# An Exploratory Study of the Role Financial Satisfaction Has on the Thought of Subsequent Divorce

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This study is designed to test whether financial satisfaction can be used to distinguish between those who had considered getting a divorce during the past 3 years—an indicator of marital distress—from those who had not. Using a sample of U.S. midwestern individuals (n = 361), a classification and regression tree methodology was used to determine that individuals with a high level of financial satisfaction were significantly less likely to have thought about divorce during the past 3 years. In addition to financial satisfaction, other important factors that can be used to predict the likelihood of thinking about a divorce include difference in partners' ages, the age of a spouse, self-esteem, and employment characteristics of the married couple.

Keywords: divorce; financial satisfaction; classification tree; martial distress; self-esteem

Every few years, major finance publications examine the association between love and money. In 2006, for example, *The Wall Street Journal* reported that couples who were thinking about getting married were willing to talk about a variety of topics, including how many children they wanted, sex, and how often they would visit the in-laws, but not about money. According to Opdyke (2006), "There's one topic that often feels too personal to talk about. And that's money" (p. R1). Besides being an interesting subject that grabs the attention of readers, there is good reason why the personal finance trade press is interested in the love and money connection. Among couples, "money causes more fights than sex or even in-laws" (Regnier & Gengler, 2006, p. 91).

Disagreements about money and personal financial management approaches often result in frustration and power struggles between those who are involved in significant relationships. Fighting and frustration frequently lead to reduced levels of relationship satisfaction (Weigel, Bennett, & Ballard-Reisch, 2006), and in some cases, money disputes cause couples to separate (Markman, Stanley, & Blumberg, 2004). Separation by two consenting adults, regardless of the reason, encompasses both positive and negative outcomes (Finke & Pierce, 2006). If viewed positively, parting from a dysfunctional relationship can bring about a

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greater sense of freedom and self-worth. On the negative side, marital separation often leads to financial inequalities between partners. Women are often left with fewer financial resources to meet future life goals and objectives when a relationship is dissolved (Amato & Previti, 2003; Wu & Penning, 1997). As Finke and Pierce (2006) point out, "marital disruption represents a significant risk in terms of both probability of occurrence and magnitude of loss" (p. 223).

Although financial satisfaction has seldom been studied in the context of marital commitment and stability, the concept of general life satisfaction and its relationship with marital distress is one that has received attention in the literature. Weigel and his associates (2006) noted, "Commitment in marriage is associated with a number of variables that reflect the positive aspects of personal relationships . . ." (p. 74). How satisfied someone is with the structures and roles defined within a relationship is one of the most important factors associated with marital commitment (Ballard-Reisch & Weigel, 1999). A person's level of satisfaction with his or her role and influence within a relationship influences relationship perceptions. Weigel et al. described the link this way: "If, however, spouses feel less favorable about the quality of roles and influence they have negotiated, they are likely to be less satisfied with relationships, and they may call to question their commitment to the relationship" (p. 77).

It is reasonable to hypothesize that financial satisfaction may work similarly to the way relationship role and satisfaction act on marital distress. Dean, Carroll, and Yang (2007) reported that a married person's perception of financial problems increases as marital satisfaction decreases. They related this finding to materialistic ideologies held by individuals. Those with strong materialistic attitudes (i.e., attaching importance to possessions) tend to have increased perceptions of financial problems. This does not mean, however, that financial problems are necessarily the most important determinant of divorce. Dean and his associates concluded that "financial problems are often only a minor predictor of divorce" (p. 263). Satisfaction with life in general and finances in particular likely play more important roles in predicting marital distress. Noting that perceived and actual financial behaviors influence financial satisfaction, either directly or indirectly, may help clarify the role financial problems play in determining marital dissatisfaction and dissolution. Specifically, it is possible that financial satisfaction, as a factor caused by perceived and actual financial behaviors and one's materialistic attitudes, may have a direct and powerful influence on a married person's thought of divorce.

Two research questions come to mind in relation to the hypothesis that financial satisfaction plays a key role in determining marital distress. First, is there really an association between financial satisfaction and relationship dissatisfaction as measured by thoughts of divorce? Given the popular reports linking personal financial satisfaction and relationship distress, one would expect numerous research citations supporting the association in the literature. This is not the case. There is a paucity of empirical evidence to suggest that a significant connection exists. Second, assuming a connection between the two concepts exists, how strongly does financial satisfaction influence relationship satisfaction (distress) and thoughts of divorce? The purpose of this study was to test these two questions by determining whether financial satisfaction can be used to discriminate among those who had considered getting a divorce occasionally or often during the past 3 years from those who had not.

## RELATED LITERATURE

It is estimated that anywhere from one third (Francese, 2004) to one half of all first marriages end in divorce (Bramlett & Mosher, 2001). Furthermore, although the research is limited, it has been suggested that suboptimal financial behaviors (e.g., bouncing checks, making late credit card payments, and overspending income) that lead to low financial satisfaction are a primary reason for relationship distress and divorce (Cano, Christian-Herman, O'Leary, & Avery-Leaf, 2002; Markman et al., 2004). The association between personal financial satisfaction and relationship distress is something that has relevance for consumer science researchers and educators. According to Aniol and Snyder (1997), nearly one third of all couples seeking financial counseling report relationship problems. Additionally, one third of couples seeking relationship therapy also have financial difficulties that contribute to relationship distress. If Aniol and Snyder are correct, it is clear that a connection between financial satisfaction and relationship distress might exist.

There is a need to understand better what leads married couples to both contemplate and follow through with the act of divorce. It is well established in the literature that the actual process of divorce is preceded and predicted by a person's contemplation of the act (Edwards, Johnson, & Booth, 1987). Finke and Pierce (2006) summarized the divorce process as follows: "It is reasonable to expect one person to be contemplating divorce before it actually happens, and it is not unreasonable to expect both parties will have similar thoughts if a household is experiencing marital discord" (p. 224). Finke and Pierce noted that there is generally a time lapse between when a person begins thinking about a divorce and the act of filing for divorce. As such, being able to predict the thought of divorce may clarify precursors to marital dissolution.

The desire for divorce may be an accumulation of several factors, including perceived inequities in household duties (Weigel et al., 2006), in-law relationships, having children, and disagreements about financial behaviors, all of which can lead to reduced communication and emotional distance, which are contributions to divorce (Berkey, 1987; Markman et al., 2004). Divorce has several implications for the marriage, the family, and the individual lives of those involved. For example, divorced individuals generally have a lower overall satisfaction with life (Amato & Previti, 2003). Regardless of the issue of distress for couples, having conflict resolution skills is vital to healthy relationships (Curtis & Ellison, 2002; Dindia, 2000). Conflict is normal and expected in relationships, yet it becomes problematic when couples are unable to settle differences related to family finances, household activities, and other behaviors.

The costs of divorce to society as a whole are large. First, divorce is a money-consuming process, especially when lawyers are involved (Brown, 1999). If individuals spend large amounts of money on divorce proceedings, there are fewer financial resources available for consumer spending and investing. Second, divorced individuals are likely to suffer from a lower standard of living because two people who were once financing one household will now need to finance two households. This is especially true for low-income and low-wealth households (Finke & Pierce, 2006). Third, divorced individuals are more likely to suffer from higher rates of depression than nondivorced individuals (Amato & Previti, 2003). This point is important because depressive symptoms are correlated with health problems, which can in turn lead to higher medical costs and reduced work capacity (Chan, Yang,

Chen, Yu, & Leung, 2006). Another large cost of divorce to society is the impact on children. Children of divorced parents are at greater risk for psychological and adjustment problems than children of nondivorced parents (Amato & Keith, 1991; Amato & Sobolewski, 2001). Boys, in particular, show more signs of aggression and dependency. In addition, children of divorced parents tend to score lower on cognitive measures than other children. Finally, the effects of divorce last for years as the bond between adult children and parents is weakened with the presence of divorce (Pezzin & Schone, 1999).

## Factors Associated With Relationship Distress

As the literature suggests, the ramifications of divorce to society as a whole are large. Consequently, understanding the reasons that lead to thoughts of divorce—as a precursor to the event—is important for professionals who work with married couples. Current literature in the fields of personal financial management and relationship satisfaction has identified a number of factors as influencing relationship satisfaction and the likelihood of divorce. The following discussion reviews some of the most frequently noted factors as presented in the literature.

Financial satisfaction. Financial satisfaction is known to be positively related to income, education, and age (Joo & Grable, 2004). People may be able to obtain a higher level of financial satisfaction by adjusting their financial behaviors, such as budgeting, risk taking, and investing (Baek & DeVaney, 2004). Furthermore, financial stressors, such as a decrease in income, becoming ill, or losing a job, can increase a person's total stress level (Nesteruk & Garrison, 2005), which in turn can lead to decreased financial satisfaction (Joo & Grable, 2004). Financial satisfaction can also influence individuals' willingness to seek financial assistance. For example, Grable, Cantrell, and Maddux (2004) found that individuals with higher financial confidence levels were likely to seek help from financial planners, whereas individuals with less financial confidence were likely to seek help from friends or family. Grable and Joo (2001) noted a similar finding of a positive relationship between and among self-esteem, financial satisfaction, and education.

Financial strain, which was defined by Conger and Elder (1994) to include negative financial life events (e.g., income reduction or elimination), has been found to be negatively associated with both financial and relationship satisfaction. Results of a study by Cutrona et al. (2003) indicated that men and women report reduced relationship satisfaction as financial strain increases. Cutrona et al. used the family stress model to demonstrate how financial strain decreases the quality of family interactions. They found several items to be predictive of relationship satisfaction. Of particular relevance to their study was the finding that people who reported higher financial strain also reported lower levels of relationship satisfaction. As such, it is likely that financial satisfaction plays an important role in influencing people's thoughts of divorce (i.e., a measure of relationship distress).

Years of marriage and age. In 1993 Lawrence, Thomasson, Wozniak, and Prawitz concluded that couples' disagreements about money are widespread. This is true regardless of household income or attained educational level. They found no relationship between money arguments and income, suggesting that those with higher incomes were just as likely to argue about financial issues as those with lower

incomes. In their study, Lawrence et al. noted that arguments about finances in a relationship decrease as age increases. The relationship between age and arguments in relationships is one that may be subject to survivorship bias. In other words, it is possible that as the number of years a couple maintains their relationship increases, the less they disagree on important issues. Those couples who have constant disagreements will tend to be those that dissolve early. As such, one should find that long-lived relationships are marked with less argumentation and higher financial and relationship satisfaction, holding other factors constant. This notion is supported by Wu and Penning (1997), who noted lower divorce rates for couples who had been married more than 20 years.

Age has been shown to have a significant influence on personal relationships when it comes to satisfaction levels and the management of family income. For example, those who marry at younger ages have a higher probability of ultimately separating (Amato & Previti, 2003; Wu & Penning, 1997). Furthermore, money management is a primary problem for newlyweds because couples generally have not discussed finances before marriage (Wu & Penning, 1997). Results from previous studies reveal that immaturity, unstable employment, and an insufficient partner search contribute to divorce rates in younger couples (Amato & Previti, 2003; Wu & Penning, 1997). Immaturity also causes immense strain when partners do not agree about how to handle their finances. Amato and Previti (2003) found that there is a "tendency for spouses to become less similar over time" (p. 617), which may contribute to relationship problems when partners encounter conflict regarding their differences. They found that relationships are at highest risk for dissolution when people "become aware of changes in themselves or their partners due to the passage of time" (p. 607). This, however, contradicts Wu and Penning's finding that divorce rates decrease the longer a couple is married.

Gender. Gender differences are a common reason why many couples do not agree about money concerns. Men and women sometimes have very different ideas about who should manage household finances and who should spend family income (Campbell, 2006). Numerous researchers have noted that couples sometimes struggle with expectation and communication issues due to gender differences (e.g., Amato & Previti, 2003; Chaulk, Johnson, & Bulcroft, 2003; Stier & Lewin-Epstein, 2000; Terling-Watt, 2001). Nearly all of the previous research on gender differences was designed to test the ways men and women view and utilize money. Amato and Previti's gender focus, for instance, found that individuals blame their partners for problems that ultimately lead to separation. Stier and Lewin-Epstein determined that 70% of couples share household expenditures; however, men control approximately 14% of household expenditures and women control about 9% of household expenditures.

An important difference between males and females is that women are more likely to initiate conversations about relationship problems (Thompson & Walker, 1991), whereas men tend to withdraw from these discussions (Gottman, 1994). Women and men also use different tactics to gain control of the decision-making process (Deutsch, Roksa, & Meeske, 2003). For instance, women are more likely to use persuasion whereas men are more likely to use ultimatums to get their way. However, when it comes to financial management, men tend to maintain more monetary power (Deutsch et al., 2003, p. 292).

In relation to what precedes divorce, Amato and Previti (2003) found that women are more likely to give descriptive reasons, whereas men tend to not give

or simply not know the reason for separation. Women are also more likely to seek divorce than men (Terling-Watt, 2001). Although couples have a propensity to attribute the reason for relationship problems and severance to their partner, women are more prone to do this than men (Amato & Previti, 2003). Women are apt to report financial problems, economic nonsupport, or gambling as reasons for divorce, whereas men generally do not report any of these issues as motives for divorce (Kitson, 1992). This could be due to husbands' earning more money than their wives, leading men to assume that their spouse feels comfortable with their financial situation because husbands may feel at ease with the current financial arrangements.

Children in household. A couple's stress level can heighten when children are present in the household because the family budget experiences additional expenses (Oggins, 2003). Warren and Tyagi (2004) noted that families who are supporting children are more likely to file for bankruptcy than divorce in a particular year. Although people from all income levels struggle with financial issues, the majority of families who struggle are middle class (Warren & Tyagi, 2004). The largest expense faced by middle-class families involves financing their children's education. Younger couples generally do not have the ability to invest in risky assets with higher rates of return because of their inability to withstand financial shock (Finke & Huston, 2003). This means that couples with children may struggle to invest any money at all, which can cause increased tension and reduced relationship satisfaction if the couple is unable to meet their financial goals.

Race/ethnic background. The effect of racial background and ethnicity on relationship satisfaction and marital distress is inconclusive. Negy and Snyder (2000) found that couples who share the same ethnicity do not differ in terms of relationship satisfaction from couples who are from different ethnic backgrounds. However, Negy and Snyder reported that their findings were inconsistent with other research in the area of relationship satisfaction. African American families are generally willing to share financial responsibility (Cutrona et al., 2003). Latino families also tend to share financial responsibilities throughout their extended families. Consequently, Latino families do not tend to suffer from financial strain as often because generations are willing to exchange money with one another (Falicov, 2001). This may result in increased marital and relationship satisfaction. However, gender issues may interact with the role racial and ethnic background plays in shaping satisfaction. For example, non-Hispanic Whites often report a greater negative influence of financial strain on men than for women, indicating a gender influence related to who controls the flow of money within a household (Conger et al., 1990).

Educational status. Education is highly correlated with personal and household income levels, meaning that those with higher levels of attained education typically have higher income and net worth than others. Individuals with higher attained educational levels are generally more aware of riskier financial investments (e.g., stocks) and more attentive to personal financial behaviors (e.g., budgeting; Finke & Huston, 2003). Well-educated individuals are usually able to communicate more effectively than less educated individuals. This allows the stress level of the relationship to decline (Amato & Previti, 2003). Because of their increased communication

skills, well-educated individuals are better able to maintain equality in the relationship (Stier & Lewin-Epstein, 2000). Less educated couples (i.e., high school diploma or less) often encounter more stress in their relationships due to their lack of communication skills (Amato & Previti, 2003). Some of these communication deficits result in stress due to financial issues. With education, income, and communication linked, it is possible that well-educated individuals act differently than others in terms of thinking about divorce. Some have even suggested that having communication skills leads to the availability of additional resources, making it easier to obtain a divorce (Wu & Penning, 1997). This produces an effect where those with advanced education may have higher divorce rates than those with lower educational levels simply because they are able to access the resources necessary for a divorce.

Employment status. Education and employment status are positively linked. Individuals with low levels of attained education are more likely than those with high educational status to suffer from unemployment throughout their careers. Unemployment generally causes stress for any person regardless of his or her income status, but low-income families encounter additional stressors when they have to liquidate some of their assets to pay bills if they become unemployed (Morissette, 2002). It is known that employment and income levels are linked and that individuals with lower incomes are more likely to think about divorce (Amato & Previti, 2003). As such, it is reasonable to assume that employment status is associated with marital distress as well. Schoen, Rogers, and Amato (2006) noted such an association, but not in the direction anticipated. They found that wives' full-time employment was associated with greater marital stability.

Household income. It has been noted that individuals with relatively high income levels are usually more satisfied with their current financial situations than others (Baek & DeVaney, 2004; Joo & Grable, 2004) and more able and willing to take financial risks (Finke & Huston, 2003). Furthermore, low income levels have been found to be associated with a greater probability of divorce (Amato & Previti, 2003; Morissette, 2002; Terling-Watt, 2001), possibly because of the greater vulnerability to financial disturbances due to lower income levels that do not allow for unexpected expenses. Overall, couples and individuals with low incomes are more likely to encounter financial stress than those with higher income, which may lead to thoughts of divorce.

Self-esteem. Financial disagreements often occur when there is an apparent difference in personal financial values between partners involved in a relationship. It is sometimes difficult to articulate one's values (Siegel, 1990), leading to miscommunication and arguments. Furthermore, personality plays a significant role in determining how a person will manage his or her finances (Lowenstein, 1994). Self-esteem, which is defined as "the cluster of complimentary feelings and attitudes you hold about yourself and could mean the difference between a sense of success or failure as a human being" (Didato, 2003, p. 184), is a factor thought to influence relationship satisfaction (Dean et al., 2007). People can use money to alter their self-esteem, but they may also use money to influence interactions with their partners, which can influence self-esteem. It has been hypothesized in the literature that people sometimes spend their money impulsively as a way to ward

off depression (Siegel, 1990). Yet spenders are not the only people who use money to alter their psychological state. People who live extremely frugally may not feel like they deserve the right to pleasure and fulfillment. Furthermore, money is often seen as proof of affection, as evidenced by holiday spending and gift giving.

## CONCEPTUAL FRAMEWORK

As the review of literature suggests, the factors associated with relationship distress are both diverse and interrelated. In some cases, the effects of factors in a person's life cross domains to interact in the emotional and financial lives of individuals. In almost all situations, factors such as financial satisfaction, gender, age, years married, employment status, household income, self-esteem, and other characteristics influence each partner's perception of marital stability. One way to conceptualize these influencing factors on the perception of marital stability is to use a circular causality model, also known as a cybernetic system. Cybernetic systems were originally used to describe feedback processes in closed systems. Jackson (1959) and others adapted the approach to describe methods used by families to maintain stability. A basic tenet associated with the system's approach is that information feedback can be either positive or negative. Positive feedback is best described as a self-fulfilling prophecy where changes to the system reinforce the faults within the system. Negative feedback is designed to force the system back into a state of homeostasis.

Consider the cybernetic system shown in Figure 1. Each factor in the system has an effect on the next factor until enough information is obtained to provide feedback to family participants. Figure 1 illustrates how, for instance, the amount of household income available for paying expenses affects the financial satisfaction of a family member (e.g., husband or wife). Suppose income is insufficient to meet expenses; this will likely reduce financial satisfaction. Financial satisfaction is hypothesized to be a source of information that provides feedback on how distressed the husband or wife feels about not only money issues but also the marital relationship. At this point, the family member may experience negative feedback trying to return to the system's normal state of homeostasis. One of many family rules (e.g., a family member takes on an additional job to pay credit cards) can be used to adjust the system. If nothing is done, the perception of marital stress will then have an impact on the earning and use of household income, which, in turn, will affect financial satisfaction, and so forth. Although not shown in Figure 1, it is possible and likely that the cybernetic system includes other factors, including self-esteem, number of children in the household, and employment status. Ultimately, the family member can either make adjustments to the system based on negative feedback or react to positive feedback by deciding that "nothing I do can fix the problem" and, as a result, move toward marital dissolution.

The cybernetic system's approach serves as the conceptual framework for this study as illustrated above. There are a number of factors, as described in the review of literature, that are important within the system, including gender, age, partner's age, difference in partner's ages, number of children in the household, household income, employment status of marital partners, education, homeownership status, race/ethnicity, years married, psychosocial constructs, and financial satisfaction. Conceptually, the cybernetic system's approach works well in describing

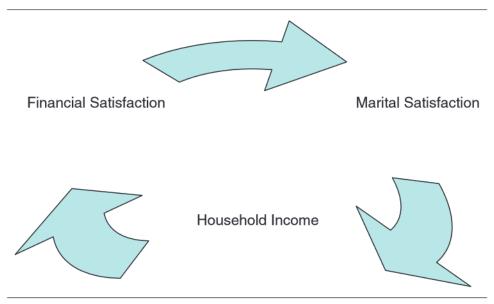


Figure 1: Circular Causality of Model of Factors Influencing Marital Distress

the relationship of these variables as possible factors influencing marital distress. Specifically, it is reasonable to assume that factors such as financial satisfaction, household income, and self-esteem have a recursive influence on marital perceptions. For instance, if a person becomes distressed, this will have an impact on other factors within the marriage, which, in turn, may cause additional stress that affects financial satisfaction, one's self-esteem, and the ability to manage household activities.

As described in the literature, a marital system consists of not only the husband and wife, but also many other influences such as financial behaviors, self-esteem, children, and work, to name just a few factors. These influences work together to provide either negative or positive feedback to the system, creating a circular feedback loop. All mechanisms must work together, or homeostasis will be altered and the system will fail. As conceptualized in this study, it is hypothesized that low financial satisfaction will have a negative influence on marital distress as measured by the thought of divorce during the previous 3-year period. Although no other specific hypotheses are examined in this study, it is anticipated that other variables, as described in the review of related literature, will also be of importance in partitioning individuals into categories based on their divorce thoughts.

## **METHOD**

This study used data from a survey administered to a convenience sample of individuals living in three communities in one U.S. midwestern state. The sample was developed from mailing lists owned or created by the research team. The survey assessed relationship satisfaction, demographic characteristics, personality constructs, financial knowledge, financial stressors, and financial satisfaction.

A total of 1,318 surveys were mailed in the spring of 2005; 500 surveys were returned as useable, 36 were returned as undeliverable, 3 had missing data, and 16 were not opened as they arrived after initial analysis had begun. The overall response rate for this study was 39.6%, accounting for undeliverable surveys, missing data, and late surveys. The final sample (n = 361) included only those who were married.

The data collection portion of the survey lasted approximately 60 days, during which time participants received a survey. Participants were given the opportunity to request the results of the survey and the opportunity to participate in one of three drawings for a Visa credit card gift certificate. All data collection methods conformed to American Psychological Association standards, and participants remained completely anonymous. To maintain anonymity, participants were asked to write, call, or e-mail for a request of the results. No follow-up mailings were used in this study. At the end of the 60-day data collection period, survey results were coded and entered into SPSS 13.0.

## Sample Characteristics

Although the sample was generally representative of the communities in which people lived, the sample was rather homogenous. The average respondent in this study was 44.51 years of age (SD = 10.54 years) and employed full-time. The sample overrepresented female respondents. According to the 2000 Census Bureau, the population of the United States is composed of 51% females and 49% males; the current sample was composed of 72% (n = 260, SD = .55) females. Because the survey asked about both the respondent and his or her partner, it was possible to obtain demographic information on a respondent's partner. Respondents' partners were slightly older than the respondents (M = 46 years of age compared to M = 45years of age), with a standard deviation in age of 0.48 years. The mean and standard deviation age difference between partners was -1.13 and 4.52 years, respectively. A higher percentage (M = 89%, SD = 31%, n = 321) of participants were employed on a full-time basis, whereas fewer partners were employed on a full-time basis (M = 64%, SD = 48%, n = 231). The sample was well educated. More than 56% (n = 202, SD = 200). .50%) of respondents reported having an educational level of a bachelor's degree or higher.

The average and median household income fell in a range of \$50,000 to \$59,999, which was higher than the reported national median of \$41,994 in the 2000 Census. Specifically, approximately 5% of respondents (n = 18) had household incomes \$30,000 or less; 7% (n = 25) reported incomes between \$30,001 and \$40,000; 16% (n = 58) had household income ranging from \$40,001 to \$50,000; 16% (n = 58) reported incomes in the range of \$50,001 to \$60,000 and \$60,001 to \$70,000, respectively; slightly fewer had incomes ranging from \$70,001 to \$80,000 (M =15%, n = 54); 9% (n = 32) reported incomes in the range of \$80,001 to \$90,000; and 6% (n = 22) had incomes ranging from \$90,001 to \$100,000. Finally, 10% of respondents (n = 36) indicated household income greater than \$100,000. The mean number of children living in each household was one (SD = 1.19). Approximately 89% (n = 321, SD = .88) of respondents indicated owning their own home, whereas the national homeownership rate was only 66% in 2000. Non-Hispanic Whites comprised 95% (n = 343, SD = .23) of the sample. Finally, the number of years married reported by respondents ranged from newlywed to 55 years. On average, respondents had been married for 19.08 years (SD = 12.84 years).

## Outcome Variable

A married respondent's thought about obtaining a divorce was the outcome (i.e., predicted) variable in this study. Married respondents were asked, "Has the thought of getting a divorce or separation crossed your mind in the last 3 years?" Four response categories were given: never (n = 261), occasionally (n = 73), often (n = 13), and very often (n = 14). The question was originally used in the Marital Instability Index (Edwards et al., 1987). Edwards et al. (1987) indicated that "Scores on the index also are correlated with known predictors of divorce and separation, and they relate in the same way as these predictors do to actual divorce" (p. 168). They also wrote that items like this one can be used to differentiate "between marriages that are likely to come apart and those which probably will remain intact" (p. 169). In effect, this type of item works well in understanding who has considered separation and who is more likely actually to follow through with the contemplation and file for divorce.

An ANOVA test was conducted to determine if respondents differed in terms of the way they assessed their relationship. Respondents were split into four groups based on their response to the outcome variable (i.e., never, occasionally, often, and very often). Each group was then compared using mean scores from the Relationship Assessment Scale (RAS; Hendrick, 1988). The RAS is widely used by marriage and family therapists. The scale is a short measure of relationship satisfaction for married couples, couples living together, dating couples, and gay couples. The scale discriminates couples who stay together versus those who separate after a period of time. The RAS is based on a five-item Marital Assessment Questionnaire originally developed by Hendrick in 1981. Hendrick later expanded the questionnaire to a seven-item Likert-type scale that measures relationship dimensions such as love, problems, and expectations. A score of 1 indicates low relationship satisfaction, whereas a score of 5 indicates high relationship satisfaction. Overall scores for the RAS can range from 7 to 35. The RAS has good internal consistency with an  $\alpha$  of .86. The scale also has good concurrent validity as it correlates at the .80 level with the well-known Dyadic Adjustment Scale (Hendrick, 1988).

The ANOVA tests showed that differences by thought of divorce on the RAS were significant at three of the four levels, F(3, 358) = 125.78, p < .001, with those responding *never* scoring the highest (M = 31.24), followed by *occasionally* (M = 25.78), *often* (M = 17.77), and *very often* (M = 13.77). Tukey and Bonferroni post hoc tests were examined to confirm that the four levels of self-assessed risk tolerance were distinct. It was determined that all mean differences were significantly different at the .001 level except the difference between those who reported thinking of divorce often or very often. Based on these findings, it was determined that respondents who had often or very often thought of getting a divorce or separation in the past 3 years were conceptually similar. As such, these respondents were grouped together and used jointly in further analyses. For the purposes of this study, responses were then recoded into one of three categories: (a) those who had never thought about getting a divorce (M = 72.3%, n = 261), (b) those who occasionally thought about getting a divorce (M = 20.2%, n = 73), and (c) those who often or very often thought about getting a divorce (M = 7.5%, n = 27).

# Independent Variables

Fourteen independent variables were included in this study. Financial satisfaction was measured using a 10-point self-assessment scale that asked respondents

to circle the number that represented how satisfied they were with their present financial situation (see Porter, 1990; Prawitz et al., 2006). A score of 1 indicated being extremely dissatisfied, a score of 5 signified neutral satisfaction, and a 10 indicated being extremely satisfied. Respondents in this study reported a mean level of satisfaction equal to 5.6 with a standard deviation of 2.0, meaning that they were neither extremely satisfied nor extremely dissatisfied with their current financial situation.

Age, partner's age, years married, and number of children in the household were measured at the interval level. Males, non-Hispanic Whites, those employed full-time, those with partners employed full-time, those with an attained educational level of a bachelor's degree or higher, and homeowners were coded 1, otherwise 0. Household income was measured using 10 income bracket levels (\$20,000 or less, \$20,001-\$30,000, \$30,001-\$40,000, \$40,001-\$50,000, \$50,001-\$60,000, \$60,001-\$70,000, \$70,001-\$80,000, \$80,001-\$90,000, \$90,001-\$100,000, or more than \$100,000). A variable was developed to measure the difference between respondents' ages and their partners' ages. This variable was measured at the interval level.

Self-esteem was measured using 10 items (Table 1). The items used were based on a scale originally developed by Rosenberg (1965) and later revised by Didato (2003). A 4-point coding system was used: 1 = not at all, 2 = somewhat, 3 = fairly well, and 4 = very well. The scale's Cronbach's  $\alpha$  in this study was .65. In the current study, scores for the self-esteem scale ranged from a low of 10 to a high of 40 with a mean and standard deviation of 30.6 and 3.5, respectively.

## **Data Analysis Method**

The research hypothesis was examined using a classification and regression tree (CRT) method. Classification tree analysis is a "form of binary recursive partitioning" (Lewis, 2000, p. 4). It is "binary" because the tree assigns each respondent into one of two groups, and it is "partitioning" because the data are split into sections or partitioned. Classification trees consist of a root node, internal nodes, and terminal nodes. Besides terminal nodes, all nodes have two daughter nodes. In effect, a decision tree is developed that allows an observer quickly and efficiently to differentiate individuals into groups. In this study, the CRT method was used to choose the most effective independent variables to partition married respondents into one of three categories: (a) those who had never thought about getting a divorce, (b) those who occasionally thought about getting a divorce, and (c) those who often or very often thought about getting a divorce within the past 3 years.

Classification trees were originally used to analyze data from hospital emergency room situations to partition incoming medical patients into high-risk and low-risk groups based on given classification rules. This nonparametric method does not require any model or functional forms of relationships, and as such, the CRT procedure can be viewed as a data-mining technique. According to Kolyshkina and Brookes (2002), data mining is "a process that uses a variety of data analysis tools to discover patterns and relationships in data that may be used to make valid predictions" (p. 3). The assumptions underlying CRT make it an ideal tool in exploratory research. First, CRT does not assume normal distributions. According to Lewis (2000), CRT can "handle numerical data that are highly skewed or multi-modal, as well as categorical predictors with either ordinal or non-ordinal structure" (p. 5). It is also easier to manage categorical variables with a large number of categories

TABLE 1: Self-Esteem Items

Item	М	SD
I am usually comfortable and poised among strangers.	2.476	.843
I am often jealous or envious of others.	3.445	.660
I always accept compliments without feeling embarrassed.	2.250	.757
I openly show recognition and appreciation when others do something noteworthy.	3.204	.675
I can almost always accept disagreements without feeling "put down."	2.428	.706
I strongly seek recognition and praise.	2.994	.835
I am known as one who is hard to please.	3.460	.677
I am often miffed if the opinions of others differ from mine.	3.558	.554
I am sometimes embarrassed in public by those close to me.	3.506	.650
I judge my worth by comparing myself to others.	3.310	.767

when CRT methods are used. The CRT method offers the following advantages: (a) CRT does not require extensive time to model a complicated framework, (b) classification trees are easy to interpret, and (c) the method requires relatively little input. AnswerTree® 3.0 for SPSS was used in this study. A Gini splitting criterion was used. No specific penalty was given to variables.

In this analysis, the CRT procedure was used to partition data into two subsets at each stage of the procedure. This approach ensures that each subsequent subset is more homogenous than the previous subset. Because CRT is a recursive process, it is possible that one independent variable may be used multiple times to partition the data. The recursive nature of the process lends itself to the cybernetic system's conceptual framework used in this study. SPSS (2001) defines the CRT process this way:

CRT works by choosing a split at each node such that each child node is more pure than its parent node. Here purity refers to the values of the target variable. In a completely pure node, all of the cases have the same value for the target variable. CRT measures the impurity of a split at a node by defining an impurity measure. (p. 192)

In this study, a Gini index was used as the impurity measure. The Gini index (see SPSS, 2001) is defined as

$$g(t) = \sum_{j \neq i} p(j/t)p(i/t),$$

where i and j are categories of the target variable, and

$$p(j/t) = \frac{p(j,t)}{p(t)},$$

$$p(j,t) = \frac{\pi(j)N_j(t)}{N_j},$$

and

$$p(t) = \sum_{j} p(j, t),$$

where  $\pi$  (j) is the prior value for category j,  $N_j(t)$  is the number of cases in category j of node t, and  $N_j$  is the number of cases of category j in the root node. Note that when the Gini index is used to find the improvement for a split during tree growth, only those cases in node t and the root node with valid values for the split-predictor are used to compute  $N_j(t)$  and  $N_j$ , respectively. (pp. 192-193)

To summarize, the CRT process begins from the root node, and each split in the data is based on the greatest decrease in impurity. This process is continued until a stopping rule is met. In this analysis, the following stopping rules were used: Conclude when (a) all cases in a node are identical values, (b) all nodes become pure, (c) the depth of the tree reaches five levels, (d) the number of cases in a node is less than the parent node, or (e) a split results in a node where the number of cases is less than five.

#### RESULTS

In this study, the question of interest was one of identifying key variables that play an important role in determining if and how strongly a person had considered obtaining a divorce during the previous 3-year period. Of particular relevance were results relating to the role financial satisfaction had in explaining the thought of divorce. Figure 2 illustrates the CRT output. The first split in the tree was made on respondent financial satisfaction scores. Those with a financial satisfaction score of higher than 7.5 on a scale of 1.0 to 10.0, with 1 being *extremely unsatisfied* and 10 being *extremely satisfied* (i.e., Node 2), were predicted to never have thought about divorce during the preceding 3-year period, with no respondents scoring higher than 7.5 thinking of divorce often or more frequently. In other words, high financial satisfaction was predictive of low marital distress. Furthermore, the first split indicates that financial satisfaction was the most important variable of those used in this study in determining the thought of divorce.

Node 1, in the first split, shows that more than 33% of respondents with a level of financial satisfaction 7.5 or less were likely to have thought about divorce. For those fitting this profile, the next split was based on differences in partners' ages. Respondents who were older than their partner by more than 1.5 years (i.e., Node were determined to have less marital distress—they were significantly less likely to have thought about divorce in the past 3 years. Results were mixed for respondents who were within 1.5 years of their partner or had an older spouse (i.e., Node 3). Node 3 was split further based on the partner's age. Node 6 shows that respondents who had a spouse aged greater than 47.5 years were further split based on their self-esteem score. Individuals with a high level of self-esteem (i.e., a score of higher than 31.5; Node 10) were found to have thought about divorce less than those with lower self-esteem (i.e., Node 9). Respondents with a spouse aged greater than 47.5 years who also had a self-esteem score of 3.5 or less were split again based on their partner's employment status. If their partner was employed on a full-time basis (i.e., Node 11), it was less likely that the thought of divorce had come up in the past 3 years; however, in cases where the spouse was not full-time employed, it was determined that the probability of marital distress was actually quite high. As shown in Node 12, 75% of those fitting this last category had either occasionally or at least often thought about divorce.

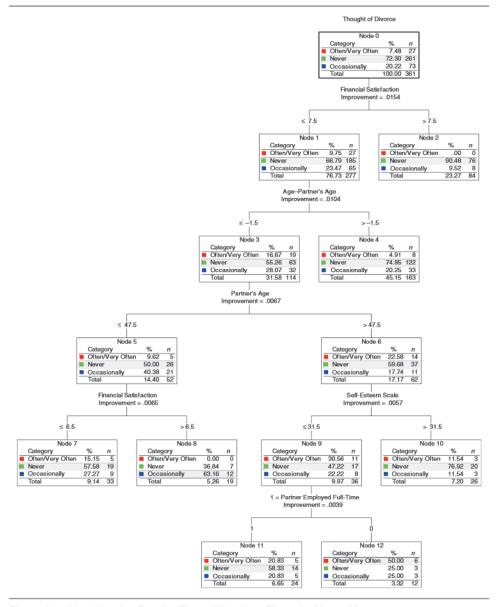


Figure 2: Classification Tree for Those Who Have Thought About Divorce

The results were different for respondents who, at Node 3, were married to a partner aged 47.5 years or younger. The percentage of those who had never thought about divorce compared to those who had either occasionally or often thought about divorce was nearly evenly split. Node 5 was split based on financial satisfaction. Given the recursive nature of the CRT method and the importance of financial satisfaction in the model, this finding was not unexpected. Node 8 shows that individuals who had a 7.5 or less but greater than a 6.5 financial satisfaction score and were married to someone close in age or older than themselves but less than

TABLE 2: Gains Chart Indicating Most Important Nodes

Node	N	Node %	Gain N	Gain %	Response %	Index %	Cumulative %
8	19	5.3	12	16.4	63.2	312.3	16.4
7	33	9.1	9	12.3	27.3	134.9	28.8
12	12	3.3	3	4.1	25.0	123.6	32.9
11	24	6.6	5	6.8	20.8	103.0	39.7
4	163	45.2	33	45.2	20.2	100.1	84.9
10	26	7.2	3	4.1	11.5	57.1	89.0
2	84	23.3	8	11.0	9.5	47.1	100.0

NOTE: Target class = those who had thought about getting a divorce within the past 3 years.

or equal to age 47.5 years were very unlikely to have thought about divorce often or very often during the past 3 years. There is, however, a strong possibility that those fitting this profile had thought about divorce occasionally. On the other hand, for those with the same profile but a financial satisfaction score less than or equal to 6.5, the findings were mixed. There was a 27% chance that the respondent had thought about divorce at least occasionally and a 15% probability that the thought had occurred at least often during the past 3 years.

The gains chart (Table 2) shows that terminal Nodes 2 (i.e., having higher than a 7.5 financial satisfaction score) and 4 (i.e., having a spouse who is younger by more than 1.5 years) account for the highest percentages of those who had never thought about obtaining a divorce during the previous 3-year period (23.3% and 45.2%, respectively). These results, again, point to the important role financial satisfaction plays in predicting marital distress.

Table 3 shows the misclassification statistics from the model. Not knowing anything about a person's relationship background or level of marital distress should lead one to predict that slightly more than one out of four respondents had thought about divorce at least occasionally during the past 3 years (27.7%). The CRT model was able to improve the prediction rate significantly. Using the tree as a guide, prediction increased to 75%. The model was most effective in predicting who had never thought about divorce. The splitting logarithm was able to predict this group accurately 96% of the time. The model was less effective in distinguishing between those who had occasionally or at least often thought about divorce during the past 3 years. In some respects, this is as expected. It is likely that the model is picking up indicators of marital distress rather than conceptual differences in the frequency of divorce thought. As evidence of this possibility, it is interesting to note that if the *occasional* and *often/very often* categories are combined, the model's prediction efficiency increases from 22% to nearly 50% for those who had thought about divorce.

# DISCUSSION

The CRT model output shown in Figure 2 is instructive for those who are interested in knowing who is more likely to experience marital distress that may lead to the thought of divorce. The CRT method generates a decision tree based on questions that split the sample into smaller and smaller components. Assuming that the independent variables used in the model are conceptually related to the

TABLE 3: Misclassification Statistics

		Actual Category				
		Never	Occasionally	Often/Very Often	Total	
Predicted	Never	251	58	21	330	
category	Occasionally	7	12	0	19	
	Often/very often	3	3	6	12	
	Total	261	73	27	361	
			Risk S	Statistics		
Risk estimate		.25 (75% prediction success)				
Standard error of risk estimate			.02			
Explained variance in model			.08			

outcome variable, the model and the resulting algorithm used to split the data determine which variables are the most effective in describing the sample. Financial satisfaction is shown to offer the greatest level of improvement in prediction. At Node 2, for example, it is shown that those who have a high level of financial satisfaction (i.e., greater than 7.5 on a scale of 1.0 to 10.0) are significantly less likely to have thought about getting a divorce. In fact, no one with a high level of financial satisfaction reported thinking about divorce often or very often.

These results support the research hypothesis of interest in this study. It does appear that a measure of financial satisfaction can be used to discriminate between those who have thought about getting a divorce from those who have not. The results from the CRT model show that financial satisfaction is associated with the likelihood of thinking about divorce. In the model, those with high financial satisfaction had the lowest marital distress, as measured by the thought of divorce. Financial satisfaction was the most important variable in determining those who had and those who had not thought about divorce. So in answer to the two questions posited at the outset of this article, yes, there does appear to be a positive association between financial satisfaction and relationship satisfaction, and second, the association between the two concepts is strong.

The recursive nature of financial satisfaction, as shown in the CRT model, also lends support to the conceptual framework used in this study. The role of financial satisfaction in partitioning respondents into categories of divorce thought reflects the circular and recursive nature of cybernetic systems and the way families adapt to both positive and negative feedback within systems. In this study, financial satisfaction was used as the first split factor. Financial satisfaction was again used to split Node 5 to show that those with a higher than average level of satisfaction were not likely at all to have thought about divorce often or very often during the past 3 years.

Other important variables were found to be effective in partitioning respondents. Respondents who had both high financial satisfaction and a spouse who was at least 1.5 years younger were less distressed. Those with a spouse close in age or older by 1.5 years were more likely to have thought about divorce. A partner's age, self-esteem, and the employment status of a partner were also important splitting factors in the model, although it is important to note that the amount of within-node variance explained by these factors was relatively small, especially when compared to financial satisfaction.

The results from this study suggest that the work consumer science educators do on behalf of their constituencies have implications that go beyond changing socioe-conomic circumstances at the individual and macro levels. Individuals who are financially satisfied were shown to be less likely to have considered divorce—a measure of marital distress. These results indicate that a person's financial situation most likely plays a key role in how he or she views his or her relationship.

Two potentially positive outcomes are associated with consumer science education. Not only can education help clients alleviate financial stressors, it appears that education may also improve marital relationships for those who work with consumer science educators. As indicated in the review of literature, disagreements about money are a probable determinant of divorce; consequently, it is important for professionals who work with clients' finances also to have some understanding of relationship dynamics. As previously stated, the costs of divorce to society are great. For example, depression, health problems, child adjustment disorders, increased financial distress, and a lower standard of living are likely to result from divorce (see Amato & Previti, 2003; Brown, 1999; Finke & Pierce, 2006). The intervention of consumer science educators who have the necessary skills to recognize potential conflicts within marriages and make appropriate referrals can potentially save a marriage and eliminate the many costs associated with divorce. Although recognizing and referring clients with relationship difficulties are not legal obligations of consumer educators, there are two primary benefits of doing so. At a personal level, a consumer educator may feel a sense of greater self-worth by referring a couple for relationship advice that may result in lower probability of divorce. At a professional level, a consumer educator who refers a client for relationship counseling aids in the integration of financial education and marriage and family therapy.

The results of this study, while noteworthy, should be evaluated as exploratory. Several limitations need to be acknowledged. First, the sample was rather homogenous, with more women and non-Hispanic Whites responding than others. Also, the income and education situation for respondents was higher than the national average. Furthermore, it is possible that those who responded to the survey were significantly different from those who chose not to respond. For example, there is the possibility that those who were satisfied with their marriage had not considered divorce, and it was these people who responded to the survey. As such, it is prudent to replicate the model using different samples to determine how well the splitting algorithm works with different populations. Further research is also necessary to test the influence of other factors on relationship satisfaction and the thought of divorce. Additional independent variables that ought to be considered for further study include a person's religiosity, locus of control, and perception of the partner's financial behaviors. It would also be useful if international comparisons were made in future research. Several research questions come to mind in relation to this issue. For example, is the impact of financial satisfaction on relationship distress unique to the United States, or is the relationship universal? It may be that no relationship between financial satisfaction and divorce exists in market economies where broad social security nets are in place or in areas where people live in underdeveloped economies. Finally, the results of this study can be used to guide future qualitative analyses. It would be valuable to know, for instance, if people conceptualize marital distress directly with financial distress when determining how frequently they think of divorce. Through continued testing, it may

be possible to link more formally financial satisfaction and stressors closely with relationship satisfaction and life outcomes.

## NOTE

1. This example illustrates how a consumer science educator, financial counselor, or therapist might use the CRT in practice. Assume that an educator is working with a client on an issue not related to relationship satisfaction or marital stability. During the educational session(s), the educator begins to receive both verbal and nonverbal clues that the client may be experiencing relationship dissatisfaction or distress. This is not an area that the educator feels comfortable dealing with; however, given the interrelationships between the content of the education (e.g., money management and family budgeting) and the client's family life, the educator feels compelled to assess the client's likelihood of divorce indirectly. (Asking the client a direct relationship question may be inappropriate given the relationship between the educator and the client.) The CRT output can be used as a guide to help determine if marriage and family therapy might be an appropriate recommendation for the client.

To begin with, the educator can ask the client to answer a financial satisfaction question like the one used in this study. Clients who score 7.5 or higher are predicted to be satisfied with their relationship and unlikely to be thinking about divorce. If a client has a lower satisfaction score, the educator should note the age difference between the client and spouse. If the financial satisfaction score is less than 7.5 and the client's partner is more than 1.5 years older, this is an indication that the client has probably thought about divorce in the past 3 years. At this point, it may be appropriate to evaluate other factors, including the age of the client's partner, the client's self-esteem, and employment characteristics within the family.

Because the thought of divorce is known to precede the act of divorce (Edwards et al., 1987; Finke & Pierce, 2006), the information obtained by the educator can be used, when appropriate, to counsel the client to obtain marriage and family therapy. Given the costs associated with divorce, both fiscal and emotional, the intervention by consumer science educators, financial counselors, and others can have a large impact on helping clients deal with the complex emotions associated with personal financial issues and relationship satisfaction.

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