THE IMPACT OF FINANCIAL ATTITUDES AND KNOWLEDGE
ON FINANCIAL MANAGEMENT AND SATISFACTION

by

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Abstract

Using a model of financial management derived from the Deacon and Firebaugh (1988) Family Resource Management Model, this study examined the impact of financial attitudes and financial knowledge on financial management behaviours in a sample of recently married individuals. Attitudes and knowledge were examined both individually and conjointly. The moderating effect of financial knowledge on the relationship between financial attitudes and financial management behaviours was also investigated. In addition, the impact of financial management on satisfaction with financial status was assessed. In this assessment, two measures of financial management were compared on their relationship to satisfaction.

The sample was recruited through a marriage preparation facility in Burnaby, British Columbia. Questionnaires were mailed to 565 past participants who took the course in 1992. The respondents were 194 recently married individuals, a response rate of 41%.

When tested separately, both financial knowledge and financial attitudes were significantly related to financial management behaviours. When tested together, however, the effect financial knowledge had was lost, and only financial attitudes remained significantly related to financial management behaviours. Although it was expected that financial knowledge would moderate the relationship between
financial attitudes and financial management behaviours, the results of this study did not provide support for this prediction. Results also showed that financial management behaviours were strongly related to satisfaction with financial status, and that the relationship between satisfaction with financial status and financial management behaviours was a function of the instrument used to measure the behaviours.
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Chapter I

Introduction

Finances are an important factor in the overall functioning of a family (Douthitt, MacDonald, & Mullis, 1992; Mullis, 1990; Voydanoff, 1984; Williams, 1989; Wollan & Bauer, 1990). Indicative of this are both the costs and benefits associated with financial dissatisfaction and financial satisfaction, respectively. For instance, financial difficulties and dissatisfaction with one's financial status can lead to marital conflict and divorce (Blood & Wolfe, 1973; Poduska & Allred, 1990). Alternatively, being satisfied with one's financial status can enhance marital satisfaction, and more broadly, life satisfaction (Berry & Williams, 1987; Mugenda, Hira, & Fanslow, 1990; Mullis, 1990). Individuals who report being more satisfied with their financial status enjoy greater marital satisfaction, and consequently, also enjoy greater life satisfaction.

How a person manages his or her personal finances is a major factor contributing to satisfaction/dissatisfaction with financial status (Godwin, 1994; Hira, Fanslow, & Vogelsang, 1992; Porter & Garman, 1993; Scannell, 1990; Titus, Fanslow, & Hira, 1989; Walson & Fitzsimmons, 1993). Use of the financial management behaviours recommended by family service professionals and financial counselors alike is strongly related to one's satisfaction with financial status. People who utilize more of the financial management behaviours recommended by the 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 behaviours are, thus, important areas to research. Specifically, investigating the factors that affect the use of financial management behaviours, and the underlying processes by which they do so, is vital.

Two factors that have an impact on behaviour 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 behaviours (Godwin, 1994). Substantially more research, however, has been carried out on the relationship between financial knowledge and financial management behaviours (Godwin, 1994; Godwin & Carroll, 1986; Hira et al., 1992; Mugenda et al., 1990; Titus et al., 1989).

No study in the financial management research literature has investigated the conjoint effect of financial knowledge and financial attitudes on financial management behaviours. Research in the psychological literature on attitudes suggests that knowledge moderates the correspondence between attitudes and behaviour (Eagly & Chaiken, 1993). That is, knowledge affects the direction and/or strength of the relation between attitudes and behaviours (Baron & Kenny, 1986). This study investigates the direct and conjoint effects of financial knowledge and financial attitudes on financial management behaviours, using a financial management model derived from the Deacon and Firebaugh (1988) Family Resource Management Model. Also investigated is
the relationship between financial management behaviours and satisfaction with financial status.

The main objectives of this study are to assess which variable (financial attitudes or financial knowledge) is more important in directly influencing financial management behaviours; to assess whether knowledge moderates the relationship between financial attitudes and financial management behaviours, as the psychological research literature would suggest; and to assess the impact that financial management behaviours have on satisfaction with financial status.
Chapter II

Review of the Literature

Financial Management: A Clarification

The term financial management has been defined and measured differently depending on the focus of the study. For instance, studies regarding the effects of marriage and remarriage on financial management have defined financial management as the allocation of income within the household: pooled income versus separate income (Coleman & Ganong, 1989; Dolan, 1989; Lown, 1989; Marshall & Woolley, 1993; McRae, 1987; Miner, 1989; Morris & Ruane, 1989; Pahl, 1980, 1983, 1989; Pasley, Sandras, & Edmondson, 1994; Treas, 1993; Yogev & Brett, 1989). In other studies, financial management has been defined as the division of labour and role specialization with respect to decisions made regarding finances (Hiller & Philliber, 1986; O'Bryant & Morgan, 1989; Rosen & Granbois, 1983; Schaninger & Buss, 1986; Schaninger, Buss, & Grover, 1982).

Research on the causes and consequences of financial management commonly defines financial management as a set of behavioural indicators, such as budgeting and record keeping (Davis & Carr, 1992; Davis & Weber, 1990; Godwin, 1994; Godwin & Carroll, 1986; Godwin & Koonce, 1992; Hira et al., 1992; Mugenda et al., 1990; Porter & Garman, 1993; Scannell, 1990; Titus et al., 1989; Walson & Fitzsimmons, 1993). However, the measures in these studies, in terms of content and number of behavioural indicators included, vary greatly by researcher. As a result,
inconsistencies in the research findings have surfaced. "Such broad and inconsistent definitions do little to advance our understanding of the patterns of families' behavior or its causes and consequences" (Godwin, 1994, p. 162).

In this study, financial management is defined as in other studies that have examined the causes and consequences of financial management, that is, as a set of behavioural indicators, with emphasis on multi-dimensional measures. Thus, financial management is defined as the set of behaviours performed regarding 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).

**Variables Related to Financial Management**

**Financial Attitudes**

Financial attitudes have been investigated in only a modest number of studies in the financial management research literature (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, with behaviours as the dependent variable. In contrast, other studies (Godwin & Carroll, 1986; Godwin & Koonce, 1992) examined attitudes as the dependent variable. Thus, Godwin's (1994) research represents the only study wherein the effect of attitudes on management behaviours can be observed. Godwin examined the impact of attitudes toward planning on the cash flow
management behaviours of newlyweds. Attitudes toward planning were measured by a 3-item index. Cash flow management behaviours were measured by three indices -- budgeting, goal-keeping, and record keeping. Results indicated that the attitude variable was the most significant variable influencing cash flow management. That is, attitude toward planning was the greatest predictor of cash flow management behaviours. However, this research was focused on but one dimension of financial management (i.e., cash management).

Godwin and Carroll (1986) and Godwin and Koonce (1992) also investigated attitudes and behaviours, in each case regarding financial management. However, in both studies, financial management attitudes and behaviours were unidimensional, and they were examined as dependent variables. In Godwin and Carroll's (1986) study, financial management attitudes were measured by a scale of 13 Likert-type items regarding spouses' general philosophy and specific attitudes toward financial management. Financial management behaviours were measured by a scale of 18 Likert-type statements regarding current practices in family financial management. The one analysis the authors performed between the two variables was correlation. Correlation tests revealed that financial management attitudes and behaviours were significantly and positively correlated. Nonetheless, because neither causation, nor direction of effect, can be inferred from correlation analyses, the findings do not reveal whether attitudes toward financial management account for any of the variation in financial management behaviours.
Godwin and Koonce (1992) compared cash flow management attitudes and behaviours among three income levels in a sample of newlyweds. As in Godwin's (1994) study, the attitudes and behaviours investigated by Godwin and Koonce (1992) pertained to only one dimension of financial management (i.e., cash flow management). Attitudes toward financial planning were measured by a 15-item Likert-type scale containing items regarding the value of financial planning, debt management, insurance, savings and investment, retirement planning and estate planning. Cash flow management behaviours were assessed by 20 items measuring the frequency with which cash flow management tasks were performed. Because the authors defined attitudes as a dependent variable, the findings from this study do not contribute to an understanding of the impact of attitudes on management behaviours.

In summary, only one study had results indicating that attitudes have a significant impact on management behaviours (Godwin, 1994). However, the attitudes and the behaviours examined by Godwin were on but one dimension of financial management behaviours. Results, however, revealed that attitudes toward planning demonstrated the strongest and most consistent effect on cash flow management behaviours. Additional research is needed to determine whether these findings generalize to attitudes and behaviours regarding financial management, as defined more broadly.
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). Throughout the financial management research literature, financial knowledge -- regardless of how it has been defined and measured -- has been shown to have a significant impact on financial management behaviours, more consistently so when multi-item measures are utilized (Godwin, 1994; Godwin & Carroll, 1986; Hira et al., 1992; Mugenda et al., 1990; Titus et al., 1989).

Godwin (1994) found that financial knowledge -- defined dichotomously as having had any training in financial management -- significantly accounted for a portion of the variance in the record-keeping dimension of cash flow management. Newlywed financial managers with more training engaged in record keeping more frequently than did managers with less training.

Godwin and Carroll (1986) similarly defined financial knowledge dichotomously, as having completed a consumer education course, and found that knowledge was the most significant predictor of financial management behaviours. Knowledge was positively associated with both husbands' and wives' financial management behaviours. Spouses who had completed a course in consumer education used more financial management behaviours than those spouses who had not completed such a course.
Employing more extensive, multi-item measures of knowledge, where respondents were asked to judge a number of statements as correct or incorrect, the results from three studies indicated that financial knowledge significantly accounted for variation in financial management behaviours (Hira et al., 1992; Mugenda et al., 1990; Titus et al., 1989).

Hira et al. (1992) investigated preparation for financial emergencies. Knowledge was defined as insurance knowledge, and was measured by a 6-item scale. Results revealed that out of eight variables originally hypothesized to influence insurance coverage, only insurance knowledge and net income were found to be significant. The findings from this study, with regard to a particular knowledge and its corresponding behaviour, are further evidence of the significant impact that knowledge has on management behaviour.

Mugenda et al. (1990) measured financial knowledge as an index of 22 items on various aspects of management, including cash and credit management, asset growth, insurance, retirement, and estate planning. Results of path analysis revealed that of the 10 input variables, financial knowledge was the only one to significantly influence financial management behaviours.

Utilizing the identical 22-item measure of financial knowledge as Mugenda et al. (1990), Titus et al. (1989) found a substantial effect for knowledge on management behaviours, both in terms of magnitude of the effect and statistical significance. In fact, in the Titus et al. study, financial knowledge was the
second largest predictor of financial management behaviours in their sample of rural money managers.

In summary, research strongly supports the positive influence of financial knowledge on financial management behaviours, with stronger effects being found when more comprehensive measures of financial knowledge are employed. The greater the knowledge, the greater the use of management behaviours.

Other Variables

Income. The financial management research literature has shown on more than one occasion, that income has no significant impact on the dependent variable of financial management behaviours (Godwin, 1994; Godwin & Carroll, 1986; Hira et al., 1992; Mugenda et al., 1990). Elsewhere, however, results have shown income to be a statistically significant predictor of managerial behaviours (Godwin & Koonce, 1992; Titus et al., 1989). Results from Titus et al. (1989) revealed that net income had a positive effect on the implementing index of financial management, such that money managers with higher net income used more of the implementing behaviours than money managers of lower net income. Net income was not a significant factor, though, in influencing the planning index of financial management.

Results from Godwin and Koonce (1992) contradict those from Titus et al. (1989). Godwin and Koonce (1992) found that, in comparison to other income levels, low-income couples actually reported more financial management behaviours. While these
results seem to indicate that income has a negative impact on financial management behaviours, the authors note that the results of this study are limited in their generalizability. The respondents in this study were young newlywed couples, who may have grown up in households that were not low-income, perhaps having learned their managerial behaviours in a family with parents of various income levels. Pahl (1980, 1983, 1989) suggested that in conditions of low income, management of finances becomes more important as well as more difficult; hence, conditions of low income foster the increased use of managerial behaviours. The findings from Godwin and Koonce (1992) could be interpreted as support for such a conclusion. Alternatively, because income varies with stage of the life cycle (Deacon & Firebaugh, 1988), it is possible that the findings regarding income and financial management behaviours may have been confounded by age or stage of the family life cycle.

In all, research only modestly supports income as a factor that contributes to financial management behaviours. It appears to have a negative impact on financial management behaviours. However, it is possible that any effect it does have is a function of age or stage of the life cycle.

**Age and Stage of the life cycle.** Unlike the findings with respect to income, research has demonstrated clearly, and widely, that age and/or stage of the family life cycle is a significant predictor of financial management behaviours (Davis & Carr, 1992; Davis & Weber, 1990; Godwin, 1994; Godwin & Carroll, 1986;
Mugenda et al., 1990; Titus et al., 1989). Consistently, the effect of age and/or stage of the life cycle on financial management behaviours has been in the inverse direction. That is, younger families report greater use of financial management behaviours (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**

Financial management behaviours, measured as individual items, and as scales, have been shown to have a positive impact on financial satisfaction throughout most of the research literature (Godwin, 1994; Hira et al., 1992; Porter & Garman, 1993; Scannell, 1990; Titus et al., 1989; Walson & Fitzsimmons, 1993). However, results to the contrary come from one study (Mugenda et al., 1990).

Studying financial management in a sample of dairy farm families, Scannell (1990) found that of the five household financial management practices investigated, keeping written records reached statistical significance and contributed positively to financial well-being. Farmers who kept written records were more satisfied with their financial well-being.

Walson and Fitzsimmons (1993) investigated the effects of five financial management behaviours on economic well-being, and 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 behaviours, which were measured by 20 individual items, were included in the "objective" attribute group. Analyses revealed that the objective attribute group, including the financial management items, significantly accounted for a portion of the variance in financial well-being.

While studies on individual financial management practices have indicated that financial management behaviours have a positive impact on satisfaction, studies in which financial management has been measured by scales have revealed more clearly that financial management has a substantial effect on financial satisfaction (Godwin, 1994). Moreover, research has demonstrated that when the items in the management scale and the items in the satisfaction scale are parallel, stronger and more uniform effects are found (Hira, et al., 1992; Titus, et al., 1989).

Measuring management behaviours by three indices, Godwin (1994) found support for one index, record-keeping, which had a significant, positive impact on financial satisfaction. One reason that the other two indices were not found to be related to satisfaction may have been because the satisfaction measure included items that were too general in relation to the items comprising the management variable.

Titus et al. (1989) investigated financial satisfaction as a function of money managers' use of financial management
behaviours, in a sample of 123 households. The management instrument consisted of two scales, with 24 items in total. Satisfaction with financial status was measured by 10 items. The items in the dependent variable paralleled those in the independent variable (management behaviours) more so than did the measures in Godwin's (1994) study. The findings from Titus et al. (1989) revealed that the management behaviours had a significant and positive impact on satisfaction with financial status. Household money managers who used the principles of financial management achieved greater satisfaction.

With the same sample of 123 households, Hira et al. (1992) examined insurance coverage (a management behaviour) for its relation to satisfaction with preparation for financial emergencies, which parallels the management behaviour precisely. Insurance coverage was measured by a scale of types of insurance coverage. A 1-item measure was used to assess satisfaction. Results indicated that insurance coverage had the largest, and most statistically significant effect of the nine variables hypothesized to influence satisfaction with preparation for financial emergencies; this effect was positive.

In contrast to the evidence suggesting that financial management behaviours have a significant positive impact on financial satisfaction, results from one study suggest that the use of financial management behaviours contributes negatively to financial satisfaction (Mugenda et al., 1990). That is, results indicated that use of financial management behaviours contributed to lower satisfaction with financial status. As interpreted by
the authors, this finding suggests that through managing the household's finances, both the positive and the negative aspects of the household's financial status are revealed to the money manager; hence, the negative relationship. An alternate interpretation from that offered by Mugenda et al. (1990) is that this inconsistent finding was a function of the measure of financial management used in the study. The dependent variable was measured by a 6-item index, which was comparable to those used in other studies. However, the independent variable, money management practices, was measured by a 3-item index which, when compared to the instruments from other studies, was limited in both the number and content of items. Further research is necessary in order to discern whether this inconsistency in the literature is, indeed, a function of the measures used, as suspected.

In sum, the research literature widely suggests that financial management behaviours contribute positively and significantly to financial satisfaction (Godwin, 1994; Hira et al., 1992; Porter & Garman, 1993; Scannell, 1990; Titus et al., 1989; Walson & Fitzsimmons, 1993). Measured as individual items, certain financial management behaviours were found to have a positive impact on financial satisfaction. Measured as scales, the impact that financial management had on financial satisfaction was more pronounced. However, the findings from one study suggested that the use of financial management behaviours contributed negatively to satisfaction with financial status.
(Mugenda et al., 1990). Additional research is required in order to address this inconsistency in the literature.

Financial Knowledge

With the exception of one study (Mugenda et al., 1990), most studies that have examined the effect of financial knowledge on satisfaction with financial status, have found that knowledge did not reach statistical significance in affecting satisfaction (Godwin, 1994; Hira et al., 1992; Titus et al., 1989).

Regressing financial satisfaction on financial knowledge, results from Godwin's (1994) study indicated that knowledge was insignificant. Financial knowledge was not a predictor of financial satisfaction. Hira et al. (1992) found that knowledge, with regard to insurance coverage, was unrelated to satisfaction with preparation for financial emergencies. And Titus et al. (1989), regressing satisfaction with financial status on financial knowledge, found that knowledge was, yet again, unrelated to satisfaction.

Mugenda et al. (1990) -- using similar measures of financial knowledge and satisfaction as Titus et al. (1989) -- found that financial knowledge achieved significance in predicting financial satisfaction. Interestingly, the direction of the effect was negative. The greater the knowledge of financial matters, the less the satisfaction with financial status. In interpreting the negative effect, Mugenda et al. (1990) 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 contributes 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.

**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 attain statistical significance in the analyses on satisfaction. Attitudes did not predict satisfaction.

**Other Variables**

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

Gross income (Wilhelm et al., 1993); total household income before taxes (Walson & Fitzsimmons, 1993); net income (Titus et al., 1989); household income (Danes & Morris, 1989); and family income (Davis & Helmick, 1985) have all been found to be highly significant in predicting financial well-being or satisfaction with financial status.

Other income-related variables that have been found to significantly affect financial satisfaction include number of
sources of income and income certainty, both positively (Godwin, 1994), and amount of savings in the previous year, also positively (Mugenda et al., 1990).

Measures of perceptions of income status are also strong predictors of satisfaction with financial status. Porter and Garman (1993) investigated the effect of perceived net worth and perceived income adequacy on a 1-item measure of financial well-being. These two variables were the largest, most significant factors influencing financial well-being. Though this finding is important, it can be criticized due to the 1-item measure used for the dependent variable. Firstly, it is difficult to ascertain what is being measured by that one item. Secondly, items of perceived income adequacy are often built into scales designed to measure financial satisfaction (Walson & Fitzsimmons, 1993). Thus, perceived income adequacy cannot be used as a predictor in studies where such scales are employed.

In all, the research supports the positive effect that income has on financial satisfaction.

**Age.** One important variable influencing financial satisfaction is age of the respondent (Godwin, 1994; Mugenda et al., 1990; Scannell, 1990; Titus et al., 1989), who, in most cases is the financial manager of the family.

Results from several studies indicate that age has a significant and positive effect on financial satisfaction (Danes & Morris, 1989; Mugenda et al., 1990; Scannell, 1990; Titus et
Older financial managers are more satisfied with their financial status than younger financial managers.

**Purpose**

Though studies that have investigated financial attitudes and financial knowledge exist, no study has investigated how these two variables relate to financial management behaviours conjointly. Research from the field of psychology suggests that knowledge moderates the relationship between attitudes and behaviours generally (Eagly & Chaiken, 1993).

According to Eagly and Chaiken (1993), social psychologists interested in the attitude-behaviour relation have traditionally postulated that attitudes motivate behaviour. However, the relations between the two variables have varied from weak to moderate in magnitude. In an effort to explain the often inconsistent results in correlations between attitudes and behaviours, social scientists began to examine non-attitudinal variables for their effects on the attitude-behaviour relation. For example, level of moral reasoning, having a vested interest in an issue, and direct experience are three such variables that have been shown to increase the relationship between attitudes and behaviours (Eagly & Chaiken, 1993). Another such variable is prior knowledge. Specifically, "[t]he amount of stored information or knowledge that is available and accessible to people moderates the attitude-behaviour correspondence" (Eagly & Chaiken, 1993, p. 200). The authors speculate that, "perhaps attitudes [that are] backed by more information [i.e., knowledge]
are more readily accessed from memory, and more accessible attitudes are more highly correlated with behaviour" (Eagly & Chaiken, 1993, p. 201).

Because of the moderating effect of knowledge on the relationship between attitudes and behaviours suggested in the psychological literature, it is the primary purpose of this study to investigate whether knowledge of financial matters moderates the relationship between financial attitudes and financial management behaviours. A secondary purpose of this study is to assess which variable (attitudes or knowledge) is more important in predicting the use of financial management behaviours. A tertiary purpose is to assess how financial management relates to satisfaction with financial status, and in addressing an inconsistent finding in the literature, to determine if there is a difference in the management-satisfaction relationship as a function of the instrument used to measure financial management.

In ascertaining how attitudes and knowledge influence financial management, and how financial management affects satisfaction, educators and practitioners can focus their efforts accordingly, thus, better assisting those in need of their services. Additionally, achieving clarity on the issue of an inconsistent finding in the financial management research literature serves to advance such research in terms of the instruments used in future studies.
Theoretical Framework


The Family Resource Management Model outlined by Deacon and Firebaugh (1988) views the family as a system of input-throughput-output with two major subsystems: personal and managerial. Input is defined as matter, energy, and/or information entering a system in various forms to affect throughput (transformation) processes in the achievement of outcome or output. Two categories of inputs are demands and resources. Demands are either goals or events that require action. Resources are the means that provide the ability to meet the demands placed upon the family. Resources can be either human or material in nature. The human resources within the family system are the skills, abilities, and knowledge of individual family members. Tangible goods, savings, and investments represent the material resources of the family.

Throughput is the transformation of matter, energy, and/or information by a system from input to output. Output is matter, energy, and/or information produced by a system in response to input, and from throughput (transformation) processes.

For the proposed research, a model derived from the Deacon and Firebaugh (1988) Family Resource Management Model as applied
to financial management provides the conceptual framework within which to investigate effects of financial knowledge and financial attitudes on financial management behaviours and satisfaction with financial status.

In the present study, financial attitudes are defined as a personal subsystem variable. Deacon and Firebaugh (1988) define the personal subsystem as, "represent[ing] the composite of social-psychological-physiological-spiritual development that gives integrity to management...." (p. 21). Of the research in the financial management literature that has applied the concepts from the Deacon and Firebaugh (1988) Family Resource Management Model (Bauer & Hogan, unpublished manuscript; Davis, 1983, 1987, 1989; Godwin, 1994; Guadagno, 1981; Hira et al., 1992; Jeries, 1987; Miner, 1989; Mugenda et al., 1990; Titus et al., 1989), not one included the personal subsystem in their model. The studies on financial attitudes (Godwin, 1994; Godwin & Carroll, 1986; Godwin & Koonce, 1992) did not employ a theoretical model in their design. In the financial management literature, no application of financial attitudes within any theoretical model currently exists. Therefore, support from past research for the present examination of financial attitudes as a personal subsystem variable is not available.

In the psychological research 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). Attitudes are one of many important variables that guide behaviour. It is postulated
in the psychological literature that attitudes are manifested in behavioural responses (Eagly & Chaiken, 1993). Clearly, the two are uniquely and closely related, more so than for instance, knowledge and behaviour. As such, it is reasonable to define financial attitudes as a personal subsystem variable, and counterpart to the managerial subsystem.

Based on the preceding argument, the definition of financial attitudes is based on the combination of the two definitions given above -- that from the psychological literature, and that from Deacon and Firebaugh (1988). Its definition is: a personal subsystem variable that represents the psychological tendency expressed by evaluating financial management behaviours with some degree of agreement or disagreement.

The managerial subsystem is conventionally defined as transformation processes such as money management practices (Mugenda et al., 1990) or planning and implementing behaviours (Titus et al., 1989) or other management practices (Hira et al., 1992). Consequently, the managerial subsystem is defined by transformation processes of financial management behaviours in this study also. Together, the personal and the managerial subsystem constitute the throughput of the system (Deacon & Firebaugh, 1988), where input is transformed to output.

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 or financial knowledge) (Davis, 1983, 1987, 1989; Hira et al., 1992; Jeries, 1987; Mugenda et al., 1990;
Titus et al., 1989). In this study, the input to the system is defined as financial knowledge, which is one of the traditional human resources in the original model. Additionally, because of the significant effects that income and age (also traditional resources) have been shown to have on the dependent variables in this study, measures of income and age, as inputs to the system, are included as statistical controls. Income is defined as a material resource, whereas age represents a human resource. The model states that inputs to the system may bypass the personal subsystem and effect primarily the managerial subsystem.

Outputs from the system, defined by Deacon and Firebaugh (1988) as demand responses and resources changed, have commonly been operationalized in the research literature as objective outcomes, such as change in net worth (Titus et al., 1989) or as subjective outcomes, such as satisfaction (Davis, 1983; Guadagno, 1981; Hira et al., 1992; Jeries, 1987; Mugenda et al., 1990; Titus et al., 1989). It has been noted by one researcher that, while an objective indicator such as net worth presumes that all families have wealth accumulation as a goal, using a subjective indicator such as satisfaction recognizes that families have a variety of financial goals and needs. (Godwin, 1994, p. 168)

Thus, in this study, output is defined subjectively as satisfaction with financial status.

To summarize, a financial management model, derived from the Deacon and Firebaugh (1988) Family Resource Management Model, is constructed in a manner similar to those designed by other researchers in the field. The personal subsystem is defined as
financial attitudes. The managerial subsystem is defined as a set of financial management behaviours. Financial knowledge, along with income and age, represent the inputs to the system; and satisfaction with financial status represents the output from the system (see Figure 1).
Figure 1.

Financial Management Model:
Adaptation of the Deacon-Firebaugh Model

INPUT

financial knowledge
income
age
other demographic variables

THROUGHPUT

PERSONAL SUBSYSTEM
financial attitudes

MANAGERIAL SUBSYSTEM
financial management

OUTPUT

satisfaction with financial status
Hypotheses

One study in the financial management research literature examined the association between financial management attitudes and behaviours and found that the two variables were positively correlated (Godwin & Carroll, 1986). A more recent study, using regression analysis to assess whether attitudes toward planning predicted cash flow management behaviours (a subset of financial management), found that attitudes were the most powerful predictor of the behaviours (Godwin, 1994). This finding is in agreement with those established by researchers in the psychological literature -- that attitudes are related to behaviour (Eagly & Chaiken, 1993). Yet, additional research is needed to test whether attitudes predict behaviours in the broader domain of financial management more generally. According to psychologists, two criteria which improve attitude-behaviour correlations include defining the attitudes and behaviours at an equivalent level of specificity, and using multiple-item measures (Eagly & Chaiken, 1993). Thus, in employing multiple-item measures that are equivalent with respect to the level of specificity, it is hypothesized that:

H1a: Financial attitudes and financial management behaviours will be positively related.

H1b: Financial attitudes will account for a significant proportion of the variance in the financial management behaviours used.

Based on the supporting literature which has shown that financial knowledge has a positive effect on financial management
behaviours (Godwin, 1994; Godwin & Carroll, 1986; Hira et al., 1992; Mugenda et al., 1990; Titus et al., 1989), it is hypothesized, correspondingly, that:

**H2a:** Financial knowledge and financial management behaviours will be positively related.

**H2b:** Financial knowledge will account for a significant proportion of the variance in financial management behaviours.

The research on cash flow management behaviours (a dimension of financial management behaviours) revealed that, relative to financial knowledge, attitudes toward planning were more important in influencing cash flow management behaviours (Godwin, 1994). No study, however, assessed the relative influence of financial knowledge and financial attitudes on financial management behaviours. Thus, generalizing from Godwin's (1994) research, it is hypothesized that, relative to financial knowledge, financial attitudes will have a greater impact on financial management behaviours.

**H3:** Relative to financial knowledge, financial attitudes will account for a greater proportion of the variance in financial management behaviours.

"[A]mount 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). The psychological research literature on attitudes suggests that the relationship between attitudes and behaviours is a function of knowledge. Research from the financial management literature indicates that both knowledge, and attitudes, individually, are positively related to management behaviours (Godwin, 1994; Godwin & Carroll, 1986; Hira et al., 1992; Mugenda et al., 1990; Titus et al., 1989). No study, however, examined the conjoint effect of these two variables on financial management behaviours specifically. In accordance with the extant financial management and psychological research findings, it is hypothesized that financial knowledge will moderate the relationship between financial attitudes and financial management behaviours (see Figure 2).

**H4:** Financial knowledge will moderate the relationship between financial attitudes and financial management behaviours.

**H4a:** When financial knowledge is high, positive the relationship between financial attitudes and financial management behaviours will be stronger than when financial knowledge is low.

**H4b:** When financial knowledge is low, the positive relationship between financial attitudes and financial management behaviours will be weaker than when financial knowledge is high.

There exists an inconsistency in the financial management research literature regarding the impact of financial management behaviours on financial satisfaction. Results from a study
Figure 2.

Attitude-by-Knowledge Interaction

high knowledge

low knowledge

financial attitudes

financial management behaviours
conducted in 1990, by Mugenda and his associates, indicated that
money management practices had a statistically significant,
negative impact on satisfaction with financial status. The
conjecture in the present study is that this finding was a
function of the circumscribed instrument used to measure money
management practices, and that use of a more extensive instrument
would produce positive results. In order to test this,
additional analyses are required. A test is needed in which the
two measures are compared on their relation to satisfaction with
financial status. Because the negative finding in the Mugenda et
al. study is being attributed to the limited nature of the
measure, it is hypothesized that the Mugenda et al. (1990)
instrument will reproduce an equivalent negative effect, while a
more comprehensive and extensive instrument will produce the
expected positive effect, on satisfaction with financial status.

H5a: Using the 3-item instrument from Mugenda et al., (1990) to
measure financial management behaviours, financial
management behaviours will be negatively related to
satisfaction with financial status.

H5b: Using a more comprehensive and extensive measure for
financial management behaviours, financial management
behaviours will be positively related to satisfaction with
financial status.

Because research shows that income is strongly related to
financial satisfaction, the effects of income have to be taken
into account when examining variables hypothesized to have an
impact on satisfaction with financial status. This represents a
more conservative assessment of the effects of other variables on satisfaction. Thus, it is additionally hypothesized that:

**H6:** Financial management will account for additional variability in satisfaction with financial status once income is taken into account.

Age has been cited as a factor that influences both the use of financial management behaviours, and satisfaction with financial status (Danes & Morris, 1989; Godwin & Carroll, 1986; Mugenda et al., 1990; Scannell, 1990; Titus et al., 1989). Thus, the effect of this variable has to be considered as a control variable.
Chapter III

Method

Recruitment of Subjects

The subjects were individuals who were recently married (less than two years on average) for the first time, and were still married at the time of the study. Subjects were recruited through The Marriage Project in Burnaby, British Columbia. The Marriage Project is,

an interchurch agency which 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 & Lister, 1992, p. 447)

The director of The Marriage Project was contacted by phone and asked if the researchers could use past participants of marriage preparation courses as subjects in a study on financial management in recently married Canadians. A summary of the proposed research, including an outline of strategies for data collection (see Appendix A), a draft copy of the questionnaire and letter to participants were sent to the director. The director and his Board of Directors reviewed and approved the request.

The year 1992 was chosen by the researchers as the year from which to sample the past participants. In selecting 1992 as the year, two related assumptions were made. One was that the participants of The Marriage Project would have followed through
with their plans to marry their partner, and that the ceremony would have taken place within approximately one year from the date that they attended the marriage preparation course. The second assumption was (assuming marriage took place within a year, on average) that 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 attended the marriage preparation classes in 1992. A list of the names, addresses, and phone numbers of all of the participants from 1992 (n = 726) was compiled from the registration forms. Because the list of information was gathered in 1992, it had to be updated before the questionnaires could be mailed out and before any follow-up telephone calls could be conducted.

The list was updated using a CD-ROM telephone directory that included entries across Canada for 1994. The search for updated information was limited to British Columbia. The hierarchical criteria for updating the personal information was as follows:

1. if there was an exact match on the three pieces of available information (name, address, and phone number) of either the man or the woman, the old information was confirmed, recorded and added to the sample;

2. if only two pieces of information matched (name and phone number, name and address, or address and phone number), the outdated information was updated, and all of the information was recorded and added to the sample;
(3) if only one piece of information matched -- specifically, the address or phone number -- the information on these subjects was not updated, and these subjects were recorded as being untraceable. They were not included in the sample. However, if the one piece of information that matched was the name, then the following decision rules were employed:

(i) if there was only one entry under that name, the outdated information was updated, and all the information was recorded and added to the sample;

(ii) if there were numerous entries under the same name, the information was not updated. The subject was recorded as being untraceable, and was not included in the sample;

(iii) if there were middle initials and/or first names of either spouse included in the directory, and there was a match, the information was updated, recorded, and added to the sample; otherwise it was not.

Through the updating process, the names, addresses, and phone numbers for 565 subjects were, in relation to the above criteria, successfully updated and/or confirmed. The information on 161 subjects was neither updated nor confirmed. These subjects were untraceable (e.g., unlisted in the 1994 CD-ROM telephone directory, living outside of British Columbia, etc.).

Data Collection Procedures

On July 2, 1995, 565 subjects were mailed envelopes that included one questionnaire, a cover letter from the university, a
cover letter from The Marriage Project, and a self-addressed stamped envelope (see Appendix B).

It was asked in both the cover letter from the university, and on the questionnaire itself that the financial manager of the household complete the questionnaire. In this request, household financial manager was defined for the respondent 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, if the respondents were undecided as to who was the financial manager, or if they managed their finances jointly, it was clarified that the spouses should decide between themselves who would be the one person to complete the questionnaire (Fitzsimmons, Hira, Bauer, & Hafstrom, 1993; Hayhoe & Wilhelm, 1995; Hira, Fanslow, & Titus, 1989; 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 (Dillman, 1978). Over a period of two months, all potential subjects were telephoned in two waves: two and four weeks after mail out. Subjects were called between the hours of 9:00 AM and 4:00 PM, with some calls being made between 7:00 PM and 9:00 PM if a person could not be reached during the day. One of four scripts -- which were approved by The Marriage Project -- were used, depending on whether the address had matched perfectly with the original one from 1992 or not, and whether the phone was answered in person or by an answering machine. Although it was a goal of this project to make personal
contact with each subject, it was not always possible. The researchers decided that a message left on an answering device could be an effective follow-up strategy comparable to a mailed-out reminder postcard. A third follow-up call was not done as the response rate was good, and there were concerns of being perceived negatively by the subjects.

**Measures**

Participants were asked to complete a nine page questionnaire (see Appendix B). The questionnaire included questions about attitudes and knowledge regarding financial management, financial management behaviours, satisfaction with financial status, and demographic information. Questions were also included to ensure that the participant had met the eligibility requirements (i.e., "Have you, or your spouse, been married before?").

The questionnaire was pretested by married individuals (n = 4), academic peers (n = 2), and experts in the field (n = 3). In addition to completing the questionnaire, these individuals were asked to (1) identify the time it took them to complete it; (2) identify instructions they thought were unclear or items they felt were worded ambiguously; and (3) comment on any additional difficulties or concerns about finances that recently married individuals might experience. As a result of concerns raised by the pre-testing sample, revisions to the numbering scheme of the questions were made, and a modification to the wording of the instructions to the knowledge scale were implemented. The words
"mainly" were prefixed to "true" or "false" in the statement, "Please indicate whether each of the following statements is true or false by circling the appropriate number."

**Dependent Variables**

**Financial management behaviours.** Financial management behaviours are defined as the set of behaviours performed regarding the planning, implementing and evaluating involved in the areas of cash and credit management, capital accumulation, risk management, retirement and estate planning, and general management. This dependent variable was measured by a 38-item Likert-type scale that was constructed by combining selected items from pre-existing scales, including those by Fitzsimmons et al. (1993), Godwin and Carroll (1986), Porter and Garman (1993), and Titus et al. (1989) all of which measured the same concept of financial management behaviours.

This variable 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 scales that measured similar concepts -- but did not duplicate the original Porter and Garman (1993) items -- were added. The result was a composite 38-item measure of financial management behaviours consisting of six conceptual dimensions.
The items in the scale of financial management behaviours were identified in conceptual clusters on the questionnaire, with consecutive numbering throughout the 38 items. The item numbers presented here correspond to the item numbers used in the questionnaire.

Using a 5-point Likert-type 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." A sample item of risk management is, "Each year I review the adequacy of the insurance coverage I have." Negatively worded items (3, 5, 11, 14, 15, 16, 17, 18, 29, 33, 34) were recoded (1 = 5, 5 = 1) and individual scores were summed and averaged. High scores indicated that the behaviour was more typical of the respondent.

Item analysis was performed on the 38 items. It was found that three items (18, 29, 34) did not correlate above .10 with the entire scale, and were consequently dropped. The remaining 35 items correlated with the total scale at or above .10, with the highest item-total correlation at .59. Internal consistency for the revised scale (n = 35) as measured by Cronbach's alpha was .86 for this sample.

Whereas previous research has assumed that the concept of financial management is unidimensional (Godwin & Carroll, 1986), in this study, financial management behaviour is defined as a multi-dimensional concept. In order to verify the conceptual dimensions of the construct, factor analysis was performed on the 35 items. The product of the principle components analysis was
not interpretable, with items not loading very high, and no clear or unique factors distinguishable. Because of the pattern of the factor loadings with principal components factor analysis, the command for creating a varimax rotation could not be executed. Because of this, the conceptual dimensions themselves were examined for reliability. Internal consistencies, along with item analyses of item-total correlations, were performed on the conceptual dimensions. Specifically, for each of the six conceptual dimensions, those items that if dropped would increase the reliability coefficient noticeably, were dropped. In all, six more items were dropped from the remaining 35 items (item 3 was dropped from cash management; item 22 was dropped from credit management; item 25 was dropped from retirement and estate planning; item 26 was dropped from risk management; and items 33 and 36 were dropped from general management). Table 1 presents each of the six conceptual dimensions with their respective number of items and reliability coefficients, as measured by Cronbach's alpha.

Results of analyses on the six conceptual dimensions are included in the Post Hoc section of the Results chapter.

**Satisfaction with financial status.** The subjective evaluation of one's financial situation was measured by Titus et al.'s (1989) Satisfaction with Financial Status Index. This 10-item Likert-type index was designed to assess satisfaction with a diversity of economic factors such as current level of assets, ability to meet large emergency expenses, and retirement...
Table 1
Cronbach's Coefficients for the Conceptual Dimensions of Financial Management

<table>
<thead>
<tr>
<th>Conceptual Dimension</th>
<th>n</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Management</td>
<td>12</td>
<td>.71</td>
</tr>
<tr>
<td>Credit Management</td>
<td>7</td>
<td>.67</td>
</tr>
<tr>
<td>Retirement and Estate Planning</td>
<td>2</td>
<td>.79</td>
</tr>
<tr>
<td>Risk Management</td>
<td>2</td>
<td>.78</td>
</tr>
<tr>
<td>General Management</td>
<td>4</td>
<td>.84</td>
</tr>
<tr>
<td>Capital Accumulation</td>
<td>2</td>
<td>.59</td>
</tr>
</tbody>
</table>
planning. Compared to other indices designed to measure financial satisfaction, this index includes an extensive range of factors from level of living to the distribution of assets. Internal consistency, as measured by Cronbach's alpha, was reported by the authors to be .85 for the total index.

Using 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 summed and averaged. High scores indicated high satisfaction with financial status. Internal consistency, as measured by Cronbach's alpha, was .83 for this sample.

**Independent Variables**

**Financial management behaviours.** This is the same variable as that described above (see Dependent Variables). Additionally, this variable was measured by the Money Management Practices Index from Mugenda et al. (1990). This index was composed of three items assessing how often someone in the household estimated household income and expenses; reviewed and evaluated spending habits; and figured net worth. Each of these items was measured on a different scale of frequency. The authors did not describe the scoring technique they employed, nor did they report the reliability for the index. Due to the unequal scales of frequency on which the items were measured, each item was transformed to its Z score, then summed and averaged. High
scores represented greater frequency with which the money management practices were performed. Internal consistency, as measured by Cronbach's alpha, was .51 for this sample.

Financial attitudes. Financial attitudes refer to the psychological tendency expressed when aspects of financial management are evaluated with some degree of agreement or disagreement. In essence, they represent the general philosophy and specific attitudes toward financial management. Financial attitudes were measured in part by Godwin and Carroll's (1986) Financial Management Attitudes Scale. The original 13-item Likert-type scale was designed to assess the level of agreement with various statements regarding financial management. The reliability coefficient for this scale was reported by its authors to be .78.

The items in Godwin and Carroll's measure concentrated on written records and the division of labour within marriages. The scale was somewhat limited in scope, and was assumed by its authors to be unidimensional. In order to construct a scale of attitudes that would reflect each of the six conceptual scale dimensions of financial management behaviours, items from a second existing scale (Godwin & Koonce, 1992; no alpha reported) were added to compliment the Godwin and Carroll scale. Godwin and Koonce (1992) designed their scale to assess the value of financial planning, insurance, savings and investments, and retirement and estate planning. The newly created composite
scale in this study included attitudes on each of the dimensions of financial management behaviours and consisted of 23 items.

Using a 5-point scale ('1' = strongly agree; '5' = strongly disagree) respondents were asked to indicate the extent to which they agreed with the statements. A sample item is, "Saving is not really important." Negatively worded items (2, 3, 6, 7, 8, 10, 11, 12, 13, 14, 16, 17, 19, 20) were recoded (1 = 5, 5 = 1) so that high scores indicated a positive attitude toward financial management. Individual item scores were summed and averaged to arrive at a value for the scale.

Item analysis was performed on the newly developed 23-item scale. In the first step, items that correlated with the total scale at or below .10 (namely items 4, 10 and 13) were dropped. In the next step, items that, if dropped, would increase the reliability coefficient were dropped until the coefficient could not improve. In this step, items 7, 9, 11, 12 and 19 were dropped.

The result of these analyses was a 15-item scale. The reliability score for this scale, as measured by Cronbach's alpha, was .75 for this sample. Principle components factor analysis revealed that the scale was unidimensional with all of the items loading on one factor at or above .40.

Financial knowledge. Financial knowledge was measured by the Financial Knowledge Index from Titus et al. (1989) and Fanslow, Hira, and Titus (1986). The original 22-item, true-false measure was designed to be a general measure assessing
aptitude in such financial domains as cash management, credit management, investments, insurance, and retirement and estate planning. However, due to the lack of applicability of two items to Canadians, the wording of one item was altered, and one item was deleted, resulting in 21 items. The original item, "social security records of earnings should be checked for errors at least every five years," was not included in the revised measure. Also, the word "state" was changed to "provincial" in the item, "If a person dies without a will, his/her assets are distributed according to state law."

From the list of 21 items -- each a distinct statement regarding financial management -- respondents were asked to indicate whether each 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.

Item analysis was performed following data collection. Those items with item-total correlations below .10 were deleted from the index. Items 1, 2, 6, 9, 11 and 16 were dropped. The result was a 15-item measure of financial knowledge. Internal reliability of the 15-item index, as measured by Cronbach's alpha was .57 for this sample.

**Demographic variables.** Respondents were asked to provide information about themselves, their spouses, and their families. Personal characteristics included education, sex, age, ethnicity,
employment status, income, religion, church attendance, and whether or not the respondent had been married before. Spouse's characteristics included employment status and whether or not the spouse had been previously married. Family characteristics included family income, number and ages of children, number of years married, and whether or not the couple cohabited prior to marriage, and if so, duration of cohabitation. In addition, using both personal and household income, a measure of the proportion of income earned by a respondent was created, and examined for its impact on the dependent variables in the study.
Chapter IV

Results

Response Rate

Five hundred and sixty-five questionnaires were mailed out to the homes of past participants of The Marriage Project, a pre-marital instructional facility in Burnaby, British Columbia. Fifty-four questionnaires were returned by the post office as undeliverable. During the follow-up telephone calls, 18 more subjects were dropped from the study as, at the time, they were either untraceable (had either moved out of the country, or had been away on extended holidays, and would continue to be so for the duration of data collection) or were no longer with their partner (had never married, or had divorced). Of the 493 remaining questionnaires, 204 were returned by mail to the School of Family and Nutritional Sciences (response rate = 41%). Of the 204 questionnaires, 10 were not eligible (i.e., were in their second marriage). The sample used for analysis consisted of 194 individuals who were recently married for the first time.

Characteristics of the Sample

A summary of the characteristics of the sample is presented here. For a detailed demographic profile see Appendix C, Table 1. The majority of the respondents were female (69%). The ages of the respondents ranged from 22 to 45 years, with slightly over half (53%) in their 20's. Most of the respondents had been married for two years (72%) and had no children (74%). The
sample was primarily Caucasian in ethnicity (92%). Most of the respondents (76%) and their spouses (88%) worked full-time. The majority of the respondents reported personal incomes of $49,999 or less (79%), and reported household incomes of $89,999 or less (80%). Sixty percent of the sample had graduated from university, college or technical school. Thirty-three percent of the respondents reported attending church at least once a year. Without specifying a particular faith, 40% of the respondents reported that they were Protestant; another 15% reported being of other Protestant religions. Two-thirds of the respondents cohabited prior to marriage (67%), and half of these (50%) had lived together for one year before marrying.

**Family Financial Manager**

The family financial manager was originally defined in the financial management literature as...

the individual that carries the main responsibility for the family finance from the point of view of both decision-making and execution with reference to: a) Looking after payment of bills; b) Keeping track of expenditures in relation to budgets; c) Use of money left over at the end of the pay period. The financial manager is the individual who is responsible for these three tasks. If the three tasks are split between the husband and wife, the member that looks after two of them is designated the financial officer. If the tasks are split evenly so that no member looks after most of them...the financial officer is considered to be indeterminate. (Ferber & Lee, 1974, p. 44)

Based on the instructions on the questionnaire, the family financial manager was the person who identified him/herself as "the spouse who has the main responsibility for looking after the
family's finances." Forty-nine percent (n = 95) of the respondents in the study were official household financial managers according to the measure originally designed by Ferber and Lee in 1974. The other half of the sample (n = 94), though not meeting the official requirements, identified themselves as the financial manager of the household by completing and returning the questionnaire (Fitzsimmons et al., 1993; Hira et al., 1989; Hira et al., 1992; Mugenda et al., 1990; Titus et al., 1989; Walson & Fitzsimmons, 1993; Wilhelm et al., 1993). Results of a t-test revealed that there were no differences between the official financial managers and the self-reported ones with respect to their financial management behaviours. However, to avoid any confusion, all participants of the study are referred to herein as respondents, as opposed to financial managers.

Univariate Distributions

Before testing the proposed hypotheses, univariate distributions for the dependent and independent variables were examined.

Dependent Variables

Financial management behaviours. The average score on this 35-item Likert-type scale was 3.89 (SD = .47), where the possible range was 1 to 5. There was variation in the distribution of scores around the mean, although the distribution was significantly skewed (skewness = -.36, SE skew = .18). Although it was slightly negatively skewed, with scores tending toward
higher values, inspection of the distribution revealed that this scale approximated a normal distribution.

**Satisfaction with financial status.** The average score on this 10-item Likert-type scale was 3.65 (SD = .67), where the possible range was 1 to 5. There was variation in the distribution of scores around the mean. The distribution was not significantly skewed and approximated a normal distribution.

**Independent Variables**

**Financial management behaviours.** The variable of financial management behaviours was analyzed as an independent variable in the analyses that assessed its effect on satisfaction with financial status. The measure of this variable as an independent variable is the same as that described above (see Dependent Variables).

Additionally, this variable was measured by the Money Management Practices Index from Mugenda et al. (1990). The average standardized score on this 3-item index was 0.01 (SD = .70). There was variation in the distribution of scores around the mean. The distribution was not significantly skewed and approximated a normal distribution.

**Financial attitudes.** The average score on this 15-item Likert-type scale was 4.18 (SD = .36), where the possible range was 1 to 5. There was variation in the distribution of scores
around the mean. The distribution was not significantly skewed and approximated a normal distribution.

**Financial knowledge.** The average score for financial knowledge was .86 (SD = .13), where the possible range was 0 to 1. The distribution of scores on this percentage-score index was significantly negatively skewed (skewness = -1.54, SE skew = .18), with scores clustering around higher values. Because this index was designed to measure general financial knowledge, it was expected that the scores would be distributed in such a manner.

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 sample completed a consumer education course (29%), while one-third of the sample had some training in financial management (33%).

**Preliminary Analyses**

Pearson correlations were run between the demographic variables and the dependent variables to see whether any of the demographic variables needed to be included as controls in hypothesis testing. Categorical variables, such as religion and ethnicity, were recoded to dichotomous variables (modal category and other) before the correlations were performed. Results revealed that four variables were significantly related to financial management behaviours, including gender, education, and personal and household income (see Table 2). Four variables were
Table 2

**Correlations Between Demographic Variables and Financial Management Behaviours**

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>n^a</th>
<th>Financial Management Behaviours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>193</td>
<td>-.137*</td>
</tr>
<tr>
<td>Age</td>
<td>191</td>
<td>.094</td>
</tr>
<tr>
<td>Education</td>
<td>193</td>
<td>.130*</td>
</tr>
<tr>
<td>Employment Status</td>
<td>193</td>
<td>.056</td>
</tr>
<tr>
<td>Employment Status of Spouse</td>
<td>193</td>
<td>.070</td>
</tr>
<tr>
<td>Personal Income</td>
<td>187</td>
<td>.233**</td>
</tr>
<tr>
<td>Household Income</td>
<td>189</td>
<td>.215**</td>
</tr>
<tr>
<td>Proportion of Income Earned</td>
<td>187</td>
<td>.075</td>
</tr>
<tr>
<td>Household Size</td>
<td>192</td>
<td>.044</td>
</tr>
<tr>
<td>Number of Children</td>
<td>194</td>
<td>-.099</td>
</tr>
<tr>
<td>Years Married</td>
<td>191</td>
<td>-.003</td>
</tr>
<tr>
<td>Pre-Marital Cohabitation</td>
<td>193</td>
<td>-.023</td>
</tr>
<tr>
<td>Pre-Marital Cohabitation Duration</td>
<td>128</td>
<td>-.035</td>
</tr>
<tr>
<td>Ethnic Background</td>
<td>194</td>
<td>-.003</td>
</tr>
<tr>
<td>Religion</td>
<td>194</td>
<td>-.010</td>
</tr>
<tr>
<td>Church Attendance</td>
<td>191</td>
<td>.003</td>
</tr>
</tbody>
</table>

^a Number varies due to missing data.

* p < .05.

** p < .01.
also significantly related to satisfaction with financial status, including age, spouse's employment status, and personal and household income (see Table 3). These variables were controlled for in subsequent analyses.

With respect to missing data, when scaling the variables of financial attitudes, financial knowledge, financial management behaviours, and satisfaction with financial status, a command that substituted the scale mean for missing data was employed. For the demographic variables, all regressions were run with the "mean substitution" command for missing data, so that any cases with missing data were not dropped in the analyses.

Hypothesis Testing

Pearson correlation and bivariate regression were used to test hypotheses 1 and 2. Multiple regression was used to test hypotheses 3, 5 and 6. The interaction effect proposed in hypothesis 4 was tested with analysis of variance.

Hypothesis 1a: Financial attitudes and financial management behaviours will be positively related.

Hypothesis 1b: Financial attitudes will account for a significant proportion of the variance in the financial management behaviours used.

Pearson correlation was used to assess the magnitude of the relationship between financial attitudes and financial management behaviours proposed in hypothesis 1a. These two variables were significantly and positively correlated ($r = .454, n = 194, p <$
Table 3
Correlations Between Demographic Variables and Satisfaction with Financial Status

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>n^a</th>
<th>Satisfaction with Financial Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>193</td>
<td>- .105</td>
</tr>
<tr>
<td>Age</td>
<td>191</td>
<td>.164*</td>
</tr>
<tr>
<td>Education</td>
<td>193</td>
<td>.017</td>
</tr>
<tr>
<td>Employment Status</td>
<td>193</td>
<td>.092</td>
</tr>
<tr>
<td>Employment Status of Spouse</td>
<td>193</td>
<td>.160*</td>
</tr>
<tr>
<td>Personal Income</td>
<td>187</td>
<td>.289**</td>
</tr>
<tr>
<td>Household Income</td>
<td>189</td>
<td>.383**</td>
</tr>
<tr>
<td>Proportion of Income Earned</td>
<td>187</td>
<td>.021</td>
</tr>
<tr>
<td>Household Size</td>
<td>192</td>
<td>.075</td>
</tr>
<tr>
<td>Number of Children</td>
<td>194</td>
<td>- .012</td>
</tr>
<tr>
<td>Years Married</td>
<td>191</td>
<td>- .010</td>
</tr>
<tr>
<td>Pre-Marital Cohabitation</td>
<td>193</td>
<td>- .001</td>
</tr>
<tr>
<td>Pre-Marital Cohabitation Duration</td>
<td>128</td>
<td>.003</td>
</tr>
<tr>
<td>Ethnic Background</td>
<td>194</td>
<td>.020</td>
</tr>
<tr>
<td>Religion</td>
<td>194</td>
<td>.017</td>
</tr>
<tr>
<td>Church Attendance</td>
<td>191</td>
<td>- .007</td>
</tr>
</tbody>
</table>

^a Number varies due to missing data.

* p < .05.

** p < .01.
The results showed that respondents who had positive attitudes toward financial management employed more of the financial management behaviours.

Bivariate regression was used to test hypothesis 1b. Regressing financial management behaviours on financial attitudes showed that financial attitudes made a significant contribution to the explained variance in the behaviours used, $F (1, 192) = 49.75$, $R^2 = .21$, $p < .001$. The results showed that the more positive the attitudes toward financial management, the greater the use of the financial management behaviours. These results provide support for both of the hypothesized relationships between financial attitudes and financial management behaviours.

**Hypothesis 2a:** Financial knowledge and financial management will be positively related.

**Hypothesis 2b:** Financial knowledge will account for a significant proportion of the behaviours used.

Pearson correlation was used to assess the magnitude of the relationship between financial knowledge and financial management behaviours proposed in hypothesis 2a. These two variables were significantly and positively correlated ($r = .265$, $n = 194$, $p < .001$). The results showed that respondents who scored higher in financial knowledge, employed more of the financial management behaviours.

Bivariate regression was used to test hypothesis 2b. Regressing financial management behaviours on financial knowledge showed that financial knowledge made a significant contribution
to the explained variance in the behaviours used, $F (1, 192) = 7.99, R^2 = .04, p = .005$. The results showed that the greater the financial knowledge, the greater the use of the financial management behaviours. These results provide support for both of the hypothesized relationships between financial knowledge and financial management behaviours.

**Hypothesis 3:** Relative to financial knowledge, financial attitudes will account for a greater proportion of the variance in financial management behaviours.

Regressing financial management behaviours on financial attitudes and financial knowledge in one step revealed that both were significant contributors to the explained variance in financial management behaviours, $F (2, 191) = 25.79, R^2 = .21, p < .001$. As predicted, financial attitudes were more important than financial knowledge, as indicated by the Beta coefficients. The Beta coefficient for financial attitudes was larger and significant (Beta = .431, $p < .001$); whereas that for financial knowledge was much smaller in comparison and was not significant (Beta = .086, $p = .198$).

In a more conservative test of the effect of attitudes and knowledge on financial management behaviours, the demographic control variables of gender, education, and personal and household income were included in another analysis. However, because the two measures of income were so strongly correlated (see Table 4) -- indicating that they were measuring essentially the same concept -- only household income was used in the
Table 4

Intercorrelations Between Demographic Variables used as Controls in Hypothesis 3

<table>
<thead>
<tr>
<th>Demographic Control Variables</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>-.11</td>
<td>-.43**</td>
<td>-.19**</td>
</tr>
<tr>
<td>Education</td>
<td>.16*</td>
<td>.20**</td>
<td></td>
</tr>
<tr>
<td>Personal Income</td>
<td></td>
<td></td>
<td>.74**</td>
</tr>
<tr>
<td>Family Income</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $p < .05$.

** $p < .001$. 
analysis. As indicated by R square change, financial attitudes continued to make a significant contribution to financial management behaviours when entered into the equation after the three control variables and financial knowledge ($R^2$ change = .164, $p < .001$). As had been the case in the analysis without the controls, financial knowledge did not reach significance in its coefficient (Beta = .05, $p > .05$).

In the final regression, all of the variables entered into the equation accounted for a significant proportion of the explained variance in financial management behaviours, $R^2 = .24$, $F (5, 188) = 13.36, p < .001$. Only financial attitudes (Beta = .44, $p < .001$) and household income (Beta = .15, $p < .05$) had significant coefficients (see Table 5).

These results provide support for the hypothesized relationship between financial attitudes, financial knowledge, and financial management behaviours. Relative to financial knowledge, financial attitudes account for a greater proportion of the variance in financial management behaviours. In fact, when tested together, only financial attitudes has any effect on financial management behaviours, and financial knowledge loses its effect.

**Hypothesis 4a:** When financial knowledge is high, the positive relationship between financial attitudes and financial management behaviour will be stronger than when financial knowledge is low.
Table 5

*Standardized Regression Coefficients for Predictors of Financial Management Behaviours*

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Financial Management Behaviours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>- .12</td>
</tr>
<tr>
<td>Education</td>
<td>.05</td>
</tr>
<tr>
<td>Household Income</td>
<td>.15*</td>
</tr>
<tr>
<td>Financial Knowledge</td>
<td>.05</td>
</tr>
<tr>
<td>Financial Attitudes</td>
<td>.44**</td>
</tr>
</tbody>
</table>

**Adjusted R^2**  .24

**F-value**  13.36**

---

a Gender, education and household income were entered together in the first step. Financial knowledge and financial attitudes were entered together in the next step.

* \( p < .05 \).

** \( p < .001 \).
Hypothesis 4b: When financial knowledge is low, the positive relationship between financial attitudes and financial management behaviours will be weaker than when financial knowledge is high.

Analysis of variance was used in testing for a two-way interaction for hypotheses 4a and 4b. 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 financial knowledge on financial management behaviours was not significant, $F (1, 193) = .002, p = .96$. These two factors did not jointly affect financial management behaviours.

This analysis of variance was re-run using three levels of financial attitudes (low, medium and high scores). In a 2 x 3 ANOVA, again no significant interaction effects were found for financial knowledge and the three levels of financial attitudes, $F (2, 193) = 2.076, p = .13$.

The results of these analyses do not provide support for the prediction that financial knowledge moderates the relationship between financial attitudes, or levels of financial attitudes, and financial management behaviours.

Hypothesis 5a: Using the 3-item index from Mugenda et al. (1990) to measure financial management behaviours, financial
management behaviours will be negatively related to satisfaction with financial status.

**Hypothesis 5b:** Using a more comprehensive and extensive measure for financial management behaviours, financial management behaviours will be positively related to satisfaction with financial status.

Prior to testing hypothesis 5 with bivariate regression, Pearson correlations were run between satisfaction with financial status and each measure of financial management. The 3-item measure from Mugenda et al. (1990) was not significantly related to satisfaction with financial status, $r = .11$, $n = 194$, $p = .06$. Since this measure was not found to be correlated to satisfaction with financial status, further testing using regression analyses was not necessary.

The measure of financial management behaviours that was created for this study was positively related to satisfaction with financial status, $r = .59$, $n = 194$, $p < .001$.

Satisfaction with financial status was regressed on the measure for financial management behaviours that was created for this study. It contributed significantly to the explained variation in the satisfaction with financial status ($R^2 = .345$, $p < .001$).

The comprehensive measure designed in this study was found to be a relevant predictor of satisfaction with financial status, whereas, the limited measure was not. Although, not precisely as predicted, these results provide fundamental support for the hypothesized discrepancy in hypothesis 5.
**Hypothesis 6**: Financial management behaviours will account for additional variability in satisfaction with financial status once income is taken into account.

In addition to personal and household income, age and spouse's employment status also correlated significantly with satisfaction with financial status (see Table 3). Thus, these demographic variables needed to be controlled for as well. Because the two measures of income were so strongly correlated (see Table 6) -- indicating that they were measuring essentially the same concept -- only household income was used in the analysis. As indicated by R square change, financial management behaviours continued to make a significant contribution to satisfaction with financial status when entered into the multiple regression equation after the three control variables ($R^2$ change = .264, $p < .001$).

In the final regression, the variables entered into the equation accounted for a significant proportion of the explained variance in satisfaction with financial status, $R^2 = .41$, $F (4, 189) = 34.47, p < .001$. Financial management behaviours (Beta = .53, $p < .001$) and household income (Beta = .24, $p < .001$) were the only variables to have significant coefficients; and compared to each other, financial management behaviours were found to be more important in influencing satisfaction with financial status than household income (see Table 7).
Table 6

Intercorrelations Between Demographic Variables used as Controls
in Hypothesis 6

<table>
<thead>
<tr>
<th>Demographic Control Variables</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.02</td>
<td>.42**</td>
<td>.32**</td>
</tr>
<tr>
<td>Spouse's Employment Status</td>
<td>-.07</td>
<td>.15*</td>
<td></td>
</tr>
<tr>
<td>Personal Income</td>
<td></td>
<td>.74**</td>
<td></td>
</tr>
<tr>
<td>Family Income</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $p < .05$.
** $p < .001$. 
Table 7

**Standardized Regression Coefficients for Predictors of Satisfaction with Financial Status**

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Satisfaction with Financial Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.04</td>
</tr>
<tr>
<td>Spouse's Employment Status</td>
<td>.09</td>
</tr>
<tr>
<td>Household Income</td>
<td>.24*</td>
</tr>
<tr>
<td>Financial Management Behaviours</td>
<td>.53*</td>
</tr>
</tbody>
</table>

Adjust $R^2$                              | .41                               |

F-value                                  | 34.47*                            |

---

*a* Age, spouse's employment status and household income were entered together in the first step. Financial management behaviours were entered in the next step.

* $p < .001.$
Results show that greater use of the financial management behaviours is related to greater satisfaction with financial status. The results provide support for the hypothesized relationship between financial management behaviours and satisfaction with financial status.

Post Hoc Analyses

The Moderating Effect of Knowledge

Because the proposed moderating effect of financial knowledge on the relationship between financial attitudes and financial management behaviours was not supported, other analyses using alternative measures of financial knowledge were conducted in an attempt to find support for an interaction. Two traditional measures of financial knowledge commonly used by researchers in the field are "the completion of a consumer education course," and "having had any training in financial management." In employing these dichotomous variables as alternate measures of knowledge, results of analyses of variance revealed that neither the 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. Thus, again results failed to provide support for a moderating effect.

Conceptual Dimensions of Financial Management Behaviours

Though not included in the hypotheses, regression analyses on the six conceptual dimensions and the independent and
dependent variables in the study were conducted. Specifically, each conceptual dimension was regressed on the control variables, financial attitudes and financial knowledge. In addition, satisfaction with financial status was regressed on the control variables and all six of the conceptual dimensions in order to assess the relative impact that each dimension had on satisfaction.

The conceptual dimensions of financial management behaviours were regressed on the three demographic control variables of gender, education, and household income along with financial knowledge and financial attitudes in six separate equations (see Table 8).

Results revealed the five variables together accounted for a significant proportion of the explained variance in cash management, $R^2 = .20$, $F (5, 188) = 10.57$, $p < .001$. Of the five independent variables entered into the equation, only financial attitudes had a significant coefficient ($\text{Beta} = .45$, $p < .001$). Respondents who had positive attitudes toward financial management tended to employ more of the cash management behaviours.

For credit management, results revealed that together, the five variables entered into the equation accounted for a significant proportion of the explained variance in the dependent variable, $R^2 = .10$, $F (5, 188) = 5.33$, $p < .001$. Three variables had significant coefficients. Level of education ($\text{Beta} = .15$, $p < .05$), financial knowledge ($\text{Beta} = .15$, $p < .05$) and financial attitudes ($\text{Beta} = .14$, $p < .05$) were equally important in
Table 8

Standardized Regression Coefficients for Predictors of Conceptual Dimensions of Financial Management Behaviours^a

<table>
<thead>
<tr>
<th>Dimensions of Financial Management</th>
<th>Cash</th>
<th>Credit</th>
<th>Risk</th>
<th>Retire</th>
<th>General</th>
<th>Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.12</td>
<td>-.01</td>
<td>.10</td>
<td>-.11</td>
<td>-.13*</td>
<td>-.13</td>
</tr>
<tr>
<td>Education</td>
<td>.07</td>
<td>.15*</td>
<td>-.04</td>
<td>-.08</td>
<td>.02</td>
<td>.01</td>
</tr>
<tr>
<td>Household Income</td>
<td>-.01</td>
<td>.13</td>
<td>.16*</td>
<td>.15*</td>
<td>.02</td>
<td>.28***</td>
</tr>
<tr>
<td>Financial Knowledge</td>
<td>-.00</td>
<td>.15*</td>
<td>.11</td>
<td>-.00</td>
<td>.02</td>
<td>-.01</td>
</tr>
<tr>
<td>Financial Attitudes</td>
<td>.45***</td>
<td>.14*</td>
<td>.04</td>
<td>.09</td>
<td>.41***</td>
<td>.21**</td>
</tr>
</tbody>
</table>

Adjusted $R^2$                      | .20  | .10    | .02  | .02    | .17     | .14     |
F-value                            | 10.6***| 5.33***| 1.91 | 1.98   | 8.67*** | 7.13*** |

^a For each equation, gender, education and household income were entered together in the first step; financial knowledge and financial attitudes were entered together in the next step.

* $p < .05$.
** $p < .01$.
*** $p < .001$. 
influencing credit management. Respondents who were more educated, had greater financial knowledge, and had positive attitudes toward financial management utilized more of the credit management behaviours.

In neither the equation on risk management behaviours, \( R^2 = .02, F (5, 188) = 1.91, p > .05 \), nor the equation on retirement and estate planning, \( R^2 = .02, F (5, 188) = 1.98, p > .05 \), did the five independent variables account for a significant proportion of the variance in the dependent variables. Household income was the only variable to reach a significant coefficient in both risk management (Beta = .16, \( p < .05 \)) and retirement and estate planning (Beta = .15, \( p < .05 \)). Respondents who reported having greater household incomes tended to employ more of the risk management behaviours, and engage in more retirement and estate planning.

In the fifth regression equation, the five independent variables together accounted for a significant proportion of the explained variance in the use of general management behaviours, \( R^2 = .17, F (5, 188) = 8.67, p < .001 \). Financial attitudes and gender had significant coefficients. Results revealed that financial attitudes (Beta = .41, \( p < .001 \)) were more important in influencing the use of general management behaviours, relative to gender (Beta = -.13, \( p < .05 \)). Male respondents who had positive attitudes toward financial management tended to use more of the general management behaviours.

In the final equation, the five independent variables accounted for a significant proportion of the variance in the use
of capital accumulation behaviours, $R^2 = .14$, $F (5, 188) = 7.13, p < .001$. Financial attitudes and household income had significant coefficients. Relative to financial attitudes (Beta = .21, $p < .01$), household income (Beta = .28, $p < .001$) was more important in influencing the use of capital accumulation behaviours. Respondents who reported having greater household incomes and who had positive attitudes toward financial management, also reported using more of the capital accumulation behaviours.

Satisfaction with financial status was regressed on the demographic control variables (spouse's employment status, age and household income) and the six dimensions of financial management behaviours in one equation (see Table 9).

Results revealed that the three demographic control variables and the six dimensions of financial management behaviours accounted for a significant proportion of the variance in satisfaction with financial status, $R^2 = .46$, $F (9, 184) = 19.12, p < .001$. The relative effects of the nine independent variables, as indicated by their respective beta coefficients, were as follows. Capital accumulation had the largest impact on satisfaction (Beta = .34, $p < .001$). The next most important variable was the dimension of credit management (Beta = .21, $p < .001$), followed by the demographic variable of household income (Beta = .16, $p < .01$). Retirement and estate planning (Beta = .13, $p < .05$) and risk management (Beta = .12, $p < .05$) were equivalent with respect to the effect they had on satisfaction.
Table 9

Regression of Satisfaction with Financial Status on Demographic
Control Variables and Conceptual Dimensions of Financial
Management Behaviours

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Satisfaction with Financial Status (Beta)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.03</td>
</tr>
<tr>
<td>Spouse's Employment Status</td>
<td>.09</td>
</tr>
<tr>
<td>Household Income</td>
<td>.16**</td>
</tr>
<tr>
<td>Cash Management</td>
<td>.08</td>
</tr>
<tr>
<td>Credit Management</td>
<td>.21***</td>
</tr>
<tr>
<td>Retirement and Estate Planning</td>
<td>.13*</td>
</tr>
<tr>
<td>Risk Management</td>
<td>.12*</td>
</tr>
<tr>
<td>General Management</td>
<td>.05</td>
</tr>
<tr>
<td>Capital Accumulation</td>
<td>.34***</td>
</tr>
</tbody>
</table>

Adjusted $R^2$                                      .46
F-value                                             19.12***

a Age, spouse's employment status and household income were entered together in the first step. The dimensions of financial management behaviours were entered together in the next step.

* $p < .05$.
** $p < .01$.
*** $p < .001$. 
The two conceptual dimensions of cash management ($\text{Beta} = .08, \ p > .05$) and general management ($\text{Beta} = .05, \ p > .05$), along with the demographic variables of age ($\text{Beta} = .03, \ p > .05$) and spouse's employment status ($\text{Beta} = .09, \ p > .05$) did not have significant coefficients.

In sum, nearly half of the explained variation in satisfaction with financial status was accounted for by four of the conceptual dimensions and one demographic variable. Respondents who used more of the capital accumulation behaviours and credit management behaviours, who reported greater household incomes, engaged in more retirement and estate planning, and employed more of the risk management behaviours, reported being more satisfied with their financial status.
Chapter V

Discussion

The purpose of this study was to investigate the impact that financial knowledge and financial attitudes had on financial management behaviours using a model of financial management derived from the Deacon and Firebaugh (1988) Family Resource Management Model. Additionally, the relationship between financial management behaviours and satisfaction with financial status was tested.

The four main objectives of this study were to assess which variable (financial knowledge or financial attitudes) was more important in directly influencing financial management behaviours; to assess whether financial knowledge moderated the relationship between financial attitudes and financial management behaviours; to assess the impact that financial management behaviours had on satisfaction with financial status; and, to determine if there was a difference in the relationship between management and satisfaction as a function of the instrument used to measure financial management behaviours.

Variables Related to Financial Management

The first objective of this study was to assess which variable (attitudes or knowledge) was more important in directly influencing financial management behaviours. Financial attitudes were significantly related to financial management behaviours; financial knowledge was also significantly related to financial
management behaviours. When examined together, it was found that financial attitudes were more important than financial knowledge in influencing the use of the financial management behaviours. It is interesting to note that, when examined together, the effect of financial attitudes on the management behaviours remained, while that of financial knowledge did not.

That both attitudes and knowledge are related to financial management behaviours has been noted before (Godwin & Carroll, 1986). That attitudes are more important than knowledge in predicting management behaviours 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 (1994) study, indicating that attitudes are more important than knowledge in predicting financial management behaviours in general. However, never has it been found that financial attitudes eliminate the effect of financial knowledge when tested together for their relation to financial management behaviours.

This unique finding may have resulted because financial attitudes and financial knowledge share variance. These two variables were significantly correlated, though not very strongly. However, the variance accounted for by financial knowledge (which it apparently shares with financial attitudes) comes to be accounted for by financial attitudes once the attitudes are entered into the equation. In the end, only financial attitudes predict financial management behaviours, leaving financial knowledge essentially ineffective.
Alternatively, the elimination of the effect of financial knowledge may have been due to the poor psychometric properties of the knowledge measure. As such, these results should be interpreted with caution. The impact of knowledge on financial management behaviours is not to be dismissed; after all, when tested by itself, financial knowledge is a significant predictor of financial management behaviours.

The second objective of the study was to assess whether financial knowledge moderated the relationship between financial attitudes and financial management behaviours. No study in the financial management research literature has investigated this relationship before. The proposed moderating effect was not supported. The shared variance explanation, mentioned above, may explain why no support was found for the proposed interaction. Alternatively, the lack of a significant finding may have been because there was not enough variation in the knowledge score to reveal an interaction. On average, the scores on the financial knowledge index were very high; respondents in this sample 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; it may have made it easier for the respondents to correctly identify the statements as true or false (there was no 'Do Not Know' category), with the effect of both inflating the mean for the index and decreasing variation.

In an effort to find support for an interaction effect of financial knowledge, additional tests were run using alternative
measures of the concept that are commonly used in the literature, including having taken a course in consumer education, and having had any training in financial management (Godwin, 1994; Godwin & Carroll, 1986). While it was assumed that, of the three financial knowledge measures included in the study, the most comprehensive measure would produce the expected results of an interaction, the prediction was not supported with any of the measures. When each of the dichotomous measures of financial knowledge were employed in the analyses as alternatives, the prediction was still not supported. Again, there may not have been enough variation in these dichotomous variables to reveal a moderating effect.

Yet a third possible explanation, financial knowledge may not have had the expected moderating effect because of 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. Because this sample was so highly educated, it is likely that there was little chance for much variation to occur in the financial knowledge scores.

Research that focuses on developing reliable measures of financial knowledge is needed. Perhaps measures of the concept that include a balance of complex and basic questions regarding household financial management would produce a wider range of scores with greater variability among them. Such measures may lend future researchers the opportunity to achieve support for a moderating effect of financial knowledge on the attitude-behaviour relationship in financial management.
With respect to the demographic control variables, although gender, education and household income correlated significantly with financial management behaviours, in the regression analyses it was found that only household income predicted use of the behaviours. Hira et al. (1992) also found that, of the demographic variables included in the regression on the management behaviours, only income was significantly positively related, as did Titus et al. (1989) in their regression on the implementing index of financial management behaviours. Thus, the findings from this study confirm those from previous studies.

Gender is a variable that is often not included in studies on financial management. In one study that included gender (Hira et al., 1992), it was not found to be related to the management behaviours, supporting what was found in the present study.

The finding that age did not predict financial management behaviours, however, contradicts results from previous studies that have found age to be significantly negatively related to financial management behaviours (Davis & Carr, 1992; Davis & Weber, 1990; Godwin & Carroll, 1986; Mugenda et al., 1990; Titus et al., 1989). Clearly, the absence of an age effect in the present study is likely due to the nature of the sample. Subjects in this study were recently married for the first time, and as such, the sample was much younger and more homogeneous in terms of age compared to the majority of samples frequently used in the literature (Davis & Carr, 1992; Davis & Weber, 1990; Godwin & Carroll, 1986; Mugenda et al., 1990; Titus et al., 1989).
In sum, only income and financial attitudes were significant, with financial attitudes being the more important variable. Respondents who reported greater household incomes, and who had more favorable attitudes toward financial management, employed significantly more of the financial management behaviours than other respondents.

In exploring the conceptual dimensions of financial management behaviours, the variables related to financial management (gender, education, household income, financial knowledge and financial attitudes) explained between 2% and 20% of the variation in the six conceptual dimensions.

Financial knowledge and education were both important in predicting increased use of the credit management behaviours. Gender was important in predicting use of the general management behaviours, with men tending to use more of these strategies. And, logically, income was important in predicting the use of capital accumulation behaviours; the greater the income, the more one is able to engage in such capital accumulation behaviours as investing in stocks and bonds. But in general, financial attitudes were the best predictor. They accounted for a significant proportion of the variance in every dimension, except for risk management and retirement and estate planning. Having a positive attitude toward financial management predicted increased use of the recommended behaviours for cash management, credit management, general management, and capital accumulation.

Though, not explaining a significant proportion of the variance in the behaviours, household income did predict use of
the risk and retirement and estate planning behaviours. Whether or not respondents had positive attitudes toward financial management did not predict the use of these behaviours. Perhaps these two dimensions of financial management are not perceived to be important to such a young sample as this. Instead, only amount of household income makes a difference -- the greater the household income, the more likely it is that these recommended behaviours will be used. Perhaps because both of these dimensions are geared more toward the future, only differences in income predict their use. When there is extra household income, it is used to employ these strategies; otherwise the income is used for the day-to-day management behaviours such as cash and credit management.

**Variables Related to Financial Satisfaction**

The last two objectives of this study were to assess the impact of financial management behaviours on satisfaction with financial status, and to determine whether there was a difference in this relationship depending on the instrument used to measure financial management behaviours.

With respect to the demographic control variables, although age, spouse's employment status and household income correlated significantly with satisfaction with financial status, in the regression analyses it was found that only household income predicted satisfaction with financial status. This adds support to 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).

While most studies in the literature have found support for the 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 much younger and more homogeneous in age compared to the majority of samples used in studies on financial management (Davis & Carr, 1992; Davis & Weber, 1990; Godwin & Carroll, 1986; Mugenda et al., 1990; Titus et al., 1989).

By far, the financial management behaviours were the best predictors of satisfaction with financial status. People who engage in more of the recommended management behaviours were more satisfied with their financial status. This strongly supports previous research findings on the relationship between financial management behaviours and satisfaction (Godwin, 1994; Hira et al., 1992; Porter & Garman, 1993; Scannell, 1990; Titus et al., 1989; Walson & Fitzsimmons, 1993).

In sum, only income and financial management behaviours were significant predictors of satisfaction with financial status, with the behaviours being the more important of the two. Performance of the recommended strategies has as its reward increased subjective evaluation of one's financial status. Though 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 behaviours. Also, couples who felt more in control felt more satisfied with their financial status (Godwin, 1994). 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 (official or otherwise). This may have contributed to their use of the recommended behaviours 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.

In exploring the conceptual dimensions of financial management behaviours for their relationships to satisfaction with financial status, only two dimensions were not significantly related to satisfaction: cash management and general management. Apparently engaging in these day-to-day activities does not have an impact on satisfaction with financial status. Only has the dimension of cash management been examined in the literature before (Godwin, 1994). The findings from the present study contradict those from Godwin (1994); however, Godwin only examined the one dimension to the exclusion of the others. It cannot be said what her results could have been had she investigated cash management along with other dimensions.

Capital accumulation was the strongest predictor of satisfaction. In order to engage in these activities, one must first have the funds with which to invest -- and income itself is a predictor of 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). Having such funds and engaging in these behaviours had the effect of enhancing satisfaction with financial status.

Credit management was the next largest predictor of satisfaction. Use of these behaviours may allow for the acquisition of goods and services, particularly those which then enhance the current level of living, thereby increasing one's satisfaction with financial status (Walson & Fitzsimmons, 1993).

The dimensions of retirement and estate planning, and risk management also predicted satisfaction. Greater use of these activities may bring with it peace of mind and financial security -- representing the longer term benefits (as opposed to shorter term benefits) of sound financial management -- thus contributing to a feeling of being satisfied with one's financial situation (Beutler & Mason, 1987).

The last objective of this study was to determine if there was a difference in the relationship between management and satisfaction as a function of the instrument used to measure financial management behaviours. A difference was found. The simple 3-item measure of financial management behaviours was not related to satisfaction, while the comprehensive measure designed in this study was significantly positively related to satisfaction. This brings to attention an important measurement issue. Whereas both instruments were created to measure behaviours or practices in the realm of household finances, two very different outcomes were the result of analyses. It could
simply be that the 3-item scale was so psychometrically poor (very low reliability) that it could not relate to satisfaction. There is also the possibility that these two measures of financial management behaviours tap different aspects of management and that the comprehensive measure taps the crucial aspects. In either case, the findings from this study serve to address a discrepancy in the literature. Rather than suggest that the concept of financial management contributes negatively to satisfaction with financial status, as Mugenda et al. (1990) concluded, these results show that the discrepant findings were likely an artifact of the measure used. That is, the results were a function of the construct used to measure financial management, not of the concept of financial management itself.

**Financial Management Model**

A financial management model derived from the Deacon and Firebaugh (1988) Family Resource Management Model provided the framework within which to test the hypotheses in this study. The Family Resource Management Model outlined by Deacon and Firebaugh (1988) views the family as a system of input-throughput-output with two major subsystems: personal and managerial.

In this study, unlike most in the literature where only the managerial subsystem is operationalized, both subsystems were operationalized. Financial attitudes constituted the personal subsystem, while financial management behaviours constituted the managerial subsystem. Together the two subsystems comprised the throughput. Financial knowledge was defined as an input to the
system; satisfaction with financial status was defined as the output from the system.

The results of the study support a systems approach to family financial management. Results indicated that inputs have a significant effect on the managerial subsystem. Additionally, results revealed that the managerial subsystem positively influences the system's output. These results serve to confirm previous research findings (Hira et al., 1992; Titus et al., 1989).

The finding that the personal subsystem has a powerful influence on the managerial subsystem contributes to current research on the model. No other study has operationalized and tested the personal subsystem. It was the personal subsystem, and not an input variable, that had the largest effect on the managerial subsystem. According to the outcomes from this study, personal subsystem variables have a very strong influence on the managerial subsystem. As such, their impact should be considered in studies that examine managerial subsystem variables.

**Limitations**

When discussing the findings of this study, several limitations due to sampling, research design, and measurement need to be addressed.

Three limitations of the study are due to the sampling procedures. Because respondents volunteered to participate in this study, self-selection bias may have influenced the results. Particularly, respondents to this questionnaire may have been
overly interested in financial management behaviours or may have been more satisfied with their financial status than non-respondents.

Secondly, all of the respondents to this study had participated in marriage preparation classes, from an interchurch agency, that included instruction on relationship issues and skill development. Thus, respondents in this study may not be representative of recently married individuals in general.

Thirdly, data were only collected on the household financial managers. Because respondents of this study were all self-identified household financial managers (official or otherwise), the results are again limited in how generalizable they are to recently married individuals in general.

A limitation of the research design is that it is a cross-sectional study. Thus, it is questionable whether differences in financial management behaviours predict differences in levels of satisfaction with financial status, or whether people who are more satisfied with their financial status choose to employ more of the recommended financial management behaviours. The Deacon and Firebaugh (1988) model states that the system's output may feedback into the system, thereby becoming a new input and affecting the system. Hence, financial managers may engage in more financial management behaviours because they are satisfied with their financial status. Longitudinal research is necessary to adequately address this issue.

A limitation concerning measurement involves the conceptual rather than statistical scaling of the dimensions of financial
management behaviours. Future studies on the development of scales for these dimensions of financial management are needed.

Another limitation pertaining to measurement involves the financial knowledge measure that was created for this study. Its poor distribution and poor psychometric properties are believed to have contributed to a lack of significant findings. The problem of poor reliability in the measure is not uncommon (Titus et al., 1989). As such, additional research on the development of reliable measures of this concept is needed.

**Conclusion and Implications**

Despite these limitations, this study has made several contributions to the financial management research literature. This study addressed four main questions regarding the relationships among financial attitudes, financial knowledge, financial management behaviours, and satisfaction with financial status, utilizing a multi-dimensional, composite measure of financial management behaviours. Specifically, this study found that of the two variables of financial knowledge and financial attitudes, financial attitudes best predict financial management behaviours. The novel prediction that financial knowledge would moderate the relationship between financial attitudes and financial management behaviour, however, was not supported.

While little research has focused on the impact that attitudes have on financial management behaviours, these results provide support for the substantial influence that attitudes have on behaviours in financial management. 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. The results here clarify that financial attitudes are most important when it comes to the use of sound financial management behaviours. However, the impact of knowledge on financial management behaviours is not to be dismissed: when tested by itself, financial knowledge is a significant predictor of financial management behaviours. The lack of a significant effect when tested together with financial attitudes may have been due to other factors including the type of measure used and the high level of education of this particular sample.

The clarification that financial attitudes are more important than financial knowledge in influencing financial management behaviours has implications for counselors, educators, and other helping professionals in the field of family finance and resource management. In order to increase the use of the recommended financial management behaviours, 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 behaviours, in addition to simply teaching them general skills such as budgeting and record-keeping (Godwin, 1994).

Results of this study provided clarification of another issue: that of an inconsistency in the literature regarding the relationship between financial management behaviours and satisfaction with financial status. Use of a multi-item
composite measure of financial management behaviours yielded the expected positive effect on satisfaction, whereas a simple 3-item measure was found to have no relationship to satisfaction (also expected). Researchers will benefit from these findings by focusing on more extensive and comprehensive measures of financial management behaviours in future studies.

This study focused on a select sample of individuals who were recently married for the first time. This is a strength of the study in that the findings contribute to the current research literature by providing information about the attitudes and knowledge of a sample not commonly studied in the financial management literature. Similar research on the impact of financial attitudes and knowledge on financial management and satisfaction needs to be undertaken with subjects in other stages of the family life cycle.

One final implication of this study stems from its use of the household financial manager as the unit of analysis. This is the predominant criterion utilized by researchers to determine who will be the respondent in studies on household financial management (Fitzsimmons et al., 1993; Hira et al., 1989; Hira et al., 1992; Mugenda et al., 1990; Titus et al., 1989; Walson & Fitzsimmons, 1993; Wilhelm et al., 1993). This study included a measure that quantified whether or not the respondent was actually the financial manager of the family (Ferber & Lee, 1974). Only half of the sample were official financial managers, according to the original measure. Tests between the official financial managers and self-identified financial managers
revealed that there were no significant differences between the two groups with respect to the financial management behaviours examined in this study. The implication for future researchers is that there is no difference in results by using either the self-identified household financial manager or the official household financial manager; data may be collected on either.

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

Financial management affects not only financial satisfaction, but also marital satisfaction and quality of life (Berry & Williams, 1987; Mugenda et al., 1990). Efforts to delineate those variables related to the use of financial management behaviours will result in more than one benefit as the positive outcomes of greater use of financial management behaviours manifest themselves in other integral areas of life. 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 most potently affect the use of financial management behaviours, and the processes by which they do so, is a step toward that goal.
Glossary

FINANCIAL ATTITUDES
Financial attitudes refer to the psychological tendency expressed by evaluating financial management with some level of agreement or disagreement. It is a personal subsystem variable that acts as an input to the managerial subsystem.

FINANCIAL KNOWLEDGE
Financial knowledge refers to the possession and comprehension of information pertaining to financial matters, in particular, those financial management practices that are recommended by experts in the field. It is a human -- as opposed to material -- resource that acts as an input to the system.

FINANCIAL MANAGEMENT
Financial management refers to the set of behaviours performed regarding the planning, implementing and evaluating involved in the areas of cash and credit management, capital accumulation, risk management, retirement and estate planning, and general management. It is a throughput process of the managerial subsystem.

SATISFACTION WITH FINANCIAL STATUS
Satisfaction with financial status refers to the subjective evaluation of one's financial condition. It is an output of the system.

MODERATOR
Moderator refers to "a qualitative (e.g., sex, race, class) or quantitative (e.g., level of reward) 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). Financial knowledge is hypothesized to be the moderating variable in the relationship between financial attitudes and financial management behaviours.
References


Appendix A

The Marriage Project Correspondence
The Impact of Financial Attitudes and Knowledge on Financial Management and Satisfaction

Introduction

Finances are an important factor in the overall functioning of a family. Indicative of this are the costs associated with financial difficulties, such as marital conflict and divorce. Financial management is a coping strategy for dealing with financial difficulties and strain. Research on those factors that affect the use of financial management behaviours, and on their underlying processes, is vital.

Two factors that have an impact on behaviour, in general, are knowledge and attitudes. To date, very little research, in the financial management literature, has been conducted on the relationship between financial attitudes and financial management behaviours. More research, however, has been carried out on the relationship between financial knowledge and financial management behaviours.

No study in the financial management research literature has investigated the joint effect of financial knowledge and financial attitudes on financial management behaviours. Research in the psychological literature suggests that knowledge affects the direction and/or strength of the relationship between attitudes and behaviours, that is, knowledge moderates the correspondence between attitudes and behaviours.

Objectives

This study proposes to investigate the separate and joint effects of financial knowledge and financial attitudes on financial management behaviours, using a financial management model derived from the Deacon and Firebaugh Family Resource Management Model. Also investigated will be the relationship between financial management behaviours and satisfaction with financial status.

The main objectives of this study will be:

(1) to assess which variable (financial attitudes or financial knowledge) is more important in influencing financial management behaviours;

(2) to assess whether knowledge moderates the relationship between financial attitudes and financial management behaviours, as the psychological literature would suggest;

(3) to assess the impact that financial management behaviours have on satisfaction with financial status;

(4) and to compare two instruments, each measuring financial management behaviours, on their relationship to satisfaction with financial status (in order to address an inconsistency in the literature).
Sample and Data Collection

The population from which the sample for this study will be drawn will be couples who are in the first five years of their first marriage (that is, married for five or fewer years), and who are currently childless. This represents a unique sample compared to those that predominate throughout the literature. Most studies on financial management have utilized samples on older, longer married individuals. Recently married individuals are in the process of formulating their resource management strategies and are beginning to accumulate durable goods. And because age has consistently demonstrated a negative effect on financial management behaviours, there should be an opportunity to examine the heightened use of financial management behaviours in such a sample.

In order to obtain a sample of recently married individuals, subjects for this study will have attended a marriage preparation course within the last five years. Names of couples who have attended a course will be randomly selected. One questionnaire and a cover letter will be mailed to each couple. The cover letter will instruct the couple that the spouse who is primarily responsible for managing the finances should complete the questionnaire. The last three questions on the questionnaire will serve to verify that the spouse who responded to the questionnaire was, indeed, the financial manager of the family. Participants will be requested to complete a 7-page questionnaire that will require approximately 30 minutes of their time. Subjects will be asked to return the completed questionnaire to the School of Family and Nutritional Sciences, Division of Family Sciences, of the University of British Columbia in the self-addressed, stamped envelope provided.

Limitations and Implications

Despite its inherent limitations, such as the self-selected nature of the sample, it is hoped that this study will contribute to the financial management research literature by extending the understanding of the causes and consequences of financial management behaviours. Specifically, in ascertaining how financial attitudes and financial knowledge combine to affect financial management behaviours, and how financial management behaviours influence satisfaction with financial status, educators and practitioners will be able to focus their efforts accordingly, thus, better assisting those in need of their services.

A second contribution this study will make to the literature will be the clarification of an inconsistency in the literature. If it is found that one measure of financial management behaviours has a negative impact on satisfaction with financial status, whereas a second, more comprehensive measure produces positive results, it can be stated that the inconsistency was a function of the measure. Researchers will benefit from this finding by focusing on more extensive and comprehensive measures of financial management behaviours in future studies.

A third contribution to the existing research will be the additional scale development conducted in this study. Scales of financial attitudes will be combined and tested for cohesion and reliability. Additionally, from 20 individual items, a comprehensive multi-dimensional scale of financial management behaviours will be formed, factor-analyzed, and tested for reliability. The revisions to these instruments will strengthen the measures, which future researchers may employ in their studies.
Conclusion

Financial management affects not only financial satisfaction but also marital satisfaction and quality of life. Efforts to delineate those variables related to the use of financial management behaviours will result in more than one benefit, as the positive outcomes of greater use of financial management behaviours manifest themselves in other integral areas of life. 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 most potently affect the use of financial management behaviours, and the processes by which they do so, is a step toward that goal.
Hypotheses

H1a: Financial attitudes and financial management behaviours will be positively related.

H1b: Financial attitudes will account for a significant proportion of the variance in financial management behaviours.

H2a: Financial knowledge and financial management behaviours will be positively related.

H2b: Financial knowledge will account for a significant proportion of the variance in financial management behaviours.

H3: Relative to financial knowledge, financial attitudes will account for a greater proportion of the variance in financial management behaviours.

H4a: Financial knowledge will moderate the relationship between financial attitudes and financial management behaviours.

H4b: When both financial knowledge and financial attitudes are high in value, the use of financial management behaviours will be greatest.

H4c: When both financial knowledge and financial attitudes are low in value, the use of financial management behaviours will be least.

H5a: Using the 3-item instrument to measure financial management behaviours, it will be found that financial management behaviours are negatively related to satisfaction with financial status.

H5b: Using a more comprehensive and extensive measure for financial management behaviours, it will be found that financial management behaviours are positively related to satisfaction with financial status.

H6: Financial management will account for additional variability in satisfaction with financial status once income is taken into account.
Glossary

Financial Attitudes refer to the psychological tendency expressed by evaluating financial management with some level of agreement or disagreement. It is a personal subsystem variable that acts as an input to the managerial subsystem.

Financial Knowledge refers to the possession and comprehension of information pertaining to financial matters, in particular, those financial management practices that are recommended by experts in the field. It is a human -- as opposed to material -- resource that acts as an input to the system.

Financial Management refers to the set of behaviours performed regarding the planning, implementing and evaluating involved in the areas of cash and credit management, capital accumulation, risk management, retirement and estate planning, and general management. It is a throughput process of the managerial subsystem.

Satisfaction with Financial Status refers to the subjective evaluation of one’s financial condition. It is an output of the system.

Moderator refers to “a qualitative (e.g., sex, race, class) or quantitative (e.g., level of reward) 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). Financial knowledge is hypothesized to be the moderating variable in the relationship between financial attitudes and financial management behaviours.
March 13, 1995

Mr. John Hiebert
Director
The Marriage Project
Burnaby, B.C. V5H 3C2

Dear Mr. Hiebert:

Thank you for agreeing to present our proposed research, The Impact of Financial Attitudes and Knowledge on Financial Management and Satisfaction, to The Marriage Project's Board. As I mentioned on the phone, we are very much interested in receiving permission to obtain a sample of recently married couples who have participated in marriage preparation programs. The Marriage Project is particularly interesting as it serves a large cross-section of those planning to marry and it represents people from a number of different denominations.

We think that our study's results might be of interest to you for use in future classes as information on financial management of recently marrieds is not available on a Canadian sample. As I mentioned earlier, we will be adding questions about whether money is shared or kept separately (joint or individual accounts) within the family and would be able to add other questions that might be of interest to you.

Another potential benefit for The Marriage Project is an updated mailing list of participants within the last 2 years. The updated information would be formatted for mailing labels.

I have outlined some possible strategies for data collection (attached). UBC's ethics procedures want us to avoid initial phone contact, preferring that an introductory letter or letter and questionnaire be the first contact.
Procedures for Data Collection

We would like a sample of couples in their first marriage and who have been married within the last 2 years. We originally wanted couples without children, but realize that this may limit our sample too much.

Of course, costs of the research will be handled by us. Confidentiality of mailing lists will also be honoured.

We have access to the technology (CD-ROM phone books) to update addresses and phone numbers. How this is done depends on if the list can be removed from the premises or if it must be updated at your offices. The end product would be a file of addresses set up for mailing labels.

Strategy 1 (our preferred one):

1. Take a random sample of 800 participants from the updated list.

2. Send in one envelope:
   
a letter from The Marriage Project, in support of the research;
a letter on UBC letterhead outlining our ethical procedures; and
a copy of the questionnaire.

3. Do a phone call reminder 10-14 days later. In a standard script designed by us, but to be approved by the Director of The Marriage Project, we would ask if they have received the materials and thank them for participating in the research. If people say they are not interested or have already responded, we will not call them again.

4. A second phone call reminder would follow another 10-14 days later if response rates are less than 40%.

Strategy 2

1. The Director of the Marriage Project would send a letter (to all participants in the past 2 years) about the study and provide our phone numbers to call if they are interested in participating. This requires that potential participants be willing to call us and provide us with their names, addresses, and phone numbers. We would need to use voice mail to implement this strategy. We would anticipate a lower response rate from this procedure than that in Strategy 1.

2. We would mail a questionnaire and our cover letter to those who have agreed to participate.

3. Follow-up phone calls would be made 10-14 days later -- thanking them for participating and reminding them to return the questionnaire if they have not already done so.
Appendix B

Cover Letters and Questionnaire
DIRECTIONS: We ask that the financial manager of the household complete the questionnaire. The financial manager is the spouse who has the main responsibility for looking after the family's finances. IF YOU ARE UNDECIDED AS TO WHO IS THE HOUSEHOLD FINANCIAL MANAGER, OR YOU MANAGE YOUR FINANCES JOINTLY, PLEASE DECIDE BETWEEN YOURSELVES WHO WILL BE THE ONE PERSON TO COMPLETE THE QUESTIONNAIRE.

I. YOUR FINANCIAL ATTITUDES

A. Please circle the number that best describes how much you agree with the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It is important for a family to develop a regular pattern of saving and stick to it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Keeping records of financial matters is too time-consuming to worry about.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Financial planning for retirement is not really necessary for assuring one's security during old age.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Each individual should be responsible for his or her own financial well-being.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. A written budget is absolutely essential for successful financial management.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Saving is not really important.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. The wife should have primary responsibility for seeing that bills are paid monthly.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>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.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Both husband and wife should have some responsibility for seeing that bills are paid monthly.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Money and all that it can buy is of utmost importance to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. It is all right for an individual to rely on others (government, family) for financial assistance.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. The husband should have primary responsibility for seeing that bills are paid monthly.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. It does not matter how much a couple saves as long as they do save.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Families should really concentrate on the present when managing their finances.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. Families should have written financial goals that help them determine priorities in spending.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. Having a financial plan makes it difficult to make financial investment decisions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
17. Having a savings plan is not really necessary in today's world in order to meet one's financial needs.  

18. It is really essential to plan for the possible disability of a family wage earner.  

19. Making sure your property is insured against reasonable risks is not really necessary for successful financial management.  

20. Planning is an unnecessary distraction when families are just trying to get by today.  

21. Planning for spending money is essential to successfully managing one's life.  

22. Planning for the future is the best way of getting ahead.  

23. Thinking about where you will be financially in 5 or 10 years in the future is essential for financial success.  

II. YOUR FINANCIAL MANAGEMENT BEHAVIOURS  

A. Please answer the following questions by circling the appropriate letter.  

1. How often does someone estimate the household income and expenses; would you say...  
   a. Never  
   b. Yearly  
   c. Quarterly  
   d. Monthly  
   e. Biweekly  
   f. Weekly  

2. How often does someone review and evaluate your family's spending habits; would you say...  
   a. Never  
   b. Less often than yearly  
   c. Yearly  
   d. Twice a year  
   e. Every 3-4 months  
   f. Monthly  

3. How often do you or someone else figure your net worth, which is the value of your total assets minus your total debt; would you say...  
   a. Never  
   b. Less than every 5 years  
   c. Every 2-5 years  
   d. Once a year  
   e. Twice a year  
   f. Four times a year
B. Please read each statement carefully, then consider how typical of you each statement is, and circle the appropriate number.

| Cash Management |
|----------------|--|--|--|--|--|
| 1. I follow a weekly or monthly budget. | 1 | 2 | 3 | 4 | 5 |
| 2. I use banking accounts that pay me interest. | 1 | 2 | 3 | 4 | 5 |
| 3. Sometimes I write bad cheques or ones with insufficient funds. | 1 | 2 | 3 | 4 | 5 |
| 4. I pay for yearly expenses out of current income or savings (not with a loan). | 1 | 2 | 3 | 4 | 5 |
| 5. I usually live from paycheque to paycheque. | 1 | 2 | 3 | 4 | 5 |
| 6. I save receipts for major purchases. | 1 | 2 | 3 | 4 | 5 |
| 7. I compare my chequing account records with my monthly statement. | 1 | 2 | 3 | 4 | 5 |
| 8. I estimate household income and expenses. | 1 | 2 | 3 | 4 | 5 |
| 9. About once a year, I estimate household net worth (that is, total assets minus total debts). | 1 | 2 | 3 | 4 | 5 |
| 10. I review and evaluate my spending habits. | 1 | 2 | 3 | 4 | 5 |
| 11. I sometimes receive overdue notices because of late or missed payments. | 1 | 2 | 3 | 4 | 5 |
| 12. I write down where money is spent. | 1 | 2 | 3 | 4 | 5 |
| 13. Throughout the year, I regularly set aside money for large expected expenses (like insurance or taxes). | 1 | 2 | 3 | 4 | 5 |

| Credit Management |
|----------------|--|--|--|--|--|
| 14. I often spend more money than I have. | 1 | 2 | 3 | 4 | 5 |
| 15. I usually do not pay the total balance on my credit card, but instead, just make a partial payment. | 1 | 2 | 3 | 4 | 5 |
| 16. I get myself into more debt each year. | 1 | 2 | 3 | 4 | 5 |
| 17. I obtain cash advances in order to pay other credit balances. | 1 | 2 | 3 | 4 | 5 |
| 18. My use of credit cards increases with each year. | 1 | 2 | 3 | 4 | 5 |
| 19. I rarely pay finance charges. | 1 | 2 | 3 | 4 | 5 |
| 20. I pay bills as due. | 1 | 2 | 3 | 4 | 5 |
| 21. I make payments on large debts as scheduled. | 1 | 2 | 3 | 4 | 5 |
| 22. I compare my credit card receipts with my monthly statements. | 1 | 2 | 3 | 4 | 5 |
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).
   1 2 3 4 5
24. I review my will periodically.
   1 2 3 4 5
25. I contribute annually to a retirement savings plan (e.g., RRSP).
   1 2 3 4 5

Risk Management

26. I regularly set money aside for possible unexpected expenses.
   1 2 3 4 5
27. I adequately insure my personal property (such as home, furnishings, or other personal possessions).
   1 2 3 4 5
28. Each year I review the adequacy of the insurance coverage I have.
   1 2 3 4 5
29. I have trouble meeting monthly health care expenses, including premiums for health insurance.
   1 2 3 4 5

General Management

30. I create financial goals.
   1 2 3 4 5
31. I make plans on how to reach my financial goals.
   1 2 3 4 5
32. I set specific financial goals for the future (e.g., buy a new car in two years).
   1 2 3 4 5
33. I often make financial decisions without much thought.
   1 2 3 4 5
34. I rarely discuss my personal financial matters with family or friends.
   1 2 3 4 5
35. I review my total financial situation on a regular basis.
   1 2 3 4 5
36. I regularly discuss financial goals with my spouse.
   1 2 3 4 5

Capital Accumulation

37. I regularly set aside money for savings.
   1 2 3 4 5
38. Each year I put money in higher-return investments such as stocks, bonds, or mutual funds.
   1 2 3 4 5

III. YOUR FINANCIAL KNOWLEDGE

A. Please indicate whether each of the following statements is mainly true (1) or mainly false (2) by circling the appropriate number.

Statement

1. A person needs a will when there is a large estate to be left to their heirs.
   True False
   1 2
2. Term insurance is the best form of life insurance protection available for one's dollar.
   True False
   1 2
3. If a person dies without a will, his/her assets are distributed according to provincial law.
   True False
   1 2
4. A good budget provides only for expected expenses.
   True False
   1 2
Statement

5. All credit card companies offer a no interest plan if you pay your bills in full by the due date.  
   True  False  1   2

6. Not many families have large enough assets to be concerned about financial planning.  
   True  False  1   2

7. To have a good credit rating one must make purchases on credit and make payments—according to the credit contract.  
   True  False  1   2

8. Insurance is a way to reduce the risk of a financial disaster.  
   True  False  1   2

9. Life insurance needs vary with age and the size of a family.  
   True  False  1   2

10. Retirees need 70% to 80% of their pre-retirement income to maintain the same standard of living during retirement.  
    True  False  1   2

11. The interest one pays on a home mortgage is directly deductible from the amount of income tax one pays.  
    True  False  1   2

12. A person is more likely to reach his or her financial goals by planning for the future.  
    True  False  1   2

13. Having different types of investments and savings decreases financial risks.  
    True  False  1   2

14. A credit card advance is a cheaper form of credit than a personal bank loan.  
    True  False  1   2

15. In most cases, the lower the expected rate of return on an investment, the lower the risk.  
    True  False  1   2

16. There is no federal or provincial legislation dealing with credit card billing errors.  
    True  False  1   2

17. Borrowing money to purchase an item decreases money available for future spending.  
    True  False  1   2

18. Every financial risk can be covered by insurance.  
    True  False  1   2

19. Insurance costs can be reduced by having high deductible clauses in your contracts.  
    True  False  1   2

20. The money invested in an RRSP is taxable eventually when the plan is deregistered.  
    True  False  1   2

21. People are more likely to make better financial decisions if they base those decisions on their financial records.  
    True  False  1   2

B. Please answer the following questions by circling the appropriate number.

1. Have you had any training in financial management?  
   Yes  No  1   2

2. Have you completed a course in consumer education?  
   Yes  No  1   2

IV. YOUR SATISFACTION WITH FINANCIAL STATUS

A. Please circle the number that indicates your level of satisfaction with each of the following.

<table>
<thead>
<tr>
<th></th>
<th>Very Dissatisfied</th>
<th>Somewhat Dissatisfied</th>
<th>Undecided</th>
<th>Somewhat Satisfied</th>
<th>Very Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ability to pay back money owed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Overall quality of life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Willingness of your spouse to discuss money matters.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Ability to stay out of debt.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Present level of living.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Current level of assets.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
7. Retirement planning.
8. Planning made for distribution of assets.
9. Financial ability to meet large emergency expenses.
10. Amount currently in savings.

<table>
<thead>
<tr>
<th>Very Dissatisfied</th>
<th>Somewhat Dissatisfied</th>
<th>Undecided</th>
<th>Somewhat Satisfied</th>
<th>Very Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

V. YOUR INCOME MANAGEMENT SYSTEM

A. Please circle the number that best describes how much you agree with the following statements.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. It is easier to make financial decisions when a couple’s money is in a joint account.
2. When couples have their money in joint accounts, it shows that they are committed to their marriage.
3. When people get married, they should have their money kept separately in separate accounts.
4. Married couples should have some of their money in a joint account, and some of their money in separate accounts.
5. When couples have their money in separate accounts, it shows that they are not completely committed to their marriage.
6. Joint accounts limit the freedom each spouse has in deciding how to spend the money in the account.
7. Joint accounts are a symbol of trust and unity in a marriage.
8. When people get married, they should have their money kept together in a joint account.

B. Please answer the following questions by circling the appropriate number.

1. Do you have a savings account in your name only? Yes | No
   1 | 2
2. Does your spouse have a savings account in his/her name only? 1 | 2
3. Do you have a chequing account in your name only? 1 | 2
4. Does your spouse have a chequing account in his/her name only? 1 | 2
5. Do you have a joint savings account with your spouse? 1 | 2
6. Do you have a joint chequing account with your spouse? 1 | 2
C. Please answer the following questions by circling the appropriate letter, or by filling in the blank.

1. Which best represents your banking preference? (Please circle one only.)
   a. Joint account(s) only
   b. Joint account(s) plus a separate account for the husband
   c. Joint account(s) plus a separate account for the wife
   d. Joint account(s) plus a separate account for each spouse
   e. Separate accounts for each spouse/No joint account(s)

2. In your household, who looks after the payment of bills?
   a. Myself
   b. My spouse
   c. Other (please specify) ______________

3. In your household, who keeps track of expenditures in relation to budgets?
   a. Myself
   b. My spouse
   c. Other (please specify) ______________

4. In your household, who decides on the use of money left over at the end of the pay period?
   a. Myself
   b. My spouse
   c. Other (please specify) ______________

5. Before you married, for how many years did you manage your personal finances on your own, that is, your own accounts, credit cards, insurance, etc. independent of your parents or partner?
   ______________ years

VI. PERSONAL INFORMATION

1. What is the highest level of education you have attained? (Please circle one only).
   a. Some High School
   b. High School Diploma
   c. Some University or College
   d. Diploma or Certificate from Trade, Technical, Vocational, or Business School
   e. Diploma or Certificate from University or Community College
   f. Bachelor or Undergraduate Degree
   g. Masters/Doctorate or Professional Degree

2. What is your sex?
   a. Male
   b. Female

3. In what year were you born?
   ______________
4. Please identify your racial or ethnic background.
   a. Black
   b. Caucasian
   c. Chinese
   d. East Indian
   e. First Nations
   f. Other Asian (please specify) _______________________
   g. Other (please specify) _______________________

5. What is your current employment status?
   a. Not currently employed for pay
   b. Employed part-time for pay (less than 30 hours each week)
   c. Employed full-time for pay (more than 30 hours each week)

6. What is your spouse's current employment status?
   a. Not currently employed for pay
   b. Employed part-time for pay (less than 30 hours each week)
   c. Employed full-time for pay (more than 30 hours each week)

7. Which category best represents your personal annual income before taxes are deducted?
   a. Not working for pay
   b. Less than $9,999
   c. $10,000 to $19,999
   d. $20,000 to $29,999
   e. $30,000 to $39,999
   f. $40,000 to $49,999
   g. $50,000 to $59,999
   h. $60,000 to $69,999
   i. $70,000 to $79,999
   j. $80,000 to $89,999
   k. $90,000 to $99,999
   l. More than $100,000

8. Which category best represents your total family income, that is, the combined annual income of yourself and your spouse, before taxes are deducted?
   a. Less than $9,999
   b. $10,000 to $19,999
   c. $20,000 to $29,999
   d. $30,000 to $39,999
   e. $40,000 to $49,999
   f. $50,000 to $59,999
   g. $60,000 to $69,999
   h. $70,000 to $79,999
   i. $80,000 to $89,999
   j. $90,000 to $99,999
   k. $100,000 to $109,999
   l. $110,000 to $119,999
   m. $120,000 to $129,999
   n. $130,000 to $139,999
   o. $140,000 to $149,999
   p. More than $150,000

9. Which religion do you most closely identify with?
   a. Catholic
   b. Protestant
   c. Eastern Orthodox
   d. Jewish
   e. Other (please specify) _______________________
   f. None
10. How often do you attend church or a religious ceremony?
   a. More than weekly
   b. Every week
   c. At least twice a month
   d. At least once every three months
   e. At least once every six months
   f. At least once per year
   g. Never

11. When did you get married? Please include the month and year.

   ___________ month   ___________ year

12. Did you and your spouse live together prior to marriage?
   a. No
   b. Yes... For how long? ___________ months

13. Have you, or your spouse, been married before?
   a. Yes, we both have
   b. Yes, I have
   c. Yes, my spouse has
   d. No, neither of us has

14. How many adults, including yourself, live in your household?

   ___________

15. In each age group, please list the number of children you have.

   ___________ under 2 years of age (if none, write “0”)
   ___________ 2 to 5 years old (if none, write “0”)
   ___________ 6 to 13 years old (if none, write “0”)
   ___________ 14 to 18 years old (if none, write “0”)
   ___________ 19 or older (if none, write “0”)

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE
Appendix C

Demographic Characteristics of the Sample
Table 1

Demographic Characteristics of the Sample of Recently Married Individuals (n = 194)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percenta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>69.1</td>
</tr>
<tr>
<td>Male</td>
<td>30.4</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>53.2</td>
</tr>
<tr>
<td>30-39</td>
<td>41.7</td>
</tr>
<tr>
<td>40-49</td>
<td>3.5</td>
</tr>
<tr>
<td>Years Married</td>
<td></td>
</tr>
<tr>
<td>One</td>
<td>6.2</td>
</tr>
<tr>
<td>Two</td>
<td>72.1</td>
</tr>
<tr>
<td>Three</td>
<td>19.6</td>
</tr>
<tr>
<td>Four</td>
<td>.5</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Some High School</td>
<td>1.5</td>
</tr>
<tr>
<td>High School</td>
<td>7.7</td>
</tr>
<tr>
<td>Some University or College</td>
<td>19.6</td>
</tr>
<tr>
<td>Diploma/Certificate from Trade, Technical, Vocational or Business School</td>
<td>16.5</td>
</tr>
<tr>
<td>Diploma/Certificate from University or College</td>
<td>9.3</td>
</tr>
<tr>
<td>Bachelor or Undergraduate Degree</td>
<td>34.5</td>
</tr>
<tr>
<td>Masters/Doctorate or Professional Degree</td>
<td>10.3</td>
</tr>
<tr>
<td>Employment Status</td>
<td></td>
</tr>
<tr>
<td>Not Currently Employed for Pay</td>
<td>8.8</td>
</tr>
<tr>
<td>Employed Part-Time (&lt;30 hours/week)</td>
<td>14.9</td>
</tr>
<tr>
<td>Employed Full-Time (&gt;30 hours/week)</td>
<td>75.8</td>
</tr>
<tr>
<td>Spouse's Employment Status</td>
<td></td>
</tr>
<tr>
<td>Not Currently Employed for Pay</td>
<td>5.2</td>
</tr>
<tr>
<td>Employed Part-Time (&lt;30 hours/week)</td>
<td>6.2</td>
</tr>
<tr>
<td>Employed Full-Time (&gt;30 hours/week)</td>
<td>88.1</td>
</tr>
</tbody>
</table>
Table 1 Continued.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td><strong>Personal Income</strong></td>
<td></td>
</tr>
<tr>
<td>Not Currently Employed for Pay</td>
<td>4.6</td>
</tr>
<tr>
<td>Less than $9,999</td>
<td>4.1</td>
</tr>
<tr>
<td>$10,000 to $19,999</td>
<td>10.8</td>
</tr>
<tr>
<td>$20,000 to $29,999</td>
<td>21.1</td>
</tr>
<tr>
<td>$30,000 to $39,999</td>
<td>25.3</td>
</tr>
<tr>
<td>$40,000 to $49,999</td>
<td>12.9</td>
</tr>
<tr>
<td>$50,000 to $59,999</td>
<td>6.7</td>
</tr>
<tr>
<td>$60,000 to $69,999</td>
<td>4.6</td>
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<tr>
<td>$70,000 to $79,999</td>
<td>2.1</td>
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<tr>
<td>$80,000 to $89,999</td>
<td>0.5</td>
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<tr>
<td>$90,000 to $99,999</td>
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<tr>
<td>More than $100,000</td>
<td>3.6</td>
</tr>
<tr>
<td><strong>Household Income</strong></td>
<td></td>
</tr>
<tr>
<td>$10,000 to $19,999</td>
<td>.5</td>
</tr>
<tr>
<td>$20,000 to $29,999</td>
<td>3.1</td>
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<td>8.8</td>
</tr>
<tr>
<td>$40,000 to $49,999</td>
<td>12.9</td>
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<td>$50,000 to $59,999</td>
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<td>$60,000 to $69,999</td>
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<td>$70,000 to $79,999</td>
<td>13.9</td>
</tr>
<tr>
<td>$80,000 to $89,999</td>
<td>13.9</td>
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<td>$90,000 to $99,999</td>
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<tr>
<td>$100,000 to $109,999</td>
<td>2.6</td>
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<tr>
<td>$110,000 to $119,999</td>
<td>1.5</td>
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<tr>
<td>$120,000 to $129,999</td>
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<td>$130,000 to $139,999</td>
<td>0.0</td>
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<td>$140,000 to $149,999</td>
<td>1.5</td>
</tr>
<tr>
<td>More than $150,000</td>
<td>5.2</td>
</tr>
<tr>
<td><strong>Number of Children</strong></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>74.2</td>
</tr>
<tr>
<td>One</td>
<td>20.6</td>
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<td>Two</td>
<td>4.6</td>
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<tr>
<td>Three</td>
<td>.5</td>
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<tr>
<td><strong>Ethnic Background</strong></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>91.8</td>
</tr>
<tr>
<td>Chinese</td>
<td>4.6</td>
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<tr>
<td>Other</td>
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<tr>
<td><strong>Religion</strong></td>
<td></td>
</tr>
<tr>
<td>Protestant</td>
<td>40.2</td>
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<tr>
<td>Other Protestant</td>
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<tr>
<td>Catholic</td>
<td>12.4</td>
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<tr>
<td>Other</td>
<td>6.1</td>
</tr>
<tr>
<td>None</td>
<td>25.3</td>
</tr>
<tr>
<td>Characteristic</td>
<td>Percent</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>Church Attendance</strong></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>24.7</td>
</tr>
<tr>
<td>At least once per year</td>
<td>33.0</td>
</tr>
<tr>
<td>At least once every six months</td>
<td>10.3</td>
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<tr>
<td>At least once every three months</td>
<td>12.4</td>
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<tr>
<td>At least twice a month</td>
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<tr>
<td>Weekly</td>
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<td>More than weekly</td>
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<td><strong>Pre-Marital Cohabitation</strong></td>
<td></td>
</tr>
<tr>
<td>No</td>
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<tr>
<td>Yes</td>
<td>67.0</td>
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<tr>
<td><strong>Duration of Pre-Marital Cohabitation (n = 129)</strong></td>
<td></td>
</tr>
<tr>
<td>One Year</td>
<td>49.6</td>
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<tr>
<td>Two Years</td>
<td>23.2</td>
</tr>
<tr>
<td>Three Years</td>
<td>16.3</td>
</tr>
<tr>
<td>Four Years or More</td>
<td>10.1</td>
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* Totals do not all sum to 100% due to missing data.