, Fitzsimmons (1987) reports there was a difference in families with respect to the responsibility of performing certain money management tasks based on the stage of life cycle. In "newlywed" families, for example, 33.6 percent of the families felt that paying the bills was a joint

responsibility, 30.7 percent felt it was the husband's responsibility, and 35.7 percent felt it was the wife's responsibility. In "full-nest" families, 20.7 percent felt bill paying was a joint responsibility, a decrease of 12.9 percent from newlyweds. In addition, husbands were responsible in 19.3 percent of the families, a decrease of 11.4 percent from newlyweds, and wives were responsible in 60.0 percent of the these full-nest families, an increase of 24.3 percent from newlyweds.

Fitzsimmons further reports differences in each spouse's financial responsibility based on the number of wage earners in the family. Single-earner couples indicated a greater percentage of the wives as the responsible person in most money management tasks. A significant exception concerned who was responsible for surplus money; it was indicated that this responsibility fell upon the husband. On the other hand, dual-earner couples specialized in certain tasks, but these tasks tended to be different than those in the single-earner families. However, in both family types it was common for the wife to be the one responsible for paying the bills.

In summary, the literature suggests that financial management in most families is not one person's responsibility, but rather a division of labor is created whereby certain tasks are completed by one marriage partner, others by the second partner, and still others are done

jointly. The decision as to who performs these specific tasks is dependent on such factors as income level, sources of income, working status of spouses, life cycle stage, and educational level.

Family Consumer Education

American children grow up in a money economy. They hear the ice cream truck come jingling down the street and very early they discover that coins can be exchanged for ice cream. They see money changing hands for bus fare, for movie admissions, for bridge tolls or parking on a day's outing to the beach. Money quite clearly, has something to do with the good things in life. Money, equally clearly, is an instrument of power. Children find parents giving coins for treats or denying an insistent request (Weinstein, 1991, p. 3).

Weinstein indicates that children in our society learn very early that money can provide many desirable things. Therefore, the education, whether formal or informal, needs to begin early in a child's life. The focal questions remaining would be: (1) to what extent is this process a product of a formal well-thought-out program implemented by parents?, and (2) to what extent is it a more informal process, with observational learning being the primary mode of transmitting financial management information to the child? Both of these questions should be addressed when determining the proper time to implement financial management education.

In a study of 615 kindergarten, third, and sixth grade children, Ward, Wackman, and Wartella (1977) proposed that

in consumer decision making and sharing family responsibilities. Although children can and do learn to be consumers early, some skills depend upon maturation and education.

Another study that investigated the ability of parents to improve their children's consumer behavior (choice making and buying) was undertaken by Turner and Brandt (1978). Their study focused on consumer skills of children at two different ages. They concluded that families can influence the pace and quality of cognitive development by providing an enriched environment, may help (or hinder) their children's application of an already developed cognitive ability in specific consumption situations, and may have a relatively direct impact on their children's consumer behavior by teaching specific skills.

In McNeal's 1987 book Children as Consumers, the importance of the family, particularly parents, as the primary source for the instruction of money management activities was demonstrated. McNeal indicated that parents are well established as the most important influencers in a child's life and, as such, are the ones that introduce sons and daughters to consumer activities. This may occur informally by having the child accompany them as they shop or more formally by providing money for purchases. With this in mind, McNeal (1987) further expounded on the implications this influence may have. As parents provide

opportunities for children to spend money they are giving the child market power. To take advantage of this market retailers and producers of goods spend in excess of \$100 million dollars on Saturday morning television advertising alone. It is important to note that as children receive money, they are forced to manifest adult-like consumer behavior. In addition, this emphasizes the responsibility of parents to become involved in the process of teaching their children consumer skills. Likewise, in light of the fact that few if any regulations exist covering what are appropriate marketing activities, merchants must use restraint in their efforts to influence children's consumer behavior.

Phelan and Schvaneveldt (1969) investigated the effects of family training and experience, including family example, on the adolescent's use of money. In their study they randomly selected 50 pairs of adolescent siblings who were no more than two years apart in age, lived in the same home, and had a mother who was willing to cooperate in the study. They administered two questionnaires to ascertain the adolescents' spending and saving patterns as well as socioeconomic status. The results indicated that the child's spending patterns were related to the following:

- (a) social class - the higher the social class the higher the scores;
- (b) ordinal position - oldest and next-to-oldest children scored higher, while middle, next-to-youngest, and

youngest children scored lower; (c) father's occupation - children of professional fathers rated themselves higher than did children of semi-skilled and unskilled laborers; (d) educational attainment of the mother - higher educational attainment was associated with higher scores; (e) amount of supervision received - interestingly, children who received a high amount of parental supervision and those receiving a low amount both scored about the same, while those who received an average amount scored lower than both the high and low supervised groups.

In summary, children should be introduced to the concepts of financial management early in life. However, it is important that parents and teachers be attentive to the child's cognitive development and present concepts at appropriate levels. Furthermore, the exposure of the child to a wide variety of consumer activities and the employment of multiple teaching methods has been found to enhance the child's ability to learn financial management.

Gender Roles in Family Structure

Maccoby (1980) defines a sex role as the duties, rights, obligations, and behaviors that are expected because of a specific position in the social structure. The definition of the role is decided by other people's expectations (i.e., what they consider role-appropriate behavior) and by the way in which functions,

responsibilities, and powers are divided among related roles, such as doctor/nurse or boss/secretary. Knowing someone's role gives an indication about how that person will and/or ought to behave, thereby diminishing the social risks associated with interacting with that person. Because others like the decreased risk involved, they encourage the person to act out the role. In this sense, the role itself becomes the prescription for behavior. As children grow they learn more and more about these prescriptions for appropriate male and female behavior, and then use this information to guide their own actions. They also learn to adapt their behavior by taking into account the sex of the person with whom they are interacting.

Parents often encourage these roles by providing different environmental stimuli for boys and girls; for example, giving them different toys, clothing, room decorations, and providing different training (e.g., blue versus pink, or ballet lessons versus Little League). In this way mothers and fathers they set up role expectations, and they may respond very negatively if these role expectations are challenged.

A very young boy who tries on his mother's high-heeled shoes or puts on a dress or lipstick may be regarded with amused tolerance or gently ridiculed, but such behavior in an older child is regarded as outrageous rather than funny. Fathers react especially strongly to any such signs of feminine tendencies in their sons. For example, a father who was asked whether he would be upset by signs of femininity in his son said: "Yes, I would be. Very, very much. Terrifically disturbed--

couldn't tell you the extent of my disturbance. I can't bear female characteristics in a man (Maccoby, 1980, p. 239).

Children learn a great deal about their specific role expectations by observing and imitating the same sex parent. This confirms the assertion that children learn their sex roles at a very young age through a variety of both external and internal influences.

A study undertaken by Ayim and Houston (1985) indicates that humans are born with a predisposition to acquire gender identity. The readiness is not only related to the child's sex, but is at appropriate times related to the child's environment. These environmental influences will reinforce the child's perception of sex identity and become an element of an established core gender identity. Thus, while the home environment has a great deal of influence on the child's gender identity, it also accounts to a large extent for the difficulty society has in changing sex roles. Fenstermaker (1988), in a discussion about why working women maintain such a large proportion of the household work despite being employed outside the home, explained:

The imperatives posed by the production of gender require that the division of household labor be not only concerned with the pragmatic sorting and optimal matching of tasks and time to household members, but is also centered on the symbolic affirmation of maleness and femaleness, husband and wife, man and woman (Fenstermaker, 1988, p.41).

Rosen and Granbois in 1983 performed a study to determine the roles of husbands and wives in family financial management. These researchers selected 82 couples by a stratified random-sampling procedure designed to insure a balance between upper and lower income levels and the wife's relative employment status. Their findings indicated that decisions about payments on credit cards and priorities for bill payments were more frequently made separately when both spouses worked. As more and more married women work outside the home, the result is a greater tendency toward separate decision making. In addition, separate decision making tended to increase with years of marriage and family income level. Further, they found that husbands tended to handle the implementation of tasks in a substantial proportion of households. This runs counter to earlier research, but if one assumes that our society is showing a trend toward more egalitarian sex-role views, this finding would suggest that husbands' involvement in traditional wife held tasks will increase. The significance of separate decision making in financial decision-making tasks can be interpreted to be that these functions are not being perceived as gender specific by dual wage earner families, whereas in single wage earner families financial decision-making tasks are seen as gender specific. Rosen and Granbois conclude by saying:

Nevertheless, it would appear from the overall results that socioeconomic and demographic

variables (except for education) are less predictive of which partner handles financial matters than is sex-role attitude and education (Rosen & Granbois, 1983, p. 257).

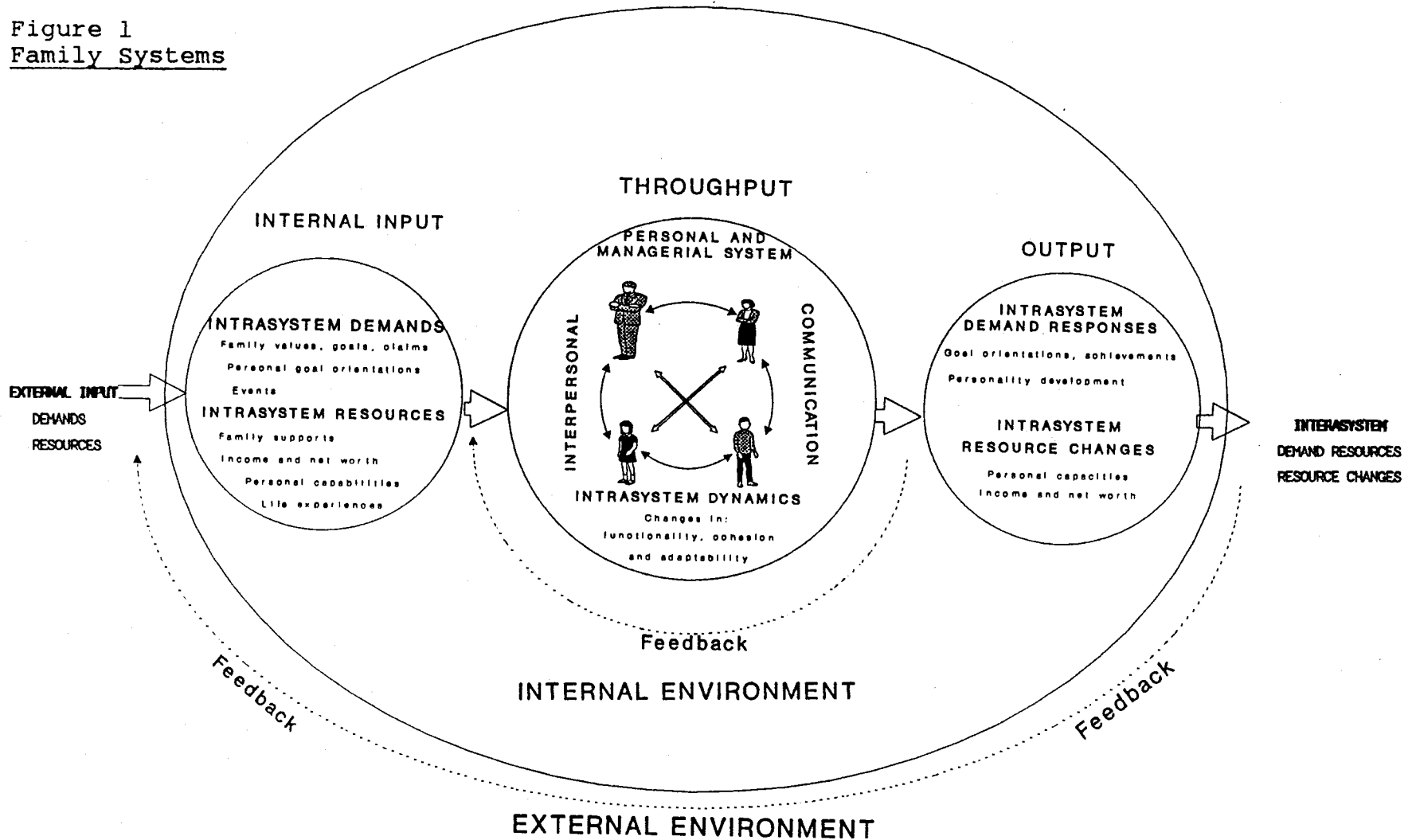
In summary, the review of literature has revealed three very fundamental points. First, much of what a child learns about his or her gender and associated roles is learned in the home. Second, families are identified as the primary socializing agent in the process of teaching children appropriate consumer behavior. Finally, money management practices in the family are substantially gender based.

Theoretical Framework

Systems theory

A relevant theoretical framework for the description of potential gender differences in teaching children about money can be found within systems theory. Systems theory is a descriptive theory used to explain the processes that families, groups, and societies use to translate (throughput) the demands (input) made on them to yield acceptable results (output) (Deacon & Firebaugh, 1988). The concepts therein are used to describe and explain how a family functions, not only within itself and its related members, but with the external environment as well (Hogan and Buehler, 1984). The significance of this is that systems theory allows a theoretical mechanism whereby both society and parents have the opportunity to influence consumer specific behavior (see Figure 1).

Figure 1
Family Systems

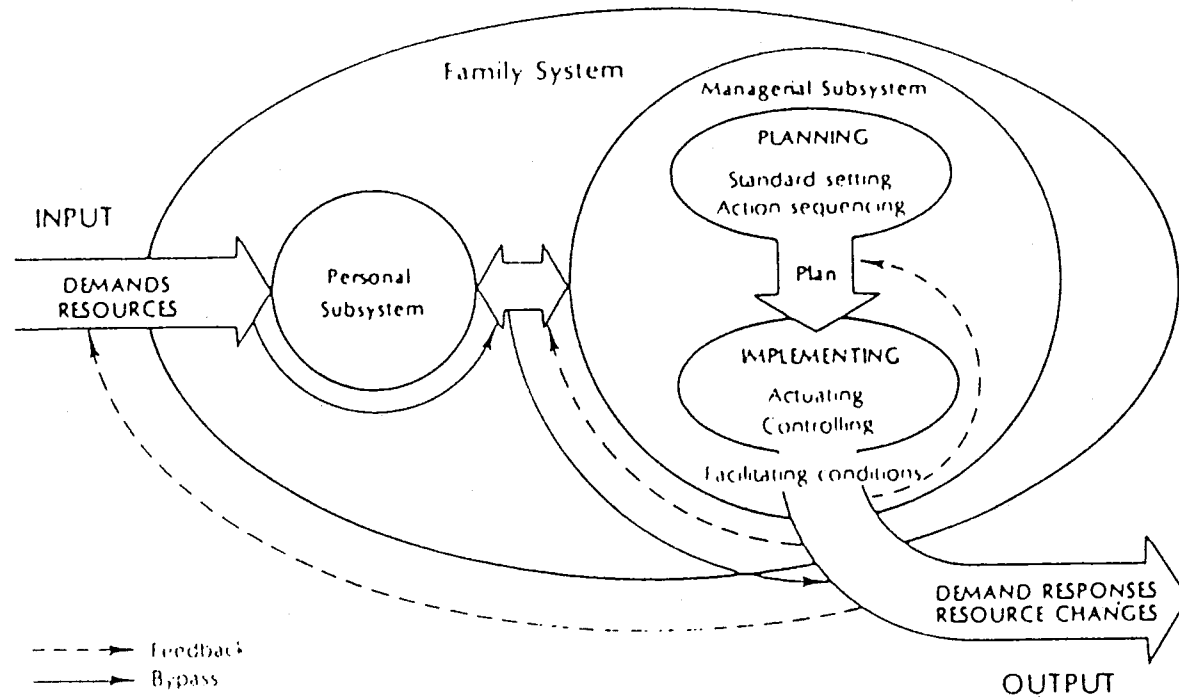


Source: Deacon, R. E., & Firebaugh, F. M. (1988). Family resource management (2nd ed.) Boston, MA: Allyn and Bacon, Inc., p. 24.

Thus parents, based on their perception of the need of a specific skill, can implement and refine learning opportunities for the child (Constantine, 1983; Ward et al., 1977A; Titus et al., 1989). System theorists believe that systems are made of several components or subsystems, each functioning independently yet in concert with each other (Imig, 1988; Bronfenbrenner, 1977; Paolucci, Hall, & Axinn, 1977; Banathy, 1973). For example, as the family system has only a limited amount of resources available to it and receives an infinite amount of demands, it is improbable that the system will be able to meet all the demands with its finite resources. Therefore, located within the system must be a component that encompasses: (a) the allocation of these resources, (b) the coordination and resolution of resulting conflicts, (c) the determination of strategies and policies used to meet demands, (d) the inception of goals and direction, and (e) the coordination of functions amongst the various components. Deacon and Firebaugh (1988) identified this essential component of the system as the "managerial subsystem" (See Figure 2). Other proponents of the subsystems philosophy have incorporated the managerial subsystem concept in their models as well (Owens, 1988; Pershing, 1979; Heck & Douthitt, 1982; Steidl, 1970).

Figure 2

Family System With Managerial Subsystem Emphasis



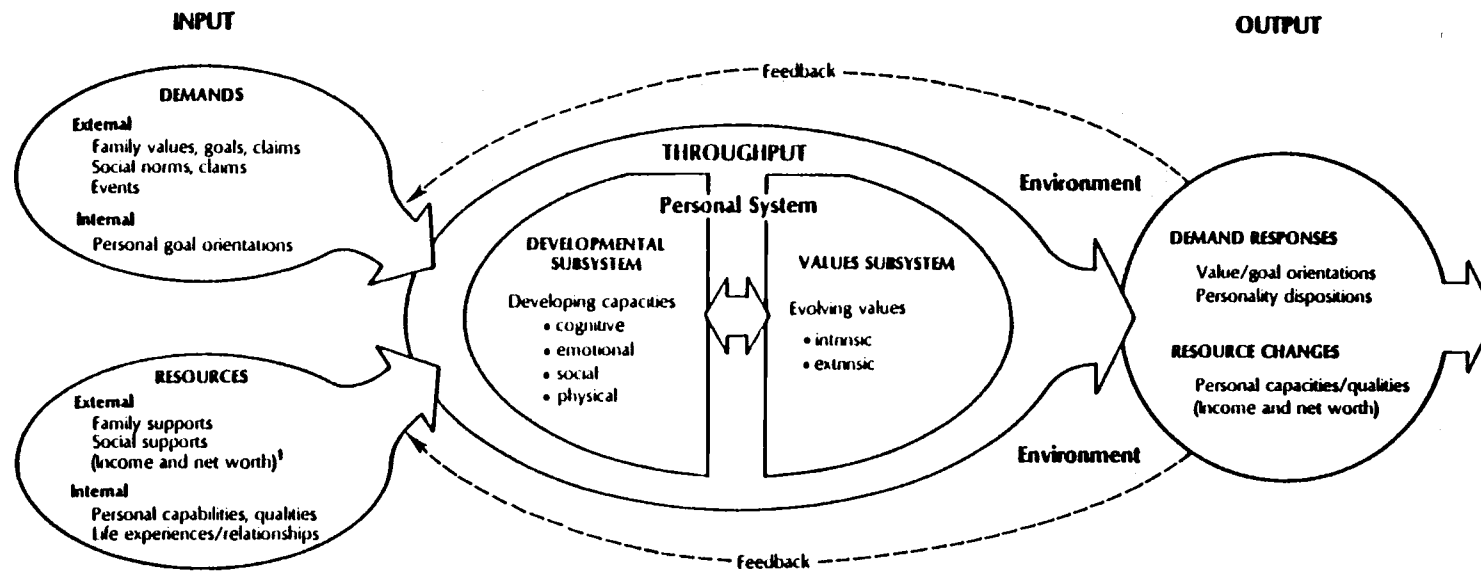
Source: Deacon, R. E., & Firebaugh, F. M. (1988). Family resource management (2nd ed.) Boston, MA: Allyn and Bacon, Inc., p. 8.

In addition to the managerial subsystem, Deacon and Firebaugh identify a second essential component of an individual's system as the "personal subsystem" (See Figure 3). The personal subsystem operates in conjunction with the managerial subsystem and has the primary duty to "...foster four interrelated capacities: cognitive, emotional, social, and physical," as well as developing a value system that "...translates experiences and understanding into intrinsic and extrinsic meaning" (Deacon & Firebaugh, 1988, p. 19).

While it may appear that all members in the family system experience the environment in the same way, the development of the various subsystems found within family members helps to explain the differences observed between them as individuals. This model suggests a method whereby parents and society can influence the consumer behavior of children, while still allowing room for the child to develop individual differences. Importantly, systems theory has been found helpful by many disciplines such as psychology, communications, and marketing in developing methods and procedures for teaching consumer behavior (Ward et al., 1977). Additionally, the use of figures one, two, and three is intended only to illustrate some underlying construct regarding the socialization process within families and should not be construed to represent a specific model.

Figure 3

Individual Personal System



¹ The income and net-worth items are indicated parenthetically to recognize their indirect role in the personal system.

Source: Deacon, R. E., & Firebaugh, F. M. (1988). Family resource management (2nd ed.) Boston, MA:Allyn and Bacon, Inc., p. 20.

Within systems theory there are a number of variables that influence the choice of methods parents select in teaching children. Deacon and Firebaugh (1988) theorize that a family's functionality is dependent on how bonded the family members are to one another (i.e., cohesion); how easily the family organization can change its power structure, role relationships, and relationship rules (i.e., adaptability); and their capacity to use messages to engender meaning in the minds of others (i.e., communication).

Olson, Portner, and Lavee (1985) developed a circumplex model that measures the dimensions of cohesion and adaptability to determine the functional level of a family. Their model suggests that too much or too little cohesion and adaptability will produce a dysfunctional family system; it further indicates that balanced families exhibit more positive communication skills than do extreme families. By measuring a family's distance from a predetermined center (i.e., balanced position) one can get an indication of how balanced the family's cohesion and adaptability are, as well as some evidence of their potential communication skills.

In addition to cohesion and adaptability, additional variables have been identified that will influence the processing of information within the family systems framework. The socioeconomic status (i.e., educational level, occupation, and income), as well as the quality of

marital and parental/child relationships are all important considerations in teaching children consumer behavior (Jaffe, 1991). Godwin and Carroll (1985) found statistically significant relationships between educational level, income, and occupation and the amount of financial management performed in the home. Theoretically, the more financial management is performed in the home the more likely the child is to be exposed directly or indirectly to techniques of financial management. In yet another study, Butler and Mason (1987) identified the stage of family life cycle as an important indicator of the amount of financial management activities performed by parents. This study suggests that the younger the household the more likely the parents are to engage in financial planning and management activities.

These are but a few of the environmental variables functioning within the family that will affect the socializing process. It must be remembered that this list is in no way intended to be comprehensive, but to demonstrate many of the complexities to be found in family systems.

Theory of comparative advantage

A second relevant model or paradigm for the systematic study of mothers' and fathers' roles in their children's socialization was presented by Becker (1981) in his book, A Treatise on the Family. Becker developed the theory of comparative advantage in which he espouses the view that in order for families to be most productive, productivity being dependent upon allocation of time between the market and household sectors, they should base time-use decisions on where the members of the family are most likely to have comparative advantages (Becker, 1981).

Accordingly, women not only as a result of the biological necessity to bear and nurse their children, but also because of the lack of family leave policies, discrimination in the work place, and other societal determinants have characteristically spent more of their efforts in the development of household associated proficiencies (Bryant, 1991). Furthermore, Becker indicated that the socialization process begins when the child is very young, before a child has the opportunity to select which sector or lifestyle he/she would prefer. For this reason parents have attempted to prepare their children for the activities in which they believe the child is most likely to engage in. Thus, not only experiences, but investments in human capital (i.e., what they are taught by their parents) produce differences or variations in skills. The wise use

of those skills would be to maximize their utility by allowing the person with the comparative advantage to occupy that sector in which those skills can best be used.

Becker further indicates that given the comparative advantage men have in the market place, it is reasonable to assume parents would invest in providing their male children with market-specific human capital. Conversely, with the comparative advantage women have in the household sector, parents would provide opportunities for their daughters to develop household-specific human capital (Becker, 1981). Therefore, to the extent that parents view gender and financial management as relating to either a market-based or a household-based sector, they will teach their children differently.

Cognitive development

Fundamental to the supposition that families provide experiences that develop the various subsystems within a child is the premise that the child possess some innate cognitive abilities. Many developmental psychologists have theorized that cognitive development occurs in periods of maturation. Such notable scientists as Gesell, Freud, Piaget, and Erickson all espoused theories suggesting that a child's cognitive development occurs in a succession of distinct stages (Jaffe, 1991; Salkind, 1985). The transition from one stage to the next represents a

maturation of neurological development. While Piaget divided these stages of development into four distinct identifiable requisite stages, the stage that is important to consider for this study is the Concrete Operational stage. He indicates that this stage lasts from ages seven to twelve, during which the child develops the ability to solve concrete problems. (Salkind, 1985). Accordingly, one would expect that this is the period of time in which the child develops his/her ability to understand money management (John & Whitney, 1986). This provides an important link with systems theory, which includes the development of subsystems through experiences, the age related demands placed on an individual by the environment, and the child's own cognitive development.

Social learning theory

Complementing systems theory, Becker's theory of comparative advantage, and cognitive development theory are the precepts found within social learning theory. Social learning theory seeks to explain how individuals process a variety of learning experiences received from the environment and transform them into symbolic representations that serve as guidelines for behavior. For example, children learn from their environment the types of behaviors that are gender appropriate. According to Bandura (1977) and Mischel (1970) sex-linked behavior is not only derived

from imitating the actions of same gender role models, but is also influenced when these role models (i.e., parents, teachers, and peers) act as socializing agents who consciously reinforce sex-typed behaviors as well as prompt them. For example, parents will buy male children toys that they feel are appropriate for boys and then reward the child by praising him when he plays with the toy. An important concept within social learning theory, as Perry and Bussey (1984) suggest, is that the learning of sex appropriate behavior is enhanced by the power the child has to observe sex-specific behavior modeled by their parents and others. Through direct experience and observation, which are dependent on the child's cognitive development, children gradually form conceptions of the kinds of behaviors that are expected of the two sexes and act accordingly.

The relevance of this concept of how financial management is taught can be seen in Hoffman's (1977) investigation of differences in household chores assigned to boys and girls. The study indicated that these chores were assigned in accordance with the belief that parents channel their children into traditional sex roles. Girls were assigned tasks usually performed by the mother and boys were asked to help with chores typically carried out by the father. Perry and Bussey (1979) further indicate that even neutral (non-gender specific) activities can take on a sex-role meaning if children see the activities performed by one

gender more than the other. Thus, social learning theorists would assert that if children see the mother performing financial management within the home, they will consider it to be a female sex-role and, conversely, if the father performs the household's financial management the child will consider it to be a male function.

Summary

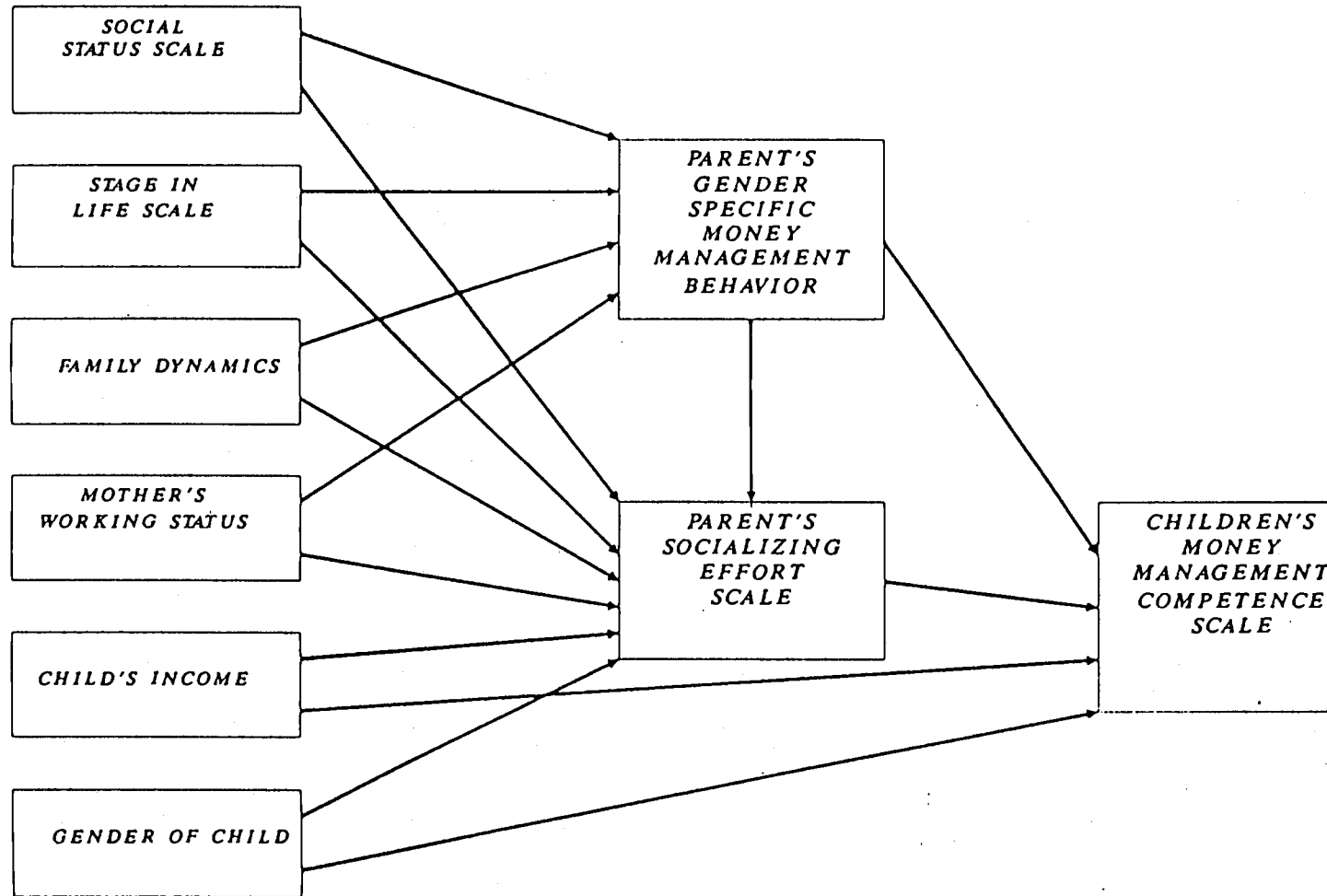
The theoretical constructs combine to explain how an individual develops money management competence. Systems theory indicates that demands from outside the system enter the family. Based on the family's orientation and intra-system dynamics, the family determines what is appropriate for a child to learn and how he/she will learn it. Much of how and why this information is important to the family is explained by the concepts included in Becker's theory of comparative advantage and social learning theory. This information enters the child's personal system where, based on the child's developed cognitive abilities, social awareness, and personal intrinsic and extrinsic values, output is generated to meet or respond to the demands from the external environment (i.e., financial competence). This output then enters the system as feedback and, depending on the filters the parents have, the child is rewarded for an appropriate response or instructed if the response is inappropriate. In addition, it is important to note that

simultaneous to the family's efforts to socialize the child with respect to money management, the process is enhanced by the incidental observation of parental activity and by the relative proactive position assumed by the child. Figure 4 is a conceptual model representing the family's effort to socialize the child with respect to money management competence.

Results of this study are expected to provide more accurate information for educators, politicians, and families not only with respect to the money management competence of children, but the socialization process involved. To help understand the process of socializing children with respect to money management, this study will address such issues as: (1) Is money management a gender specific activity for the parents? (2) Do parents teach children differently based on gender? (3) Is there a gender difference in the money management competence of children?

Figure 4

Child's Money Management Competence Model



METHODOLOGY

Sample

The sample set for this study consists of eighty-six families, forty-three with a fourth grade daughter and forty-three with a fourth grade son. Parameters for participating in the study included having both the biological mother and father living in the home, one fourth grade student (target child), and at least one other sibling (target sibling). Single or step-parent families were excluded from the study as the roles experienced in these families may be altered due to the family composition. The study was conducted in Linn and Benton Counties in the state of Oregon and was part of a larger three year research project conducted by Doctor Samuel Vuchinich investigating family dyadic and triadic relationships. Approximately 20% of the families contacted volunteered to participate in the study. As these families were volunteers the sample was not considered to be a random sampling of the population. Data for this dissertation were compiled from information provided in the second year of the study.

Selection of the Sample

School districts in Linn and Benton Counties of Oregon were contacted and permission secured from each to conduct this study. School district representatives were provided

with material and asked to mail them to each of the families of fourth grade students in their districts (See Appendix A). Those families meeting the criteria above and expressing interest in participation in the study returned a form to the researchers. Every family that responded was contacted by a research assistant to verify that the family met the criteria for participation in the study. Those who were deemed qualified were accepted as part of the study.

Collection of Data

The study was conducted over a three year period, with multiple visits to each family during the first and third years and a mail survey being taken in the second year of the study. As information for this study is based primarily on the information generated by the mail survey, only that information will be discussed. At approximately the one year anniversary of the initial interview (children now being in the 5th grade), a set of questionnaires was sent to each family. The parents each received a copy of identical questionnaires and were asked to complete them independently. The target child's survey document was different from that of his/her parents' and like the parents he/she was instructed to complete it independently (See Appendices B and C). The child's survey document was designed to determine his/her knowledge of money management activities. The parents' questionnaires were designed to

ascertain information on the family's financial management practices, demographics, socioeconomic status, and familial characteristics such as adaptability and cohesion. Each family was paid \$15 for participating in this part of the study. All data were collected between March of 1991 and May of 1992.

Survey Instruments

The questionnaires consisted of different sets of questions used to ascertain a child's money management competence, as well as factors that influence the family's efforts to socialize the child's money management activities. Information from the child's survey document can be characterized as providing information about the child's financial management (See Appendix B). Prior to its use in this study the child's questionnaire was administered to a test group of 28 fourth grade students in the Corvallis School District, to ensure understandability and age appropriateness. Changes in the wording of questions were made to reflect the findings of this pretest. The parents' instrument was used to secure information about three general categories: (a) socioeconomic status and demographic information, (b) inter-family dynamics of adaptability and cohesion, and (c) relevant parental financial management practices (See Appendix C).

Dependent Variable

Child's money management competence

The Child's Money Management Competence scale (CMMC) is a combination of three scales designed to ascertain different aspects of the child's money management capabilities (See Table 25 in Appendix D). The three areas were the child's knowledge of day-to-day financial activities (CKS) (See questions 7, 10, 14, 16, and 17, Appendix B); the parents' assessment of the child's spending practices (PCSPS) (See questions 21 a, b, c, d, e, and q, part 6, Appendix C); and the parents' assessment of the child's saving patterns (PCSVS) (See questions 21 f, g, h, l, m, n, part 6, Appendix C). Three statistical procedures were employed to determine the suitability of these components in the construction of a scale representing the CMMC. The analysis of the data was facilitated by using the Statistical Package for Social Sciences (SPSS/PC+) computer software (the personal computer version) (Norusis, 1986).

The first statistical procedure was factor analysis. Factor analysis is a commonly used technique to ascertain the degree of association each component or factor has with one underlying construct (Hedderon, 1991). The principal components extraction method of factor loading analysis was used in the determination of the scale. The principal components method calculates a factor that will explain

(load) the maximum variance in the underlying construct (Hedderon, 1991). A factor loading score, which can be considered as the correlation between a variable and the respective factor, is used to determine the strength of the relationship. A factor load score with an absolute value of .4 or more is generally considered to load highly enough to be considered part of a scale (Bailey, 1987). Factor load scores for each of the three factors (i.e, CKS, PCSVS, and PCSPS) were .4542, .8442, and .8229 respectively. All three were in excess of .4, indicating that they were appropriate for use in a CMMC score (See Table D 25 in Appendix D).

As the principal component method usually explains all the variance only when there are as many factors as there are variables, a second statistic known as the eigenvalue is meaningful. The eigenvalue is the between-groups variance divided by the within-groups variance and is one statistic used for evaluating the worth of a scale in predicting the underlying construct. An eigenvalue of 0 means that the variables have no value in predicting the factor, whereas an eigenvalue of above 1.00 is considered to be a good indication of the suitability of the variables (Hedderon, 1991). The eigenvalue for these three factors was 1.5962, indicating these variables were relatively strong predictors of the CMMC score. Furthermore, the eigenvalue divided by the number of variables loaded into the scale indicates the percent of variance explained by the combined factors. In

this case 52.2% (1.5962/3) of the variance in the CMMC is explained by these three factors (See Table 25 in Appendix D).

A third statistic used to ascertain the reliability of a scale is Cronbach's Alpha. It is based on the "internal consistency" of the test and calculates the proportion of total variation that is due to variation between individuals in the phenomenon being measured within the scale (Devillis, 1991). The closer the Cronbach's Alpha score is to 1.00 the more reliability exhibited by the scale. However, Devillis (1991) indicates that scores as low as .60, while not as desirable as a higher score, are useable. The Cronbach's Alpha for the scale was calculated to be .60, indicating that it was acceptable (See Table 25 in Appendix D).

The three statistics used to evaluate the reliability of the scale indicate that the CKS, PCSVS, and PCSPS were usable as a scale. To compute an individual respondent's factor scale score one selects the score arrived at on each variable, multiplies that score by its factor loading score and sums them for all the variables (i.e., $.4542 \times \text{CKS} + .8442 \times \text{PCSVS} + .8229 \times \text{PCSPS}$) (Bailey, 1987). The development of each of the three subscales from which the CMMC was derived (CKS, PCSVS, and PCSPS) are discussed in Appendix E. Possible scores ranged from a low of one to a high of 15, with 15 indicating a higher CMMC than a one (See Table 26 in Appendix D).

Independent Variables

Family's social status scale

Studies over the years have shown that parents of different social classes have different ways of seeing themselves and their children. It has been found, for example, that mothers and fathers of the working-class hold more closely to traditional concepts of parenting than do middle-class and upper-class parents (Duvall, 1977). However, while it has been recognized that social status is an important indicator of how parents will raise their children, measuring it is fraught with pitfalls because of the subjective nature of many traditional measures. Thus, in order to develop a broad and accurate measure of the family's social status a three part social status scale was developed using family income, mother's education, and father's education as variables; these were combined to make a family social status scale (See Appendix C).

The income reported by each family was placed in one of seven general categories:

- (1) less than \$10,000
- (2) \$10,000 to \$19,999
- (3) \$20,000 to \$24,999
- (4) \$25,000 to \$29,999
- (5) \$30,000 to \$39,999
- (6) \$40,000 to \$50,000
- (7) more than 50,000.

In addition, the Hollingshead (1975) method was used to divide educational achievement into seven general categories:

- (1) less than seventh grade
- (2) 7, 8, and 9th grade (junior high school)
- (3) 10th and 11th grade (partial high school)
- (4) 12th grade (high school graduate)
- (5) partial college (at least one year)
- (6) standard college or university graduation
- (7) graduate professional training (graduate degree)

These variables were analyzed using the aforementioned factor analysis techniques. Income, father's education, and mother's education had factor loads of .7013, .8362, .8012 respectively, which are all in excess of the minimum requirement to be considered as components of a single scale (.4). The eigenvalue was 1.8332, in excess of 1.00, here again indicating the appropriateness of using the three variables. The three variables explain about 61.1% of the variation in social status, and the scale was found to be reliable with a Cronbach's Alpha score of .6579 (See Table 30 Appendix D). Scale scores were determined by multiplying the individual item score by the factor loading coefficient (i.e., $.7013 \times \text{income scale score} + .8362 \times \text{father's educational scale score} + .8012 \times \text{mother's educational scale score}$). Possible scale scores ranged from

5.54 to 16.37, with a higher score indicating a higher family social status (See Table 31 Appendix D).

The family life stage scale

Families develop along a continuum that can be viewed as a flow or spiral during which certain developmental tasks are performed. During each of these spirals or stages certain life tasks are performed; for example, Olson et al. (1983) identify seven stages of the family life cycle. During each of these stages specific tasks are undertaken and performed. These tasks can be described as happening in one of three general spheres simultaneously: (1) tasks are centered on each parent as an individual (i.e., career development, life experiences, and physical changes); (2) tasks are centered on the couple relationship (i.e., development of couple goals, mutually acceptable lifestyles, couple maintenance); and (3) tasks are centered on the care of children (i.e., care and nurturing, education and socialization, and preparing the teenager to be launched from the home). The three spheres serve to explain not only the distinct different demands being placed on the family, but also provide perspective on how families view and react to those demands.

A multiple factor scale was developed to measure the family life stage scale (FLS). The factor variables used to compute the FLS were the mother's age, father's age, years

married, and average age of the children. These four factors were evaluated using factor analysis to determine if they were significantly enough correlated to use as a single scale. The factor loading scores of all four components were found to load onto a single scale with correlations in excess of .78 (.7810 for children's average age, .8672 for father's age, .8502 for mother's age, and .8424 for years married). The eigenvalue was 2.7946 well in excess of the score of 1.00 generally assumed necessary to consider the group as an indicator of a single scale. In addition, these variables explained approximately 69.9 percent of the variance in this single scale. A Cronbach's Alpha score of .8331 was calculated from the data, and thus there was a strong enough relationship to consider these four as significant in determining a single scale for the measurement of the FLS (See Table 32, Appendix D). The scale score then was derived by multiplying each of the subscale scores by its appropriate factor load score and then summing the four scores together (.7810 X children's average age + .8671 X father's age + .8502 X mother's age + .8424 X number of years married) (See Table 33, Appendix D).

Gender of the child

Gender of the child recognizes that families are not the only influencers of the child, but that society can influence the child's gender specific activities as well.

Family adaptability and cohesiveness scale (Faces III)

The Faces III Scale designed by Olson et al. (1985) was used to measure the family's adaptability and cohesion. The instrument provides a way to measure a family's distance (difference) from the norm (expected) values for each parameter (e.g., cohesiveness and adaptability). The model proposed by Olson et al. (1985) suggests that balanced families will have more positive communication skills than extreme families. By measuring a family's distance from the center one obtains a measure of the family's balance. The family's distance from the center score is calculated by taking the square root of the parents' average cohesion score minus 37.8 (the center of the cohesion scale) squared plus the average of the parents' adaptability scores minus 24.3 (the center of the adaptability scale) squared (i.e., $[(\text{cohesion score} - 37.8)^2 + (\text{adaptability score} - 24.3)^2]^{1/2}$) (Olson et al., 1985). As the score is linear it is appropriate for use in correlation analysis. However, a difficulty in this model develops because the family's distance from the center score does not indicate the direction from the center. This leaves one with the inability to predict on which side of the center one would expect a lower score. Thus, using the scale allows one to make inferences only about the magnitude of the distance from the center and not about the direction of that difference. The Faces III scale has a Cronbach's Alpha of

.77 for cohesion, and .62 for adaptability, and .68 for the total scale (See Table 34, Appendix D). In addition, the cohesion and adaptability scales correlate orthogonally at .03 (Touliatos, Perlmutter, & Straus, 1990). This scale is accepted by many researchers as it has been used in over 200 research projects.

Mother's working status

A relatively simple scale was developed to ascertain the affect that a mother's working status would have on the CMMC score. A score of three was assigned to mothers working full time, a two to mothers working part time, and a score of one to mothers who did not work outside the home. It could be theorized that a mother who did not work outside the home would have more contact with her children, possibly allowing for more formal instruction and certainly more opportunity for the child to observe parental financial management in progress (See Table 6).

Child's income

Each child was asked to report the amount of money they received in a week. Characteristically, the amount of money the parents gave the child seemed to have some effect on their effort to instruct the child in money management (See Table 5).

Parental socializing effort scale

The Parental Socializing Effort Scale (PSES) was developed from information provided by the parents. This scale was used to determine the amount of time parents spent teaching their child about financial matters. It was hypothesized that not only the amount of time spent teaching, but the frequency of conversations as well as the number of financial concepts or content of those discussions would be important in developing money management competence in children. A scale was developed to measure each of the three components (one for frequency of conversations, one for duration or length of time allocated to talking about money, and one to measure the number of different financial management concepts discussed). Upon completion of the component scales, factor analysis was used to determine if the three component scales could be combined and used confidently as a measure of one underlying variable (PSES). As before, the principal components extraction method was employed to determine the scale. Factor load scores for the subscales were as follows: frequency scale was .7893, duration scale was .8539, and the content scale was .8107. All three were in excess of .4, indicating there was significant enough evidence to use them to determine the PSES score. The eigenvalue for these three factors was 2.0093, showing that these variables were strong predictors of the PSES score. Furthermore, the eigenvalue divided by

the number of variables loaded into the factor indicates the percent of variance explained by the combined factors was 67.0% (2.00932/3). The reliability as evidenced by the Cronbach's Alpha score of .7513 was found to be acceptable (See Table 35, Appendix D). To compute an individual respondent's total score or factor score, one multiplies the score arrived at on each scale by the factor loading score for the respective item and sums them (e.g., .7893 X frequency scale + .8538 X durations scale + .8107 X content scale) (See Table 36, Appendix D).

Parental money management behavior scale

This scale was developed to ascertain how parents in each individual family attempt to manage their financial affairs. Preliminary indications from current literature suggested that money management in families tended to be divided between the spouses (Ferber & Lee, 1973; Pahl, 1983; Fitzsimmons, 1987). This implies that a division of labor concept is employed by families whereby certain tasks are completed by the wife, while other tasks are the responsibility of the husband. For the purposes of this study, tasks were assigned to one of two categories:

(a) tasks that dealt with future behavior, designated as long-term activities (i.e., savings, investments, long range financial planning, and major purchases); (b) tasks that involved day-to-day management, designated as short-term

activities (i.e., day-to-day money management, entertainment decisions). It is important to consider these tasks because children have the opportunity to observe their parents performing them and, depending on the gender of the parent responsible for that task, interpret them to be gender specific. Both types of tasks are fundamental to good financial management and, therefore, should be taught to children.

A five point ordinal scale was developed to ascertain the amount of responsibility of the mother in both the long-term and short-term financial behavior of the family:

- (1) mother only - approximately 100% mother's responsibility
- (2) mother mostly - < 100% but > 50% mother's responsibility
- (3) jointly - about 50% mother's responsibility
- (4) father mostly - < 50% mother's responsibility, but > 0%
- (5) father only - about 0% mother's responsibility.

When using an ordinal scale it is not the magnitude of difference between the elements that is important, but the ability to establish the existence of a hierarchal order (Blalock, 1979). The interpretation of the scale score indicates that the lower the family scores on the scale the more responsibility will be carried by the mother for financial management in the family (See Tables 37 - 40, Appendix D).

Parents' short-term money management

A scale was developed by examining the husband's and the wife's responses to the questions: (1) Who in your family is most responsible for money management decisions on a day-to-day basis? and (2) Who in your family is most responsible for decisions on how much money is spent on entertainment (See Appendix C, part 4, question 12). Both spouses were asked to indicate which one of five possible responses most closely described who in their household was responsible for particular money management tasks. Responses were assigned scores in the following manner: one for wife only, two for mostly wife, three if they were equally responsible, four for mostly husband, and five for husband only. The responses of the husband and wife were then evaluated using factor analysis to determine if they could be used to define one single factor (e.g., short-term money management).

The scale had a Cronbach's Alpha of .6860, an eigenvalue of 2.0674, and described about 51.7% of the variance associated with the scale. In addition, the following factor loading scores were determined: .8072 for father's day-to-day money management, .8034 for mother's day-to-day money management, .5580 for father's entertainment response, and .6776 for mother's entertainment response (See Table 37, Appendix D). The parents' short-term money management scale score was then calculated by

multiplying each spouse's response by its factor loading score and then adding them together (See Table 38, Appendix D).

Parents' long-term money management

The procedure for determining long-term money management was similar to that used for short-term money management. Parents were asked to respond to two questions that ascertained who was most responsible for long-term money management in the family (See Appendix C, part 4, question 12). The questions were scored in the following manner: one for wife only, two for mostly wife, three if they were equally responsible, four for mostly husband, and five for husband only. Responses were evaluated using factor analysis with factor loading weights of .6961 for father's long-term planning, .8519 for mother's long-term planning, .3286 for father's major purchases, and .6468 for mother's major purchases. The data provided an eigenvalue of 1.7367 and explained 43.4% of the variance associated with long-term money management. The Cronbach's Alpha for this scale was .5508, which is below what is felt to be adequate, but because the data were consistent with existing research it was determined that the scale was usable (See Table 39, Appendix D). The parents' long-term money management scale score was then calculated by summing the

products of each of the spouse's responses multiplied by their appropriate factor loading score (See Table 40).

None of the scales developed used a factor rotation process in the development of factor loading scores. This was because four of the six scales loaded only a single factor, while the remaining two scales (parent's long- and short-term money management scales) were not significantly improved by rotating them.

Statistical Analysis

Statistical measures and procedures used to analyze the data for this study included Guttman scaling, factor analysis, t-test, paired t-test, analysis of variance, correlation analysis, path analysis, and Kendall's tau-c. The statistical analyses were facilitated by the use of the statistical software program SPSS/PC+ (Norusis, 1986).

Data analysis consisted of three general areas of focus:

(1) Guttman scales and factor analysis were employed in the development of scales to insure reliability (See Appendix E). (2) T-tests were performed in order to analyze the questions with respect to gender based differences. When comparing gender differences on information provided by the child's parents, paired t-tests were used to ascertain if there were differences between them. In addition, large-sample procedures for testing hypotheses about the mean were employed to determine whether the data indicated specific

trends. (3) Correlation analysis and path analysis were employed when addressing questions regarding the proposed model for the family's influence on the child's money management competence, said influencers being family's social status, family's stage in life, family's adaptability and cohesiveness, gender of child, parents' money management behavior, and parental socializing effort (See Figure 5).

For the purposes of statistical tests regarding the specific research objective question of whether there are gender based differences in the competence of financial management in children, the following hypotheses are in the null form and tested using either t-tests or paired t-tests.

H₀1A: There is no gender difference in the children's money management competence score.

H₀1B: There is no difference between the father's and mother's assessments of the child's:

- a. spending practices
- b. savings practices

H₀1C: There is no gender difference in the parents' socializing effort scale score.

To explore parental money management behavior the following hypotheses were tested using either a t-test or a paired t-test stated in the null form.

- H₀2A: There is no difference between spouses' assessments of which of them is responsible for
- a. day-to-day money management decisions
 - b. how money is spent on entertainment
 - c. major purchase decisions
 - d. savings and investment planning decisions
- H₀2B: Decisions with respect to the following variables are a joint responsibility (i.e., H₀2B: M = 3.)
- a. short-term money management
 - b. long-term money management.

Analysis of variance procedures were used to address questions regarding the influence gender specific parental money management behavior had on the money management competence of the child. Specifically, the following null hypotheses were tested:

- H₀2Ca There is no interaction between which parent performs short-term money management and gender of the child with respect to the child's money management competence.
- H₀2Cb Which parent performs short-term money management has no effect on the child's money management competence.
- H₀2Cc There is no interaction between who makes the decisions regarding long-term money management and gender of the child with respect to their money management competence.

H₂Cd Which parent performs long-term money management has no effect on the child's money management competence.

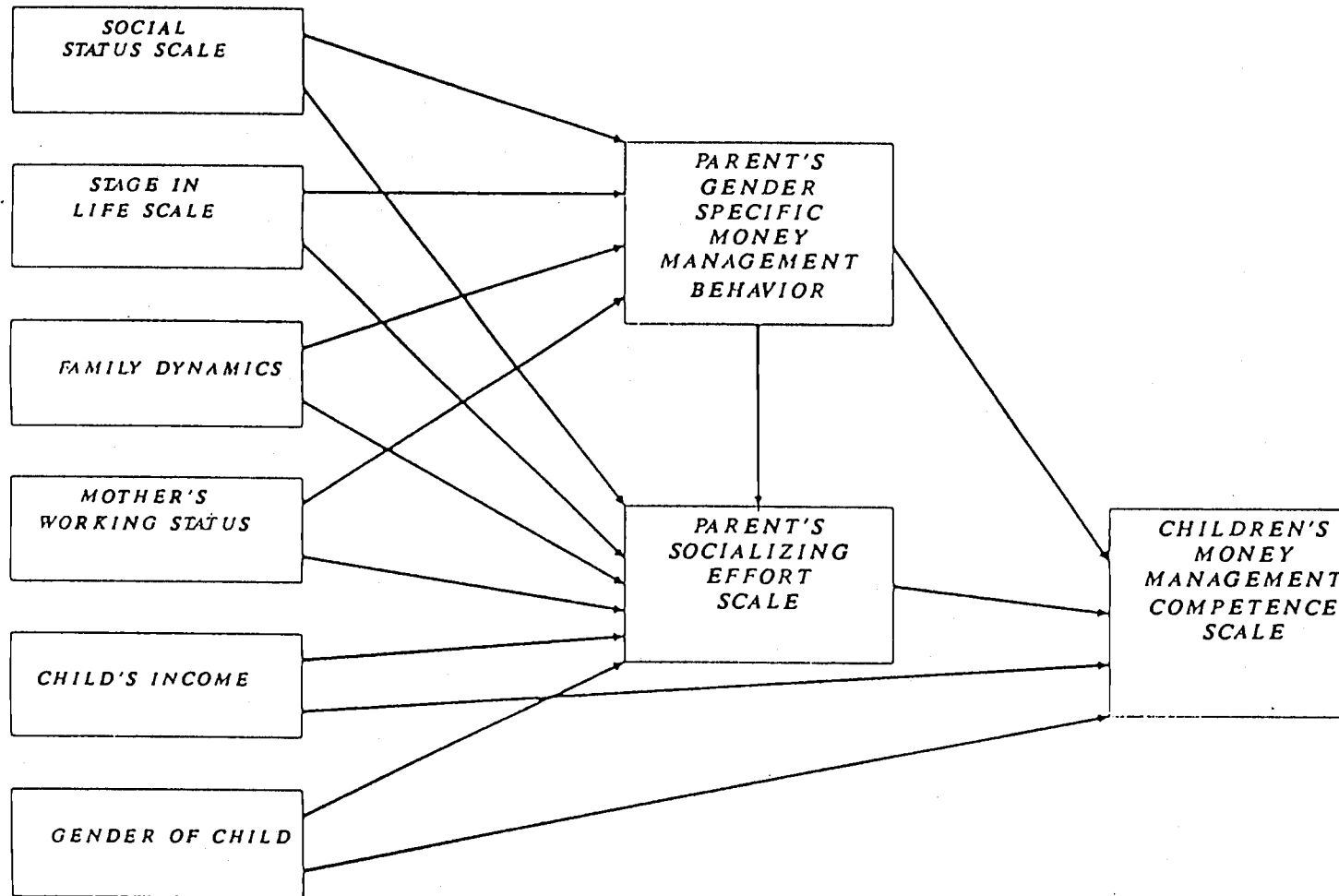
Lastly, to address questions regarding the family's influence on the child's money management competence, path analysis was employed. Path analysis consists of a series of ordinary least squares regression equations performed on each variable separately to estimate its direct effect on the output. Path analysis not only answers such questions as "how does exogenous variable X affect endogenous variable Y?" but also "how much does mechanism Z (an intervening variable) modify the effect of X on Y?" (Godwin & Carroll, 1986).

Limitations

The major limitation of this study lies with the fact that it is a controlled study and as such the ability to generalize the results to the population of fourth grade children and their parents is compromised. This limitation comes from three major areas: (a) the design of the study, which allowed only families whose parents were both the biological parents of the children, (b) the requirement for more than one child in the home, and (c) the lack of ethnic diversity in the sample set. Thus, the ability to generalize beyond the sample set may be somewhat problematic.

Figure 5

Child's Money Management Competence Model



STUDY RESULTS

This study was conducted to determine, first, if there are gender differences in children's financial management competencies; second, to ascertain relevant parental financial behavior that may affect the child's financial management socialization; and third, to test the validity of a proposed model with respect to the financial management socialization process employed by families. This chapter will include the findings with regard to the previously mentioned objectives, including a discussion of sample characteristics, hypothesis testing, and model testing.

Sample Characteristics

The target population for this study was families living in Linn and Benton Counties, in the state of Oregon who had at least one child in fourth grade at the time of first contact. Additional requirements were that each family have more than one child, both parents live in the home, and both parents be the biological parents of the children. Descriptive statistics of families in this study include: the ages of the mother, father, target child, and mean age of the family's children; the educational attainment of the mother and father; the combined income of the mother and father; the employment status of the mother; the number of years the parents have been married; the

number of children in the family; the adaptability and cohesion of the family; the frequency, duration, and content of parent/child money management discussions; and the money management behavior of the parents.

Age

As indicated there are four relevant age categories (target child's age, mother's age, father's age, and mean age of the family's children). All the target children were students in the fourth grade at the time of first contact. Information for this study was gained approximately one year after the initial contact. Data indicated that 64% (55) of the children were age 10, 34.9% (30) were age 11, and 1.2% (1) were age 12.

For the purposes of this study the fathers' and mothers' ages were placed in one of five age groups rather than being considered chronologically. The percentages of fathers in the respective age groupings were as follows: 7% were age 31 or younger, 24.4% were between ages 32 and 35, 36% were between ages 36 and 39, 18.6% were between ages 40 and 43, and 14% were 44 years of age or older. The mean age of the fathers was found to be between 36 and 39 years (See Table 1).

The mothers' ages were as follows: 18.6% were age 31 or younger, 27.9% were between the ages of 32 and 35, 30.2% were between the ages of 36 and 39, 20.9% were between the

ages of 40 and 43, and 2.3% were age 44 or older. The mean age of the mothers in the study was also found to lie between 36 and 39 years of age (See Table 1).

Table 1

Age of Participating Parents

AGE CATEGORY	FATHER'S AGE		MOTHER'S AGE	
	Frequency	Percent	Frequency	Percent
31 or Younger	6	7.0	16	18.6
32 to 35	21	24.4	24	27.9
36 to 39	31	36.0	26	30.3
40 to 43	16	18.6	18	20.9
44 or older	12	14.0	2	2.3
TOTAL	86	100	86	100

Also of importance to this study was the mean age of all the families' children. The mean age of all the children in a family was calculated and then the families were placed in one of five groupings according to the mean age results (See Table 2). The following results were obtained from the data: 12.8% of the families were found to have children with a mean age of six years or less, 34.9% had a mean age between seven and eight, 22.1% were ages nine and ten, 19.8% were age 11 or 12, and 10.5% had a mean age

of 13 or more. The mean age category for the study participants was ages nine and ten.

Table 2

Mean Age of Family's Children

MEAN AGE CATEGORY	FREQUENCY	PERCENT
6 years or less	11	12.8
7 to 8 years	30	34.8
9 to 10 years	19	22.1
11 to 12 years	17	19.8
13 or more years	9	10.5
TOTAL	86	100

Parents' education level

There was a very high degree of educational attainment among the parents in this study. Fully 40.7% of the fathers and 25.6% of the mothers had at least a Bachelor's degree. Furthermore, 96.5% of the fathers and 97.7% of the mothers had graduated from high school. Only one parent reported having less than a seventh grade education (See Table 3).

This level of educational attainment is very high compared to the average level of education found in the municipalities of the study. For example, an average of 81.1% of Albany's adult population has graduated from high

school; Sweethome's average is 61.4%, Monroe's average is 64.7%, and Philomath's average is 78% (Bureau of the Census, 1990). Thus, the education level for the participants in this study was found to be considerably higher than the general population of the area within the study boundaries. A possible explanation for this may be found in connection with the self-selection process used to identify participants. It could be assumed that those with more formal education may have more confidence in their parenting ability and, therefore, would be more likely to express interest in participating in such a study.

Table 3

Parental Education Attainment

EDUCATION CATEGORY	FATHERS' EDUCATION		MOTHERS' EDUCATION	
	Frequency	Percent	Frequency	Percent
Less than 7th grade	1	1.2	0	0.0
10th or 11th grade	2	2.3	2	2.3
High school graduate	24	27.9	22	25.6
Partial college	24	27.9	40	46.5
College degree	19	22.1	12	14.0
Graduate degree	16	18.6	10	11.6
TOTAL	86	100	86	100

Income

Families in the study were found to have a mean annual income of \$39,040. This is higher than the average family income of \$35,449 for Benton County and \$29,421 for Linn County (Bureau of the Census, 1990). Here again the self-selection process may have influenced families with higher incomes to participate in the study. The incomes of families were categorized into seven groups and are summarized in Table 4 below.

Table 4

Family's Income

INCOME CATEGORY	FREQUENCY	PERCENT
Less than \$10,000	1	1.2
\$10,000 to \$19,999	7	8.1
\$20,000 to \$24,499	8	9.3
\$25,000 to \$29,999	18	20.9
\$30,000 to \$39,999	17	19.8
\$40,000 to \$49,999	15	17.4
\$50,000 or more	20	23.3
TOTAL	86	100

In addition to the family's income, it was fundamental to the study to establish the income of each target child. Each child was asked to report the amount of money he/she received in a week. The mean income of the target children was \$2.44 with a range extending from a minimum of \$0.00 to a maximum of \$15.00 (See Table 5). The amount of money the child received was not attributable to the gender of the

child as there was not a statistically significant difference between them.

Table 5

Child's Income

INCOME CATEGORY	FREQUENCY	PERCENT
\$0.00	16	18.6
\$0.01 to \$1.99	19	22.1
\$2.00 to \$3.99	27	31.4
\$4.00 to \$5.99	13	15.1
\$6.00 to \$7.99	2	2.3
\$8.00 to \$9.99	0	0.0
\$10.00 or more	3	3.5
Missing Data	6	7.0
TOTAL	86	100

Parents' employment status

The data revealed that 88.4% of the fathers were employed full time, 2.3% were employed part time, and 9.3% were unemployed. Almost half of those unemployed were not employed because they were full-time students. The majority (69.8%) of the mothers were employed outside the home, which

is slightly higher than the county averages of 56.2% for Benton and 51.1% for Linn (Bureau of the Census, 1990). Mothers were about equally divided between not being employed outside the home (30.2%), part-time employed (38.4%), and full-time employed (31.4%) (See Table 6).

Table 6

Parents' Employment Status

EMPLOYMENT CATEGORY	FATHERS' EMPLOYMENT STATUS		MOTHERS' EMPLOYMENT STATUS	
	Frequency	Percent	Frequency	Percent
Not employed outside the home	8	9.3	26	30.2
Employed part time	2	2.3	33	38.4
Employed full time	76	88.4	27	31.4
TOTAL	86	100	86	100

Number of years married

The average number of years parents had been married was 13.33 years, 19.8% of the families were married 10 or less years, and only 8.1% had been married for more than 20 years (See Table 7). The length of marriage was impacted considerably by the requirements that both parents be the biological parents of the child and that at least one of their children be in the fourth grade.

Table 7

Number of Years Married

YEARS MARRIED CATEGORY	FREQUENCY	PERCENT
10 Years or less	17	19.8
11 to 13 Years	23	26.7
14 to 16 Years	25	29.1
17 to 19 years	14	16.3
20 or More Years	7	8.1
TOTAL	86	100

Number of children

As seen in Table 8 the mean number of children was 2.9 for each family. By design the minimum number of children was two, but families were not limited to that number, in

fact, over 57% had more than two children. The maximum number of children was six with two families having that many. The participating families had a total 247 children of which 119 were girls and 128 were boys (See Table 8a). The primary focus, however, was on information from and about the target children (43 girls and 43 boys).

Table 8

Number of Children Per Family

NUMBER OF CHILDREN CATEGORY	FREQUENCY	PERCENT
2	37	43.0
3	31	36.0
4	12	14.0
5	4	4.7
6	2	2.3
TOTAL	86	100

Table 8a

Number of Children by Gender

NUMBER OF CHILDREN CATEGORY	NUMBER OF GIRLS PER FAMILY	PERCENT	NUMBER OF BOYS PER FAMILY	PERCENT
0	20	23.3	15	17.4
1	26	30.2	33	38.4
2	30	34.8	22	25.6
3	8	9.3	13	15.1
4	1	1.2	3	3.5
5	1	1.2	0	0.0
TOTAL	86	100	86	100

Family characteristics

Each family's adaptability and cohesiveness was measured by the use of the FACES III scale developed by Olson et al. (1985) (See Appendix C, part 1). The instrument provides a way to measure a family's distance (difference) from the center (balanced value) for the two parameters (cohesiveness and adaptability). The model proposed by Olson et al. (1985) suggests that balanced families will have more positive communication skills than extreme families. By measuring a family's distance from the center, one obtains a gauge of the family's balance. The data indicated that 30.2% fell within the balanced range, 50% were considered in the mid-range, and 19.8% were in the extreme range (See Table 9). Olson et al. (1985) suggested that in a representative sample of a normal population one would find 44% of the couples in the balanced range, 44.3% in the mid-range, and 11.7% in the extreme range.

Table 9

Family Cohesion and Adaptability Scale

SCALE CATEGORY	Frequency	Percent	EXPECTED PERCENT
Balanced	26	30.2	44.0
Mid-range	43	50.0	44.3
Extreme	17	19.8	11.7
TOTAL	86	100	100

Parent/child money management discussions

The parental money management socializing scale consists of three components: frequency (how many times in a month), duration (length of time spent talking), and content (number of subjects covered). The results summarized in Table 10 indicate that the majority of the families (73.2%) spent less than five hours per month in financial management discussions with their child. Of these, 17.4% of parents and children spent less than one hour per month talking about money management. Interestingly, 10.5% spent more than nine hours per month talking about money management.

Table 10

Amount of Time Spent by Parents and Children in Money Management Discussions Per Month

DURATION OF DISCUSSIONS BY CATEGORY	FREQUENCY	PERCENT
< 1 hour	15	17.4
≥ 1 but < 3 hours	35	40.7
≥ 3 but < 5 hours	13	15.1
≥ 5 but < 7 hours	10	11.6
≥ 7 but < 9 hours	4	4.7
≥ 9 hours	9	10.5
TOTAL	86	100

Over 80% of the families had discussions about values (the meaning of money and setting priorities), goals (spending money wisely), and savings. About 63% talked to their child about budgeting (making a plan for spending/saving), while less than 12% talked with their child about record keeping. The bulk of the families (59.3%) had discussed at least four different subjects in the previous month (See Tables 11 and 12). The frequency of conversations about money management ranged from a low of two times in the last month to a high of 22 times, with the mean being 11.27 times (See Table 13).

Table 11

Number of Money Management Subjects Discussed Per Month

NUMBER OF SUBJECTS DISCUSSED BY CATEGORY	FREQUENCY	PERCENT
1 Subject	3	3.5
2 Subjects	13	15.1
3 Subjects	19	22.1
4 Subjects	23	26.7
5 Subjects	22	25.6
6 Subjects	6	7.0
TOTAL	86	100

Table 12

Number of Families Discussing Money Management
by Subject Per Month

SUBJECTS DISCUSSED BY CATEGORY	FREQUENCY	PERCENT
Values	69	82.1
Goals	70	83.3
Savings	69	82.1
Safe-keeping	50	58.1
Budgeting	54	62.8
Record keeping	10	11.6

Table 13

Frequency of Parent/Child Money Management Discussions Per
Month

FREQUENCY OF DISCUSSIONS BY CATEGORY	FREQUENCY	PERCENT
4 or less times	7	8.1
5 to 8 times	21	24.4
9 to 11 times	15	17.5
12 to 14 times	17	19.8
15 to 19 times	19	22.1
over 19 times	7	8.1
TOTAL	86	100

Parental money management behavior

Parents were asked who in their family was most responsible for actually performing four specific money management tasks (day-to-day money management, money spent on entertainment, major purchase decisions, and investment and savings decisions) (See Table 14). Both parents indicated that in 45.4% of the families the mother was either totally or mostly responsible for day-to-day money management, while only 3.5% of the families reported that it was only the father's responsibility. They indicated that 19.8% of the fathers were mostly responsible for long-term savings and investments, 52.3% decided jointly, and only 1.2% of the families indicated that the mother was responsible for investments and savings. This provides evidence that in these families the mother tends to be the one responsible for the day-to-day money management and that the father tends to be more responsible for savings and investment activities. The other two financial management tasks (entertainment decisions and major purchases) were less clearly defined, with the majority, 56.9% for entertainment and 72.1% for major purchases, indicating it was a joint responsibility. However, in those families where it was not a joint responsibility there was some indication that entertainment tended to be the mother's responsibility (31.4% of the families indicated it was mostly the mother's responsibility compared to 11.7%

feeling it was the father's responsibility). While, on the other hand, if major purchases were not a joint responsibility, only 2.3% indicated it was the mother's responsibility compared to 25.6% indicating it was mostly the father's responsibility.

Table 14

Parental Money Management Behavior

ACTIVITY BY CATEGORY	DAY-TO-DAY MONEY MANAGEMENT	ENTERTAINMENT DECISIONS	MAJOR PURCHASE DECISIONS	SAVINGS AND LONG-TERM INVESTING
Wife only	39 (45.4%)	7 (8.1%)	0	1 (1.2%)
Wife mostly	10 (11.6%)	20 (23.3%)	2 (2.3%)	8 (9.3%)
Jointly	23 (26.7%)	49 (56.9%)	62 (72.1%)	45 (52.3%)
Husband mostly	11 (12.8%)	6 (7%)	17 (19.8%)	15 (17.4%)
Husband only	3 (3.5%)	4 (4.7%)	5 (5.8%)	17 (19.8%)
TOTAL	86 (100%)	86 (100%)	86 (100%)	86 (100%)

Hypothesis Testing

T-test procedures were used to analyze the first set of research questions, which are centered on gender based differences in the child's money management competence. For all hypotheses tested the .05 level was used to test significance.

Gender based money management differences

H₀1A: There is no gender difference in the child's money management competence scale score.

The analysis of data as reported in Table 15 indicated that the t-test statistic for the difference in girls' mean score and the boys' mean score was -1.71. One can thus conclude that the data did not support that there is a difference between girls' and boys' money management competence; therefore hypothesis H₀1A is retained.

H₀1A1: There is no gender difference in the child's knowledge scale score.

The analysis of data as reported in Table 15 indicated that with a P-value of 0.547 there would not be support for a conclusion that there was a difference between girls' and boys' mean knowledge scale scores; consequently hypothesis H₀1A1 is retained.

H₀1A2: There is no gender difference in the child's perception of the child's savings scale score.

The analysis of data as reported in Table 15 indicated that the t-value of -0.51 did not support a conclusion that there was a difference between the girls' and boys' savings scale score; thus hypothesis H₀1A2 is retained.

H₀1A3: There is no gender difference in the parent's perception of the child's spending scale score.

The analysis of data as reported in Table 15 indicated that the t-value for the gender difference in the knowledge scale score was -3.28. This provides sufficient evidence to reject the null hypothesis and conclude that there is a

gender difference in the parent's perception of the child's spending scale score; therefore H_{01A3} is rejected. The data suggests that girls are perceived to exhibit better spending behavior than boys.

H_{01Ba} : There is no difference between the father's and the mother's assessments of the child's spending practices.

With a paired t-test value of 1.26 there was not sufficient evidence to reject the null hypothesis. This suggests that there was not enough difference between the mothers' mean score (15.76) and the fathers' mean score (16.33) to conclude that there is a statistically significant difference in their assessment of their child's spending practices (See Table 15).

H_{01Bb} : There is no difference between the father's and the mother's assessments of the child's savings practices scale score.

The data as shown in Table 15 indicated that a fathers' mean score of 16.84 and a mothers' mean score of 16.20 generated a paired t-test value of 1.18. This value suggests that there was not sufficient evidence to reject the null hypothesis in favor of the alternate hypothesis.

Gender based parental socializing effort

H_{01C} : There is no difference in the Parents' Socializing Effort Scale score based on the gender of the child.

The data from the study yielded a mean score for girls of 8.58, a mean score for boys of 7.77, and a t-test value

of 1.31 (See Table 15). This data suggest that there is not sufficient evidence to reject the null hypothesis.

Therefore, in summarizing research objective one, there was not sufficient evidence to suggest that there were gender differences in children's money management competence except with respect to the parents' assessment of the child's spending behavior.

Table 15

Gender Based Differences in Child's Money Management Behavior

ITEM	MEAN VALUE		STATISTIC		P - VALUE
			T-VALUE	PAIRED T-VALUE	
H ₀ 1A (CMMC)	(Girls) 7.16	(Boys) 6.44	-1.71		.091
H ₀ 1A1 (Knowledge)	3.51	3.63	.56		.574
H ₀ 1A2 (Savings)	3.30	3.16	-.51		.614
H ₀ 1A3 (Spending)	3.09	2.40	-3.28		.002
H ₀ 1Ba (assessment of child's spending)	(Mom) 15.76	(Dad) 16.33		1.26	.211
H ₀ 1Bb (assessment of child's saving)	(Mom) 16.20	(Dad) 16.84		1.18	.242
H ₀ 1C (PSES)	8.58	7.77	1.31		.193

Parental money management behavior: assessment differences

H₀2Aa: There is no difference between spouses' assessments as to which of them is responsible for day-to-day money management decisions.

A fathers' mean score of 2.53, and a mothers' mean score of 2.47 indicates that there is not strong enough statistical evidence to support a conclusion that husbands and wives in this study do not agree on who is responsible for day-to-day money management (See Table 16).

H₀2Ab: There is no difference between spouses' assessments as to which of them is responsible for major purchase decisions.

A P-value of 0.741, a T-value of 0.33, a mean value for fathers of 3.13, and a mean value for mothers of 3.15 suggests strongly that there is not sufficient evidence to reject the null hypothesis. The conclusion is the evidence supports the hypothesis that there is no difference between parents' assessments as to which of them is responsible for major purchase decisions (See Table 16).

H₀2Ac: There is no difference between spouses' assessments of which of them is responsible for savings and investment planning decisions.

The data provided the following results: a fathers' mean score of 3.33, a mothers' mean score of 3.17, and a T-value of -2.18 (Table 16). At the .05 level of significance, the data indicated that the null hypothesis

should be rejected. One could conclude that there is a disagreement between spouses with respect to their assessment of who is responsible for savings and investment planning decisions.

H₀2Ad: There is no difference between spouses' assessments of which of them is responsible for decisions regarding how much money is spent on entertainment.

With a T-value of 1.00 there was not enough evidence provided by the data to conclude that there was a difference between the couple's assessment of who was responsible for decisions regarding entertainment (See Table 16).

Table 16

Parents' Assessment of Who is Responsible for Specific Money Management in the Family

ACTIVITY BY CATEGORY	DAY-TO-DAY MONEY MANAGEMENT	ENTERTAINMENT DECISIONS	MAJOR PURCHASE DECISIONS	SAVINGS PLANS
Mothers' mean	2.47	2.90	3.15	3.17
Fathers' mean	2.53	2.83	3.13	3.33
Paired T-value	- .95	1.00	.33	-2.18
P-value	.346	.320	.741	.032
Alpha level	.05	.05	.05	.05
Degrees of freedom	85	85	85	85

Parental money management: who is responsible

H₀2Ba: Day-to-day money management is a joint financial responsibility (i.e., H₀2Ba: M = 3.)

Using a paired t-test to evaluate if the mean score was different than the hypothesized value of 3, the following results were obtained: the two-tailed P-value was <0.001, the sample mean was 2.47, and the degrees of freedom were 85 (See Table 17). The data suggested that the null hypothesis should be rejected. The conclusion is that the mean score is different than 3. The fact that the T-value is negative further indicates that the difference is towards the lower end of the scale. Specifically, it would indicate that the mother tended to be responsible for this task as a lower scale score is associated with the mother performing this task.

H₀2Bb: Decisions with respect to major purchases are a joint responsibility (i.e., H₀2Bb: M = 3.)

A T-value of 4.41 indicates that the hypothesis be rejected in favor of the alternative hypothesis. The positive T-value further suggests that it is in the upper tail of the bell curve. Values that are in the upper tail indicate that the couple feels it is the father's responsibility to perform this task (See Table 17).

H₀2Bc: Savings and investment planning decisions are a joint responsibility (i.e., H₀2Bc: M = 3)

Once again, the T-value (4.41) indicates that the null hypothesis should be rejected. The alternate hypothesis indicates that the mean is something different than three. The positive T-value indicates that the true mean value is in the upper tail area, suggesting that the responsibility for saving and investment planning is primarily that of the father (See Table 17).

H₀2Bd: Decisions about entertainment are a joint responsibility (i.e., H₀2Bd: M = 3.)

The paired t-test resulted in a T-value of -2.46, which indicates that the null hypothesis should be rejected in favor of the alternative. The data suggested that decisions about how money is spent for entertainment are not perceived to be a joint responsibility. The negative T-value further suggests that this would likely be a task performed by the mother (See Table 17).

In summary, the data indicated that except for their assessment of who is responsible for savings and long-term investment decisions parents were in agreement on who performed specific money management tasks in the family. Furthermore, the data suggested that the four money management tasks are not performed jointly. The data suggest that day-to-day money management decisions as well as decisions regarding entertainment are more frequently the

responsibility of the mother, while the decisions about major purchases and long-term investments are more frequently the responsibility of the father.

Table 17

Parents' Assessment of Who Performs Money Management Tasks in the Family

ACTIVITY BY CATEGORY	DAY-TO-DAY MONEY MANAGEMENT	ENTERTAINMENT DECISIONS	MAJOR PURCHASE DECISIONS	SAVINGS PLANS
Accept/ reject hypothesis	Reject	Reject	Reject	Reject
Sample mean	2.47	2.91	3.15	3.17
T-value	-6.18	-2.46	4.41	4.41
P-value	<.001	.016	<.001	<.001
Alpha level	.05	.05	.05	.05
Degrees of freedom	85	85	85	85

Parental money management: effect on the child's money management

ANOVA procedures were used to determine if which parent performed a specific money management task had an influence on the child's money management competence.

H₀2C1a There is no interaction between who does day-to-day money management and the gender of the child with respect to their money management competence.

The data yielded a two way interaction effect F score of 0.801 and significance level of 0.452. This indicates that there is not strong enough evidence to support a conclusion that there is a significant interaction between who performs day-to-day money management tasks in the family and the child's money management competence (See Table 18). The next two hypotheses tested provide additional information. The first will ascertain if day-to-day money management alone has an effect on the child's money management competence, and the second will seek to determine if gender alone has an effect on the child's money management competence.

Table 18

Analysis of Variance of Child's Money Management Competence
by Parental Day-to-Day Money Management and Child's Gender

SOURCE OF VARIANCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEANS SQUARE	F	SIGNIFICANCE OF F
Main effects	18.45	3	6.15	1.60	.20
Day-to-day	7.30	2	3.65	.95	.39
Gender	11.12	1	11.12	2.91	.09
2-way interaction					
Day-to-day gender	6.15	2	3.08	.80	.45
Explained	24.60	5	4.92	1.28	.28
Residual	307.04	80	3.84		
Total	331.64	85	3.90		

H₀2C1b There is no interaction between who makes decisions regarding entertainment and the gender of the child with respect to the child's money management competence.

The calculated F statistic is 0.33 and has a significance of 0.719, which is not strong enough to reject the null hypothesis. It is concluded that who makes decisions regarding entertainment has no effect on the child's money management based on the gender of the child (See Table 19).

Table 19

Analysis of Variance of Child's Money Management Competence by Parents' Entertainment and Child's Gender

SOURCE OF VARIANCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	SIGNIFICANCE OF F
Main effects	11.93	3	3.98	1.00	.396
Entertainment	1.79	2	.90	.23	.798
Gender	10.13	1	10.13	2.58	.114
2-way interaction entertainment gender	2.63	2	1.31	.33	.719
Explained	14.55	5	2.91	.73	.600
Residual	317.08	80	3.96		
Total	331.64	85	3.90		

H₂C1c There is no interaction between who makes major purchase decisions and the gender of the child with respect to the child's money management competence.

The data suggested that there is not sufficient evidence to reject the null hypothesis (F statistic was 0.33, significance was 0.719). The conclusion is that who makes major purchase decisions has no influence on the child's money management score based on the child's gender (See Table 20).

Table 20

Analysis of Variance of Child's Money Management Competence by Parents' Major Purchase Decisions and Child's Gender

SOURCE OF VARIANCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	SIGNIFICANCE OF F
Main effects	32.76	3	10.92	3.08	.032
Major purchases	21.59	2	10.79	3.04	.053
Gender	11.17	1	11.17	3.15	.080
2-way interaction major purchases gender	2.63	2	1.31	.33	.719
Explained	48.06	5	9.61	2.71	.026
Residual	283.58	80	3.54		
Total	331.64	85	3.90		

H₂C1d There is no interaction between who makes decisions regarding investments and the gender of the child with respect to their money management competence.

An F statistic of 2.18 and an F significance of 0.120 was calculated from the data (See Table 21). This is above the .05 level of significance, and so does not suggest that the null hypotheses should be rejected. It is, therefore, concluded that there is no interaction effect upon the child's score.

Table 21

Analysis of Variance of Child's Money Management Competence by Parents' Investment Decisions and Child's Gender

SOURCE OF VARIANCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	SIGNIFICANCE OF F
Main effects	12.03	3	4.01	1.06	.372
Investment decisions	1.62	2	.81	.21	.808
Gender	10.48	1	10.41	2.75	.101
2-way interaction investment decisions gender	16.50	2	8.25	2.18	.120
Explained	28.53	5	5.71	1.51	.197
Residual	303.11	80	3.80		
Total	331.64	85	3.90		

In addition, another method was employed to verify the results of the foregoing ANOVA procedure. The data for child's money management competence and parents' money management can be viewed as two ordinal scales. It is possible to not only put each in a discrete category, but also to rank the order of the categories. A procedure was developed by M. G. Kendall for determining the amount of agreement between two ordinal scales. The formula for computing Kendall's tau-c is: $\tau\text{-}c = 2m(P-Q) / [N^2(m - 1)]$. Where (P) is equal to the number of concordant pairs (i.e., the number of times rankings agree about a pair), (Q) the number of discordant pairs (i.e., number of times rankings disagree), (m) is the smaller of the number of rows and columns, and (N) is the number of pairs involved (Norusis, 1986; Hays, 1988).

The Kendall's tau-c statistic ranges from a possible perfect correlation of 1 to a perfect negative correlation of -1, as well as producing a P-value or significance level. As one can only compare two rankings at a time, each ranking by gender must be compared to each parental money management function (See Table 22). The only correlation of significance was that who made major purchase decisions had an effect on the boys' money management competence. For boys, the Kendall's tau-c was $-.30864$, which had a significance of 0.0016 ; and for girls the tau-c was

-0.04759, which had a significance of 0.3278. This would indicate that who performed major purchase decisions had an influence on the boys' money management competence, but it had no influence on the girls'. None of the other parental money management activities showed any significant influence on the child's money management competence at the .05 level of significance. This is in agreement with the ANOVA tests reported earlier (See Table 22).

Table 22

Interaction of Parental Money Management Behavior and Child's Money Management Competence with Respect to Gender of the Child

PARENTS' MONEY MANAGEMENT ACTIVITY	GIRLS' KENDAL TAU-C	SIGNIF.	BOYS' KENDAL TAU-C	SIGNIF.
Day-to-day	.0249	.4202	-.1798	.0615
Entertainment	-.0514	.3223	.0825	.2357
Major purchases	-.0476	.3278	-.3086	.0016
Long-term investments	.0635	.3086	-.1758	.0587

Model Testing

As it was not possible with the data from this sample to develop one single scale that measured parents' money management behavior, it was necessary to develop two models (See Figures 6 and 7). The only difference in the two models is that the first uses parents' short-term money management behavior as a variable, and the second uses parents' long-term money management. Prior to addressing the models, some exploratory investigation was done to assess the degree of correlation (Pearson's Product Moment) between the variables. As Bailey (1987) indicates, Pearson's Product Moment correlation coefficients are calculated to determine if variables A and B are related. If they are,

...not only do they change in value together but, by knowing the value of one variable, we are able to make a more accurate prediction of the value of the other variable (Bailey, 1987, p. 45).

In the first model using parents' short-term money management as a variable and a .05 level of significance, the following variables were found to correlate:

- (a) social status scale and stage in life scale,
- (b) stage in life and child's Income,
- (c) stage in life and parents' socializing effort,
- (d) mother's working status and parents' short-term money management,
- (e) child's income and parents' socializing effort,

- (f) child's income and child's money management competence (See Table 23).

In the model using parents' long-term money management as a variable, it was determined that the following variables were significantly correlated:

- (a) social status scale and stage in life scale,
- (b) stage in life scale and child's income,
- (c) child's income and parents' socializing effort,
- (d) child's income and child's money management competence,
- (e) gender of child and child's money management competence (See Table 24).

This suggests that if you know one of the variables then you can use those data to predict the value of the second.

To address questions regarding the independent variables' influence on the child's money management competence, path analysis was employed. The influence here referred to encompasses family's social status, family's stage in life, family's adaptability and cohesiveness, gender of child, parents' long-term money management behavior, parents' short-term money management behavior, child's income, and parental socializing effort. As was stated earlier, the inability to develop a single parental money management scale necessitated the use of two models, one for parental short-term and one for parental long-term money management.

Table 23

Correlation Coefficient Matrix of Dependent and Independent Variables With Parents' Short-Term Money Management

CORRELATIONS	SOCIAL STATUS SCALE	STAGE IN LIFE SCALE	FAMILY DYNAMICS	MOTHER'S WORKING STATUS	CHILD'S INCOME	GENDER OF CHILD ^	PARENTS' SHORT-TERM MONEY MANAGEMENT	PARENTS' SOCIALIZING EFFORT SCALE	CHILD'S MONEY MANAGEMENT COMPETENCE
Social status scale	1.0000								
Stage in life scale	.4878**	1.0000							
Family dynamics	.1197	-.0004	1.0000						
Mothers working status	.0031	-.0030	-.1023	1.0000					
Child's income	.0903	.2113*	-.1188	-.0689	1.0000				
Gender of child ^	-.1221	-.0242	-.1639+	-.1333	.1171	1.0000			
Parents short- term money management	.1582+	.1716+	-.0192	.1868*	-.0755	-.0910	1.0000		
Parents socializing effort	-.1128	-.2070*	.0705	.0714	.2744**	-.1418+	-.0242	1.000	
Child's money management competence	.1012	.1026	-.0415	.0920	.2468*	.1836*	.0923	.1691+	1.000

A = Point Biserial Correlation method used

One-tailed Level of Significance: *** = .001 ** = .01 * = .05 + = .10

Table 24

Correlation Coefficient Matrix of Dependent and Independent Variables with Parents' Long-Term Money Management

CORRELATIONS	SOCIAL STATUS SCALE	STAGE IN LIFE SCALE	FAMILY DYNAMICS	MOTHERS' WORKING STATUS	CHILD'S INCOME	GENDER OF CHILD ^	PARENTS' LONG-TERM MONEY MANAGEMENT	PARENTS' SOCIALIZING EFFORT SCALE	CHILD'S MONEY MANAGEMENT COMPETENCE
Social status scale	1.0000								
Stage in life scale	.4878**	1.0000							
Family dynamics	.1197	-.0004	1.0000						
Mothers working status	.0031	-.0030	-.1023	1.0000					
Child's income	.0903	.2113*	-.1188	-.0689	1.0000				
Gender of child ^	-.1221	-.0242	-.1639+	-.1333	.1171	1.0000			
Parents long- term money management	.1331	.0979	.0417	-.1162	.0262	-.0681	1.0000		
Parents socializing effort	-.1128	-.2070*	.0705	.0714	.2744**	-.1418+	-.0409	1.000	
Child's money management competence	.1012	.0753	-.0415	.0920	.2468*	.1836*	-.2087*	.1691+	1.000

A = Point Biserial Correlation method used

One-tailed Level of Significance: *** = .001 ** = .01 * = .05 + = .10

Path analysis consists of a series of ordinary least squares regression equations performed on each variable separately to estimate its direct effect on the output. Path analysis not only answers such questions as how does exogenous variable X affect endogenous variable Y?, but also how mechanism Z (an intervening variable) modifies the effect of X on Y? (Godwin & Carroll, 1986).

In the short-term parental money management model, it was determined that the following independent variables had a significant (.05 level) effect on the dependent variable:

(1) The independent variable of stage in life influenced the dependent variable parents' socializing effort.

(2) The independent variable child's income had an impact on the parents' socializing effort scale.

At the .10 level of significance the following was noted:

(1) The independent variable mother's working status had an effect on the parents' short-term money management behavior.

(2) The child's income had an effect on the child's money management competence.

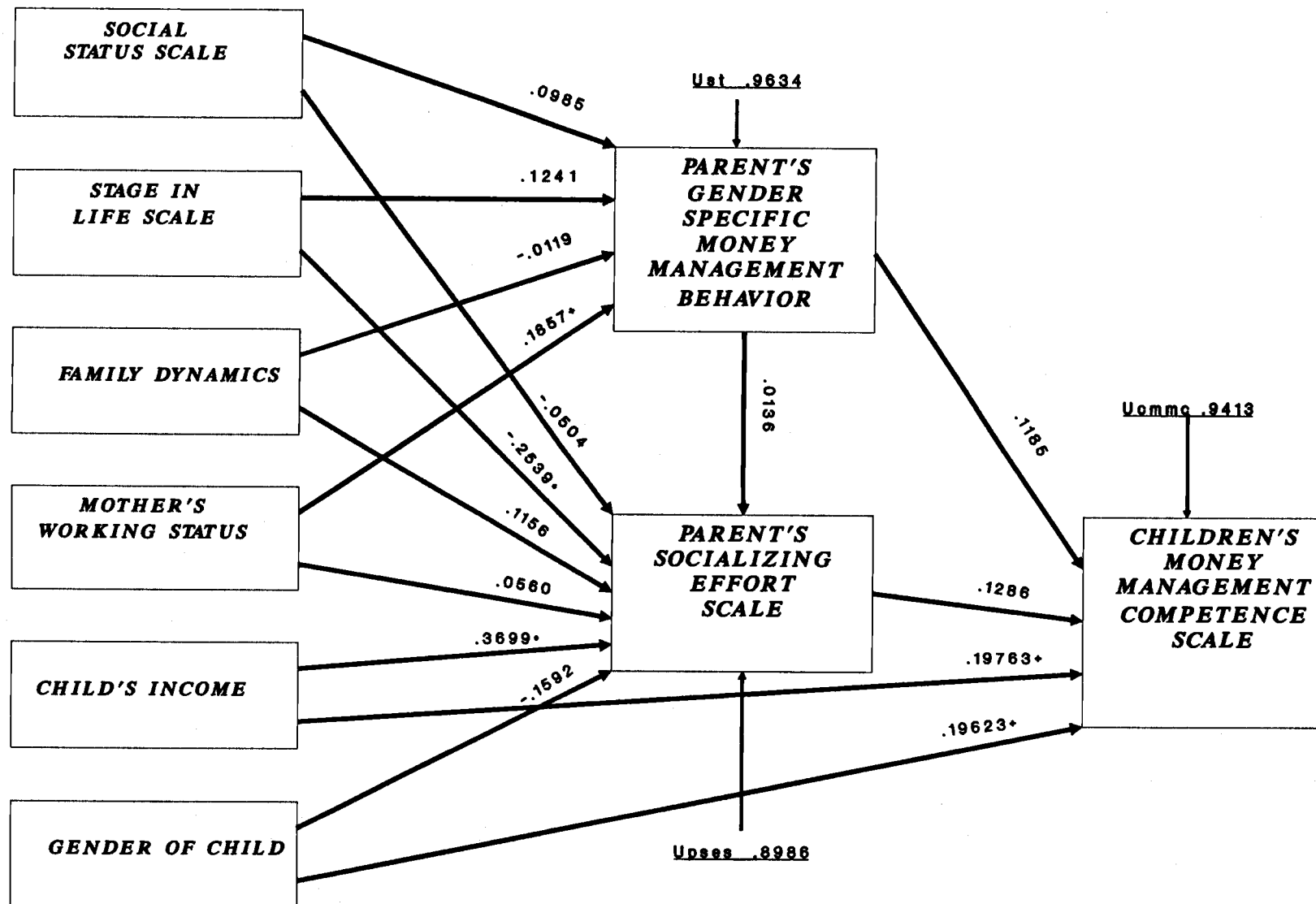
(3) The gender of the child had an effect on the child's money management competence.

Furthermore, the independent variables of this model served to explain about 6% of the variance in the children's money management competence.

The data suggested that the child's money management competence can be improved by providing her/him with some income. It appears this is helpful, not only because it allows the child to have direct experience managing money, but also because parents increase their efforts in teaching the child about money management. In addition, there appears to be an inverse relationship between stage in life scale and parents' socializing effort. This suggests that younger parents have a higher propensity to spend time and effort in teaching their children about money management. Additionally, while not as strong as the other relationships discussed, there is some evidence that the gender of the child does have an effect on the child's money management. The data suggested that the boys in this study tended to score higher on the child's money management competence scale than did the girls (See Figure 6).

Figure 6

Independent Variables Effect on Child's Money Management Competence (short-term model)



* Significant at the .05 level + Significant at the .10 level

In the second model associated with parents' long-term money management behavior, the data suggested the following:

(1) As was the case in the short-term money management, stage in life was shown to have a strong inverse relationship with the parents' socializing effort.

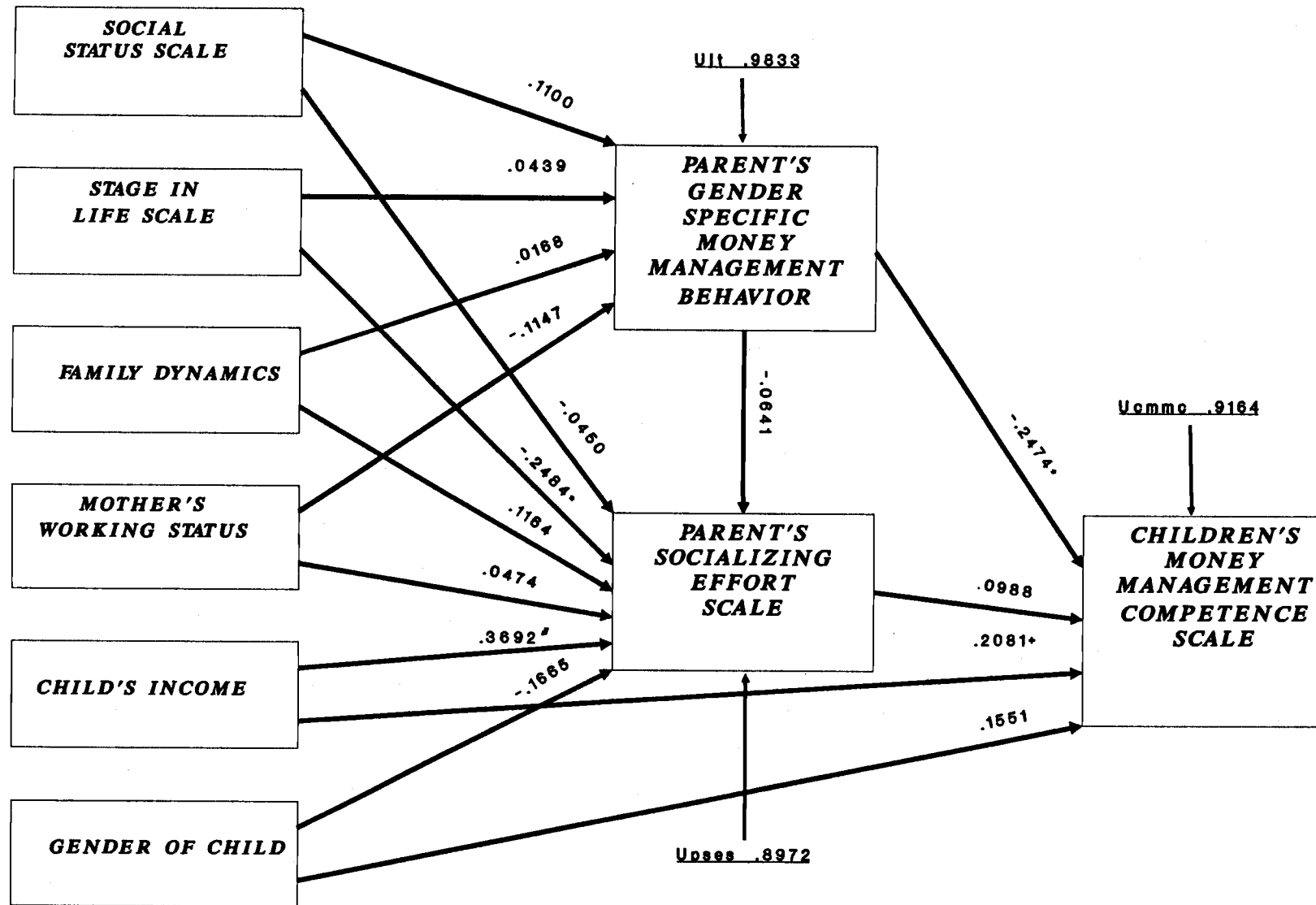
(2) The child's income was shown to have an impact on the parents' socializing effort.

(3) The child's income was shown to have, albeit weaker, an influence on the child's money management competence.

Unlike the short-term model the long-term model did not show a significant relationship between the child's gender and money management competence. However, it did indicate that a significant inverse relationship existed between parents' long-term money management and the child's money management competence scale. This suggests that if the wife performs long-term money management, then the child's money management score improves (See Figure 7).

Figure 7

Independent Variables Effect on Child's Money Management Competence (long-term model)



* significant at the .05 level + Significant at the .10 level

SUMMARY AND DISCUSSION

Summary

The purpose of this study was to determine if there is a gender bias in families with respect to money management, as well as to examine the methods employed by parents in their efforts to teach their children financial management. An additional objective of this study was to ascertain if the "relative efficiencies" spoken of by Becker (1981) could be in part a product of the family socialization process. In order to conduct the study several scales were developed with possible applications in future family studies research. Specifically, the scales developed to measure the family's stage in life cycle and the parents' socializing efforts were found to hold particular promise, both having a high degree of reliability and validity (Cronbach's Alphas of 0.8331 and 0.7513 respectively, factor loading scores in excess of 0.78 on all variables, and eigenvalues in excess of 2.0).

Hypothesis testing

The results of the hypotheses tested are summarized under Study Results. With respect to parental money management behavior, the hypotheses tested indicated that there was strong agreement between fathers and mothers as to who in their family is responsible for specific money management tasks. The data suggested that families do

employ a division of labor in the performance of money management activities. The study further suggested that the mothers tended to be more responsible for short-term money management activities, such as day-to-day bill paying, while the fathers were more often responsible for long-term money management activities such as savings and investment planning.

The second group of hypotheses tested whether the efforts used by the family in the financial management socialization process were gender specific. The hypotheses tested indicated that there was no gender difference with respect to frequency, duration, or content of parent-child discussions about money management. This then suggests that parents did not discriminate on the basis of gender in their efforts to teach money management to their children.

A third group of hypotheses addressed the issues surrounding the children's money management behavior and competence. There were no statistically significant differences noted with respect to the child's knowledge of money management and the parents' perception of the child's savings behavior. Only a relatively weak indication was provided that parents perceived differences in boys' and girls' spending behavior.

Model building

A summary of the results of the path models tested is shown in Figures 6 and 7. In both models the child's income showed a significant influence on his/her money management competence. The data suggested that as children's income increases their score on the money management competence scale also increases. In the parental long-term money management model, a significant inverse relationship was found to exist between the parents' long-term money management and the child's money management competence. This inverse relationship suggests that if the mother is responsible for performing long-term money management, the child's money management competence score was better. This effect is thought to be largely the result of the child observing such behavior rather than due to parents' direct socializing efforts.

The models further indicate that the child's income, and the family's stage in life had a significant impact on the parents' socializing effort. As the child's income increased so did the efforts of the parents in discussing financial management activities. The data also suggested an inverse relationship existed between the families' stage in life scale score and the parents' socializing effort scale score. This indicates that younger families tended to expend more effort in teaching their children money management than did families who were further along in the

family life stage scale. Possible explanations may include a generational effect in which the older parents' generation considered it to be inappropriate to discuss money or simply a matter of younger families having more time and energy.

Interestingly, none of the variables tested had a significant influence on the parents' short-term and long-term money management behavior. Furthermore, it is important to recognize that the models explained about 10% of the variance in the child's money management competence, suggesting that there are many other factors influencing the child's money management competence that were not investigated.

Discussion

As this study entailed a relatively small sample size, any significant results may have more profound implications when applied to a larger population. The data suggested strongly that parents do differentiate with respect to gender in their performance of money management. Many parents employ a system for financial management activities that is based on a division of labor. It was unclear from the data why one spouse performs a particular function, but it does not contradict Becker's suggestion that families should use a comparative advantage approach. Specifically, if one spouse has a comparative advantage, for whatever reason, that spouse should be the one to perform that

specific task. Further research needs to be initiated to ascertain not only what specific money management tasks are performed by each spouse, but to determine the reasons why each spouse performs these tasks. Interestingly, the gender of the parent who performed long-term money management had a rather significant impact on the child's money management competence score, but did not have a significant effect on the parents' socializing effort. It may be that the families themselves do not recognize money management as a gender issue, but as a functional issue based on inner-family dynamics. It might be surmised, therefore, that families do not consciously employ gender specific efforts to socialize their children with respect to money management activities. Income to the child appeared to be the most effective way for families to improve the child's money management competence. It is not clear from the study which parent initiated discussions with regard to money management, but it is clear that as the child received more income, more effort was expended in discussing financial issues and improved money management competence was noted.

The implication to families may be that if parents desire a child to be a better money manager, they should provide some money to the child. The expected results would be an increase in the formal efforts of financial socialization, as well as the child's interest in money management. It then may be less important to decide who is

the initiator of these activities than to note that they increase as the child's income increases.

Similarly, it is not clear that there is a direct mechanism involved in the inverse relationship noted between the child's money management competence and the parents' long-term money management; the data indicated relatively little correlation between who did the money management and the parents' money management socializing efforts. A possible explanation may again be the child's own proactive position assumed in the observation of parental activity. As was suggested in the literature, the child often takes an active part in the learning process. Thus, by observing the mother performing long-term financial management the child may take the opportunity to initiate some learning processes.

Recommendations

The importance of the child having some income was noted in the study. Research should be initiated to better understand the dynamics of this income. How much, how often, and at what age all represent issues that need to be better understood. It may be important to realize that with children making up the largest percentage of poor or near poor in the United states, they may not have access to these funds. What then are the implications for these children?

Are they doomed to be poor money managers in the future? Will the cycle of poverty be perpetuated by the parents' inability to provide suitable enrichment activities for their children? Can the school system help alleviate this problem? Not only are economically disadvantaged children at risk, any child not provided the opportunity to have income may experience similar results. The problem is analogous to an iceberg: only a small part of the problem is visible, the remainder staying hidden only to become apparent later. What programs could be established to make up for the lack of appropriate money management role models in the family? What programs might be instituted to teach parents better money management skills so they can become appropriate role models?

If educators and families are to use these data in developing programs for teaching financial management, further work needs to be initiated to ascertain what and why specific money management functions are gender specific within families. Being gender specific because one spouse has more time than another may have somewhat different implications than being gender specific because one spouse is better at math. Thus, while comparative advantages may be used to determine who does a specific money management task, it is important to ascertain the exact nature of the comparative advantage.

A companion study could be initiated that would include a more representative group. The results of this study are somewhat limited in their applicability to the population as a whole. It would be advantageous to perform a companion study using random sampling techniques, which would ensure that the study is representative of the population as a whole.

It is clear that money and money management are associated with most, if not all, of life's experiences. Yet, the exact nature of what constitutes good money management socialization is unclear. Further research needs to be implemented to better understand the role of money management in the socialization process of children. Teaching children to have appropriate money management skills will empower them to attain their economic goals and enrich their lives.

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APPENDICES

APPENDIX A

Sample Letter from Dr. Samuel Vuchinich

(Requesting participation of families in the study)
(Explaining eligibility requirements)
(Family Reply Form)

December 15, 1989

Dear Parents:

Season's Greetings! Are you concerned with changes that are affecting the American family these days? We are. Would you like to earn \$250.00 and help families of the future? We are conducting a study of 150 families in Oregon with a child in the fourth grade. We would like to invite you to participate. The Oregon Family Study, funded by a federal grant, is being done by faculty and staff in the Department of Human Development and Family Sciences at Oregon State University. To help us with this study, the superintendent's office of the Greater Albany Public School District 8J has provided us with the names of all fourth graders.

Families with two or more children (one boy in the Fourth Grade), and with two parents living in the home are eligible. Families must not be involved in family therapy and must plan to live in Oregon for the next two years.

The study includes a brief questionnaire and videotaping two family dinners and family discussions. These dinners and discussions should have both parents (or stepparents) and two children present. This first part of the study takes about 4 hours for which you will be paid \$100.00. This is repeated about two years later when you receive the other \$150.00. All of the study is completed in your own home at your convenience.

If you are interested in participating please complete the enclosed postcard and mail it to us. The postcard is already stamped so no postage is needed. We will call you to discuss the project and arrange for your participation. If you don't have a phone send us your address so we can write to you. If you have any questions you can call me, Prof. Sam Vuchinich, at OSU, 737-4765, or at home any time after 5:00 PM at 757-8228. This is an important study which could help families in the future. Your participation is needed and would be greatly appreciated.

Best Wishes,

Samuel Vuchinich
Associate Professor

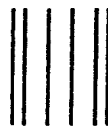
ELIGIBILITY:

Families with two or more children (one boy in the fourth grade) and with two parents living in the home (biological parents or stepparents) are eligible.

Families must not be currently involved in family therapy and must plan to live in Oregon for the next two years.

DESCRIPTION OF THE STUDY

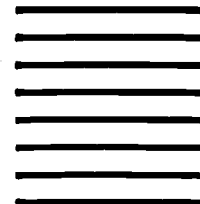
1. The interviewer will visit you at home and will discuss the project with you. You will be paid \$10.00 at this time for completing a brief questionnaire.
2. The first part of the project involves videotaping two routine family dinners in your home. We show you how to run a camcorder and leave it with you for a few days so you can make the tapes at your convenience. If you prefer, we can do the recording. However, most families find it is easier to do the videotaping themselves. After your two dinners are recorded an interviewer will visit you to check the tapes and pay you \$30.00.
3. The next part of the project involves videotaping family discussions in the home. You will choose your discussion topics from a list of 50 topics relevant to families. These family discussions will be videotaped on two different days. When these are completed an interviewer will visit you to check the tapes and pay you \$60.00, bringing your total to \$100.00. While the interviewer is checking the tapes each parent or stepparent will complete a questionnaire which contains questions about your fourth grader and questions about marriage.
4. It is essential that all the dinners and discussions include both parents (or stepparents) and your fourth grader. Videotapes made for this project will be coded by our research staff and will only be seen by them. The questionnaires and tapes will be given an identification number (rather than your name) to insure the anonymity of the participants.
5. You complete the questionnaire one year later. You will be paid \$15.00 for completing this questionnaire.
6. We will contact you in about two years to repeat the videotape procedure again and pay you \$135.00. After completing the study you have the option of attending a Family Enrichment Workshop free of charge.



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS MAIL PERMIT NO. 1 CORVALLIS, OR

POSTAGE WILL BE PAID BY ADDRESSEE



Oregon State University
Dr. Sam Vuchinich
Department of HDFS
Milam Hall
Corvallis, OR 97333-9986



.....

OREGON FAMILY STUDY

Fill in the blanks and mail this postcard. No stamp needed.

_____ We are interested in participating in the study.

_____ We would like more information on the study.

Name: _____

Address: _____

Phone: _____

The best days and times to call are:

Appendix B.

(Child's Questionnaire)

TARGET CHILD'S FORM

OREGON FAMILY STUDY

PHASE II QUESTIONNAIRE

Instructions

1. This questionnaire includes several different types of questions on a wide variety of family topics. Each section has brief directions. It takes about 30 minutes to complete. All information is strictly confidential and identified by number only. The questions are printed on **both sides** of the paper. Use a pen or pencil.
2. Answer all the questions quickly based on your first reaction. Try not to take more than 5 seconds on each question. Though some of the questions may seem like they could require a lot of thought, it is better in this case to answer quickly based on your initial reaction.
3. If a question refers to one child, answer it with reference to the **target child**. That is the child who was in the fourth grade at the beginning of this study.
4. Mother (green form, father (yellow form) and target child (pink form) each have individual forms which are labeled at the top each person should fill out his/her questionnaires separately. **Do not consult** with each other on the answers, unless the child needs help understanding questions.
5. We hope you will answer all the questions. If you would strongly prefer not to answer any of the questions for any reason please put **"NA"** (for No Answer) in the left hand column by the question number. That way we will know you didn't accidentally skip it. If it is not clear what kind of an answer is being requested put a **"??"** in the left column by the question number. You can call us about it or we can call you when we get the questionnaire back.
6. Take the **three completed questionnaires**, and the **receipt for the \$15.00 payment**, **put them in the return envelope and mail them back to us**. The return envelope is already stamped and addressed. It is often best for one person to take responsibility for returning the questionnaires.

7. If you have questions about how to fill it out give us a call (737-1081 or 737-1099). If we are not in the office leave a message and we'll call you back.
8. **THANK YOU FOR PARTICIPATING IN THE OREGON FAMILY STUDY!**

USE A PEN OR PENCIL TO ANSWER THE FOLLOWING QUESTIONS

1. HOW MANY GOOD FRIENDS DO YOU HAVE WHO ARE ABOUT YOUR AGE? (circle one answer)
- 0 1 2 3 4 5 6 7 8 9 10 or more
2. HOW WELL DO YOU LIKE SCHOOL? (circle one)
- Not at all A little Okay Pretty well Great**
3. CHECK THE THINGS THAT ANY OF YOUR FRIENDS USE.
- ___ Snuff ___ Cigarettes ___ Alcohol ___ Marijuana ___ None**
4. IN THE BLANKS BELOW HOW MANY TIMES IN THE PAST YEAR HAVE YOU USED EACH OF THE FOLLOWING:
- ___ Snuff ___ Cigarettes ___ Alcohol ___ Marijuana ___ None**
5. DO YOU HAVE A WRITTEN SPENDING PLAN FOR YOUR MONEY? (circle one)
- A. Yes B. No**
6. HOW MUCH MONEY PER WEEK DO YOU USUALLY HAVE TO SPEND? (fill in the blank)
- _____
7. DO YOU KNOW HOW A CHECKING ACCOUNT WORKS? (circle one)
- A. Yes B. No**
8. HOW IMPORTANT IS MONEY IN YOU LIFE? (circle one)
- a. not very important**
b. kind of important
c. important
d. really important

9. WHEN YOU HAVE YOUR OWN MONEY, WHICH OF THE FOLLOWING APPLY?
- I am free to spend or save my money any way I please.
 - I am free to spend part of the money freely, but must save part for later use.
 - I must save all of my money to buy such items as bicycles, musical tapes, clothes, etc.
 - I must save all of my money and do not spend any.
10. IF YOUR FATHER USES HIS CREDIT CARD AT THE GAS STATION, IS HE SPENDING MONEY? (circle one)
- A. Yes B. No C. I don't know
11. DO YOU HAVE A WRITTEN RECORD OF HOW YOU SPEND YOUR MONEY?
(circle one)
- A. Yes B. No
12. HOW OFTEN IN THE LAST MONTH HAVE YOU AND YOUR PARENTS TALKED ABOUT MONEY? (circle one number)
- 1 2 3 4 5 6 7 8 9 10 or more
13. DO YOUR PARENTS HAVE AN ORGANIZED PLAN FOR USING THEIR MONEY? (circle one)
- A. Yes B. No C. I don't know
14. WHAT PERCENT INTEREST IS USUALLY PAID ON SAVINGS ACCOUNTS?
(circle one)
- 0%
 - 5% or less
 - more than 5%, but less than 10%
 - 10% or more
 - I don't know
15. WHO HAS TAUGHT YOU THE MOST ABOUT MONEY? (circle one)
- mother
 - father
 - brother or sister
 - school teacher
 - other (specify) _____

16. IF I HAD 3 DIMES, 1 NICKEL, 2 QUARTERS, AND 4 PENNIES,
HOW MUCH MONEY WOULD I HAVE? (fill in the blank)

17. IF YOUR MOTHER WRITES A CHECK TO THE STORE, IS SHE
SPENDING MONEY? (circle one)

A. Yes B. No C. I don't know

18. DO YOUR PARENTS HAVE A WRITTEN RECORD OF HOW THEY HAVE
SPENT THEIR MONEY? (circle one)

A. Yes B. No C. I don't know

Appendix C.

Husband's and Wife's Questionnaire

(Portions used for this study)

Family ID _____
Date _____

MOTHER'S FORM
OREGON FAMILY STUDY
PHASE II QUESTIONNAIRE
Instructions

1. This questionnaire includes several different types of questions on a wide variety of family topics. Each section has brief directions. It takes about 30 minutes to complete. All information is strictly confidential and identified by number only. The questions are printed on both sides of the paper. Use a pen or pencil.
2. Answer all the questions quickly based on your first reaction. Try not to take more than 5 seconds on each question. Though some of the questions may seem like they could require a lot of thought, it is better in this case to answer quickly based on your initial reaction.
3. If a question refers to one child, answer it with reference to the target child. That is the child who was in the fourth grade at the beginning of this study.
4. Mother (green form), father (yellow form) and target child (pink form) each have individual forms which are labeled at the top. Each person should fill out his/her questionnaires separately. Do not consult with each other on the answers, unless the child needs help understanding questions.
5. We hope you will answer all the questions. If you would strongly prefer not to answer any of the questions for any reason please put "NA" (for No Answer) in the left hand column by the question number. That way we will know you didn't accidentally skip it. If it is not clear what kind of an answer is being requested put a "???" in the left column by the question number. You can call us about it or we can call you when we get the questionnaire back.
6. Take the three completed questionnaires, and the receipt for the \$15.00 payment, put them in the return envelope and mail them back to us. The return envelope is already stamped and addressed. It is often best for one person to take responsibility for returning the questionnaires.
7. If you have questions about how to fill it out give us a call (737-1081 or 737-1099). If we are not in the office leave a message and we'll call you back.
8. **THANK YOU FOR PARTICIPATING IN THE OREGON FAMILY STUDY!**

PART 1 (FACES)

FAMILY ID _____

Write the most appropriate number in the blank to the left of each question.

- | 1 | 2 | 3 | 4 | 5 |
|--------------|----------------|-----------|------------|---------------|
| ALMOST NEVER | ONCE IN AWHILE | SOMETIMES | FREQUENTLY | Almost Always |
-
- ___ 1. Family members ask each other for help.
- ___ 2. In solving problems, the children's suggestions are followed.
- ___ 3. We approve of each other's friends.
- ___ 4. Children have a say in their discipline.
- ___ 5. We like to do things with just our immediate family.
- ___ 6. Different persons act as leaders in our family.
- ___ 7. Family members feel closer to other family members than to people outside the family.
- ___ 8. Our family changes its way of handling tasks.
- ___ 9. Family members like to spend free time with each other.
- ___ 10. Parent(s) and children discuss punishment together.
- ___ 11. Family members feel very close to each other.
- ___ 12. The children make the decisions in our family.
- ___ 13. When our family gets together for activities, everybody is present.
- ___ 14. Rules change in our family.
- ___ 15. We can easily think of things to do together as a family.
- ___ 16. We shift household responsibilities from person to person.
- ___ 17. Family members consult other family members on their decisions.
- ___ 18. It is hard to identify the leader(s) in our family.
- ___ 19. Family togetherness is very important.
- ___ 20. It is hard to tell who does which household chores.

Part 4 (G D) CIRCLE THE MOST ACCURATE RESPONSE

1. How many times per month do you attend an organized church service?
- 0 1 2 3 4 More than 4
2. How many times per month does your target child attend an organized church service?
- 0 1 2 3 4 More than 4
3. Circle the statement that describes how frequently your child had temper tantrums during his/her first five years (birth to age 5)
- | | | |
|---------------------------------|------------------------|--------------------|
| Not at all or
not frequently | Somewhat
frequently | Very
frequently |
| 0 | 1 | 2 |
4. Are you currently employed?
- Full-time
- Part-time
- Not employed
5. What is your occupation? _____
(Be as specific as you can)
6. Total family income (before taxes) for the past year
- | | |
|--|---|
| <input type="checkbox"/> Less than \$5,000 | <input type="checkbox"/> \$25,000 - 30,000 |
| <input type="checkbox"/> \$5,000 - 10,000 | <input type="checkbox"/> \$30,000 - 40,000 |
| <input type="checkbox"/> \$10,000 - 15,000 | <input type="checkbox"/> \$40,000 - 50,000 |
| <input type="checkbox"/> \$15,000 - 20,000 | <input type="checkbox"/> More than \$50,000 |
| <input type="checkbox"/> \$20,000 - 25,000 | |
7. In the past year the family income (take-home)
- | | | | | |
|--------------------|-----------------------|--------------------|-----------------------|--------------------|
| Decreased
A lot | Decreased
A little | Stayed
The Same | Increased
A Little | Increased
A Lot |
|--------------------|-----------------------|--------------------|-----------------------|--------------------|
8. Check which of the following grading systems is used by your target child's school
- A, B, C, D, F S, U, N Other (specify)
9. What was the average grade your target child got on the last report card?
- _____ (Estimate the average using + or - if appropriate)

10. How many times in the past year do you suspect that your target child has used each of the following?
- _____ Snuff _____ Cigarettes _____ Alcohol _____ Marijuana
11. Check below if you have experienced any of the following in the past year.
- _____ Unemployment _____ Lay off _____ Reduced work hours _____ Wage reduction
12. Indicate below how many times in the past year you used each of the following to discipline your target child when he/she broke rules or was defiant toward you.
- _____ Spanking _____ Withdrew privileges _____ Raised your voice
- _____ Withdrew some affection _____ explained rules _____ "Silent" treatment
- _____ Threatened future punishment _____ Other physical punishment

PART 6 (PARFIN)

1. HOW WELL DO YOU THINK YOUR CHILD UNDERSTANDS THE VALUE OF MONEY? (Circle one)
- Not At All Not very well Okay Well Very well
2. IN THE LAST MONTH HOW MANY TIMES HAS MONEY BEEN DISCUSSED WITH THE CHILD? (circle one)
- 0 1 2 3 4 5 6 7 8 9 10 >10
3. ON AVERAGE, HOW MANY HOURS PER MONTH DO YOU YOURSELF SPENT TEACHING YOUR CHILD ABOUT FINANCIAL MANAGEMENT? (circle one)
- 0 1 2 3 4 5 6 7 8 9 10 >10
4. IF TIME WAS SPENT IN THE LAST MONTH TALKING WITH YOUR CHILD ABOUT FINANCIAL MATTERS, WHICH OF THE FOLLOWING ITEMS WERE DISCUSSED? (circle all that apply)
- a. Values (the meaning of money)
- b. Goals (spending wisely, setting priorities)
- c. Saving
- d. Safe Keeping of money
- e. Budgeting (making a plan for spending/saving)
- f. Record keeping
- g. Other (specify) _____
5. DOES YOUR CHILD HAVE A SAVINGS ACCOUNT? (circle one)
- Yes No

6. FROM WHICH OF THE FOLLOWING DOES YOUR CHILD USUALLY OBTAIN MOST OF HIS/HER SPENDING MONEY? (circle one)

- a. He/She asks for money when it is needed
- b. He/She receives an allowance
- c. He/She earns money by doing chores for the family
- d. He/She earns money by working outside the home (i.e., paper route, baby sitting)
- e. Other (please specify) _____

7. ON A SCALE OF 1 TO 10, WITH 10 BEING THE MOST IMPORTANT AND 1 BEING THE LEAST IMPORTANT. HOW IMPORTANT DO YOU FEEL MONEY IS? (circle one)

0 1 2 3 4 5 6 7 8 9 10

8. DO YOU HAVE A WRITTEN BUDGET OR SPENDING PLAN? (circle one)

Yes No

9. ON AVERAGE. HOW MUCH MONEY WOULD YOU SAY YOUR CHILD RECEIVES IN A WEEK FOR SPENDING? (FILL IN THE BLANK)

(please specify) _____

10. SOME PARENTS FEEL DIFFERENT THINGS ARE MORE IMPORTANT FOR CHILDREN TO LEARN. RANK THE FOLLOWING ITEMS IN ORDER OF IMPORTANCE. (fill in the blank with 1 = most important, 2 = next most important, 3 = 3rd most important, 4 = 4th most, 5 = 5th most, 6 = 6th most, 7 = 7th most)

- a. learn how to read, write, and do basic math _____
- b. learn how to manage money _____
- c. learn how to cook _____
- d. learn the value of work _____
- e. learn about sex _____
- f. learn about religion _____
- g. learn to get along with others _____

11. IN YOUR OPINION HOW ADEQUATE IS YOUR FAMILY'S INCOME AT THIS TIME? (circle one)

- a. not at all adequate
- b. can meet necessities only
- c. can afford some thing we want
- d. can afford about everything we want
- e. can afford about everything we want and still save money

12. WHO IN YOUR FAMILY IS MOST RESPONSIBLE FOR MONEY MANAGEMENT MATTERS? (Put the correct number in each blank)

1 = Wife Only 2 = Mostly Wife 3 = Both About Equal 4 = Mostly Husband 5 = Husband only

- a. _____ Family money management decisions on a day-to-day basis
- b. _____ Decisions on major purchases such as furniture or a car
- c. _____ Decisions on savings investments and long range financial planning
- d. _____ Decisions on how much money is spent on entertainment (movies, dinner out, etc.)

13. WHERE DID YOU LEARN THE MOST ABOUT MONEY MANAGEMENT? (circle one)
- From you parents
 - From your spouse
 - From friends or acquaintances
 - From class in high school
 - From class in college
 - From seminars or adult classes (please specify) _____
 - Self-taught from experience
 - Self-help type books, magazines, newspapers, etc.
 - At my job or firm
 - Other (please specify) _____
14. RANK THE FOLLOWING IN ORDER OF IMPORTANCE TO YOUR. (fill in the blank with 1 = most important, 2 = next most important, 3 = 3rd most important, 4 = 4th most important use each number only once)
- _____ living within a budget for the family
 - _____ a written record of expenditures in the family
 - _____ the husband and wife make financial decisions together
 - _____ the whole family know the family's financial position
15. HOW DO YOU THINK YOUR PERSONAL FINANCIAL SITUATION WILL BE IN A YEAR COMPARED WITH HOW IT IS NOW? (circle one)
- a lot worse
 - a little worse
 - about the same
 - a little better
 - a lot better
16. WHICH INDIVIDUAL DO YOU BELIEVE HAS HAD THE GREATEST INFLUENCE ON HOW YOUR CHILD HANDLES MONEY? (circle one)
- Mother
 - Father
 - Grand parent (please specify) _____
 - Friend
 - Other (please specify) _____
17. HOW SATISFIED ARE YOU WITH YOUR PERSONAL FINANCIAL SITUATION? (circle one)
- not very satisfied fairly unsatisfied fairly satisfied satisfied very satisfied
18. APPROXIMATELY WHAT PERCENTAGE OF THE TOTAL FAMILY INCOME IS EARNED BY THE FOLLOWING? (fill in the blanks)
- Husband _____ Wife _____ Children _____
19. WHICH OF THE FOLLOWING BEST DESCRIBES YOUR? (circle one)
- I never worry about money
 - I seldom worry about money
 - I sometimes worry
 - I often worry about money
 - I worry about money often
20. COMPARED WITH A YEAR AGO, HOW WOULD YOU DESCRIBE YOUR FINANCIAL SITUATION? (circle one)
- a lot worse off
 - a little worse off
 - about the same
 - a little better
 - a lot better

21. FOR THE ITEMS BELOW WHICH OF THE FOLLOWING BEST DESCRIBES MY/YOUR CHILD'S BEHAVIOR? (put the appropriate number in each blank)

1 = almost always 2 = frequently 3 = sometimes 4 = once in a while 5 = almost never

- a. _____ Buys gifts for family members with own money
- b. _____ Buys gifts for friends with own money
- c. _____ Pays for inexpensive items of clothing with own money

- d. _____ Pays for recreation or fun activities with own money
- e. _____ Spends money freely without any plan
- f. _____ Plans for saving and follows plans until goal is reached

- g. _____ Has some definite items or activity for which he/she saves for 1 year
- h. _____ Has some definite items or activity for which he/she saves for 1 month
- i. _____ Runs short of spending money

- j. _____ Asks for an extra (e.g. \$.25 or \$1.00)
- k. _____ Borrows money for others
- l. _____ Saves money in a savings account or some place at home

- m. _____ Saves money regularly without having to have a definite plan for the future
- n. _____ Makes plans for saving money
- o. _____ Asks advice before spending money

- p. _____ Asks advice before spending amounts over \$5.00
- q. _____ Plans ahead for spending his/her money
- r. _____ Keeps track of how he/she uses his/her money

Appendix D.
Scale Results

Appendix D. Tables of Study Results

Table 25

Child's Money Management Competence Scale

Scale Factors	Factor Loading	Eigen Value	Cronbach's Alpha	% Variance Explained
		1.5962	.6000	52.2%
Child's Knowledge Scale	.4542			
Child's Savings Scale	.8442		.8402	
Child's Spending Scale	.8229		.6847	

Table 26

Child's Money Management Competence Scale Score

VALUE	FREQUENCY	PERCENT
2	2	2.3
3	2	2.3
4	6	7.0
5	14	16.3
6	9	10.5
7	23	26.8
8	15	17.4
9	6	7.0
10	7	8.1
11	2	2.3
TOTAL	86	100
MEAN 6.802	STD DEV 1.975	
MINIMUM 2.000	MAXIMUM 11.000	

Table 27

Child's Knowledge Scale Score

VALUE	FREQUENCY	PERCENT
1	3	3.5
2	6	7.0
3	29	33.7
4	35	40.7
5	13	15.1
TOTAL	86	100
MEAN 3.570	STD DEV .952	
MINIMUM 1.000	MAXIMUM 5.000	

Table 28

Child's Saving Behavior Scale Score

VALUE	FREQUENCY	PERCENT
1	9	10.5
2	17	19.8
3	22	25.5
4	21	24.4
5	17	19.8
TOTAL	86	100
MEAN 3.233	STD DEV 1.271	
MINIMUM 1.000	MAXIMUM 5.000	

Table 29

Child's Spending Behavior Scale Score.

VALUE	FREQUENCY	PERCENT
1	8	9.2
2	30	34.9
3	30	34.9
4	12	14.0
5	6	7.0
TOTAL	86	100
MEAN 2.744	STD DEV 1.042	
MINIMUM 1.000	MAXIMUM 5.000	

Table 30

Family Social Status Scale

Scale Factors	Factor Loading	Eigen Value	Cronbach's Alpha	% Variance Explained
		1.8332	.6579	61.1
Income	.7013			
Father's Ed.	.8362			
Mother's Ed.	.8012			

Table 31

Social Status Scale Score

VALUE	FREQUENCY	PERCENT
5.54 - 5.99	1	1.2
6.00 - 7.99	2	2.3
8.00 - 8.99	4	4.7
9.00 - 9.99	9	10.5
10.00 - 10.99	18	20.9
11.00 - 11.99	13	15.1
12.00 - 12.99	8	9.3
13.00 - 13.99	17	19.8
14.00 - 14.99	5	5.8
15.00 - 15.99	5	5.8
16.37	4	4.6
TOTAL	86	100
MEAN 11.903	STD DEV 2.262	
MINIMUM 5.540	MAXIMUM 16.37	

Table 32

Family Stage in Life Scale

Scale Factors	Factor Loading	Eigen Value	Cronbach's Alpha	% Variance Explained
		2.7946	.8331	69.9
Children's ave. age	.7810			
Father's age	.8671			
Mother's age	.8502			
Number of Years Married	.8424			

Table 33

Family Stage in Life Scale Score.

VALUE	FREQUENCY	PERCENT
4.12 - 4.99	9	10.5
5.00 - 5.99	9	10.5
6.00 - 6.99	6	7.0
7.00 - 7.99	7	8.1
8.00 - 8.99	11	12.8
9.00 - 9.99	4	4.6
10.00 - 10.99	16	18.6
11.00 - 11.99	5	5.8
12.00 - 12.99	7	8.1
13.00 - 13.99	2	2.3
14.00 - 14.99	6	7.0
15.00 - 15.85	3	3.5
16.70	1	1.2
TOTAL	86	100
MEAN 4.120	STD DEV 3.204	
MINIMUM 4.120	MAXIMUM 15.85	

Table 34

Family Dynamics of Cohesion and Adaptability

VALUE	FREQUENCY	PERCENTAGE
.73	1	1.2
1.00 - 1.99	2	2.3
2.00 - 2.99	6	7.0
3.00 - 3.99	14	16.3
4.00 - 4.99	6	7.0
5.00 - 5.99	7	8.1
6.00 - 6.99	15	17.4
7.00 - 7.99	10	11.6
8.00 - 8.99	9	10.5
9.00 - 9.99	5	5.8
10.00 - 10.99	1	1.2
11.00 - 11.99	2	2.3
12.00 - 12.99	2	2.3
13.00 - 13.99	2	2.3
14.00 - 14.51	4	4.7
TOTAL	86	100
MEAN 6.668	STD DEV 3.284	
MINIMUM .730	MAXIMUM 14.51	

Table 35

Parents' Socializing Effort Scale

Scale Factor	Factor Loading	Eigen Value	Cronbach's Alpha	% Variance Explained
		2.0093	.7513	67.0
Frequency	.7893			
Duration	.8539			
Content	.8107			

Table 36

Parents' Socializing Effort Scale Score

VALUE	FREQUENCY	PERCENTAGE
2	2	2.3
3	1	1.2
4	6	7.0
5	6	7.0
6	9	10.4
7	14	16.3
8	13	15.1
9	8	9.3
10	8	9.3
11	4	4.7
12	9	10.4
13	2	2.3
14	4	4.7
TOTAL	86	100
MEAN 8.174	STD DEV 2.887	
MINIMUM 2.00	MAXIMUM 14.00	

Table 37

Parents' Short-term Money Management Scale

Scale Factor	Factor Loading	Eigen Value	Cronbach's Alpha	% Variance Explained
		2.0674	.6860	51.7
Mom day-to-day	.8034			
Dad day-to-day	.8072			
Mom Entertainment	.5580			
Dad entertainment	.8034			

Table 38

Parents' Short-term Money Management Scale Score

VALUE	FREQUENCY	PERCENTAGE
4.20 - 4.99	4	4.7
5.00 - 5.99	11	12.8
6.00 - 6.99	23	26.7
7.00 - 7.99	10	11.6
8.00 - 8.99	25	29.1
9.00 - 9.99	6	7.0
10.00 - 10.99	5	5.8
11.00 - 11.99	0	0.0
12.00 - 12.31	2	2.3
TOTAL	86	100
MEAN 7.4990	STD DEV 2.699	
MINIMUM 4.200	MAXIMUM 12.31	

Table 39

Parents' Long-term Money Management Scale

Scale Factor	Factor Loading	Eigen Value	Cronbach's Alpha	% Variance Explained
		1.7367	.5508	43.4
Mom Major Purchase	.6468			
Dad Major Purchase	.3286			
Mom long-term plan	.8519			
Dad long-term plan	.6961			

Table 40

Parents' Long-term Money Management Scale

VALUE	FREQUENCY	PERCENTAGE
6.02 - 6.99	8	9.3
7.00 - 7.99	41	47.7
8.00 - 8.99	18	20.8
9.00 - 9.99	14	16.3
10.00 - 10.99	4	4.7
11.00 - 11.99	1	1.2
TOTAL	86	100
MEAN 8.083	STD DEV .969	
MINIMUM 6.02	MAXIMUM 11.23	

Appendix E.
Sub-scale Development

APPENDIX E. Sub-scale Development

Sub-Scale E1
Child's Knowledge Scale Score

A Guttman scale, designed by the researcher, was developed to measure the child's perception of his/her own knowledge of finances. This scale consists of 5 questions with each question representing a little more difficult financial issue to grasp than the preceding question. Scores ranged from 1 to 5 on the scale with 5 indicating more knowledge about finances than a 1. Each question has only two possible answers (i.e., yes or no). As it might be possible for individuals to answer several of the questions differently from each other and arrive at the same score, the Guttman scale is designed to address the issue of there being more than one way to make a score on the scale. The Guttman scale arranges the questions in an hierarchal structure based on the difficulty of question. If a question is deemed to be more difficult than another it is arranged higher on the scale than the one that is less difficult. If one is able to answer a more difficult question they theoretically should be able to answer the questions that are less difficult. By arranging the questions in this manner it then essentially allows only one way to arrive at a score on the scale. If some combination of scores other than the desired combination forms a particular scale score it is considered to be an error. In

the Guttman scale technique a Coefficient of Reproducibility (CR) is calculated. The CR is a measure of the scales ability to reproduce scores. The higher the value of the CR the higher the ability of the scale to reproduce scores accurately. Any CR over 0.90 is felt to be adequate to indicate the scalability and the ability to reproduce responses to various items from knowledge of the total score (Bailey, 1987). A CR of 0.9542 was calculated from the data in this study on the CKSS.

In addition to the CR, it is fundamental to develop a measure of the scales Minimal Marginal Reproducibility (MMR). The MMR is an indication of how high the coefficient is expected to be just by random chance. By comparing the CR to the MMR one can get an idea of how the scale improves one's ability to predict a score. For the CKSS a MMR of 0.7109 was calculated. Thus, with a CR equaling 0.9542 and a MMR of 0.7109, it is clear that the CR is not high because of modal frequencies and that indeed the scale improves one's ability to predict a score by its use. Thus the CR in this study signifies a considerable improvement in reproducibility over the minimum level and gives a good indication of the adequacy of the scale (Bailey, 1987). (See Table D3. in Appendix D.)

APPENDIX E. Sub-scale Development

Sub-scale E2 & E3

Child's Spending and Savings Practices

As the procedure for determine the spending and savings sub-scales was the same both will be discussed simultaneously. The scale was designed to ascertain the parents' feeling regarding the child's saving and spending patterns. A total of six questions were used to derive the saving patterns scale score and six questions were used to determine the spending patterns scale score. These scales were first used by Phelan & Schvaneveldt (1969). At their inception, the survey questions were evaluated to ensure validity by 30 adolescent development graduate students at Florida State University. In addition the scale was administered to 9 sets of participants using test-retest procedures to confirm the scale's reliability. The scale was found to have a 91.2 percent agreement between tests given one week apart.

As it was unclear as to which of the parents would have a more accurate perspective on the child's spending and saving practices an average of the mother's and father's responses were used to determine the child's scale score. Each question was evaluated on a 5 point Likert scale ranging from 5 (almost always) to a 1 (almost never). (See question 21 Appendix C). Scores for spending and saving

practices were arrived at by summing both the father's and mother's responses on each of the 6 corresponding savings questions and each of the 6 spending questions. From this data a five point Likert scale score was developed with those scoring higher on the spending and savings scores receiving higher scale scores. (i.e., for PCSPS <24 a score equal to 1, 25-30 = 2, 31-36 = 3, 37-42 = 4, and >43 = 5; for PCSVS <21 = 1, 21-27 = 2, 28-34 = 3, 35-41 = 4, >41 = 5). (See Tables D3 & D4 in Appendix D.) The Cronbach's Alpha for the PCSPS score was 0.6847 and the PCSVS received a Cronboach's Alpha score of 0.8402. Both indicating that the scales exhibited sufficient reliability to use as scale.