An Exploratory Framework of the Determinants of Financial Satisfaction

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ABSTRACT: This paper presents a description of the development and testing of a framework for understanding the determinants of financial satisfaction. This study used data obtained from a random sample of white-collar clerical workers ($N = 220$). Direct, as well as indirect, effects on financial satisfaction were identified using a path analysis method. It was determined that financial satisfaction is related, both directly and indirectly, with diverse factors including financial behaviors, financial stress levels, income, financial knowledge, financial solvency, risk tolerance, and education. Findings support the continued and increased use of targeted education initiatives directed at improving the financial literacy and behavior of family and consumer economics constituencies.

KEY WORDS: financial behavior; financial literacy; financial satisfaction; financial stress.

The conceptualization of financial satisfaction, defined as satisfaction with one's present financial situation, continues to be a goal of family policy (Zimmerman, 1995). Concerns about the financial satisfaction of Americans are exemplified by policy makers' efforts to account for and counteract economic changes due to changing demographic trends and aggregate social events. The imminent retirement of 40 million baby boomers, the increasing parity in two-income families, and a renewed focus among consumers to improve their level of living are examples of events that will impact individual and aggregate financial satisfaction in the years to come. As future policy initiatives are designed to address these types of issues, it will become increasingly important that recommended fiscal and social policy changes

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that affect household economics be made within the parameters of a sound theoretical framework.

Researchers such as George (1992), Hayhoe (1990), Porter and Garman (1993), Strumpel (1976), and Wilhelm and Varcoe (1991) have suggested that a framework to explain and predict personal financial satisfaction is needed within the broad context of consumer and family economics. While empirical work has been conducted to conceptualize and measure financial satisfaction, few attempts have been made to explain, provide, and test, in a multidimensional manner, a framework of financial satisfaction. Researchers and educators have argued that a conceptual framework of the determinants of financial satisfaction is needed because with a better understanding of the factors that influence financial satisfaction, family and consumer sciences professionals can utilize more efficient ways to promote the quality of life of individuals and families.

Porter and Garman (1993) documented the need for a conceptual framework that could be used to guide research within the domain of financial satisfaction. They suggested that such a framework be multidimensional by including objective, subjective, and reference-point measures. Porter and Garman also pointed out that such a framework had yet to be accepted by researchers in the field. Little has changed since this need was originally documented.

The necessity for such a framework is greater today than at any time in the past. It is well documented that an individual's financial satisfaction has an impact on factors as diverse as consumer choice, job productivity, marital stress, and social choice (Freeman, Carlson, & Sperry, 1993; Garman, Leech, & Grable, 1996; Williams, Haldeman, & Cramer, 1996). What is less well known is the relative impact, both direct and indirect, of demographic, socioeconomic, and attitudinal factors on financial satisfaction. What is needed is a framework for understanding the determinants of financial satisfaction that takes into account direct as well as indirect factor effects. With a framework in hand, consumer and family economists can develop more effective strategies and educational programs to enhance the financial satisfaction of their constituencies.

The purpose of this paper, therefore, is to present the findings of an exploratory study that was designed to (a) review the determinants of financial satisfaction, (b) present a proposed framework of financial satisfaction, and (c) report the findings from a test of the framework. The results from this study can be used to gain a better understanding of the relationships between and among the determinants of financial

satisfaction by highlighting the relationships among demographic and socioeconomic characteristics, financial stressors, financial knowledge, financial risk tolerance, financial behaviors, financial stress, financial solvency factors, and financial satisfaction.

Review of Literature

Over the past 20 years, much academic work has been conducted to identify and define the concept of financial satisfaction. The general consensus among researchers suggests that financial satisfaction is a sub-construct of general well-being (Campbell, 1981). As such, financial satisfaction involves a state of being healthy, happy, and free from financial worry (Zimmerman, 1995). Williams (1983) theorized the concept as follows: Financial satisfaction and well-being include factors related to the material and non-material aspects of one's financial situation, including objective and subjective constructs. In general, financial satisfaction includes contentment with one's material (objective) and non-material (subjective) financial situation.

While much effort has been devoted to conceptualizing and defining financial satisfaction, little theoretical work has been devoted to the development and testing of frameworks of financial satisfaction (Bailey, 1987; Blau, 1998; DeViney, 1995; George, 1992; Hayhoe, 1990; Hayhoe & Wilhelm, 1998; Porter & Garman, 1993; Strumpel, 1976; Wilhelm & Varcoe, 1991). The following review of literature describes how others have attempted to define and measure financial satisfaction, including the determinants of financial satisfaction.

Measuring Financial Satisfaction

Godwin (1994) summarized the study of financial satisfaction by concluding that there is no consensus on the best way to measure financial satisfaction. Some researchers have measured satisfaction with a single item while others have used multiple item measures. Cantril, as far back as 1965, developed a self-anchoring ladder to measure financial satisfaction (1965). Researchers such as Davis and Schumm (1987a), Jeries and Allen (1986), and Porter and Garman (1993) also utilized single item scales to measure financial satisfaction. Other measurement examples include Morgan's (1992) use of a single statement to measure economic satisfaction (i.e., "how satisfied are you with your financial situation?") (p. 127). Greenley, Greenberg,

and Brown (1997) asked the following question: "How comfortable and well-off are you financially?" (p. 251). Another example of a single item measure includes one created by Danes (1998) who measured satisfaction with a person's level of living using a seven point Likert-type response scale.

Multiple item measures have also been used to measure financial satisfaction. Draughn, LeBoeuf, Wozniak, Lawrence, and Welch (1994) discussed economic satisfaction as consisting of three components: financial adequacy, perceived economic well-being, and satisfaction with level of living. Financial adequacy was defined as an objective assessment of adequacy of income to meet overall economic survival. Perceived economic well-being was defined as a subjective assessment of overall economic survival. Satisfaction with level of living was hypothesized to reflect the perception of one's ability to meet financial demands. Hayhoe and Wilhelm (1998) assessed perceived economic well-being by asking respondents to subjectively evaluate a major area of financial concern, such as level of income, economic and financial security, savings, and amount of debt. Hira and Mugenda (1999a, 1999b) measured financial satisfaction with multiple items. These included satisfaction with (a) money saved, (b) amount of money owed, (c) current financial situation, (d) ability to meet long-term goals, (e) preparedness to meet emergencies, and (f) financial management skills.

While one researcher may favor the use of a single item measure, another researcher will favor a multiple item measure. The research that has been conducted to date indicates that both methods offer researchers an acceptable level of validity and reliability of findings when used appropriately. The choice of which measure to use is eclipsed by the fact that research findings based on each type of approach tend to mirror each other in terms of predicted outcomes.

Determinants of Financial Satisfaction

Demographic and socioeconomic characteristics. Researchers have reported that a number of factors appear to influence financial satisfaction. Among the most common factors are demographic and socioeconomic characteristics, such as gender, marital status, education, ethnicity, age, income, and home ownership (Ackerman & Paolucci, 1983; Davis & Schumm, 1987a, 1987b; George, 1992; Hira & Mugenda, 1999a, 1999b; Hong & Swanson, 1995; Joo, 1998; O'Neill, 1995; Porter, 1990). For example, it has been suggested that financial satisfaction is positively related to income, education, and age.

Financial stressors and stress. Financial stressors are commonly assumed to influence financial satisfaction. Financial stressors are generally defined as life events that impact a family unit that can produce changes in a family social system (McCubbin & Patterson, 1983). Financial stressors come from three sources: personal, family, and financial situations. Personal stressors include investment losses, injuries, disabilities, accidents, illnesses, and wage garnishments. Family stressors include major life-cycle events, such as marriages, births, retirement, job loss, divorce, and death. These types of events often require substantial amounts of money to resolve, which can in itself, be a cause of serious financial problems. Financial stressors also include personal consumer choice situations, such as, moving, paying for household and vehicle repairs, foreclosures, legal problems, bankruptcy, medical bills, and pre-existing excessive consumer debt. These type of stressors tend to increase total stress levels, as well as financial stress levels, which in turn, tend to lead to a lower level of financial satisfaction (Freeman et al., 1993; Joo, 1998).

The financial satisfaction literature also indicates that a relationship between financial stress level and financial satisfaction exists. Previous research findings have often shown that financial stress is negatively related with financial satisfaction (Bailey, Woodiel, Turner, & Young, 1998). For example, in a study of health care professionals (Bailey et al., 1998), it was revealed that financial stress explained 30% of the variance in participant financial satisfaction scores.

Financial behaviors. The literature also suggests that financial behaviors can affect financial satisfaction (Godwin, 1994; Godwin & Carroll, 1986; Joo, 1998; Mugenda, Hira, & Fanslow, 1990). In an attempt to assess the causal relationships of factors that influence money management practices, Mugenda and her associates (1990) concluded that "net worth, savings, monthly debt payments, and absence of Financial Difficulties [sic] were the main determinants of managers' satisfaction with financial status" (p. 355). Similarly, Joo (1998) determined that exhibiting positive financial behaviors, such as paying credit card bills in full each month, and comparison-shopping for a big-ticket item, is positively related to financial satisfaction.

Financial solvency. Personal finance solvency also has been used to assess financial satisfaction (e.g., DeVaney & Lytton, 1995). Generally, a positive relationship has been found between those who are

more solvent (i.e., with better ratios) and increased financial satisfaction (Davis & Schumm, 1987a).

Financial attitudes. Additionally, a number of researchers have made the case that financial attitudes play an important role in determining a person's level of financial satisfaction (Davis & Schumm, 1987b; Joo, 1998; Porter, 1990). For example, a person's subjective perception of his or her cash management, credit management, income adequacy, personal finance management, consumer shopping skills, and relative economic status compared to others can play an important role in shaping an individual's financial satisfaction. Previous research findings indicate that, generally, those persons with stronger perceptions and proactive financial attitudes tend to be more satisfied.

Risk tolerance, as one subconstruct of broad financial attitudes, may also be related to financial satisfaction. For example, different levels of risk tolerance can result in differences in financial decisions and outcomes. These differences may lead to different levels of financial satisfaction. Research findings reported by Grable and Lytton (1998) and Sung and Hanna (1996) suggest a positive relationship between and among predictor variables (e.g., demographic factors) and financial knowledge and subjective risk tolerance. Grable and Lytton (1998) and Roszkowski (1999) concluded independently that there appears to be a common psychological profile among risk tolerant individuals and those with more financial knowledge that allows them to make different financial decisions, which may ultimately lead to greater attained levels of financial satisfaction.

Financial knowledge. Research also indicates that a relationship between financial satisfaction and financial knowledge may exist. This is of interest because this relationship may not always be positive. Mugenda et al. (1990) determined that a negative relationship between knowledge and perception of financial status may exist. They concluded that those who are more knowledgeable tend to evaluate events and situations differently than others, which often reveals the "negative along with positive aspects of [a] household's financial status" (p. 355). Mugenda and her associates concluded that more knowledgeable persons will tend to strive to increase their level of living through financial means because they are less satisfied, while those with less knowledge may not realize that their financial situation is comparatively weak.

While the literature suggests that demographic and socioeconomic

factors, financial stressors, financial stress levels, financial behaviors, financial risk tolerance, and financial knowledge may play a role in determining financial satisfaction, results from previous studies have not been consistent in their findings. Much of the past inconsistency appears to be the result of misspecification of measurements and the assumption that each determinant factor has a direct influence on financial satisfaction (e.g., see Porter & Garman, 1993). This assumption may, in fact, be incorrect. Joo (1998) determined that in many cases, demographic characteristics, financial stressors, and financial behaviors have an indirect effect on financial satisfaction, which has not been tested for in previous studies. Future models of the determinants of financial satisfaction should attempt to take into account both possible direct and indirect effects.

Summary

Over the past two decades, consumer and family economics researchers have attempted to identify the determinants of financial satisfaction (e.g., Hayhoe, 1990; Mugenda et al., 1990; Porter & Garman, 1993; Wilhelm & Varcoe, 1991; Williams, 1993). Few attempts to examine the determinants of financial satisfaction have incorporated objective, subjective, and behavioral measures into a single empirical test of individual financial satisfaction. Specifically, only a small number of studies have taken into account objective scales of economic status, subjective perceptions of personal finance concepts, behavioral assessments of personal financial management, overall satisfaction with a particular financial situation, financial attitudes, and financial solvency within a single model. This paucity in multidimensional financial satisfaction research suggests a need for additional study, with an emphasis on the development of a framework of the determinants of financial satisfaction.

Framework Development

As indicated above, the literature has shown that demographic and socioeconomic variables, financial stressors, financial stress levels, financial behaviors, risk tolerance, financial knowledge, and objective financial status (e.g., solvency) may influence a person's financial satisfaction. Previous research also has indicated possible relationships between (a) financial stressors and financial stress level, (b) risk toler-

ance and financial behavior, (c) demographic and socioeconomic variables and financial behavior, and (d) demographic and socioeconomic variables and solvency levels. Therefore, it is reasonable to hypothesize that indirect effects, as well as direct effects, of such variables on financial satisfaction may exist. Based on these hypothesized relationships, the determinants of financial satisfaction can be more fully identified in the proposed framework presented below in Figure 1.

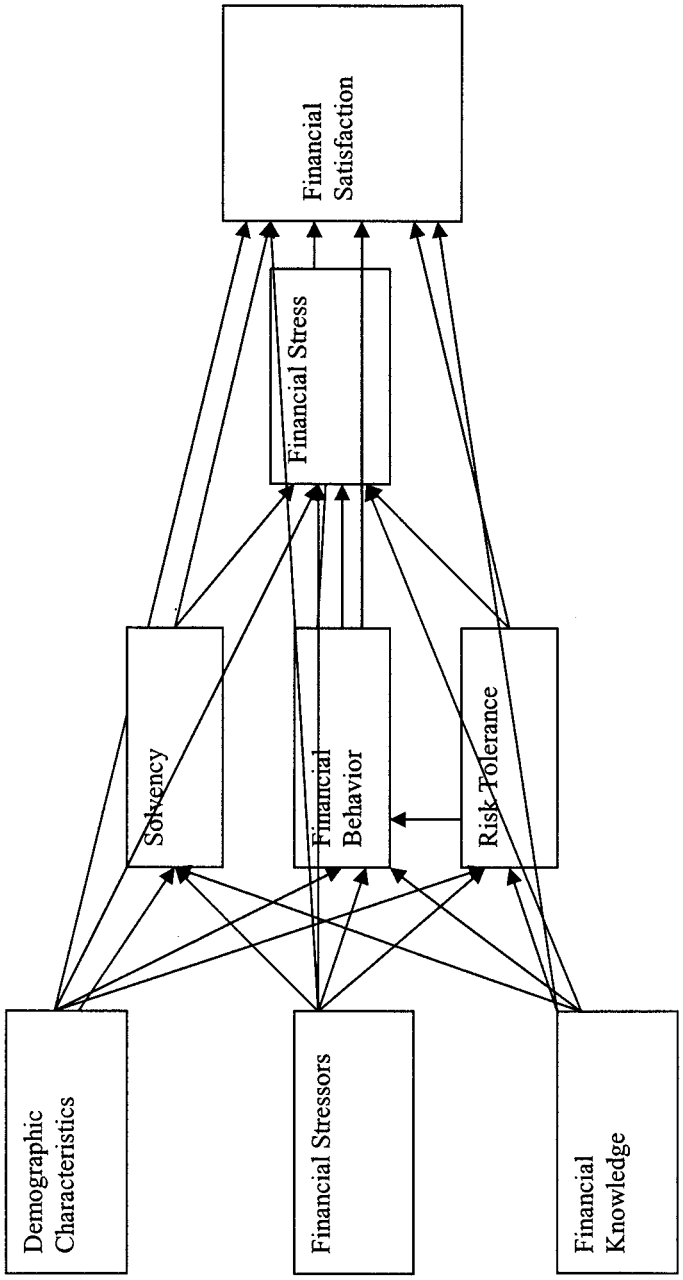
The proposed framework shows that demographic and socioeconomic characteristics such as age, education, income, ethnicity, home ownership, number of financial dependents, marital status, and gender directly affect financial satisfaction. Financial stressors, financial knowledge, financial behavior, risk tolerance, objective economic status, such as solvency ratios, and the level of financial stress also are shown to have direct effects on financial satisfaction.

Additional indirect effects also exist. For example, a person's overall financial stress level can be affected by financial stressors, demographic variables, financial knowledge, financial behavior, and solvency situation. It is reasonable to assume, based on the review of the literature, that individuals who experience many financially stressful events (e.g., becoming seriously ill, changing or losing a job, having a vehicle repossessed, or filing for bankruptcy) may also have higher levels of financial stress. Similarly, certain demographic variables, such as the number of financial dependents, marital status, and income can have an impact on financial stress levels. The more dependents a person has, being single, and having a low income all may lead to increased levels of financial stress. Theory suggests that financial stress may reduce one's financial satisfaction level (Williams, 1993). A person's economic condition, measured by a solvency ratio, financial knowledge, and financial behaviors can also be assumed to have an effect on financial stress levels. Specifically, those who have acceptable financial ratios, more knowledge, and better behaviors tend to be less stressed with their financial situation. Based on this assumption, the indirect effects of demographic characteristics, financial stressors, financial knowledge, financial behaviors, and solvency, through a person's overall financial stress level, are presented in the proposed framework.

Financial behaviors can also be affected by demographic characteristics, financial stressors, financial knowledge, and risk tolerance. Previous research findings suggest that possible relationships exist between demographic characteristics and financial behavior. For example, individuals who have low incomes, less education, a high num-

FIGURE 1

The Determinants of Financial Satisfaction



ber of financial stressors, less financial knowledge, and lower risk tolerances may be more likely to make different financial decisions than others, resulting in varying behaviors and financial outcomes. These relationships are shown in the framework.

As shown in the proposed framework, solvency can be affected by demographic characteristics and financial stressors. Homeownership and income level are assumed to have strong positive relationships with a person's solvency. Finally, financial risk tolerance is another factor that can be affected by demographic and socioeconomic characteristics, financial stressors, and financial knowledge. Embrey and Fox (1997), Grable and Lytton (1998), and Wang and Hanna (1997) each determined that factors such as gender and education can influence risk-taking propensities. For example, men tend to be more risk tolerant than women and those persons with higher attained educational levels also tend to be more risk tolerant than those with less education. Moreover, financial knowledge may have a positive relationship with risk tolerance.

The proposed framework incorporates all of the direct effects from demographic and socioeconomic characteristics, financial stressors, financial knowledge, risk tolerance, solvency, financial behaviors, and financial stress levels on financial satisfaction. All of the possible indirect effects from these variables are also shown. As suggested above, it is hoped that the determinants of financial satisfaction can be more fully understood by taking into account these direct and indirect effects.

Methodology

The data used to test the robustness of the proposed framework of the determinants of financial satisfaction were collected from a mail survey of white-collar clerical workers from a community in west Texas. A systematic random sample of 500 potential respondents was drawn from an employee directory. Clerical workers were limited to those employees who held a job title as secretary, business manager, administrative assistant, technician, accounting clerk, clerical specialist, or administrative secretary. Of the 500 questionnaires mailed, 220 were returned and 22 were returned as undeliverable, resulting in a useable response rate of 46%. The survey instrument queried respondents about (a) satisfaction with their personal financial situation, (b) financial stress level, (c) financial behavior, (d) financial solvency levels, (e) financial risk tolerance, (f) self assessed financial knowledge, (g) financial stressors, and (h) certain demographic and socioeconomic characteristics.

Dependent Variable

A one-item 10-point stair-step question was utilized to assess respondents' financial satisfaction. The use of a self-anchoring scale has its origins in research conducted by Cantril (1965). Porter and Garman (1993) and Joo (1998) used a variation of the scale to measure the financial situation of other samples. Using the scale, Porter and Garman reported that distributions of respondents' satisfaction varied, but that distributions were "very similar to earlier satisfaction research results" (p. 139). Joo confirmed Porter and Garman's report after using the revised Cantril 10-point stair step assessment in which she measured financial satisfaction among a cross section of employed persons. In her study, Joo determined that the mean score for sample respondents was consistent with findings reported in similar studies using subjective measures of financial satisfaction.

The 10-point-stair-step question asked respondents to mark how satisfied they were with their present financial situation. Those who were not satisfied ended up towards the lower steps, while those who were more satisfied ended up towards the higher steps. Over one-half of the respondents (58.1%) reported their satisfaction as 1 to 4 (below the medium level). About one-fifth (18.1%) reported about average satisfaction (steps 5 and 6), while the remainder (23.9%) reported high levels of satisfaction (steps 7, 8, 9, and 10).

Independent Variables

Demographic and socioeconomic characteristics. Information about a total of eight demographic and socioeconomic variables was collected from respondents. Age and number of financial dependents were measured as continuous variables. Household income was measured at the categorical level; however, income was recoded as an interval level variable. In the analyses that follow, gender, marital status, ethnicity, home ownership, and education were dummy coded. Respondents were coded 1, if the respondent was female, married, White, or a homeowner. Two dummy coded variables were created to represent attained educational levels. Those respondents who had more than a high school education but less than a college degree (i.e., bachelor's degree) were coded 1, otherwise 0. Respondents were coded 1 if they indicated having received a bachelor's degree or higher, otherwise 0; high school graduates were used as the reference group.

Financial knowledge. Other independent variables included financial knowledge, financial stressors, financial stress level, financial risk tolerance, financial behaviors, and solvency level. Respondents' self-assessed financial knowledge level was examined by asking, "How would you rate your financial knowledge level?" More than one-third (35.5%) of the respondents rated their financial knowledge level above average, 37.7% rated themselves as about the average, and 26.8% rated themselves as below average.

Financial stressors. Respondents were also asked about the number of financially stressful events (i.e., financial stressors) that they experienced during the past year. A list of 24 financial stressors consisting of personal, family, and situational stressors was used. Respondents were asked to mark all of the events that occurred in their life during the past year. More than 13% of respondents had not experienced a financially stressful event. Among the remaining 190 respondents, about one-fifth (22.3%) experienced one financial stressor, while approximately the same percentage (22.8%) experienced two financial stressors. The average number of financial stressors, for those respondents who reported having a financial stressor, was 2.44.

Financial stress. The overall financial stress level of respondents was measured separately with one 10-point Likert-type question. The mean score on this item was 5.92. More than 30% of respondents reported medium levels of financial stress, about one-quarter (26.8%) reported low levels of financial stress, and 41.8% indicated that their financial stress level was above average.

Financial risk tolerance. Respondents' financial risk tolerance was measured using six 4-point Likert-type questions (Strongly Agree to Strongly Disagree as shown in Table 1). The risk tolerance index was based on a measure developed by Grable (2000). The index was found to be reliable (Cronbach's alpha equals; .80). Possible risk tolerance scores ranged from 6 to 24 (with higher scores representing higher levels of financial risk tolerance). The average risk tolerance score was 13.2.

Financial behavior. Respondents' financial behavior was examined using ten 4-point Likert-type questions, ranging from 1 meaning never and 4 meaning always (see Table 2). Items used were based on measures originally modi-

TABLE 1

Risk Tolerance Measure Items and Descriptive Statistics

Item	Mean (Score range 1 = strongly agree to 4 = strongly disagree)	Standard deviation
1. In terms of investing, safety is more important than returns.	2.04	.68
2. I am more comfortable putting my money in a bank account than in the stock market.	2.08	.82
3. When I think of the word "risk" the term "loss" comes to mind immediately.	2.05	.76
4. Making money in stocks and bonds is based on luck.	2.71	.81
5. I lack the knowledge to be a successful investor.	1.92	.82
6. Investing is too difficult to understand.	2.38	.83

TABLE 2

Financial Behavior Measure Items and Descriptive Statistics

Items	Mean 1 (never) 4 (always)	SD
1. I set money aside for savings.	2.30	1.02
2. I set money aside for retirement.	2.82	1.30
3. I had a plan to reach my financial goals.	2.21	.99
4. I had a weekly or monthly budget that I followed.	2.27	.99
5. I paid credit card bills in full and avoided finance charges.	2.10	1.12
6. I reached the maximum limit on a credit card.	1.76	1.01
7. I spent more money than I had.	1.97	.86
8. I had to cut living expenses.	2.06	.82
9. I had to use a credit card because I ran out of cash.	1.78	.75
10. I had financial troubles because I did not have enough money.	2.00	.98

Note. Items 6, 7, 8, 9, and 10 were reverse coded.

fied and developed by Joo (1998). The index was found to offer an adequate level of internal consistency (Cronbach's alpha = .82). The mean financial behavior score for respondents was 27.2, indicating that the average respondent managed both positive and negative behaviors over the previous year.

Financial solvency. A question, adopted from previous research (Porter, 1990), was used to measure each respondent's financial solvency level. Solvency levels were measured by asking the following question: "Suppose you were to sell all of your major possessions, turn all of your investments and other assets into cash, and pay all of your debts. Would you be in debt, break even, or have something left over?" (p. 190). Respondents who would be in serious debt marked 1, respondents who would be break even marked 3, and respondents who would have money left over marked 5. More than one-tenth (16.4%) of respondents reported that they would be in debt and about two-tenths (23.6%) reported that they would break even. The majority of the respondents (60.0%) reported that they would have some money left over.

Data Analysis

Path analysis, using SPSS for Windows, was used to analyze the data. According to Pedhazur (1982), path analysis was developed by "Sewall Wright as a method for studying the direct and indirect effects of variables hypothesized as causes of variables treated as effects" (p. 580). Path analysis is a method for estimating the magnitude of linkages between variables. It is important to note that path analysis is not a method for discovering causal effects, but instead is a method to help find logical and theoretical linking relationships based on correlations between variables. The path analysis approach

relies on one or more multiple linear regression analyses. Generated path coefficients are simply standardized regression coefficients (i.e., beta weights). The indirect effects are calculated by multiplying the direct effects (standardized regression coefficients) of each factor to each dependent variable. Total effects are calculated by summing the two effects.

The method used in this analysis was similar to that of Mugenda et al. (1990) who explained the process this way:

> "A fully recursive model was hypothesized, which meant that there was a hypothesized path from each exogenous variable to each endogenous variable and also among the endogenous variables. Direct and indirect effects were also calculated to determine the influence of intervening variables" (p. 351).

Tests of multicollinearity. In order to confirm that the independent variables were not highly correlated, bivariate correlations were examined to check for possible multicollinearity situations. No such problems were identified. Once it was determined that high multiple correlations between and among the independent variables was not an issue, a total of five multiple linear regression analyses were conducted in order to generate path coefficients. During each regression analysis, additional tests for multicollinearity were conducted by examining variance inflation factors. There was no evidence, based on an analysis of eigenvalues, to suggest significant collinearity within the independent variable sets.

Path analysis. Five regression equations were initially used in the path analysis. The first analysis used financial satisfaction as the dependent variable and all other variables as independent variables. The second equation used financial stress level as the dependent variable, and solvency, financial behaviors, risk tolerance, financial knowledge, financial stressors, and demographic characteristics as independent variables. The third equation used financial behaviors as the dependent variable, with risk tolerance, financial knowledge, financial stressors, and demographic characteristics as independent variables. The fourth equation used the solvency ratio as the dependent variable and financial stressors and demographic characteristics as independent variables. Finally, the fifth equation used risk tolerance as the dependent variable and financial knowledge, financial stressors, and demographic characteristics as independent variables.

Results

Demographic Characteristics of Respondents

The majority of respondents in this study were female (86.8%), while 13.2% of the respondents were male. The mean age was 43 years old with a standard deviation of 11.0 years. The largest number of

respondents (35.3%) were in their 40s, while about one-quarter (22.3%) were in their 30s, and slightly more than 20% were in their 50s. Fourteen percent were in their 20s, while seven percent were in their 60s and 70s. The majority of respondents (83.6%) had a greater than high school level of education (e.g., trade, vocational training, associates', some college, bachelors, and graduate). The majority of respondents (68.8%) had household income of less than $50,000; however, the average personal income reported was $35,000. About two-thirds (63.6%) were married. About three-quarters (77.3%) were White, while Hispanics (14.7%) and African Americans (5.0%) comprised the majority of the remainder. The average number of reported financial dependents was greater than two (2.65). Finally, about two-thirds (65.9%) were home owners. The remainder (34.1%) either rented or lived with someone else.

Factors Related to Financial Satisfaction

Results from the path analysis are presented in Figure 2. Numerous direct, indirect, and total effects were found. The following discussion details findings related to (a) direct effects found in the model (e.g., direct effects on financial satisfaction, financial stress, financial behaviors, solvency level, and financial risk tolerance); (b) indirect effects on financial satisfaction; and (c) important total effects on financial satisfaction.

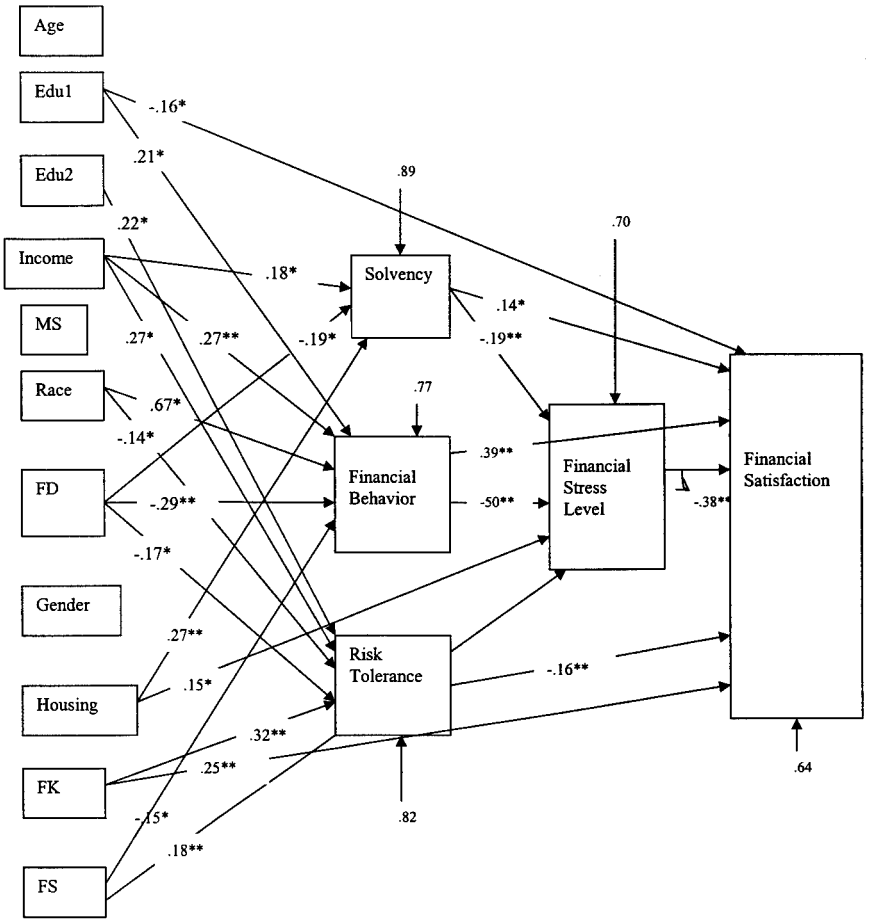
Direct Effects

Financial satisfaction. It was determined that education, financial knowledge, financial risk tolerance, financial solvency, financial behaviors, and financial stress level had a direct effect on financial satisfaction. Specifically, higher levels of financial knowledge and solvency, and the practice of better financial behaviors led to higher levels of financial satisfaction.

The positive relationships between a person's solvency, financial behaviors, and financial satisfaction support previous research findings (e.g., Mugenda et al., 1990). Those who were financially more solvent tended to be more satisfied with their financial situation. Financial behaviors were found to have a direct relationship with financial satisfaction; those who practiced better behaviors tended to have higher levels of financial satisfaction. This finding supports an assertion made by O'Neill, Xiao, Bristow, Brennan, and Kerbel (2000) who indi-

FIGURE 2

Path Analysis Results of the Determinants of Financial Satisfaction



Notes: **Only significant coefficients are presented in this figure. R^2: .63.
EDU 1 = above high school less than bachelor's degree; EDU 2 = more than bachelor's degree; MS = Marital Status; FD = Number of Financial Dependents; FS = Financial Stressors; FK = Financial Knowledge.

cated that if consumers receive education in the basic personal finance content areas they may be in a better position to manage their financial behaviors, resulting in improved financial satisfaction.

Financial risk tolerance and financial stress levels were shown to have direct negative relationships on financial satisfaction. Financial risk tolerance negatively affected financial satisfaction. This finding is somewhat intuitive. It can be argued that those who have higher levels of financial risk tolerance tend to also have increased financial expectations, and that when compared to their standard of living, highly risk tolerant persons find their current level of living, and thus their financial satisfaction, inadequate. Financial stress level was also found to be negatively related to financial satisfaction. Those who were financially stressed reported lower levels of financial satisfaction. The negative coefficient from education was interpreted to mean that those who had a higher than high school education but lower than college degree tended to be less satisfied with their financial situation than those who had different educational backgrounds.

No direct effects were found from age, gender, ethnicity, marital status, education, homeownership, income, number of financial dependents, or financial stressors on financial satisfaction. These findings indicated that demographic and socioeconomic characteristics may indirectly affect financial satisfaction through intervening variables rather than influencing financial satisfaction directly.

Financial stress. It was determined that financial stress level is related with home ownership, financial stressors, solvency, and financial behaviors. Homeowners' financial stress levels were higher than those reported by renters. Those who experienced many financially stressful events reported higher levels of financial stress than others. On the other hand, solvency levels and financial behaviors were shown to have a negative relationship with a person's financial stress level. As might be expected, those who were more solvent and exhibited better financial behaviors reported lower levels of financial stress than others.

Financial behaviors. Financial behaviors were related with education, number of financial dependents, income, financial stressors, and risk tolerance. Education, income, and risk tolerance had a positive relationship with financial behaviors. Those who had an education beyond high school but less than a college degree had higher financial behavioral scores than other educational groups. Those who had a

greater level of household income tended to exhibit better behaviors than other income groups. Also, those who had a higher level of financial risk tolerance tended to report better financial behaviors. Finally, the number of financial dependents and financial stressors were shown to have a negative relationship with financial behaviors.

Solvency level. The solvency level had a direct relationship with a respondent's number of financial dependents, home ownership, and income. Income and home ownership were shown to have a positive relationship with solvency while the number of financial dependents had a negative relationship with solvency. In other words, those who had higher levels of household income and those who were homeowners were more likely to report higher levels of financial solvency, while those respondents who had more financial dependents were more likely to be less solvent than others.

Financial risk tolerance. Financial risk tolerance was related to respondents' level of education, number of financial dependents, income, and financial knowledge. Those who had a college degree or higher level of education tended to have a higher level of risk tolerance than others. The number of financial dependents reported by a respondent had a negative impact on risk tolerance, while household income had a positive impact on risk tolerance. Finally, financial knowledge had a positive effect on risk tolerance, indicating that those who were more knowledgeable about investing and financial issues tended to be more risk tolerant.

Indirect Effects on Financial Satisfaction

The path analysis indicated indirect effects from education, home ownership, income, the number of financial dependents, financial stressors, financial knowledge, financial solvency, risk tolerance, and financial behaviors on financial satisfaction. Some demographic and socioeconomic factors such as homeownership, income, and number of financial dependents were shown to have only indirect effects on financial satisfaction.

Education had a positive indirect effect on financial satisfaction indicating that those who had a higher level of education tended to be more satisfied with their financial situation. Home ownership also had a positive effect, suggesting that homeowners tended to be more satisfied with their financial situation; however the relationship was

weak. Income had a relatively large positive indirect effect on financial satisfaction, indicating that those with higher incomes tended to be more satisfied with their financial situation. The number of dependents had a negative effect indicating that the more dependents reported by a respondent, the lower their financial satisfaction. No indirect effects were found from age, gender, ethnicity, or marital status to financial satisfaction.

Financial stressors were also shown to have a negative indirect effect on financial satisfaction. This was interpreted to mean that the more financially stressful events experienced by a respondent, the lower the financial satisfaction level. Financial knowledge, solvency, risk tolerance, and financial behaviors also had indirect effects on financial satisfaction. The indirect effects from financial knowledge and solvency to financial satisfaction were weak; however, the effects were positive. While the direct effect from risk tolerance to financial satisfaction, as reported earlier, was negative, risk tolerance had an overall positive effect on financial satisfaction. Financial behavior also had a positive indirect effect on financial satisfaction.

Important Total Effects

The summary of direct, indirect, and total effects is presented in Table 3. As shown in Table 3, the single most influential determinant of financial satisfaction was an individual's financial behavior. Individual financial practices (e.g., cash management, credit management, budgeting, financial planning, and general money management) had the largest impact on an individual's financial satisfaction level. This finding suggests that those who practice desirable financial behaviors tend to be more satisfied with their personal financial situation. This, in turn, indicates that if educators, researchers, and practitioners can work to improve a person's financial behaviors, this may likely lead to higher levels of financial satisfaction.

The second most dominant determinant of financial satisfaction was a person's financial stress level. The strong relationship between respondents' financial stress level and satisfaction was an anticipated outcome of this research. It was determined that those who experienced higher levels of self-reported financial stress tended to be less satisfied with their personal financial situation than others.

The next most significant factor affecting financial satisfaction was financial knowledge. Those who self assessed their level of financial knowledge higher than others tended to be more satisfied with their

TABLE 3

Direct, Indirect, and Total Effects of the Independent Variables on Financial Satisfaction

Variables	Direct effects	Indirect effects	Total effects
Age	0	0	0
Gender	0	0	0
Ethnicity	0	0	0
Marital Status	0	0	0
Education (higher than high school less than college)	–.16	.12	–.04
Education (beyond college)	0	.01	.01
Home Ownership	0	.01	.01
Income	0	.21	.21
Financial Dependents	0	–.17	–.17
Financial Stressors	0	–.18	–.18
Financial Stress Level	–.38	0	–.38
Financial Knowledge	.25	.01	.26
Solvency Measure	.14	.07	.21
Risk Tolerance	–.16	.19	.03
Financial Behavior	.39	.19	.58

financial situation. This finding has important implications for those interested in improving the financial satisfaction of individuals. For instance, consumer educators and financial practitioners are in an ideal position to increase the financial satisfaction of individuals by working to increase the level of financial knowledge of their constituencies. Financial education appears to be one of the key factors to improving financial satisfaction.

Other important direct determinants of financial satisfaction included: (a) solvency, (b) financial stressors, (c) number of financial dependents, (d) risk tolerance, (e) home ownership, and (f) education. As might be expected, solvency, risk tolerance, and home ownership were shown to have positive effects on financial satisfaction. Financial stressors and number of financial dependents were shown to have negative effects on financial satisfaction. It was also determined that education had a weak but significant relationship with financial satisfaction.

Note that household income was not shown to have a direct effect when explaining financial satisfaction. In other words, income, by itself, does not appear to be as powerful of a determinant of financial satisfaction as a person's financial behaviors, stress, knowledge, fi-

nancial solvency, or other attitudes. Income only becomes a significant determinant of financial satisfaction when indirect effects are accounted for through other significant variables.

Implications and Recommendations

This research used a path analysis method to reveal an exploratory framework of the determinants of financial satisfaction. Based on a combination of research findings presented in the financial satisfaction and well-being literature, and theoretical relationships observed empirically, this exploratory framework provides further insight into the factors that determine financial satisfaction. However, readers are encouraged to remember that this study is limited by the nature of the sample and the exploratory nature of the analysis.

The framework presented here identified direct effects, as well as indirect effects, on personal financial satisfaction. Factors that had either a direct or indirect effect on financial satisfaction included: (a) financial behaviors, (b) financial stress level, (c) financial knowledge, (d) income, (e) solvency, (f) financial stressors, (g) the number of financial dependents, (h) risk tolerance, (i) home ownership, and (j) education. Factors that were not significant determinants of consumer financial satisfaction included age, gender, ethnicity, and marital status.

Consumer and family economists can use the findings from this exploratory study, especially the empirically tested exploratory framework in Figure 2, as a guide for increasing the financial satisfaction of their constituencies. For example the data indicate that a person's financial satisfaction can be increased by (a) improving individual financial behaviors, (b) reducing financial stress levels, (c) increasing levels of financial knowledge, and (d) improving financial solvency.

Consumer educators and financial practitioners can help consumers increase their financial satisfaction by facilitating changes in financial behaviors. For example, more than 20% of respondents in this study failed to save money for general purposes, and more than 25% of respondents saved nothing for retirement. Also, more than 40% of respondents failed to pay a credit card bill in full to avoid finance charges, and less than 20% of respondents actually had a weekly or monthly budget. These, and other, financial behavioral practices suggest the need for remedial personal financial education. Such education might include discussions and practice in basic skill areas, such as budgeting, spending, credit usage, savings, and consumer decision

making. Evidence from this study indicates that the majority of individuals with low levels of consumer financial satisfaction were not prepared to manage more sophisticated concepts and behaviors. One obvious solution to this situation involves a renewed focus on behavioral education (O'Neill et. al, 2000). Consumer educators and financial practitioners are in an ideal position to strengthen the knowledge and behavioral base of consumers. Proactive educational outreach efforts can lead to an advancement of consumer interests and, ultimately, to an increase in financial satisfaction.

Results from the path model suggest that financial behaviors are closely related to a person's overall financial stress level. It is possible that additional steps can be taken to increase the financial satisfaction of consumer sciences constituency populations by better understanding these relationships. This assertion is supported in the literature. Previous research supports the concept that a relationship exists between financial behaviors and financial stress levels. Specifically, individuals who exhibit better financial behaviors tend to have lower levels of financial stress, and therefore, higher levels of financial satisfaction. Thus, it is reasonable to assume that financial education directed at improving financial behaviors will have a significant and positive impact on reducing financial stress and increasing financial satisfaction.

Financial satisfaction can also be increased by improving an individual's financial solvency. As discussed within the consumer economics literature (e.g., Fletcher, Beebout, & Mendenhall, 1997; Grable & Joo, 1998; O'Neill et al., 2000), financial education can have a positive impact on the improvement of personal saving and investing behaviors. This type of education can be used to improve the financial solvency of individuals. For instance, Grable and Joo (1998) and Fletcher et al. (1997) found that financial education works to increase a person's rate and level of savings, which could lead to increased levels of financial solvency.

It also was determined that some demographic characteristics influence financial satisfaction indirectly. This finding is significantly different from results presented in previous studies that suggest that demographic factors have a direct effect on financial satisfaction. Results from this study suggest that demographic factors most likely affect financial satisfaction indirectly. In summary, the findings reported here support the continued and increased use of targeted financial education initiatives directed at improving the financial literacy, financial behaviors, knowledge, and attitudes of consumer economics'

constituencies. Financial education is the single best method available for use by consumer sciences researchers, practitioners, educators, and policy makers when taking intervening steps to improve the financial satisfaction, and overall consumer well-being, of individuals and families (see also Bernheim & Garrett, 1996; Bernheim, Garrett, & Maki, 1997; Joo & Grable, 2000).

The following suggestions, based on the exploratory nature of this study, are recommended for future research. First, replications of the study using different sample frames are needed. Replication of this study will help assure that the constructs used here accurately reflect relationships between and among the selected variables, and that the reliability and validity of the specific determining factors is maintained over repeated measures. Also, a replication with a sample that includes more male and various ethnic groups will improve the generalizability of the findings. Second, a further critique and development of the model is encouraged. Only in this way can consumer and family economists obtain a better theoretical and practical understanding of the determinants of consumer financial satisfaction. Third, researchers interested in qualitative studies are encouraged to explore the psychological and sociological basis of attitudes and behaviors that were found to be related to consumer financial satisfaction. Such studies will serve to enhance the understanding of the motives, drives, and influences that affect the quality of life of individuals both directly and indirectly.

References

Ackerman, N. M., & Paolucci, B. (1983). Objective and subjective income adequacy. *Social Indicators Research, 12,* 25–48.

Bailey, A. W. (1987). Social and economic factors affecting the financial well-being of families. *Journal of Home Economics, 79*(2), 14–18.

Bailey, W. C., Woodiel, D. K., Turner, J., & Young, J. (1998). The relationship of financial stress to overall stress and satisfaction. *Personal Finances and Worker Productivity, 2*(2), 198–206.

Bernheim, B. D., & Garrett, D. M. (1996). *The determinants and consequences of financial education in the workplace: Evidence from a survey of households.* (Stanford Economics Working Paper #96–007). http://www.nber.org/papers/w5667.pdf

Bernheim, B. D., Garrett, D. M., & Maki, D. M. (1997). *Education and saving: The long-term effects of high school financial curriculum mandates.* Retrieved January 5, 1998, from http://www-econ.stanford.edu/econ/wprkp/swp97012.html

Blau, F. D. (1998). Trends in the well-being of American women, 1970–1995. *Journal of Economic Literature, 36*(1), 112–165.

Campbell, A. (1981). *The sense of well-being in America: Recent patterns and trends*. New York: McGraw-Hill.

Cantril, H. (1965). *The pattern of human concerns*. New Brunswick, NJ: Rutgers University Press.
Danes, S. M. (1998). Multiple roles, balance between work and leisure, and satisfaction with level of living. *Family and Consumer Sciences Research Journal, 26*, 401–424.
Davis, E. P., & Schumm, W. R. (1987a). Family financial satisfaction: The impact of reference point. *Home Economics Research Journal, 14*, 123–131.
Davis, E. P., & Schumm, W. R. (1987b). Savings behavior and satisfaction with saving: A comparison of low- and high-income groups. *Home Economics Research Journal, 14*, 247–256.
DeVaney, S. A., & Lytton, R. T. (1995). Household insolvency: A review of household debt repayment, delinquency and bankruptcy. *Financial Services Review, 4,* 137–156.
DeViney, S. (1995). Life course, private pension, and financial well-being. *American Behavioral Scientist, 39*(2), 172–185.
Draughn, P. S., LeBoeuf, R. C., Wozniak, P. S., Lawrence, F. C., & Welch, L. R. (1994). Divorcee's economic well-being and financial adequacy as related to interfamily grants. *Journal of Divorce and Remarriage, 22*, 23–35.
Embrey, L. L., & Fox, J. J. (1997). Gender differences in the investment decision-making process. *Financial Counseling and Planning, 8*(2), 41–56.
Fletcher, C. N., Beebout, G., & Mendenhall, S. (1997). Developing and evaluating personal finance education at the worksite: A case study. *Personal Finances and Worker Productivity, 1*(1), 54–59.
Freeman, C., Carlson, J., & Sperry, L. (1993). Adlerian marital therapy strategies with middle income couples facing financial stress. *The American Journal of Family Therapy, 21,* 324–332.
Garman, E. T., Leech, I. E, & Grable, J. E. (1996). The negative impact of employee poor personal financial behaviors on employers. *Financial Counseling and Planning, 7,* 157–168.
George, L. K. (1992). Economic status and subjective well-being: A review of the literature and an agenda for future research. In Cutler, N. E., Gregg, D. W., & Lawton, M. P. (Eds.), *Aging, money, and life satisfaction: Aspects of financial gerontology* (pp. 69–99). New York: Springer.
Godwin, D. D. (1994). Antecedents and consequences of newlyweds' cash flow management. *Financial Counseling and Planning, 5,* 161–190.
Godwin, D. D., & Carroll, D. D. (1986). Financial management attitudes and behavior of husbands and wives. *Journal of Consumer Studies and Home Economics, 10*, 77–96.
Grable, J. E. (2000). Financial risk tolerance and additional factors which affect risk taking in everyday money matters. *Journal of Business and Psychology, 14*, 625–630.
Grable, J. E., & Joo, S. (1998). Does financial education affect knowledge, attitudes, and behavior? An empirical analysis. *Personal Finances and Worker Productivity, 2*(2), 213–220.
Grable, J. E., & Lytton, R. H. (1998). Investor risk tolerance: Testing the efficacy of demographics as differentiating and classifying factors. *Financial Counseling and Planning, 9*(1), 61–73.
Greenley, J. R., Greenberg, J. S., & Brown, R. (1997). Measuring quality of life: A new and practical survey instrument. *Social Work, 42*, 244–254.
Hayhoe, C. R. (1990). Theoretical model of perceived economic well-being. *Annual Proceedings of The Association for Financial Counseling and Planning Education,* 116–141.
Hayhoe, C. R., & Wilhelm, M. S. (1998). Modeling perceived economic well-being in a family setting: A gender perspective. *Financial Counseling and Planning, 9*(1), 21–34.
Hira, T. K., & Mugenda, O. (1999a). Do men and women differ in their financial beliefs

and behaviors? In K. Kitt (Ed.), *Proceedings of Eastern Family Economics Resource Management Association* (pp. 1–8). Austin, TX.

Hira, T. K., & Mugenda, O.M. (1999b). The relationships between self-worth and financial beliefs, behavior, and satisfaction. *Journal of Family and Consumer Sciences, 91*(4), 76–82.

Hong, G., & Swanson, P. M. (1995). Comparison of financial well-being of older woman: 1977 and 1989. *Financial Counseling and Planning, 6,* 129–138.

Jeries, N., & Allen, C. M. (1986). Satisfaction/dissatisfaction with financial management among married students. *Proceedings of American Council on Consumer Interests Annual Conference*, 63–69.

Joo, S. (1998). *Personal financial wellness and worker job productivity.* Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, Blacksburg.

Joo, S., & Grable, J. E. (2000). A retirement investment savings decision model: Influencing factors and outcomes. *Consumer Interests Annual, 46*, 43–48.

McCubbin, H. I., & Patterson, J. M. (1983). Stress: The family inventory of life events and changes. In E. E. Filsinger (Ed.), *Marriage and family assessment* (pp. 253–274). Beverly Hills, CA: Sage.

Morgan, J. N. (1992). Health, work, economic status, and happiness. In N. E. Cutler, D. W. Gregg, & M. P. Lawton (Eds.), *Aging, money, and life satisfaction: Aspects of financial gerontology* (pp. 101–133). New York: Springer Publishing Company.

Mugenda, O. M., Hira, T. K., & Fanslow, A. M. (1990). Assessing the causal relationship among communication, money management practices, satisfaction with financial status, and satisfaction with quality of life. *Lifestyles: Family and Economic Issues, 11,* 343–360.

O'Neill, B. (1995). *Characteristics and practices of financially-stressed homeowners in Prince William County, Virginia.* Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, Blacksburg.

O'Neill, B., Xiao, J., Bristow, B. J., Brennan, P. Q., & Kerbel, C. (2000). MONEY 2000™: Differences in perceptions among program participants. *The Journal of Consumer Education, 18,* 35–42.

Pedhazur, E. J. (1982). *Multiple regression in behavioral research.* Fort Worth, TX: Harcourt Brace College Publishers.

Porter, N. M. (1990). *Testing a model of financial well-being.* Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, Blacksburg.

Porter, N. M., & Garman, E. T. (1993). Testing a conceptual model of financial well-being. *Financial Counseling and Planning, 4,* 135–164.

Roszkowski, M. J. (1999). Risk tolerance in financial decisions. In D. M. Cordell (Ed.), *Fundamentals of Financial Planning* (pp. 179–248). Bryn Mawr, PA: The American College.

Strumpel, B. (Ed.). (1976). *Economic means for human needs.* Ann Arbor: MI: Institute for Social Research.

Sung, J., & Hanna, S. (1996). Factors related to risk-tolerance. *Financial Counseling and Planning, 7,* 11–20.

Wang, H., & Hanna, S. (1997). Doe risk tolerance decrease with age? *Financial Counseling and Planning, 8*(2), 27–32.

Wilhelm, M. S., & Varcoe, K. (1991). Assessment of financial well-being: Impact of objective economic indicators and money attitudes on financial satisfaction and financial progress. *Annual Proceedings of The Association for Financial Counseling and Planning Education,* 184–202.

Williams, F. L. (1983). Money income, nonmoney income, and satisfaction as determinants of perceived adequacy of income. In M. Dunsing (Ed.), *Proceedings of the Symposium on Perceived Economic Well-Being* (pp. 106–125). Urbana, IL: University of Illinois at Urbana.

Williams, F. L. (1993). Financial counseling: Low-income or limited-income families. In

V. S. Fitzsimmons (Ed.), *Economic changes: Challenges for financial counseling and planning professionals,* (pp. 121–145). Proceedings of the Association for Financial Counseling and Planning Education. San Antonio, TX.

Williams, F. L., Haldeman, V., & Cramer, S. (1996). Financial concerns and productivity. *Financial Counseling and Planning, 7,* 147–155.

Zimmerman, S. L. (1995). *Understanding family policy: Theories and applications* (2nd ed). Thousand Oaks, CA: Sage.