The Impact Of Financial Attitudes And Knowledge On Financial Management And Satisfaction Of Recently Married Individuals

Jodi L. Parrotta[1] and **Phyllis J. Johnson**[2]

Using a financial management model derived from the Deacon and Firebaugh Family Resource Management Model, this study examined the impact of financial attitudes and knowledge on financial management and satisfaction with financial status in a sample of 194 recently married individuals. Higher income and positive attitudes about finances, but not the amount of financial knowledge, predicted use of recommended financial management practices. Financial knowledge did not moderate the relationship between attitudes and practices, i.e., the relationship was not stronger when financial knowledge was high. Higher income and the use of recommended financial practices were related to increased satisfaction with financial status.

Key Words: *Financial attitudes, Financial knowledge, Financial management, Financial satisfaction, Newlyweds*

Satisfaction with one's financial status can enhance marital satisfaction, and more broadly, life satisfaction (Berry & Williams, 1987; Mugenda, Hira, & Fanslow, 1990). Conversely, financial difficulties and dissatisfaction with one's financial status can lead to marital conflict and divorce (Poduska & Allred, 1990). How a person manages his/her personal finances has been shown to be a major factor contributing to satisfaction or dissatisfaction with one's financial status (Godwin, 1994; Hira, Fanslow, & Vogelsang, 1992; Porter & Garman, 1993; Scannell, 1990; Titus, Fanslow, & Hira, 1989; Walson & Fitzsimmons, 1993). People who use more of the financial management practices recommended by experts generally report being more satisfied with their financial status than people who employ fewer of the recommended strategies. Factors that are related to financial management practices are therefore important areas for research.

The purpose of this study is to assess variables related to use of recommended financial management practices, and the subsequent effect of these variables on financial satisfaction of recently married individuals. A sample of recently married individuals in their first marriage was selected for this study because this group of individuals is in the process of establishing financial management practices that may have an impact on their present and future financial satisfaction. Identifying variables influencing their financial management may provide insight into financial content to include in marriage preparation programs or in financial education courses for young adults.

Two factors that have an impact on behavior in general are knowledge and attitudes (Eagly & Chaiken, 1993). To date, very little research in the financial management literature has been conducted on the relationship between financial attitudes and financial management (Godwin, 1994). Substantially more research, however, has been carried out on the relationship between financial knowledge and financial management (Godwin, 1994; Godwin & Carroll, 1986; Hira et al., 1992; Mugenda et al., 1990; Titus et al., 1989).

No study has investigated the combined effect of financial knowledge and financial attitudes on financial management. Research in the psychological literature on attitudes suggests that knowledge moderates the correspondence between attitudes and behavior (Eagly & Chaiken, 1993). That is, knowledge affects the direction and/or strength of the relationship between attitudes and behaviors (Baron & Kenny, 1986). This study

---

[1]*Jodi L. Parrotta, Research Assistant, Alberta Cancer Board, Edmonton, Alberta, Canada., E-mail:* jparrott@compusmart.ab.ca

[2]*Phyllis J. Johnson, Associate Professor, School of Social Work and Family Studies, 2205 East Mall, University of British Columbia, Vancouver, B.C., Canada V6T 1Z4. E-mail:* pjohnson@interchange.ubc.ca

Research was funded by a UBC Humanities and Social Sciences Small Grant. Research reported is based on the first author's master's thesis in Family Studies. The authors thank Daniel Perlman for his assistance with the study.

investigates the direct and combined effects of financial knowledge and financial attitudes on financial management practices, and their subsequent effect on financial satisfaction, using a financial management model derived from the Deacon and Firebaugh (1988) Family Resource Management Model.

Conceptual Model

The conceptual model of financial management shown in Figure 1 is constructed in a manner similar to those designed by other researchers in the financial management field (cf. Davis & Helmick, 1985; Hira et al., 1992; Mugenda et al., 1990; Titus et al., 1989). In general, inputs enter the system and are transformed to produce outputs. The financial management research literature generally defines inputs to the system as material resources (such as income, net worth, and savings), or as human resources (such as general education, age, or financial knowledge). Outputs from the system have been commonly operationalized as objective outcomes, such as change in net worth (Titus et al., 1989) or as subjective outcomes, such as satisfaction (Davis & Helmick, 1985; Hira et al., 1992, Mugenda et al., 1990; Titus et al., 1989). Satisfaction with financial status is used in this study.

Personal and managerial subsystems comprise the system's throughput or transformation process. The managerial subsystem is conventionally defined as money management practices (Mugenda et al., 1990) or as planning and implementing behaviors (Titus et al., 1989). Consequently, the managerial subsystem is defined as financial management in this study, where financial management is the set of behaviors performed -- specifically the planning, implementing, and evaluating involved -- in the areas of cash, credit, investments, insurance, and retirement and estate planning (Deacon & Firebaugh, 1988; Godwin, 1994; Godwin & Koonce, 1992).

The personal subsystem has not been specifically operationalized in previous financial management models. The rationale for including attitudes in the personal subsystem is derived from combining the definition of attitudes in the psychological research literature with Deacon and Firebaugh's definition of personal subsystem. In the psychological literature, an attitude is defined as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly & Chaiken, 1993, p. 1). Therefore, financial attitudes can be considered the psychological tendency expressed when evaluating recommended financial management practices with some degree of agreement or disagreement. Deacon and Firebaugh (1988) emphasize that values evolve, and cognitive, emotional, social, and physical capacities develop in the personal subsystem. The personal subsystem "represents the composite of social-psychological-physiological-spiritual development that gives integrity to management ..." (p. 21). In Deacon and Firebaugh's discussion of the interactions of the personal and managerial subsystems, they posit that there is considerable exchange between the systems, with managerial actions both affecting and being affected by developmental capacities and evolving values. In the psychological literature, Eagly and Chaiken (1993) postulated that attitudes are manifested in behavioral responses. Therefore, it is reasonable to define financial attitudes as a personal subsystem variable and financial behaviors as a managerial subsystem variable.

For this study, financial knowledge and demographic variables such as income and age represent the inputs to the system. The throughput includes financial attitudes (personal subsystem) and financial management (managerial subsystem). The output is satisfaction with financial status.

The model in Figure 1 suggests that inputs (i.e., knowledge) can directly affect the managerial subsystem (management) by bypassing the personal subsystem, or can affect management through its relationship with the personal subsystem (attitudes). The financial management literature has found both knowledge and attitudes to be individually related to management (Godwin, 1994; Godwin & Carroll, 1986; Hira et al., 1992; Mugenda et al., 1990; Titus et al., 1989). However, no one has assessed the combined effect of knowledge and attitudes on financial management practices.

The model in Figure 2, based on the psychological research literature on attitudes, suggests that the relationship between attitudes and behaviors is to some extent a function of knowledge. That is, the "amount of stored information or knowledge that is available and accessible to people moderates attitude-behavior correspondence" (Eagly & Chaiken, 1993, p. 200). A moderator refers to a "qualitative. . . or quantitative. . . variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable" (Baron & Kenny, 1986, p. 1174). If financial knowledge is a moderator, then when financial knowledge is high, the positive relationship between financial attitudes and behavior (using recommended financial management practices) will be stronger than when financial knowledge is low (Figure 2).

Figure 1
Financial Management Model: Adaptation of the Deacon-Firebaugh Model

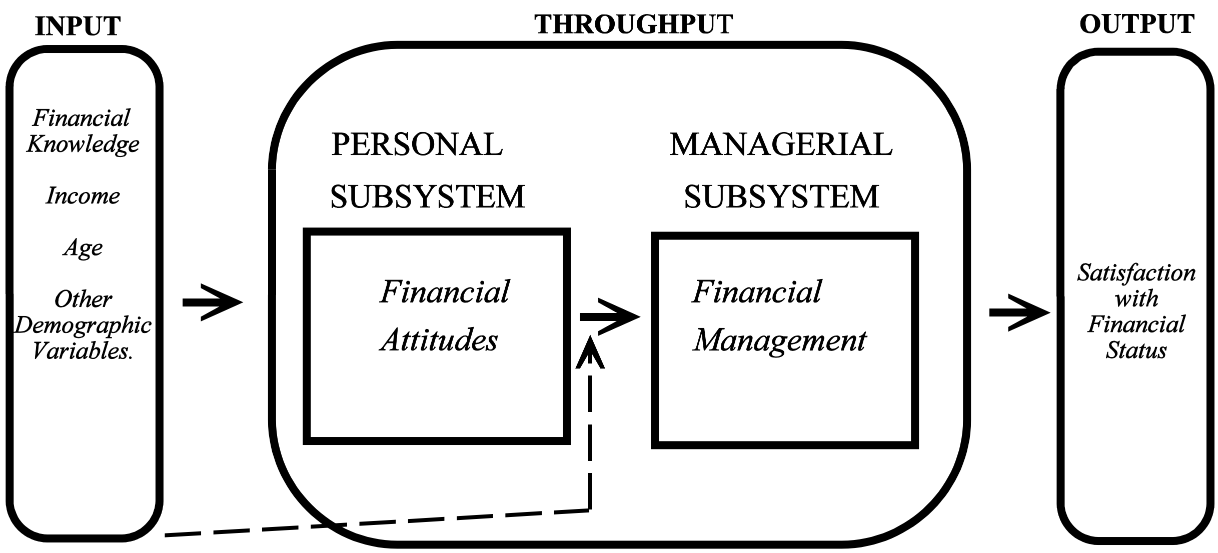
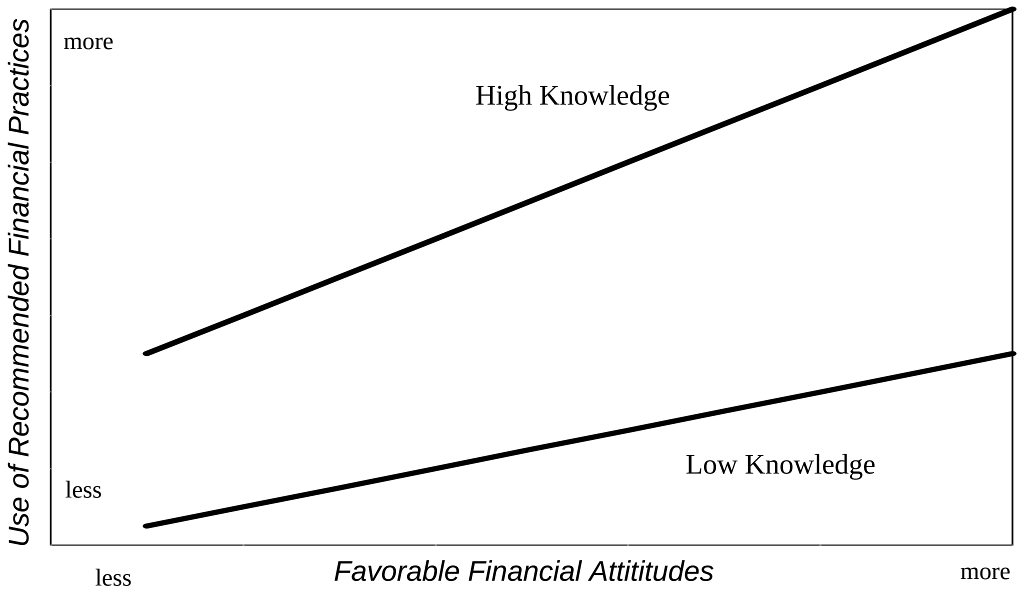


Figure 2
Attitude-by-Knowledge Interaction



Related Literature

Variables Related to Financial Management

Financial Attitudes Only a few studies have investigated financial attitudes (Godwin, 1994; Godwin & Carroll, 1986; Godwin & Koonce, 1992; Wilhelm, Varcoe, & Fridrich, 1993). Of the studies reviewed, only Godwin (1994) examined attitudes as an independent variable, thereby testing the impact of financial attitudes on financial management. She found that a positive attitude toward planning (a 3-item index) was the greatest predictor of cash flow management of newlyweds. Additional research is needed to discover whether this finding is generalizable to other dimensions of financial management. Other studies (Godwin & Carroll, 1986; Godwin & Koonce, 1992) examined attitudes as the dependent variable, with results that do not contribute to an understanding of the impact of attitudes on management behaviors.

Financial Knowledge Definitions of this concept have varied from "any training in financial management" (Godwin, 1994, p. 172), to "completion of a consumer education course" (Godwin & Carroll, 1986, p. 81), to a multi-item index of knowledge (Hira et al., 1992; Mugenda et al., 1990; Titus et al., 1989). Financial knowledge -- regardless of how it has been defined and measured -- has been shown to have a significant impact on financial management, more consistently so when multi-item measures are used (Godwin, 1994; Godwin & Carroll, 1986; Hira et al., 1992; Mugenda et al., 1990; Titus et al., 1989).

Godwin (1994) found that newlywed financial managers with more training in financial management engaged in record keeping more frequently than did managers with less training. Godwin and Carroll (1986) similarly found that spouses who had completed a course in consumer education used more recommended financial management practices than spouses who had not completed such a course.

Investigating the relation between knowledge about insurance and insurance coverage, Hira et al. (1992) found that their 6-item measure of knowledge was one of only two variables that predicted the management behavior. Mugenda et al. (1990) measured financial knowledge with an index of 22 items on various aspects of management, including cash and credit management, asset growth, insurance, retirement, and estate planning. Path analysis revealed that of the 10 input variables, financial knowledge was the only one to influence whether people used recommended financial management practices. Titus et al. (1989) used Mugenda et al.'s 22-item measure of financial knowledge and found a substantial effect for knowledge on management, both in terms of magnitude of the effect and statistical significance. In fact, financial knowledge was the second largest predictor of financial management.

Thus, research has established the positive influence of financial knowledge on following financial management practices, with stronger effects being found when more comprehensive measures of financial knowledge are employed. The greater the knowledge, the greater the likelihood of using recommended financial management practices.

Income Income has been shown to have no significant impact on financial management in some studies (Godwin, 1994; Godwin & Carroll, 1986; Hira et al., 1992; Mugenda et al., 1990), and to be related to recommended financial management practices in other studies (Godwin & Koonce, 1992; Titus et al., 1989). Money managers with higher net incomes have been found to exhibit more implementing behaviors, while level of income had no effect on planning behaviors (Titus et al., 1989). In contrast, Godwin and Koonce (1992) found that low-income newlywed couples actually reported following more financial management practices than couples at higher income levels. Pahl (1989) suggested that management of finances is both more important and more difficult for low income households, hence, low income is related to increased use of managerial behaviors. Alternatively, because income varies with life cycle stage (Deacon & Firebaugh, 1988), it is possible that the findings regarding income and financial management may have been confounded by age or stage of the family life cycle.

Age and Stage of the Life Cycle Unlike the findings with respect to income, research has demonstrated clearly that younger families are more likely to use recommended financial management practices (Davis & Carr, 1992; Davis & Weber, 1990; Godwin, 1994; Godwin & Carroll, 1986; Mugenda et al., 1990; Titus et al., 1989).

Variables Related to Financial Satisfaction

Financial Management Whether measured by individual items or by multi-item scales, financial management has been shown to have a positive impact on financial satisfaction (Godwin, 1994; Hira et al., 1992; Porter & Garman, 1993; Scannell, 1990; Titus et al., 1989; Walson & Fitzsimmons, 1993).

Scannell (1990) found that farmers who kept written financial records were more satisfied with their financial well-being. Walson and Fitzsimmons (1993) found that how often respondents saved on a regular basis for goals was positively and significantly related to perceived economic well-being. Porter and Garman (1993) assessed four attribute groups for their influence on perceived financial well-being. Financial management, which was measured by 20 individual items, was included in the *objective* attribute group, and this attribute group accounted for a significant portion of the variance in financial well-being.

Studies in which financial management has been measured by scales have revealed even more clearly that financial management has a substantial effect on financial satisfaction (Godwin, 1994). Also, when the items in the management scale and the items in the satisfaction scale are parallel, stronger and more uniform effects have been found (Hira et al., 1992; Titus et al., 1989). For example, Godwin (1994) found support for one index, record-keeping, which had a significant, positive impact on financial satisfaction. It is possible that the other two indices were not related to satisfaction because the satisfaction measure did not contain items corresponding to all of the concepts included in those financial management indices.

In a sample of 123 households, Titus et al. (1989) found that the household money managers who used the principles of financial management achieved greater financial satisfaction. The items in their 10-item financial satisfaction scale corresponded to those in the two management behavior indices (total of 24 items). With the same 123 households, Hira et al. (1992) examined insurance coverage (a management practice) for its relation to satisfaction with preparation for financial emergencies, which corresponds to the management practice precisely. Insurance coverage had the largest and most statistically significant effect of the nine variables hypothesized to influence satisfaction with preparation for financial emergencies, and the effect was positive.

Financial Attitudes Only one study in the financial management research literature examined the impact that attitudes have on financial satisfaction (Godwin, 1994). Attitudes toward planning did not predict satisfaction.

Financial Knowledge With the exception of one study

(Mugenda et al., 1990), studies that have examined the effect of financial knowledge on satisfaction with financial status have found that the effect of knowledge on satisfaction was not significant (Godwin, 1994; Hira et al., 1992; Titus et al., 1989). However, Mugenda et al. (1990) found that the greater the knowledge of financial matters, the less the satisfaction with financial status. In interpreting this negative effect, they suggested that being more knowledgeable about finances resulted in attention being paid to both the positive and the negative aspects of the financial condition of the household. Thus, knowledge contributed negatively to satisfaction. In sum, the literature on financial knowledge remains unclear with respect to its effect on financial satisfaction, suggesting a possible negative effect, if any.

Income Studies on financial satisfaction are in agreement with respect to the finding that income exerts a positive effect on satisfaction. The greater the income, the greater the financial satisfaction (Davis & Helmick, 1985; Godwin, 1994; Mugenda et al., 1990; Porter & Garman, 1993; Titus et al., 1989; Walson & Fitzsimmons, 1993; Wilhelm et al., 1993).

Age One important variable influencing financial satisfaction is age of the respondent who, in most cases, is the financial manager of the family. Results indicate that age has a significant and positive effect on financial satisfaction. Older financial managers are more satisfied with their financial status than younger financial managers (Mugenda et al., 1990; Scannell, 1990; Titus et al., 1989).

Purpose

The objectives of this study are to:

1. Assess variables related to use of recommended financial management practices, specifically to identify whether financial attitude or financial knowledge is more important in influencing financial management;
2. Assess whether knowledge moderates the relationship between financial attitudes and financial management, as the psychological research literature would suggest; and
3. Assess variables related to satisfaction with financial status.

If educators and practitioners can understand how attitudes and knowledge influence whether someone uses financial management practices, they can focus their efforts accordingly, thus better assisting those in need of their services.

Analyzing a sample of recently married couples can be valuable because they may be developing their family financial management patterns. Such information may assist educators in designing financial management programs appropriate for those who have recently entered, or plan to enter, their first marriage.

This study contributes to the existing research in two ways:

1. Multidimensional measures of financial management, attitudes, knowledge, and satisfaction are used, and
2. The scales are designed to have parallel dimensions, e.g., attitudes about, behaviors related to, and knowledge about financial planning.

The relationship among financial attitudes, management (behaviors) and knowledge may be clarified, as Eagly and Chaiken (1993) have noted that defining attitudes and behaviors at an equivalent level of specificity, and using multiple-item measures improves attitude-behavior correlations. Also, this is the first study using a Canadian sample.

Methods

Sample and Data Collection

The sample was recruited through a nondenominational marriage preparation agency in a West Coast Canadian city. Those who want to marry in a church are usually required to complete that church's marriage preparation program. This interchurch agency provides marriage preparation education for those who cannot obtain such a program in their church or who may want to have such a program before they marry in a civil ceremony. The agency

> ... has been providing marriage preparation to both church-referred and self-referred couples from all parts of the community for the past decade. Although church sponsored, the emphasis in the marriage preparation program is on relationship issues and skill development rather than theology related to marriage (Russell & Lyster, 1992, p. 447).

In recent American research (see Godwin, 1994), a sample of newlyweds was obtained through marriage license records. In the city and province where our study took place, marriage records are not available to the public and a sample could not be obtained from this source.[a] The next best alternative was to locate participants through marriage preparation programs. We chose a nondenominational group rather than a specific religious group in case religious affiliation might have an impact on the variables of this study.

The year 1992 -- three years before the date of data collection -- was chosen for selecting a sample. In selecting that year, two related assumptions were made. One was that the participants would have followed through with their marital plans, and the ceremony would have taken place within approximately one year from the date that they attended the marriage preparation course. The second assumption was that, assuming the marriage took place within a year, on average, two years would be an adequate amount of time for the newlyweds to establish their financial roles within marriage.

The researchers were presented with a set of completed registration forms of all of the couples who had attended the marriage preparation classes in 1992 (n = 726). Using a computerized data bank of phone numbers, the names, addresses and phone numbers could be confirmed or updated for 565 of the original participants. Questionnaires (including cover letters from the university and from the director of the marriage preparation agency) were mailed. Both the cover letter from the university and the questionnaire itself requested that the financial manager of the household complete the questionnaire. In this request, household financial manager was defined as "the spouse who has the main responsibility for looking after the family's finances," as Ferber and Lee had originally defined it in 1974. In addition, it was specified that if the respondents were undecided as to who was the financial manager, or if they managed their finances jointly, the spouses should decide between themselves who would be the one person to complete the questionnaire. These directions parallel those used by other researchers (Fitzsimmons, Hira, Bauer, & Hafstrom, 1993; Hayhoe & Wilhelm, 1995; Hira et al., 1992; Mugenda et al., 1990; Titus et al., 1989; Walson & Fitzsimmons, 1993; Wilhelm et al., 1993).

Beginning two weeks after mail out, follow-up procedures were implemented. Over a period of two months, all potential participants were telephoned in two waves; two and four weeks after mail out, as a reminder to complete and return the questionnaires. Fifty-four questionnaires were returned as undeliverable, and 18 additional respondents were excluded as untraceable (on extended holiday, out of the country) or were no longer with their partner (had never married or had divorced). The response rate was 41% of the deliverable questionnaires. An additional 10 questionnaires were ineligible because one of the partners was in a second marriage. There were 194 respondents.

The majority of the respondents were women (69%). Ages ranged from 22 to 45 years, with slightly over half (53%) in their 20's. Most had been married for two years (72%) and had no children (74%). The majority (92%) race was white. Most of the respondents (76%) and their spouses (88%) worked full-time. The majority (79% and 80%) reported personal incomes of $49,999 or less and household incomes of $89,999 or less. Sixty percent had graduated from a university, college or technical school. Two-thirds cohabited prior to marriage, and half of these (50%) lived together for one year before marrying.

Comparisons of the respondents with Statistics Canada information are shown in Table 1. In comparison to provincial statistics on those aged 20-49 (age of our respondents) in their first marriage (not just recently married), our respondents were better educated, had higher incomes, and had a lower percentage who had cohabited.

Measures

The questionnaire was pretested by married individuals (n = 4), academic peers (n = 2), and experts in the field (n = 3). Care was taken to ensure that the questionnaire items were appropriate for a Canadian sample, and for those who were in the early years of marriage. Items included in the three scales (financial management, financial attitudes, and financial knowledge) are reproduced in the Appendix, Tables A1, A2, and A3. A command that substituted the scale mean for missing data was used in the analyses.

Table 1
Comparison of Selected Sample Characteristics to Provincial Data

Characteristics	Study's Participants	Provincial Data*
Age†	%	%
20-29	53.2	16.8
30-39	41.7	45.4
40-49	3.5	37.8
Personal Income‡		
$30,000-39,999	25.3	20.1
Household Income‡		
$60,000-79,999	28.8	20.4
Have cohabited	67.0	85.4
Education (University degrees)	44.8	21.0

* The provincial data include those who were in their first marriage (not just recently married) and between the ages of 20-49, the ages of our participants. The data source is the 1995 General Social Survey, Statistics Canada, 1997.

† Average age at first marriage is 25.1 years for those in the province who are between the ages of 20-49. Age distributions differ because provincial data include all who were in their first marriage, while our participants were all recently married and in their first marriage.

‡ The category representing the average income for those aged 20-49 in the provincial data was used for comparison.

Dependent Variables

Financial Management A 38-item scale was constructed by combining selected items from pre-existing scales and indices (Fitzsimmons et al., 1993; Godwin & Carroll, 1986; Porter & Garman, 1993; Titus et al., 1989).[b] This measure was designed to reflect the six dimensions of Porter and Garman's (1993) construct of financial management, including cash management, credit management, capital accumulation, risk management, retirement/estate planning, and general management. To each of these six conceptual dimensions, items from the above-mentioned indices that measured similar concepts -- but did not duplicate the original Porter and Garman items -- were added (see Appendix, Table A1).

Using a 5-point Likert scale ('1' = not typical, '5' = very typical), respondents were asked to indicate the degree to which each item was typical of them. A sample item of cash management is, "I follow a weekly or monthly budget." Negatively worded items were recoded and individual scores were averaged, with high scores indicating that the practices were more typical of the respondent. In item analysis, three items were dropped because they did not correlate above .10 with the entire scale. Internal consistency, Cronbach's alpha, was .86 for the 35-item scale.

To verify the conceptual dimensions of the construct, factor analysis was performed. The product of the principal components analysis was not interpretable, with items not loading very high, and with no clear or unique factors distinguishable. Because of the pattern of the factor loadings, the command for creating a varimax rotation could not be executed. Apparently, the conceptual dimensions do not separate into unique factors. The summed scale (mean = 3.89, standard deviation [S.D.] = .47) was used in subsequent analyses. Using the summed scale is appropriate because the focus of our research is to assess variables related to a general measure of financial management -- a measure designed to encompass a range of recommended financial practices. We were not especially concerned with identifying variables related to each conceptual aspect of financial management.

Satisfaction with Financial Status Titus et al.'s (1989) Satisfaction with Financial Status Index was used. On a 5-point scale ('1' = very dissatisfied, '5' = very satisfied), respondents were asked to indicate how satisfied they were with each of the 10 items. A sample item is, [indicate your level of satisfaction with your] "ability to pay back money owed." Individual items were averaged (mean = 3.65, S.D. = .67). High scores indicated high satisfaction with financial status. Internal consistency, Cronbach's alpha, was .83.

Independent Variables

Financial Attitudes A new scale had to be created to obtain an attitudinal measure reflecting each of the six conceptual dimensions included in the financial management scale (see Appendix, Table A2). The 23-item scale combined items from existing scales (Godwin, 1994; Godwin & Carroll, 1986; Godwin & Koonce, 1992). Items that correlated with the total scale at or below .10, and items that would, if dropped, increase the reliability coefficient, were eliminated. The resulting 15-item scale had a Cronbach's alpha of .75. Principal components factor analysis revealed a unidimensional scale, with all of the items loading on one factor at or above .40.

Using a 5-point scale ('1' = strongly disagree; '5' = strongly agree), respondents indicated the extent to which they agreed with the statements. A sample item is, "Saving is not really important." Negatively worded items were recoded and individual scores were averaged (mean = 4.18, S.D. = .36), with high scores indicating agreement with favorable attitudes toward financial management practices.

Financial Knowledge The original true-false test was designed to be a general measure of aptitude in such financial domains as cash management, credit management, investments, insurance, and retirement and estate planning (Fanslow, Hira, & Titus, 1986; Titus et al., 1989). The wording of items was altered, three items were added, and four were deleted to make the scale more applicable for a Canadian sample (see Appendix, Table A3). Respondents were asked to indicate whether each statement is mainly true or mainly false. A sample statement is, "Insurance is a way to reduce the risk of a financial disaster." Correctly identified items were summed and the score was transformed into a percentage, as Titus et al. (1989) did with the original index. Those items with item-total correlations below .10 were deleted. Cronbach's alpha for the final 15-item measure was .57. The average score was .86 (S.D. = .13).

Two additional dichotomous measures of financial knowledge were included in the study, namely, having completed a consumer education course, and having had any training in financial management. Just over one-quarter of the respondents completed a consumer education course (29%), while one-third had some training in financial management (33%).

Demographic Variables Personal characteristics included education (highest level completed; some high school, high school, some university or college, certificate from vocational school, certificate from university or college, bachelor's degree, master's, doctorate or professional degree), gender, age (20-49), employment status (employed full-time, part-time, or not employed), income (increments of $10,000 from $0 to more than $100,000); family characteristics included spouse's employment status (employed full-time, part-time, or not employed), household income (increments of $10,000 from $10,000 to more than $150,000), number and ages of children, number of years married, and whether or not the couple cohabited prior to marriage. Some of these variables were assessed for their relationship to our financial measures: we included level of education (another measure of knowledge), gender (rarely assessed), age (measure of life cycle stage), personal and spousal employment status (related to measure of income), whether or not the couple cohabited prior to marriage (controls for time already spent in a "married-like" state), and presence of children (measure of life cycle stage). Because personal and household income were highly correlated (r = .74, sig. < .001), only household income was used (see Appendix, Table A4 for correlation matrix).

Results

Variables Related to Financial Management

For consistency with previous research which has identified separately the direct effect of financial attitudes and knowledge on behaviors, separate regressions were run for attitudes and for knowledge. Then a regression was run to test the effect of attitudes and knowledge together on use of recommended financial management practices.

In the separate regressions, both financial attitudes and financial knowledge were significant. The more positive the attitudes toward financial management, and the greater the financial knowledge, the more the recommended financial management practices were followed. The model with a regression of financial management on financial attitudes and financial knowledge in one step was significant. The coefficient for financial attitudes was significant, whereas that for financial knowledge was not. Thus, financial attitudes, not financial knowledge influence use of financial management practices.[c]

The previous set of analyses emphasized only the relationships among financial attitudes, knowledge, and practices; the effect of other variables such as age, income, and gender were not taken into account. In a hierarchical regression, variables were entered in blocks, according to the model in Figure 1: inputs first (knowledge, demographic variables) followed by the personal subsystem variable (attitudes). As shown in Table 2, the set of demographic and financial knowledge variables accounted for 5% of the variance in the financial management scale. The addition of financial attitudes resulted in an R^2 change of .18. Financial attitudes and household income had significant coefficients. More positive financial attitudes and higher household income are related to greater use of recommended financial practices.

Table 2
Summary of Hierarchical Regression Analysis for Variables Predicting Use of Recommended Financial Management Practices (N = 186)

Variables	Unstand. Coeff.	Stand. Error	Stand. Coeff.	
Step 1				
Have a child	-.05	.07	-.06	
Gender	-.08	.08	-.08	
Financial knowledge	.53	.29	.14	
Have cohabited	-.07	.08	-.07	
Spouse's employment status	.03	.07	.04	
Respondent's employment status	-.03	.06	-.04	
Household income	.03	.01	.21	*
Education	.01	.02	.04	
Age	.00	.01	.01	
Step 2				
Have a child	-.01	.06	-.01	
Gender	-.13	.07	-.12	
Financial knowledge	.10	.27	.03	
Have cohabited	-.09	.07	-.09	
Spouse's employment status	.04	.06	.04	
Respondent's employment status	-.07	.06	-.10	
Household income	.03	.01	.21	†
Education	.01	.02	.05	
Age	-.00	.01	-.01	
Financial attitudes	.58	.09	.44	‡

Note. R^2 = .10, Adjusted R^2 = .05, p < .05 for Step 1; Change in R^2 = .18, p < .001 for Step 2.
* p < .05 † p < .01 ‡ p < .001

Knowledge as a Moderator of the Attitude-Behavior Relationship

As diagramed in Figure 2, knowledge may strengthen the relationship between attitudes and behavior, i.e., an interaction is present. Analysis of variance was used in testing for this interaction between financial knowledge and financial attitudes on financial management.[d] Using median splits on financial knowledge and financial attitudes, cases were divided into four groups:
1. Low knowledge-negative attitudes;
2. Low knowledge-positive attitudes;
3. High knowledge-negative attitudes; and
4. High knowledge-positive attitudes.

The two-way interaction for the effect of financial attitudes and knowledge on financial management was not significant, F (1, 193) = .002, p = .96. These two variables did not jointly affect financial management, i.e., financial knowledge did not moderate the relationship between attitudes and behavior.

When an interaction variable (attitudes by knowledge) was included in the last step of a regression of financial management on demographic variables, financial knowledge, and financial attitudes, the interaction variable did not add significantly to the model (change in R^2 = .0005). This analysis also indicates lack of an interaction.

In another test of a potential interaction, two additional measures of financial knowledge (completion of a consumer education course, and any training in financial management) were used. In employing these dichotomous variables as alternate measures of knowledge, neither completion of a consumer education course, F (1, 189) = .096, p = .76, nor having had any training in financial management, F (1, 189) = .001, p = .98, produced an interaction with financial attitudes.

In summary, two methods of assessing a moderator, and use of three measures of financial knowledge did not produce an interaction. Apparently, financial knowledge does not moderate the relationship between financial attitudes and financial management.

Variables Related to Financial Satisfaction

Because the same variables were being used as predictors of financial satisfaction as had been used to predict financial management and because financial attitudes predicted financial management, a two-stage least squares regression was done to create an instrumental variable for financial management. In the first stage, the demographic variables, financial knowledge and attitudes were regressed on financial management. Then the residual (unexplained variance) of financial management was created as a variable to be used in place of the financial management scale in the subsequent financial satisfaction regression.

In the satisfaction regression, the demographic variables and knowledge (input) were entered as a block for Step 1, followed by financial attitudes and the residual of financial management (throughput) in Step 2. As shown in Table 3, the set of input variables accounted for 14% of the variance in satisfaction with financial status; the addition of the throughput variables to the model contributed an additional 31% to the explained variance. Financial management and household income were the only variables to have significant coefficients, with use of recommended financial practices having the most influence on satisfaction with financial status. Use of the recommended financial management practices and higher household incomes are related to higher satisfaction with financial status.

Table 3
Summary of Hierarchical Regression Analysis for Variables Predicting Financial Satisfaction (N = 186)

Variables	Unstand. Coeff.	Stand. Error	Stand. Coeff.	
Step 1				
Have a child	-.04	.09	-.04	
Gender	-.05	.11	-.04	
Financial knowledge	-.31	.40	-.06	
Have cohabited	-.13	.11	-.09	
Spouse's employment status	.15	.10	.11	
Respondent's employment status	-.06	.09	-.05	
Household income	.09	.02	.40	‡
Education	-.02	.03	-.05	
Age	.01	.01	.06	
Step 2				
Have a child	-.03	.07	-.03	
Gender	-.06	.09	-.04	
Financial knowledge	-.40	.33	-.07	
Have cohabited	-.14	.08	-.09	
Spouse's employment status	.15	.08	.11	
Respondent's employment status	-.07	.07	-.06	
Household income	.09	.01	.40	‡
Education	-.02	.03	-.05	
Age	.01	.01	.05	
Financial attitudes	.11	.11	.06	
Residual of financial management	.93	.09	.55	‡

Note. R^2 = .18, adjusted R^2 = .14 for Step 1; Change in R^2 = .31, p < .001 for Step 2.
‡ p < .001

Discussion

The three main objectives of this study were to assess variables related to use of recommended financial management practices, specifically identifying which variable (financial knowledge or financial attitudes) was more important in directly influencing the practices; to assess whether financial knowledge moderated the relationship between financial attitudes and financial management; and to identify the variables related to satisfaction with financial status.

Variables Related to Financial Management

The finding that both financial attitudes and knowledge are related to financial management has been noted before (Godwin & Carroll, 1986). That attitudes are more important than knowledge in predicting management practices has also been noted before, in a study that examined one dimension of financial management, namely cash flow management (Godwin, 1994). Findings from this study expand on those from Godwin's study, indicating that attitudes are more important than knowledge in predicting financial management practices in general. However, it has never before been found that financial attitudes eliminate the effect of financial knowledge when tested together for their relation to financial management.

This unique finding may have resulted because financial attitudes and financial knowledge share variance. These two variables were correlated significantly, though not very strongly. Independent of financial attitudes, financial knowledge is a significant predictor of financial management. However, the variance accounted for by financial knowledge (which it apparently shares with financial attitudes) is fully accounted for by financial attitudes once the attitudes are entered into the equation. In the end, only financial attitudes independently influence financial management, and financial knowledge does not seem to have an independent effect.

With respect to other variables related to recommended financial management practices -- specifically the demographic variables -- only household income predicted use of the recommended practices. This finding supports previous research (Hira et al., 1992; Titus et al., 1989). Gender is a variable that is often not included in studies on use of recommended financial practices. Our results are consistent with one study (Hira et al., 1992) that found no relationship between gender and financial management.

The finding that age did not predict financial management contradicts results from previous studies that have found age to be significantly negatively related to recommended financial management practices (Davis & Carr, 1992; Davis & Weber, 1990; Godwin & Carroll, 1986; Mugenda et al., 1990; Titus et al., 1989). The absence of an age effect in the present study is likely due to the nature of the sample. Participants in this study were recently married for the first time, so that the sample was younger and more homogeneous in terms of age than the samples used in earlier studies.

In summary, respondents who reported higher household incomes, and who had more favorable attitudes toward financial management, employed significantly more of the recommended financial practices than other respondents.

Knowledge as a Moderator between Attitudes and Behaviors

Three measures of financial knowledge were used in this study, but none of them revealed financial knowledge to be a moderator of the attitude-behavior relationship. The shared variance idea mentioned above may account for the lack of an interaction effect. Alternatively, perhaps there was not enough variation in responses on the measures used to allow for a finding of an interaction effect. On average, the scores on the financial knowledge index were very high; respondents were very knowledgeable in the area of family finance. A factor contributing to this may have been the addition of "mainly" [true or false] to the instructions for completing the knowledge questions. This change may have made it easier for the respondents to identify correctly the statements as true or false (there was no 'Do Not Know' category as was used in the original scale), with the effect of inflating the mean and decreasing variation in the index. A third possible explanation is the nature of the sample. This sample was highly educated, with over half of the respondents having graduated from a university, college, or a technical school. Thus, there was little chance for much variation in the financial knowledge scores. As educational levels in a nation increase, researchers are likely to encounter samples with a large proportion having a university or college education. Our results suggest that existing measures of financial knowledge may require updating.

Variables Related to Financial Satisfaction

Financial management was the best predictor of satisfaction with financial status. Consistent with previous research, people who engage in more of the recommended management practices are more satisfied with their financial status (Godwin, 1994; Hira et al., 1992; Porter & Garman, 1993; Scannell, 1990; Titus et al., 1989; Walson & Fitzsimmons, 1993). Consistent with previous research, financial knowledge (Godwin, 1994; Hira et al., 1992; Titus et al, 1989) and financial attitudes (Godwin, 1994) were not significantly related to the measure of financial satisfaction.

Household income predicted satisfaction with financial status. This supports previous research that has found income to have a strong positive impact on financial satisfaction (Davis & Helmick, 1985; Godwin, 1994; Mugenda et al., 1990; Porter & Garman, 1993; Titus et al., 1989; Walson & Fitzsimmons, 1993; Wilhelm et al., 1993).

Although most studies have found a positive influence of age on financial satisfaction, this study did not. Once again, the absence of an age effect is likely due to the nature of the sample. This sample was younger and more homogeneous in age than the majority of samples used in studies on financial satisfaction (Davis & Carr, 1992; Davis & Weber, 1990; Godwin & Carroll, 1986; Mugenda et al., 1990; Titus et al., 1989).

In summary, income and financial management were significant predictors of satisfaction with financial status, with financial management being the most important predictor. Following recommended financial management strategies has as its reward increased subjective evaluation of one's financial status. Although not examined in this study, issues of control and self-efficacy or the achievement of goals may play a role in this relationship. For instance, Godwin (1994) found that the more couples believed they had control of their lives, the more frequently they engaged in the cash management practices. Also, couples who felt more in control of their lives felt more satisfied with their financial status. One indication that respondents in the present study may feel more in control of their lives is that they all identified themselves as the household financial manager. Being the financial manager may have contributed to their use of the recommended practices and subsequently to their perceived financial status. Future studies on financial management and financial satisfaction that include issues of control or self-efficacy are needed to increase the understanding of the relationship between these two important variables.

Conclusions and Implications

This study has made several contributions to the financial management research literature. Specifically, we found that financial management is predicted better by financial attitudes than by financial knowledge. However, the novel prediction that financial knowledge would moderate the relationship between financial attitudes and financial management was not supported.

As noted by Godwin (1994), it has been assumed that when families and individuals do not manage their finances effectively, it is because they lack the knowledge or skills to do so. Our results do not support this assumption in that financial attitudes, not the knowledge or skills, had a substantial influence on practices in financial management. This finding has implications for counselors, educators, and other helping professionals in the field of family finance and resource management. To increase the use of recommended financial management practices, the public must be convinced of the importance of sound financial management. Professionals, such as those working in pre-marital preparation agencies, must make it their goal to motivate their clients to perform the recommended financial management practices, in addition to (or perhaps instead of) simply teaching them general skills such as budgeting and record-keeping (Godwin, 1994). Also, our finding that use of recommended financial management practices is strongly associated with financial satisfaction provides a potentially strong motivation for increasing use of such practices.

Using multidimensional measures of financial attitudes and management, and ensuring that parallel dimensions were included in both measures, strengthened the findings on the relationships between attitudes and practices. Following the recommendations of Eagly and Chaiken (1993), future research should continue to use measures with equivalent levels of specificity and multi-dimensionality. Development of such measures for financial knowledge might clarify the role of knowledge as a moderator of the attitude-behavior relationship. An additional issue to address in creating knowledge scales is to ensure varying degrees of difficulty in answering the questions.

Additional scale development is warranted to create measures of specific aspects of financial management. Then it would be possible to identify variables associated with specific dimensions, as well as with the global measure, of this concept.

A challenge for future researchers is to examine other personal subsystem variables, including personality, financial priorities, and level of self-monitoring, for their relationship to the use of recommended financial management practices and to financial satisfaction. Results of such research could then be incorporated into pre-marital preparation programs designed to address finances.

The results of this study support a systems approach to family financial management. Inputs have a significant effect on the managerial subsystem, and the managerial subsystem positively influences the system's output. These results confirm previous research findings (Hira et al., 1992; Titus et al., 1989). The finding that the personal subsystem has an influence on the managerial subsystem contributes to current research on the systems model. A personal subsystem variable (financial attitudes), and not an input variable (financial knowledge), had the largest effect on the managerial subsystem (financial management practices). The management subsystem, a throughput variable, influenced the output variable (financial satisfaction). These findings suggest that the personal system's effect on output is indirect through its effect on the managerial system. Additional testing of the model is needed. With a better measure of financial knowledge, and with a larger and more diverse sample than in the present study, the direct and indirect effects of the variables in the model could be assessed through path analysis.

The findings of this study may not be generalizable to all recently married individuals. In comparison to provincial statistics on those in their first marriage (not just recently married), our respondents (recently married) were better educated and had higher incomes. Our respondents had also participated in marriage preparation classes that offered instruction on relationship issues and skill development. Although finances and marriage is one topic that was discussed, the majority of our respondents (67%) said they had not had any training in financial management.

Financial management affects not only financial satisfaction, but also marital satisfaction and quality of life (Berry & Williams, 1987; Mugenda et al., 1990). With the potential to influence so many aspects of everyday life, continued research in understanding the processes involved in this fundamental area of family studies is vital. Discovering which variables affect the use of recommended financial management practices, and the processes by which they do so, is a step toward that goal. The similarity between the results of this study and the results of studies from other countries suggests some universality of variables affecting use of recommended financial practices and subsequent financial satisfaction.

Appendix

Table A1
Financial Management

Scale Items	N	M (SD)	Item-Total Correlation
Cash Management			
1. I follow a weekly or monthly budget.*	194	3.03 (1.33)	.24
2. I use banking accounts that pay me interest.*	194	3.81 (1.30)	.32
3. Sometimes I write bad cheques or ones with insufficient funds.*	194	4.95 (.24)	.11
4. I pay for yearly expenses out of current income or savings (not with a loan).**	194	4.44 (.88)	.27
5. I usually live from paycheque to paycheque.	194	3.77 (1.24)	.50
6. I save receipts for major purchases.**	193	4.70 (.63)	.20
7. I compare my chequing account records with my monthly statement.**	193	3.95 (1.39)	.31
8. I estimate household income and expenses.**	194	4.03 (.99)	.36
9. About once a year, I estimate household net worth (that is, total asets minus total debts).**	194	3.34 (1.52)	.36
10. I review and evaluate my spending habits.**	193	3.71 (.96)	.52
11. I sometimes receive overdue notices because of late or missed payments.*	194	4.58 (.76)	.36
12. I write down where money is spent. ****	194	3.11 (1.38)	.39
13. I regularly set aside money for large expected expenses (like insurance or taxes).	194	3.77 (1.24)	.49
Credit Management			
14. I often spend more money than I have.*	194	4.31 (.86)	.43
15. I usually do not pay the total balance on my credit card, but instead, just make a partial payment.*	193	4.10 (1.26)	.38
16. I get myself into more debt each year.*	194	4.64 (.73)	.51
17. I obtain cash advances in order to pay other credit balances.*	193	4.90 (.48)	.22
18. My use of credit cards increases with each year.*	193	4.12 (1.15)	--
19. I rarely pay finance charges.**	187	3.74 (1.42)	.31
20 I pay bills as due.**	194	4.58 (.81)	.29
21. I make payments on large debts as scheduled.**	191	4.78 (.52)	.29
22. I compare my credit card receipts with my monthly statements.**	192	3.79 (1.46)	.36
Retirement and Estate Planning			
23. I plan out how I want my belongings divided up in case something ever happens to me (e.g., use a will).*	193	2.17 (1.32)	.29
24. I review my will periodically.**	192	1.48 (.93)	.27
25. I contribute annually to a retirement savings plan (e.g., RRSP).*	194	4.07 (1.45)	.31
Risk Management			
26. I regularly set money aside for possible unexpected expenses.	193	3.18 (1.30)	.53
27. I adequately insure my personal property (such as home, furnishings, or other personal possessions.*	194	4.43 (1.04)	.18
28. Each year I review the adequacy of the insurance coverage I have.**	194	3.95 (1.23)	.29
29. I have trouble meeting monthly health care expenses, including premiums for health insurance.*	193	4.87 (.61)	--
General Management			
30. I create financial goals.**	194	3.72 (1.06)	.56
31. I make plans on how to reach my financial goals.*	193	3.65 (1.07)	.51
32. I set specific financial goals for the future (e.g., buy a new car in two years).*	193	3.65 (1.13)	.50
33. I often make financial decisions without much thought.*	194	4.33 (.86)	.34
34. I rarely discuss my personal financial matters with family or friends.*	194	3.10 (1.24)	--
35. I review my total financial situation on a regular basis.**	194	3.83 (1.01)	.55
36. I regularly discuss financial goals with my spouse. ***	194	4.08 (1.27)	.13
Capital Accumulation			
37. I regularly set aside money for savings.*	194	3.90 (1.18)	.54
38. Each year I put money in higher-return investments such as stocks, bonds, or mutual funds.*	194	3.51 (1.52)	.38

Items 18, 29, and 34 were deleted to increase reliability.
Items 5, 13, and 26 are new. Rather than using statements of "I have life insurance", which is a "yes/no" response, we phrased statements that could be answered with "not typical" to "typical" of respondent.
* Adapted from Porter & Garman (1993) ** Adapted from Titus et al. (1989)
***Adapted from Godwin & Carroll (1986) ****Adapted from Fitzsimmons et al. (1993)

Table A2
Financial Attitudes

Scale Items	N	M (SD)	Item-Total Correlation
1. It is important for a family to develop a regular pattern of saving and stick to it.	193	4.45 (.63)	.39
2. Keeping records of financial matters is too time-consuming to worry about.	194	4.42 (.61)	.29
3. Families should have written financial goals that help them determine priorities in spending.	194	3.76 (.84)	.38
4. Each individual should be responsible for his or her own financial well-being.	191	3.08 (1.35)	--
5. A written budget is absolutely essential for successful financial management.	194	3.26 (1.07)	.38
6. Saving is not really important.	194	4.78 (.47)	.42
7. The wife should have primary responsibility for seeing that bills are paid monthly.	194	4.15 (.85)	--
8. As long as one meets monthly payments there is no need to worry about the length of time it will take to pay off outstanding debts.	194	4.48 (.76)	.26
9. Both husband and wife should have some responsibility for seeing that bills are paid monthly.	194	4.23 (.85)	--
10. Money and all that it can buy is of utmost importance to me.	194	3.93 (.92)	--
11. It is all right for an individual to rely on others (govenment, family) for financial assistance.	193	4.06 (.97)	--
12. The husband should have primary responsibility for seeing that bills are paid monthly.	194	4.25 (.72)	--
13. It does not matter how much a couple saves as long as they do save.	194	2.79 (1.10)	--
14. Families should really concentrate on the present when managing their finances.	194	3.84 (.80)	.38
15. Financial planning for retirement is not really necessary for assuring one's security during old age.	194	4.73 (.63)	.31
16. Having a financial plan makes it difficult to make financial investment decisions.	194	4.09 (.71)	.47
17. Having a savings plan is not really necessary in today's world in order to meet one's financial needs.	194	4.42 (.66)	.41
18. It is really essential to plan for the possible disability of a family wage earner.	194	3.95 (.80)	.24
19. Making sure your property is insured against reasonable risks is not really necessary for successful financial management.	194	4.26 (.83)	--
20. Planning is an unnecessary distraction when families are just trying to get by today.	194	4.36 (.62)	.51
21. Planning for spending money is essential to successfully managing one's life.	193	3.89 (.90)	.28
22. Planning for the future is the best way of getting ahead.	194	4.28 (.61)	.38
23. Thinking about where you will be financially in 5 or 10 years in the future is essential for financial success.	194	4.04 (.81)	.39

Items 4, 7, 9, 10, 11, 12, 13, 19 were dropped.
Items 2, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20 are reverse scored.
Sources: Godwin & Carroll (1986), items 1-13; Godwin & Koonce (1992), items 14-20; Godwin (1994), items 21-23.

Table A3
Financial Knowledge (N = 194)

Scale Item	M (SD)	Item-Total Correlation
1. A person needs a will when there is a large estate to be left to their heirs.	.91 (.29)	--
2. Term insurance is the best form of life insurance protection available for one's dollar.	.43 (.50)	--
3. If a person dies without a will, his or her assets are distributed according to *provincial* (instead of *state*) law.	.91 (.29)	.33
4. A *good* budget provides only for expected expenses.	.90 (.30)	.10
5. All credit card companies offer a no interest plan if you pay your bills *in full by the due date* (instead of *in 30 days*).	.69 (.47)	.20
6. Not many families have large enough assets to be concerned about financial planning.	.96 (.20)	--
7. To have a good credit rating one must make purchases on credit and make payments according to the credit contract.	.75 (.43)	.21
8. Insurance is a way to reduce the risk of a financial disaster.	.86 (.35)	.30
9. Life insurance needs vary with age and the size of a family.	.96 (.20)	--
10. Retirees need 70% to 80% of their *pre-retirement* (instead of *current*) income to maintain the same standard of living during retirement.	.75 (.44)	.16
11. The interest one pays on a home mortgage is directly deductible from the amount of income tax one pays.	.84 (.37)	--
12. A person is more likely to reach his or her financial goals by planning for the future.	.99 (.10)	.10
13. Having different types of investments and savings decreases financial risks.	.89 (.31)	.22
14. A credit card advance is a cheaper form of credit than a personal bank loan.	.98 (.14)	.11
15. In most cases, the lower the expected rate of return on an investment, the lower the risk.	.81 (.39)	.44
16. There is no federal or provincial legislation dealing with credit card billing errors.	.29 (.45)	--
17. Borrowing money to purchase an item decreases money available for future spending.	.81 (.39)	.26
18. *Every* financial risk can be covered by insurance.	.91 (.29)	.13

Scale Item	M (SD)	Item-Total Correlation
19. Insurance costs can be reduced by having high deductible clauses in your contracts.	.79 (.41)	.20
20. The money invested in an RRSP is taxable eventually when the plan is deregistered.	.92 (.28)	.31
21. People are more likely to make better financial decisions if they base those decisions on their financial records. (Item was in original but not later version of their scale.)	.93 (.26)	.10

Italicized words were changes from the Fanslow et al. (1986) version. Items 14, 15, & 20 were new items added for this study.
Items 1, 2, 6, 9, 11, 16 were omitted to increase reliability coefficient.
Original items that were not used: judged to be inappropriate for newlyweds in Canada; represented opinions, not knowledge; or were dated given awareness of human rights legislation emphasizing gender equality.
a. Social security records of earnings should be checked for errors at least every five years.
b. Marital status can be used by a lending institution in determining whether or not credit is granted.
c. One should stick with investment decisions because of the costs involved in making changes.
d. One should pre-plan an amount to save or invest each month.

Table A4
Correlations Among All Variables (N = 184)

1. Education	1	2	3	4	5	6	7	8	9	10	11	12
2. Gender (1 = Male)	-.12											
3. Age	.13	-.36†										
4. Cohabited	.11	-.01	.09									
5. Spouse's employment status	.03	.22*	-.02	.06								
6. Respondent's employ. status	-.11	-.13	.10	-.10	-.01							
7. Household income	.21*	-.20*	.34†	.22*	.16	.28†						
8. Respondent's income	.17	-.44†	.42†	.13	-.07	.44†	.74†					
9. Have children	-.20*	-.00	.06	.21*	-.04	-.24†	.06	-.02				
10. Financial attitudes	.07	.06	.02	.01	.05	.15	.06	.09	-.19*			
11. Financial knowledge	.33†	-.01	.05	-.00	.10	-.00	.09	-.04	-.20*	.28†		
12. Financial management	.15	-.12	.11	-.03	.07	.04	.23†	.24†	-.07	.45†	.20*	
13. Financial satisfaction	.04	-.10	.18*	.00	.16	.09	.39†	.29†	.01	.06	-.01	.59†

* p < .01 † p < .00l

Endnotes

a. *It is not clear whether it is a strict interpretation of the Provincial Privacy Information Act or if it is the particular type of office and information it contains. One can ask for a specific case to verify marital status and the staff will provide that information, but one cannot have access to the files.*

b. *The existing measures, in the publications we had access to, did not report alpha reliability coefficients or factor analyze the items to form scales of financial management. Titus et al. (1989) created planning and implementing indices, and Godwin and Carroll (1986) created financial behavior scores. Fitzsimmons et al. (1993) factor analyzed their measure, but it was broader than financial management and not appropriate for this study.*

c. *Results of separate regressions for financial management*
Financial attitudes: F (1, 192) = 49.75, R2 = .21, sig. < .001.
Financial knowledge, F (1, 192) = 7.99, R2 = .04, sig. = .005.
Regressing financial management on financial attitudes and financial knowledge in one step:
F (2, 191) = 25.79, R2 = .21, sig. < .001.
Coefficient for financial attitudes: beta = .43, sig. < .001.
Coefficient for financial knowledge: beta = .09, sig. = .198.

d. *Baron and Kenny (1986) described several approaches to testing for moderation. The approach we used with the three measures of knowledge fits their description of analysis for when the moderator and the independent variable are categorical. A 2 X 2 ANOVA is used and moderation occurs if there is an interaction. Interactions may be crossovers or a change in the strength of the relation (e.g., strengthening, as we proposed in Figure 2).*
Another approach we used to test for a moderator effect was to include an interaction variable (attitudes by knowledge) in a regression with the demographic, attitude, and knowledge variables. In this analysis, the interaction term is a product of two continuous variables.

References

Baron, R. M. & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173-1182.

Berry, R. E. & Williams, F. L. (1987). Assessing the relationship between quality of life and marital and income satisfaction. *Journal of Marriage and the Family*, *49*, 107-116.

Davis, E. P. & Carr, R. A. (1992). Budgeting practices over the lifecycle. *Financial Counseling and Planning*, *3*, 3-16.

Davis, E. P. & Helmick, S. A. (1985). Family financial satisfaction: The impact of reference points. *Home Economics Research Journal*, *14*, 123-131.

Davis, E. P. & Weber, J. A. (1990). Patterns and obstacles to financial management. *Financial Counseling and Planning*, *1*, 41-51.

Deacon, R. E. & Firebaugh, F. M. (1988). *Family resource management: Principles and applications*. Toronto: Allyn & Bacon.

Eagly, A. & Chaiken, S. (1993). *The psychology of attitudes*. Toronto: Harcourt Brace Jovanovich College.

Fanslow, A. M., Hira, T. K. & Titus, P. M. (1986). *Financial management practices of household money managers*: *Bases for adult education*. Ames, IA: Iowa State University Agriculture and Home Economics Experiment Station, Project No. 1772.

Ferber, R. & Lee, L. C. (1974). Husband-wife influence in family purchasing behavior. *Journal of Consumer Research*, *1*, 43-50.

Fitzsimmons, V. S., Hira, T. K., Bauer, J. W. & Hafstrom, J. L. (1993). Financial management: Development of scales. *Journal of Family and Economic Issues*, *14*, 257-274.

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.

Godwin, D. D. & Koonce, J. C. (1992). Cash flow management of low-income newlyweds. *Financial Counseling and Planning*, *3*, 17-42.

Hayhoe, C. R. & Wilhelm, M. S. (1995). Discriminating between primary financial managers and other adults in the family. *Financial Counseling and Planning*, *6*, 75-82.

Hira, T. K., Fanslow, A. M. & Vogelsang, R. (1992). Determinants of satisfaction with preparation for financial emergencies. *Financial Counseling and Planning*, *3*, 43-62.

Mugenda, D. 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.

Pahl, J. (1989). *Money and marriage*. New York: St. Martin's Press.

Poduska, B. E. & Allred, G. H. (1990). Family finances: The missing link in MFT training. *The American Journal of Family Therapy*, *18*, 161-168.

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

Russell, M. N. & Lyster, R. F. (1992). Marriage preparation: Factors associated with consumer satisfaction. *Family Relations*, *41*, 446-451.

Scannell, E. (1990). Dairy farm families' financial management. *Financial Counseling and Planning*, *1*, 133-146.

Statistics Canada (1997). *1995 General Social Survey*; *Cycle 10: The Family*. Ottawa, ON.

Titus, P. M., Fanslow, A. M. & Hira, T. K. (1989). Net worth and financial satisfaction as a function of household money managers' competencies. *Home Economics Research Journal*, *17*, 309-317.

Walson, C. O. & Fitzsimmons, V. S. (1993). Financial managers' perception of rural household economic well-being: Development and testing of a composite measure. *Journal of Family and Economic Issues*, *14*, 193-214.

Wilhelm, M., Varcoe, K. & Fridrich, A. (1993). Financial satisfaction and assessment of financial progress: Importance of money attitudes. *Financial Counseling and Planning*, *4*, 181-198.

