J Fam Econ Iss (2007) 28:357–376
DOI 10.1007/s10834-007-9074-7

ORIGINAL PAPER

# Linking Financial Strain to Marital Instability: Examining the Roles of Emotional Distress and Marital Interaction

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Published online: 1 June 2007


**Abstract** Using a sample consisting of 4,997 married couples from the National Survey of Families and Households, individual emotional distress, the occurrence of couple disagreements, couple fighting, and couple quality time together mediated the relationship between financial strain and personal assessments of marital instability. The overall results suggest that financial strain influences both positive and negative forms of couple interaction which are stronger mediators than personal emotional distress of the relationship between financial strain and marital instability. The results further suggest that there were no gender differences among these linkages.

**Keywords** Couple interaction · Disagreements · Financial strain · Marital conflict · Marital instability

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Researchers have shown that economic and financial hardships systematically lead to undesired resource management coping behaviors (economic pressure) and to worries about money (financial strain). Economic pressure and financial strain have in turn been linked to a wide range of negative psychological symptoms and adverse behavioral outcomes (Conger, Reuter, & Conger, 2000; Vinokur, Price, & Caplan, 1996). For nearly two decades, an extensive body of research in this area developed through the Iowa Project in the United States (Conger et al., 2000). As with many of the Iowa Project studies, the theoretical starting point for this study was the family stress model (Conger & Conger, 2002). It describes a pattern whereby economic pressure leads to disruptions in individual emotional well-being, which in turn leads to poorer marital relations and marital instability.

This study extends previous research by introducing specific forms of positive and negative marital interaction. These include the frequency of couple disagreements, marital fighting, and couple quality time together. These forms of couple interaction suggest a finer grained analysis of possible marital processes in stressful circumstances compared to the majority of past studies that typically only assess one form of marital interaction (e.g., conflict). Past studies have tested only the link between emotional distress and marital conflict directly. To the extent that couple fighting represents marital conflict, the proposed model is the first to suggest a mediated relationship between emotional distress and conflict through frequent disagreements. Couple's quality time together is a variable that has not been investigated in the context of financial strain. The model proposed here suggests that positive and negative forms of marital interaction are equally important for assessing marital instability. Furthermore, this model emphasizes a balance between individual and couple-level variables enabling an examination of the relative contribution each may make to marital instability.

This study also examines the consequences of financial strain for married couples by replicating aspects of the Iowa Project studies with a nationally representative U.S. sample. Although many studies have tested versions of the family stress model, testing of the model with a representative sample of the U.S. population has only recently been done (Dew, 2007). Nearly all previous studies on this topic have been conducted on samples that share a particular economic history and status by virtue of ethnicity or region. The replication work done here pertains specifically to certain portions of several Iowa Project studies which link family financial stress to various forms of emotional distress and marital conflict (Conger et al., 1990; Conger, Ge, & Lorenz, 1994; Conger, Reuter, & Elder, 1999).

The model developed for the present study (see Fig. 1) was largely an outgrowth of the family stress model (Conger et al., 2000) together with other mid-range theories regarding marital interaction and quality (Gottman, 1993; Karney & Bradbury, 1995). Yet, rather than linking financial strain to objective measures of economic well-being, as has been done in the past, the beginning point of the present study is based on the logic of symbolic interaction theory which posits that individuals act in response to their own perception of events. In other words, perceptions of the same *objective* information many vary by individual, and it is the person's perception that will be most closely associated with other thoughts and behavior. The model proposes that financial strain may be linked to marital instability through various forms of couple interaction and individual emotional distress. The clinical observations of Weingarten and Leas (1987) largely supported this view. They proposed that a couple's conflict, unless counteracted through some form of intervention, naturally escalates through a series of five stages; problems to solve, disagreements, contest, fight, and war. The model (see Fig. 1) similarly links financial strain to marital instability through intervening forms of couple interaction. Because the data come from self-reports it was possible to assess husband's and wife's views of the stability of the

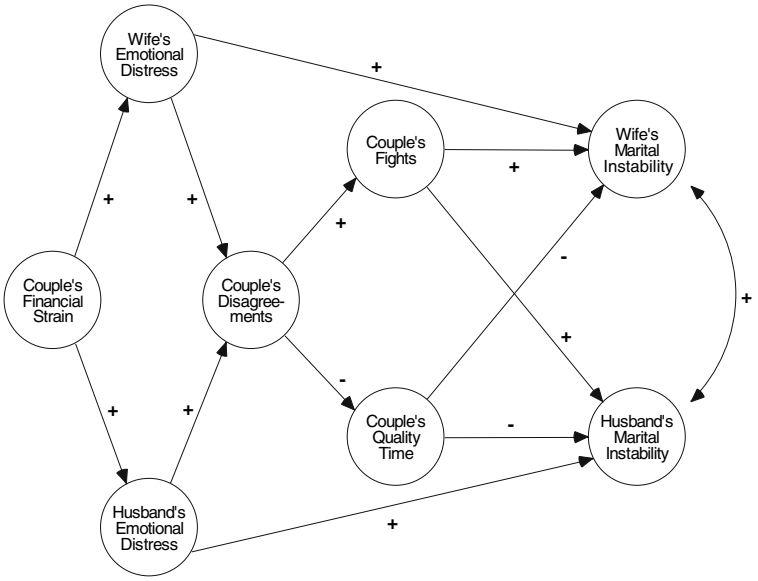


**Fig. 1** Theoretical Model of Financial Strain and Marital Conflict

marriage individually. Decisions about whether to conceptualize the various constructs in the model as individual or couple-level phenomena were based on previous versions of the family stress model and upon preliminary analyses of the data.

## Review of Literature

Financial strain (or economic pressure) has been positively and directly linked to multiple forms of emotional distress including depression (Conger & Conger, 2002; Dennis, Parke, Coltrane, Blacher & Borthwick-Duffy, 2003) and hostility (Conger et al., 1990). Hostility has been characterized as a negative attitude directed toward another person, a precursor to anger, or an attitude that is likely to inspire aggressive thoughts, words, or actions. For non-clinical samples, hostility has generally been regarded as a context specific emotion (Eckhardt, Barbour, & Stuart, 1997). Other work confirmed that depression and hostility co-occur, especially for non-clinical samples (Brummett et al., 2000). This conclusion has been used to justify the practice of grouping experientially distinct emotions together as indicators of emotional distress (Conger et al., 1999). Downey and Coyne observed that, ''chronic stressors can produce chronic or intermittent depressive symptoms or general distress without the development of clinical depression'' (1990, p. 64).

Many studies have suggested that emotional distress is an individualized experience. For instance, family stress researchers concluded that within families, ''there was not an overall atmosphere of family depression, but that the depressive feelings were, to a large extent, unique to each family member'' (Clark-Lempers, Lempers, & Netusil, 1990, p. 31). Furthermore, gender differences in individual depressive responses to financial strain frequently were found. In a study of Finnish families, wives underwent changes that were primarily emotional and internal such as depression, whereas husbands displayed dysfunctional social behavior as a result of financial strain (Leinonen, Solantus, & Punamaki, 2002).

As a specific form of marital interaction, the occurrence of couple disagreements has received very limited attention in the family studies literature. Yet, money concerns have been listed as the number one topic of married couple disagreements (Goldberg, 1987; Oggins, 2003). Furthermore, disagreements about money have been shown to surface under conditions of economic strain (Conger et al., 1994). However, largely unknown is whether emotional distress contributes specifically to the occurrence of disagreements in general, including topics other than money. This study tests the hypothesis that emotional distress would contribute to disagreements as indicated by a number of different topics.

There is much evidence, however, linking emotional distress to broader forms of conflict that provide clues to the possible relationships among financial strain, emotional distress and the occurrence of couple's disagreements. Emotional distress has been linked to increases in marital conflict (Conger et al., 1994) and hostile marital interaction (Skinner, Elder & Conger, 1992). Forkel and Silbereisen (2001) found a negative link between the depressed moods of mothers and fathers and a positive climate in the family that included elements of harmony, cohesion, and openness. Deterioration of these elements might logically constitute a breeding ground for contention and disagreement in the family. The parental depression experienced by couples in another study (Brody et al., 1994) was positively linked to a measure of co-caregiver conflict, which was based upon measures that would indicate couple disagreements in the presence of their children.

McGonagle, Kessler, and Schilling (1992) reported that stress was a predictor of marital disagreements and most couples in their study averaged about two disagreements per month. In a follow-up study, McGonagle, Kessler and Gotlib (1993) found that the *frequency* of marital disagreements was more detrimental to marital disruption than was the *style* or *outcome* of the disagreements.

In stressful circumstances, marital disagreements may be linked to marital fighting. Husbands have been more likely to be initial protagonists of couple fights (Eckhardt et al., 1997), and this may have been especially so in conditions of financial hardship, presumably because men have been most likely to fill the provider role, and consequently have been shown to feel more of the brunt of financial strain (Conger et al., 1990; Crowley, 1998). True gender-related differences may be evidenced in the finding that husbands were more likely to adversely respond to stressful *circumstances*; whereas, wives are more likely to respond adversely to stressful *relationships* (Conger et al., 1990).

Withdrawal from positive marital interaction is also a likely outcome of marital disagreements. Roberts (2000) compared the effects of hostile and distancing behaviors on husbands' and wives' marital distress and found that wives were most distressed by their husbands' hostile behaviors, and husbands were more distressed by wives' distancing behaviors. Amato, Johnson, Booth, and Rogers (2003) studied the marital quality of Americans between 1980 and 2000 and found that time spent in marital interaction declined significantly over this time period and that the decrease in couple's quality time together likely would have reduced marital quality had there not been the positive influence of growing family income to counteract the trend. When job loss is part of the hardship experience, marital conflict may increase because marital partners have more time together, and this added time together may be tempered by feelings of guilt or shame on the part of the income providers (McLoyd, 1990).

Financial strain has indirectly been associated with a number of ways in which couples assess the *quality* of their relationships, including assessments of relationship satisfaction (Vinokur et al., 1996) and marital instability (Conger et al., 1990). Marital instability has been shown to be directly influenced by emotional distress (Conger et al., 1990), hostile and distancing behaviors (Guilbert, Vacc, & Pasley, 2000; Roberts, 2000), marital conflict

(Conger et al., 1999), marital disagreements (McGonagle et al., 1993), marital quality (Conger et al., 1990), and time spent together (Gager & Sanchez, 2003; Guilbert et al., 2000). Gottman (1993) suggests that poor marital quality contributes to marital instability, and his studies have shown that marital instability can lead to marital separation and divorce. These findings highlight the importance of understanding marital instability because the time when couples contemplate separation or divorce may be one of the last possible effective points for intervention in troubled marriages.

## Methodology

### Sample

This was a cross-sectional study. Data were collected from the second wave (1992–1994) of the National Survey of Families and Households (NSFH). The NSFH is an ongoing longitudinal panel study, which gathered information from multiple household members including married individuals aged nineteen years and older. The original sample from the first wave (1987–1988) included 13,007 respondents. Eighty-two percent of the first wave respondents (10,008) were retained and re-interviewed in the second wave along with their spouses. More detailed descriptions of the NSFH are available (Sweet & Bumpass 1996).

The sub-sample used in the present study consisted of 4,997 married couples who participated in the second wave of interviews. Table 1 contains key sample characteristics. Each case consisted of paired husbands and wives with corresponding variables for each.

### Plan of Analysis

Analysis of couple data is an ongoing challenge. The current study built upon the research precedents of the family stress model. Researchers in some instances have combined multiple respondent reports into couple or family-level measures and at other times have preferred to keep individual measures distinct. Exploratory factor analysis in SPSS was used to verify which measures might load together on an individual or couple level basis (see Table 2). This preliminary analysis corroborated findings in the literature. The

**Table 1** Sample Characteristics

| Characteristic | Median | Mean | *SD* | *N* |
|---|---|---|---|---|
| Age | | | | |
| Husbands | 43 | 46.3 | 14.3 | 4,995 |
| Wives | 41 | 44.2 | 13.8 | 4,994 |
| Education | | | | |
| Husbands | 13 | 13.1 | 3.1 | 4,975 |
| Wives | 12 | 13.0 | 2.7 | 4,980 |
| Household size | 3 | 3.4 | 1.3 | 4,950 |
| Dependent children | 1 | 1.1 | 1.3 | 4,950 |
| Combined family income | 45,300 | 52,673.0 | 43,925.0 | 4,942 |

Note. Numbers vary because of missing data

**Table 2** Variable Loadings (Exploratory Factor Analysis)

| Observed Variable | Component | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. Wife's financial dissatisfaction | .78 | | | | | | |
| 2. Wife's financial worries | .76 | | | | | | |
| 3. Husband's financial dissatisfaction | .77 | | | | | | |
| 4. Husband's financial worries | .73 | | | | | | |
| 5. Wife's depression | | .88 | | | | | |
| 6. Wife's hostile feelings | | .87 | | | | | |
| 7. Husband's depression | | | .85 | | | | |
| 8. Husband's hostile feelings | | | .86 | | | | |
| 9. Wife's view of disagreements | | | | .90 | | | |
| 10. Husbands view of disagreements | | | | .90 | | | |
| 11. Wife's view argue or shouting | | | | | .68 | | |
| 12. Wife's view hitting or throwing | | | | | .72 | | |
| 13. Husband's view argue or shouting | | | | | .63 | | |
| 14. Husband's view hitting or throwing | | | | | .71 | | |
| 15. Wife's free time with husband | | | | | | .73 | |
| 16. Wife's alone time with husband | | | | | | .66 | |
| 17. Husband's free time with wife | | | | | | .73 | |
| 18. Husband's alone time with wife | | | | | | .70 | |
| 19. Wife's view marriage in trouble | | | | | | | .69 |
| 20. Wife's view odds of breakup | | | | | | | .66 |
| 21. Husbands view marriage in trouble | | | | | | | .75 |
| 22. Husbands view odds of breakup | | | | | | | .69 |

Note. Varimax rotation. Loadings less than .30 not shown

indicators of emotional distress loaded on distinct individual factors; whereas, the indicators of couple financial strain, disagreements, fighting, and time together loaded on the couple-level factors. The indicators of marital instability also loaded on a single couple-level factor; however, in order to allow gender differences and/or similarities to emerge in the model, assessments of marital instability were modeled on an individual level.

SPSS and AMOS were used to analyze the structural model. For each variable, less than five percent of the data were missing. AMOS software permits analysis with small amounts of missing data by estimating means and intercepts, and this procedure was used throughout the study. Each of the models had a total of six correlated errors of the person-related indicators used in the couple level measures (excluding couple disagreements). Thus, for wives there was a correlated error between *financial dissatisfaction* and *financial worries*, another between her views of *argue or shout* and *hitting or throwing*, and a final correlated error between *free time with husband* and *alone time with husband*. The final three correlated errors pertained to the corresponding indicators for the husbands. The latent disturbance terms for husband's and wife's emotional distress was not correlated, but the disturbance term for their latent measures of instability were correlated as shown in Fig. 1 and as suggested by the results of the exploratory factor analysis (see Table 2).

## Measures

Table 3 contains the correlations, means, standard deviations, and number of respondents who answered each question for the 22 items that were used as indicators for the eight latent constructs in the theoretical model.

### *Financial Strain*

Financial strain refers to attitudes of concern, worry, and stress associated with perceived financial problems. Two questions, a pair for wives and an identical pair for husbands, were used as measures of financial strain. The first question asked respondents, ''Overall, how satisfied are you with your financial situation?'' Responses were coded on a seven point scale (1 = *very dissatisfied* to 7 = *very satisfied*). The second question asked, ''How often do you worry that your total family income will not be enough to meet your family's expenses and bills? Would you say....'' Responses were made on a five point scale (1 = *almost all the time* to 5 = *hardly ever*). Both items used to reflect financial strain were recoded so that higher scores indicated more financial strain. These measures are very similar to several items in the Family Economic Strain Scale (Hilton & Devall, 1997).

### *Emotional Distress*

Mean scores from two batteries of questions were used as indicators for the latent construct of emotional distress which was composed of two highly correlated indicators, depression and hostility ($r$ = .69 for wives; $r$ = .66 for husbands).

The mean scores for husbands and wives on a modified version of the Center for Epidemiological Studies-Depression scale (CES-D) were used as the first indicator of emotional distress. The twelve question index of depression was prefaced with the words, ''Next is a list of the ways you might have felt or behaved during the past week. On how many days during the past week did you: (a) feel bothered by things that usually don't bother you, (b) not feel like eating; your appetite was poor, (c) feel that you could not shake off the blues even with help from your family or friends, (d) have trouble keeping your mind on what you were doing, (e) feel depressed, (f) feel that everything you did was an effort, (g) feel fearful, (h) sleep restlessly, (i) talk less than usual, (j) feel lonely, (k) feel sad, and (l) feel you could not get going?'' The alpha reliability for this index was .92 for husbands and likewise, .92 for wives.

The second indicator of emotional distress was based on hostile feelings. For this measure the averages of three questions, an identical set for each wife and husband, was used. The section was prefaced with the introductory words, ''Next is a list of the ways you might have felt or behaved during the past week. On how many days during the past week did you: (a) feel irritable, or likely to fight or argue, (b) feel like telling someone off, and (c) feel angry or hostile for several hours at a time?'' As suggested by the wording, the coding for both indices was tallied as a certain number of days in the week (0–7). The alpha reliability for the hostility index was .87 for wives and .84 for husbands.

### *Couple Disagreements*

On a scale from 1 (*never*) to 6 (*almost every day*) husbands and wives were asked, ''The following is a list of subjects on which couples often have disagreements. How often, if at all, in the past year have you had open disagreements about each of the following:

**Table 3** Observed Variable Correlations and Descriptions

| Observed variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Wife's financial dissatisfaction | – | | | | | | | | | | |
| 2. Wife's financial worries | .60 | – | | | | | | | | | |
| 3. Husband's financial dissatisfaction | .49 | .42 | – | | | | | | | | |
| 4. Husband's financial worries | .39 | .47 | .56 | – | | | | | | | |
| 5. Wife's depression | .27 | .31 | .17 | .20 | – | | | | | | |
| 6. Wife's hostile feelings | .24 | .26 | .15 | .16 | .69 | – | | | | | |
| 7. Husband's depression | .16 | .19 | .30 | .33 | .21 | .13 | – | | | | |
| 8. Husband's hostile feelings | .12 | .14 | .24 | .26 | .14 | .13 | .66 | – | | | |
| 9. Wife's view of disagreements | .30 | .32 | .22 | .21 | .34 | .35 | .13 | .17 | – | | |
| 10. Husbands view of disagreements | .21 | .23 | .26 | .28 | .16 | .19 | .29 | .33 | .43 | – | |
| 11. Wife's view argue or shouting | .10 | .11 | .08 | .07 | .13 | .16 | .06 | .10 | .25 | .17 | – |
| 12. Wife's view hitting or throwing | .10 | .09 | .09 | .07 | .11 | .16 | .05 | .08 | .23 | .15 | .45 |
| 13. Husband's view argue or shouting | .07 | .08 | .07 | .09 | .10 | .09 | .11 | .15 | .13 | .21 | .25 |
| 14. Husband's view hitting or throwing | .08 | .08 | .11 | .09 | .10 | .11 | .09 | .12 | .16 | .24 | .28 |
| 15. Wife's free time with husband | −.17 | −.14 | −.11 | −.10 | −.10 | −.12 | −.01 | −.08 | −.28 | −.21 | −.08 |
| 16. Wife's alone time with husband | −.23 | −.20 | −.17 | −.17 | −.15 | −.17 | −.08 | −.12 | −.32 | −.26 | −.12 |
| 17. Husband's free time with wife | −.11 | −.08 | −.12 | −.09 | −.04 | −.07 | −.07 | −.11 | −.19 | −.28 | −.03 |
| 18. Husband's alone time with wife | −.17 | −.16 | −.18 | −.18 | −.10 | −.12 | −.13 | −.16 | −.24 | −.29 | −.08 |
| 19. Wife's view marriage in trouble | .23 | .20 | .16 | .15 | .25 | .27 | .13 | .16 | .36 | .27 | .19 |
| 20. Wife's view odds of breakup | .18 | .15 | .12 | .11 | .23 | .23 | .11 | .13 | .33 | .21 | .19 |
| 21. Husband's view marriage in trouble | .16 | .15 | .20 | .18 | .15 | .16 | .20 | .23 | .27 | .34 | .14 |
| 22. Husband's view odds of breakup | .14 | .11 | .19 | .15 | .15 | .17 | .21 | .21 | .26 | .35 | .16 |
| Mean | 3.19 | 3.05 | 3.28 | 2.97 | 1.16 | 1.04 | 0.90 | 0.96 | 1.92 | 1.95 | 1.10 |
| Standard deviation | 1.59 | 1.16 | 1.52 | 1.13 | 1.24 | 1.35 | 1.10 | 1.27 | 0.80 | 0.80 | 0.41 |
| *N* | 4,859 | 4,878 | 4,815 | 4,870 | 4,891 | 4,886 | 4,880 | 4,872 | 4,879 | 4,858 | 4,858 |

Table 3 continued

| Observed Variable | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12. Wife's view hitting or throwing | – | | | | | | | | | | |
| 13. Husband's view argue or shouting | .25 | – | | | | | | | | | |
| 14. Husband's view hitting or throwing | .38 | .36 | – | | | | | | | | |
| 15. Wife's free time with husband | −.08 | −.05 | −.07 | – | | | | | | | |
| 16. Wife's alone time with husband | −.12 | −.09 | −.10 | .50 | – | | | | | | |
| 17. Husband's free time with wife | −.06 | −.07 | −.08 | .39 | .29 | – | | | | | |
| 18. Husband's alone time with wife | −.10 | −.10 | −.08 | .33 | .41 | .43 | – | | | | |
| 19. Wife's view marriage in trouble | .25 | .15 | .20 | −.25 | −.30 | −.18 | −.23 | – | | | |
| 20. Wife's view odds of breakup | .22 | .12 | .14 | −.25 | −.32 | −.17 | −.21 | .45 | – | | |
| 21. Husband's view marriage in trouble | .18 | .16 | .21 | −.19 | −.24 | −.22 | −.26 | .47 | .33 | – | |
| 22. Husband's view odds of breakup | .17 | .18 | .20 | −.22 | −.26 | −.23 | −.27 | .35 | .40 | .47 | – |
| Mean | 1.05 | 1.08 | 1.04 | 3.55 | 4.62 | 3.72 | 4.66 | 1.27 | 1.39 | 1.22 | 1.39 |
| Standard deviation | 0.22 | 0.36 | 0.20 | 1.30 | 1.52 | 1.19 | 1.42 | 0.44 | 0.76 | 0.42 | 0.73 |
| *N* | 4,788 | 4,828 | 4,791 | 4,888 | 4,886 | 4,873 | 4,874 | 4,809 | 4,769 | 4,786 | 4,774 |

Correlations with a magnitude greater than .04 are significant ($P < .05$)

Note. All correlations are significant ($P < .05$)

(a) household tasks, (b) money,'' (c) spending time together, (d) sex, and (e) in-laws?'' The means for these five questions were calculated for each spouse and used as indicators for the occurrence of couple disagreements. The alpha reliability for this scale was the same for both husbands and wives ($\alpha$ = .46).

*Couple Fights*

Couple fighting was indicated by a class of severe disputes that included harsh behaviors. There were two questions addressed to both husbands and wives for a total of four indicators. The correlations between these items, which ranged from .25 to .45, are located in Table 3. Questions about marital fights were prefaced with these words, ''There are various ways that married couples deal with serious disagreements. When you have a serious disagreement with your husband/wife, how often do you: (a) argue heatedly or shout at each other and (b) end up hitting or throwing things at each other?'' Husbands and wives were asked to report on a five point scale (1 = *never* to 5 = *always*).

*Couple Quality Time*

Couple's quality time together was composed of two questions asked of each spouse for a total of four indicators. The correlations for these indicators ranged from .29 to .50 and are listed in Table 3. The first question asked, ''On average, about how much of your free time do you spend with your husband or wife?'' and was coded on a five point scale (1 = *almost none* to 5 = *almost all*). The second question was coded on a six point scale (1 = *never* to 6 = *almost every day*) and asked, ''During the past month, about how often did you and your husband/wife spend time alone with each other, talking, or sharing an activity?''

*Marital Instability*

Marital instability refers to couple's potential for separation or divorce. Two questions were used to assess marital instability. The first had a dichotomous response set (1 = *yes*, 2 = *no*) and asked, ''During the past year, have you ever thought that your marriage might be in trouble?'' The response was recoded (0, 1) so that higher scores represented more instability. The second question asked each respondent to make a prediction according to his or her personal view of the marriage. The question asked, ''It is always difficult to predict what will happen in a marriage, but realistically, what do you think the chances are that you and your husband/wife will eventually separate or divorce?'' Responses were coded on a five point scale (1 = *very low* to 5 = *very high*). The wife's answers to these questions were used as indicators for wife's marital instability and husband's marital instability was based upon his responses to the same questions.

## Results

Bivariate correlations among the 22 indicators (see Table 2) generally supported the theoretical model. Generally the highest correlations were between items that were used to indicate the same latent variable. Indicators of latent variables with direct links in the model usually had moderate correlations. Indicators of latent variables whose relationships were indirect typically had the lowest correlations.

Table 2 shows the loadings of the 22 indicators in exploratory factor analysis. Each item loaded on its intended factor except for the indicators of husband's marital instability and wife's marital instability which loaded together on a single factor. The possibility that these variables might load together was previously considered, yet they were intentionally kept distinct to enable possible gender differences to emerge. To reduce the discrepancy caused by this intentional separation in the model the latent disturbance terms for wife's marital instability and husband's marital instability were allowed to correlate.

## Latent Variable Correlations

The fit indices' statistics, the factor loadings, and the latent variable correlations of the measurement model were examined. The resulting chi-square was 2,227 with 175 degrees of freedom ($P < .001$). Chi-square statistics are heavily influenced by large sample sizes and model complexity and often do not reflect evidence of an acceptable fit. Yet, the other fit statistics (the Tucker-Lewis Index (TLI) = .987, the Incremental Fit Index (IFI) = .991, the Comparative Fit Index (CFI) = .991, and the Root Mean Square Error of Approximation (RMSEA) = .048) all indicated a well fitting measurement model. The factor loadings were all reasonably high and evenly distributed.

Confirmatory factor analysis also permitted the generation of latent variable correlations between the constructs in the theoretical model. These correlations are represented in Table 4. These are zero-order correlations which also provided important initial support for the theoretical model. Generally, direct paths between theoretical constructs should correspond with higher construct correlations, as compared with indirect links, and this pattern was generally found to be the case. The correlations between couple financial strain and husband's and wife's emotional distress, and their correlations in turn with couple disagreements were all above .40 (range = .40 to .48). Not predicted, however, was a large correlation between couple financial strain and couple disagreements ($r = .57$), which was larger than would have been expected should the two have been mediated by emotional distress as theorized in the initial model. Yet, even stronger were the correlations between couple disagreements and wife's marital instability ($r = .67$) and husband's marital instability ($r = .67$), which also represented findings contrary to theoretical predictions. There was a very large correlation between wife's and husband's instability ($r = .83$) suggesting the need for correlated disturbance terms between these individual factors.

All the remaining correlations basically supported the propositions put forth in the theoretical model. Particularly noteworthy were the findings that couple financial strain is

**Table 4** Latent construct correlations

| Latent Construct | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1. Couple financial strain | – | | | | | | | |
| 2. Wife's emotional distress | .40 | – | | | | | | |
| 3. Husband's emotional distress | .41 | .23 | – | | | | | |
| 4. Couple disagreements | .57 | .48 | .41 | – | | | | |
| 5. Couple fights | .23 | .26 | .19 | .53 | – | | | |
| 6. Couple quality time | −.39 | −.23 | −.19 | −.66 | −.25 | – | | |
| 7. Wife's marital instability | .37 | .44 | .24 | .67 | .50 | −.60 | – | |
| 8. Husband's marital instability | .35 | .28 | .37 | .67 | .46 | −.58 | .83 | – |

Note. All correlations are significant ($P < .05$).

positively correlated with husband's ($r$ = .35) and wife's ($r$ = .37) marital instability and that the signs of all the correlations in the model matched theoretical expectations.

## Structural Equation Analyses

### Test of the Theoretical Model

Figure 2 shows the indicator loadings, the standardized regression weights, squared multiple correlations, and the correlation between the latent disturbance terms of husband's marital instability and wife's marital instability for the theoretical model. The indicator loadings all fell within a reasonable range (.43 to .83). The indicator loadings were all significant ($P < .001$) but this was not surprising due to the sample size. Yet, these findings suggest that the indicators were well selected according to statistical norms. The regression weights (path coefficients) were all highly significant ($P < .001$). The correlation between the latent error components of husband's and wife's marital instability was large ($r$ = .69), as had been expected.

The model's chi-square was 2,648 with 190 degrees of freedom ($P < .001$). The theoretical model's other fit statistics indicated that the model fit the pattern of data well (TLI = .986; IFI = .989; CFI = .989; RMSEA = .051).

Couple financial strain was linked directly and positively to the emotional distress of each married partner at essentially the same magnitude ($b$ = .42 for wives and $b$ = .45 for

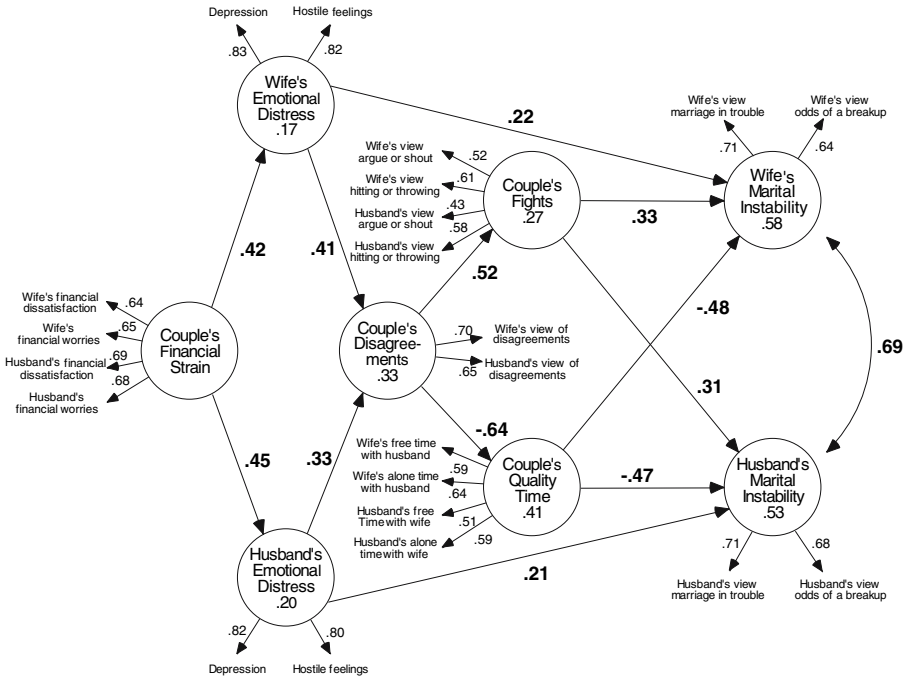


**Fig. 2** Standardized Estimates of the Theoretical Model $\chi^2$ (190) = 2648, TLI = .98, IFI = .98, CFI = .98, RMSEA = .051. Note. All paths and loadings are significant ($P < .001$). Circles contain the squared multiple correlations. Error terms are not shown

husbands). Visual examination of the path coefficients suggested one potential gender difference; the slightly higher magnitude of the contribution of wife's emotional distress to couple disagreements ($b$ = .41) compared with the contribution from husband's emotional distress ($b$ = .33).

To discover whether this difference reached statistical significance a nested model (results not shown) was run with these particular regression paths constrained to be equal. That is, the path from wife's emotional distress to couple disagreements was constrained to be equal to the path from husband's emotional distress to couple disagreements. This was the only change made to the nested model. The difference between the chi-squares of each model was (2.796) with one extra degree of freedom (191) and was statistically non-significant ($P$ = .094) meaning that the freely assessed paths (allowing for gender differences) did not differ statistically from the constrained paths in the nested model (disallowing gender differences). Subsequently, a conclusion was drawn that there were no significant gender differences in the sample.

The strongest links in the model were those linking couple disagreements with the other two forms of couple interaction, that is, positively to couple fights ($b$ = .52), and negatively to couple quality time ($b$ = −.64). The pattern suggests that frequently disagreeing couples are nearly as likely to fight as they are to avoid each. However these responses to frequent disagreements impacted their feelings of instability in differing degrees.

Evidence from the theoretical model supports the conclusion that the three latent variables linked directly to marital instability have a differential contribution. Reduced couple time together made the biggest impact ($b$ = −.47 for husbands, $b$ = −.48 for wives), followed by couple fighting ($b$ = .31 for husbands, $b$ = .33 for wives) and subsequently by individual emotional distress ($b$ = .21 for husbands, $b$ = .22 for wives).

Not shown in Fig. 2 are the parameters relating to indicator error terms. One of the advantages of structural equation modeling over ordinary least squares (OLS) regression is the ability to make estimates of the measurement error accompanying each observed and latent variable. Unusually large or small errors (which in most cases should be independent of each other) sometimes signal special types of measurement problems. Otherwise, it is generally sufficient to note that there were no special problems indicated by the error terms as was the case for the theoretical model in this study. However, it should be noted that the indicator errors of couple financial strain, couple fights and couple quality time that were derived from the same individual were allowed to correlate. This comprised a total of six indicator error term correlations two (one for the wife's measures and another for the husband's) for each of the three aforementioned latent variables. There were no cross correlated errors from indicators of different latent variables permitted. The decision to correlate these errors was justified based on the assumption that some degree of the measurement error in these items would correlate with unknown personal characteristics. Even so, these correlations were typically small, ranging from .14 to .31.

Much more meaningful are the squared multiple correlations for each of the endogenous constructs in the theoretical model. Similar to an $R^2$ in OLS regression the squared multiple correlation estimates the percentage of the variance in the variable accounted for by its predictors. These parameters are reported inside the circles representing the latent constructs in Fig.s 2 and 3. Individual emotional distress, couple quality time and couple fights accounted for more than half of the variance in wife's marital instability (58%), and husband's marital instability (53%). Couple disagreements accounted for 41% of the variance in couple quality time and 27% of the variance in couple fights. Similarly, the emotional distress of each partner accounted for 33% of the variance in couple disagreements. As a very specific type of stressor, couple financial strain was also able to account

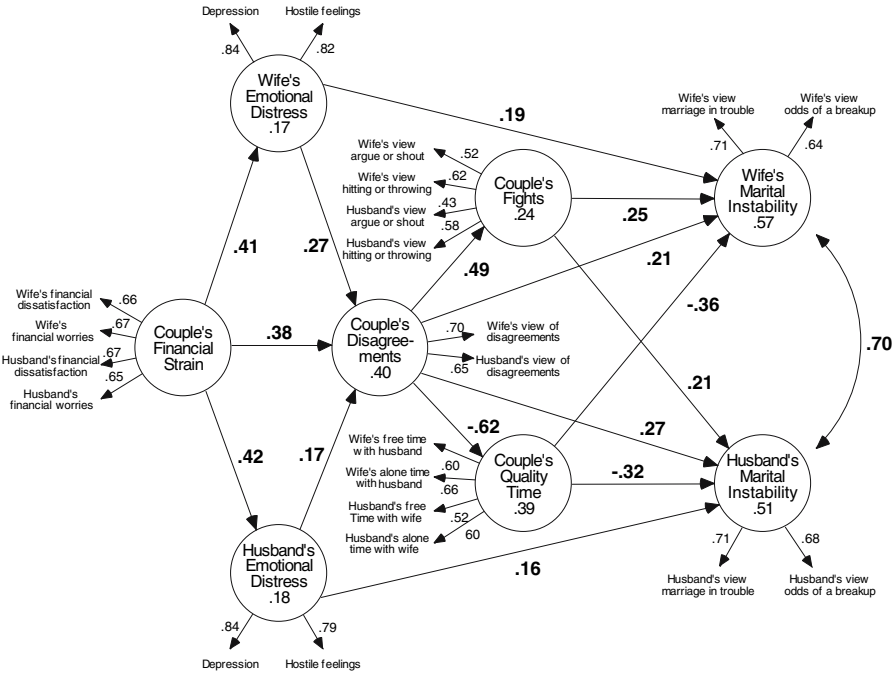


**Fig. 3** Standardized Estimates of the Final Model. $\chi^2$ (187) = 2319, TLI = .98, IFI = .99, CFI = .99, RMSEA = .048. Note. All paths and loadings are significant ($P < .001$) Circles contain the squared multiple correlations. Error terms are not shown

for a reasonably large portion of variance in the wife's emotional distress (17%) and the husband's emotional distress (20%).

*Testing of an Alternative Model*

Systematic tests of alternative models were made for direct links among all variables that otherwise had been linked only indirectly in the original model. However, this process was further limited by retaining the general structural ordering of the latent variables. No regression paths were altered by reversing the direction of the paths because this was assumed to contradict past findings and the theory upon which the study is based. Testing of alternate models (one path change at a time) according to this strategy uncovered three important new paths, all of which are included in Fig. 3. The first was a direct path from couple financial strain to couple disagreements ($b = .38$) and paths directly from couple disagreements to wife's marital instability ($b = .21$) and husband's marital instability ($b = .27$). Not surprisingly, these paths corresponded with unpredicted high-magnitude correlations that were noted in the latent variable correlational analysis.

The addition of these paths improved the RMSEA slightly, dropping it from .051 in the theoretical model to .048 in the final model. The new chi-square, 2,319, and degrees of freedom, 187 ($P < .001$), along with the other fit statistics (TLI = 987; IFI = .991; CFI = .991) which were essentially unchanged, indicated that the alternate model was also well-fitted and perhaps slightly improved. As with the theoretical model the error parameters showed nothing problematic, as all were within acceptable ranges and fairly uniformly

spread. However, the high correlation ($r$ = .70) between the latent error terms of wife's marital instability and husband's marital instability is also noteworthy.

The reporting of the remainder of the parameters in the final alternate model may best be approached in terms of how the introduction of the three additional paths affected the original parameters. Not only were the coefficients of paths from emotional distress, fighting and quality time together to each spouse's marital instability still uniform across gender, but the introduction of the new paths also introduced somewhat of an evening effect between these path coefficients. Specifically, the regression coefficients from couple quality time ($\Delta b$ = .12 for wives, $\Delta b$ = .15 for husbands), couple fights ($\Delta b$ = −.08 for wives, $\Delta b$ = −.10 for husbands), and individual emotional distress ($\Delta b$ = −.03 for wives, $\Delta b$ = −.05 for husbands) respectively to each spouses marital instability were all tempered downward in *magnitude*, but most especially those relating to couple's quality time.

The direct link from couple financial strain to couple disagreements (along with the two other added paths) reduced the impact that individual emotional distress had on couple disagreements. The link from wife's emotional distress to couple disagreements was reduced by fourteen points to $b$ = .27 and the corresponding path from husband's emotional distress to couple disagreements was reduced sixteen points to $b$ = .17. The four remaining paths did not change meaningfully (see Fig. 3). The only squared multiple correlation to change by more than a few percents was that for couple disagreements, which increased 7% with the added direct contribution of couple financial strain, to account for 40% of the variance.

## Discussion

The main purpose for the present study was to test a nationally representative U.S. sample to see if financial strain could be linked to marital instability through individual emotional distress and a series of couple interactions. The major tenets of the model were confirmed. Couple financial strain contributed strongly and *evenly* to increases in husband's emotional distress and wife's emotional distress. The tests of alternate models uncovered a direct and positive link of similar magnitude to couple disagreements. The emotional distress of each partner contributed to his and her own judgments of marital instability, but not to his or her partner's assessment of marital instability. Couple disagreements were highly linked to increased couple fighting and decreased quality time together. All three of these forms of couple interaction were similarly linked (with an inverse contribution from quality time) to the marital instability of each partner. Finally, husbands and wives assessments of marital instability were highly correlated, suggesting a high level of agreement between each spouse's marital assessments.

The study adds to past findings related to the family stress model (Conger et al., 2000) by investigating the role of couple quality time. Couple quality time can be linked powerfully to marital instability and is meaningful for husbands and wives. Furthermore, couple quality time is influenced by the context of the marital relationship, especially on the perceptions of stress and differences of opinion that characterize the environment of the couple. Couple quality time is a dimension of relationships that merits further investigation in studies of marriage in stressful circumstances.

Even though many variants of the family stress model have been tested previously, the present study is among the first to test any such model on a nationally representative U.S. sample (also see Dew, 2007). The findings suggest that further applications of the family stress model in the direct comparison of diverse geographic, socio-economic, and ethnic samples may be fruitful.

Although gender differences were expected to be smaller than in past studies because of changing societal norms regarding work and domestic arrangements, the finding of no gender differences was somewhat surprising. This finding should be examined in its context. It is well known that the norm in the U.S. for married couples is the dual earner household, even if men continue to receive higher incomes. Most of the Iowa Project studies that uncovered gender differences found them primarily for rural Caucasian families in Midwestern states. These families were more traditional by comparison, and thus more likely to carry the roles that would contribute to gender differences.

The finding of no gender differences in this study, which built mostly upon perceptions, suggests that notions of *his* and *her* marriages may be misleading. Couples were very much alike in terms of how they assessed their financial situation, and even more especially, how they rated their potential for disillusionment or divorce. The meaningfulness of these findings will need to be established in further studies, and there were a few potential limitations (see conclusion) of our study in this regard. To best make these assessments, further studies should continue to pair husbands and wives rather than test models on unrelated men and women.

## Marital Interaction

The present study emphasized mediating marital interaction variables, which were found to link financial strain to the marital instability of both spouses. An important finding in this study is that the introduction of new paths connecting couple-level factors to marital instability lessened the effect of emotional distress on marital instability. It appears that future research linking financial strain to marital instability should include more couple-level measures.

### *Couple Disagreements*

In relation to the connection between financial strain and the various types of marital conflict, past research has been nearly unanimous in agreement that the link is mediated through some form of individual emotional distress (Conger & Conger, 2002). Evidence from the present study supported a similar indirect pathway. However, tests of alternate models also revealed a direct path from couple financial strain to couple disagreements. Furthermore, the effect of adding this direct path was to lessen the contributions of both spouses' emotional distress on couple disagreements. The links from financial problems (pressure and strain) to forms of individual emotional distress have dominated past research. The results of this study are important because they suggest financial strain can contribute to individual and couple factors directly, and simultaneously. It may be that individuals hoping to shield their spouses from the harmful effects of financial strain may find that they must do more than simply hold harmful emotions at bay.

This direct path from financial strain to disagreements, unique to the present study, may be partly attributable to the measure of financial strain. This is because the measure of financial strain taps into cognitive operations on the part of the family members that may or may not have come in conjunction with behavioral attempts to reconcile financial concerns. Past research has been more concerned with changes in financial behavior that family members enact in times of economic distress and thus have relied on measures of economic pressure which account for *behaviors* rather than *attitudes of concern*. These differences could be important. In one study, wives marital satisfaction was more a

function of contentment with family earnings, whereas husband's marital satisfaction was more dependent on actual earnings (Van den Troost, Matthijs, Vermulst, Gerris, & Welkenhuysen-Gybels, 2006). Nevertheless, perceptions regarding financial matters have shown to be important determinants of individual and couple well being (Crowley, 1998) and financial satisfaction (Joo & Grable, 2004). A measure that asks couples about their degree of dissatisfaction and worry about the family finances has a psychological dimension built into the measurement and it seems possible that it was this factor that facilitated a direct link to disagreements.

Evidence was found which supports the idea that disagreements represent a context for relationship decay under financial strain. Financial strain could not be linked directly to couple fighting or couple quality time together when the *frequency* of disagreements was used as an intervening variable. A measure of the frequency of disagreements may not reveal enough about the atmosphere in which disagreements took place. Disagreements that were amicable or neutral in tone would not have been excluded from the tally. More research is needed that can distinguish the effects of contentious disagreements versus couples' more friendly disagreements. Nevertheless, it may be possible to make some limited inferences in this regard given the findings of the present study. Post-hoc analyses unearthed direct paths from disagreements to each spouse's marital instability and to account for the meaning of these paths the model suggests identifying an explanation that cannot be explained by couple fighting or withdrawal from couple quality time.

The measure of quality time together was partly subject to couple's availability of *free time* which has diminished over a twenty-year period as work hours have risen for married couples (Amato et al., 2003). With smaller amounts of free time and larger incomes couples may be able to fill up their shortened leisure time together with diversionary activities that permit spouses to postpone resolutions of ongoing disagreements. Such escapes could prevent disagreements from turning into fighting, yet those disagreements could still increase thoughts that the marriage is in trouble. Such a scenario could apply to couples who reportedly *drift apart* from each other when stress mounts.

Despite implications regarding the direct effects of couple disagreements on marital instability a slightly greater overall effect of disagreements on marital instability was felt indirectly through its contributions to couple fighting and reduced quality time together. The findings suggest caution should be given to considering marital disagreements as a merely innocuous form of marital interaction. The evidence from this study is that couple disagreements are linked to forms of positive and negative couple interaction which in turn are highly correlated with marital instability. Disagreements are strongly related to the amount of quality time that couples spend alone together sharing activities that are meaningful to the marriage relationship and are also associated with increased couple fighting.

### *Couple Fights*

Those who surmise that there is a high propensity for couple disagreements to become contentious could point to this study for support. Couple fights were strongly linked to disagreements and both had about the same direct effect on individual assessments of instability. In retrospect, it is interesting that neither spouse's emotional distress could be linked directly to fighting when the frequency of disagreements was posed as a mediator. Though cross-sectional, the present study concurs with longitudinal studies which support an escalation hypothesis of marital discord wherein mild disturbances emerge into hazardous relationship difficulties that endanger the marriage (Gottman, 1993).

*Couple Quality Time*

Also important for the current discussion is the hefty role played by couple quality time. Lack of couple quality time was the most powerfully linked variable to marital instability, although this relationship was lessened to some extent with the addition of direct paths from couple disagreements to marital instability. These findings are congruent with those from Amato et al. (2003) who found that a couple's quality time together was an important contributor to marital quality and stability. In light of the evidence presented here, the finding by Amato et al. (2003) that over a twenty-year period couples have undergone significant declines in marital time together is especially disconcerting. This may be a special concern for couples experiencing financial strain. Because of economic pressures these couples may need to accept more or non-standard work hours, thus reducing precious couple time. Many stressed couples tiring themselves on the workers' treadmill may be further dismayed in the return home to face dismal financial realities and fill up their precious *leisure* time with marital discord. At least, such a vignette would not be rejected based on the evidence of this study. On the other hand, more needs to be known about the individual and couple-level factors that give rise to couple quality time together, beyond merely avoiding disagreements. Deliberate increases in couple quality time may well protect against marital instability, as conventional wisdom suggests.

*Limitations*

The present study has a number of limitations. First, as with any cross-sectional study, confidence in the true direction of effects awaits longitudinal research. Other plausible hypotheses could be drawn and tested. As noted previously, the data used in the current study come from self-report surveys and thus the possibility for a social desirability bias exists.

There may be a number of ways the design of the model could have been improved to detect more nuanced gender differences. For instance, the measures of emotional distress combine indicators of depression and hostility, and while it is known that they coexist to a large degree, it is also known that males have more often tended toward hostility while females have been more prone to depression. More independence between these specific forms of emotional distress may have born out more gender differences. Styles of conflict resolution have also been found to vary according to gender (Danes, Leichtentritt, Metz & Huddleston-Casas, 2000) and more nuanced assessments of the aftermath of couple disagreements could contribute to a better understanding of the entire process represented by the model.

No group of people in the U.S. is immune to conditions that may lead to financial strain (Yeung & Hofferth, 1998). This research suggests how financial strain, an essential element of a couple's overall financial satisfaction (Joo & Grable, 2004) may contribute to marital instability. While past studies have linked financial strain to marital quality and marital instability, this study does so with a nationally representative U.S. sample. It was helpful in showing that these models can be applied to a sampling of a diverse nation, socio-economically, ethnically, and geographically. Another contribution of this study is its demonstration of the significant relationships that specific forms of marital interaction have with marital stability in an environment of financial strain. Both marital interaction (couple disagreements, fighting, and quality time together) and emotional distress contributed directly to increased feelings of marital instability. Furthermore, the findings demonstrate that these forms of marital interaction could link financial strain to marital

instability independent of individual emotional distress, although the two types of variables worked in tandem. This is a new finding. Past research has almost always suggested that individual factors (moods) fully mediate between economic difficulties and forms of couple interaction. More research is needed to determine if these differences are due to the present focus on specific kinds of interaction, differences in the type of economic problem assessed, or a unique characteristic of the sample.

This is the first study to examine the effects of financial strain on couple quality time and its subsequent relationship to marital instability. Reduced couple quality time was found to be a powerful correlate of marital instability. This study also raises the possibility that disagreements of any kind, even friendly, are deleterious to the marriage relationship.

In conclusion, the results from this study suggest that understanding the relationship between financial strain and marital instability is enhanced when linking variables related to emotional distress and marital interaction are included. This research may further enable educators, therapists, and social workers to target more specific points of intervention for married people in the United States.

**Acknowledgements** The authors would like to thank Shari Gudmunson for her assistance, and thank two anonymous reviewers for their comments and suggestions.

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