The family stress model of romantic relationships (FSM; Conger et al., 1999) is a well-established tool for examining individual and relationship processes linking economic pressure and marital well-being. Despite the large body of literature utilizing the FSM, gaps remain in our knowledge of differences in the influence of financial stress both within and across couples. Utilizing a sample of 416 different-sex, mostly White, married couples with emerging adolescent children, the current, longitudinal, study adapted the FSM in several ways. Using an actor–partner interdependence mediation model, this study examined direct and indirect spillover and crossover effects between wives’ and husbands’ economic pressure at Wave 1 (when children were in 6th grade) and both their own and their partners’ divorce proneness at Wave 4 (when children were in 9th grade). Additionally, the current study examined two potential moderators: income level (lower, middle, and higher) and work-to-family conflict level (lower and higher).

In accordance with the original work conducted by Conger and colleagues, there was no evidence in the current of either spillover or crossover direct effects. Furthermore, support was found for the wives’ hypothesized spillover pathway. Wives’ W1 economic pressure was significantly associated with wives’ depressive symptoms at W2, which were associated with wives’ hostile conflict behaviors at W3 and, finally, with wives’ divorce proneness at W4. Among husbands, there were significant associations between husbands’ economic pressure at W1, husbands’ depressive symptoms at W2 and husbands’ hostile conflict behaviors at W3. However, husbands’ hostile conflict behaviors were not significantly associated with husbands’ divorce proneness at W4. Both wives’ and husbands’ hostile conflict behaviors at W3 were influenced by their partners’ depressive symptoms at W2. Additionally, income was found to
significantly moderate the FSM associations. These findings suggest that economic pressure, and it’s resulting influencing on individual well-being and couples’ interaction, operate differently across both gender and income level.
ADAPTATION TO THE FAMILY STRESS MODEL OF ECONOMIC PRESSURE USING AN ACTOR-PARTNER INTERDEPENDENCE MEDIATION MODEL

by

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Work-to-Family Conflict ........................................................................................................ 36
Statement of Hypotheses ........................................................................................................ 34

CHAPTER IV: METHODS ........................................................................................................ 40

Sampling Procedures and Characteristics .............................................................................. 40
Data Collection Procedures .................................................................................................... 41
Measures .................................................................................................................................. 42
  Economic Pressure .................................................................................................................. 42
  Depressive Symptoms ............................................................................................................. 43
  Hostile Conflict Behaviors .................................................................................................... 44
  Divorce Proneness ................................................................................................................ 45
  Household Income ................................................................................................................ 46
  Work-to-Family Conflict ....................................................................................................... 47
  Control Variables .................................................................................................................. 48

Analytic Procedures .................................................................................................................. 48
Direct Effects of Economic Pressure on Divorce Proneness (H1) .................................................. 48
Indirect Effects of Economic Pressure on Divorce Proneness (H2a, H2b) ...................................... 49
  Hypothesis 2a ...................................................................................................................... 49
  Hypothesis 2b ...................................................................................................................... 50
Moderating Effects of Income (H3a, H3b) .................................................................................. 51
  Hypothesis 3a ...................................................................................................................... 51
  Hypothesis 3b ...................................................................................................................... 53
Moderating Effects of Work-to-Family Conflict (H4a, H4b) ......................................................... 54
  Hypothesis 4a ...................................................................................................................... 54
  Hypothesis 4b ...................................................................................................................... 56

CHAPTER V: RESULTS ............................................................................................................. 58
Preliminary Analyses .................................................................................................................. 58
Hypothesis Testing .................................................................................................................... 62
  Hypothesis 1 ......................................................................................................................... 62
  Hypothesis 2: Spillover and Crossover Patterns .................................................................. 63
Hypothesis 2a...........................................................................................................63
Hypothesis 2b...........................................................................................................72
Hypothesis 3: Moderation by Household Income Levels.................................................79
Hypothesis 3a...........................................................................................................79
Moderation of First Set of Crossover Effects Analytic Model...................................83
Moderation of Second Set of Crossover Effects Analytic Model.........................87
Moderation of Third Set of Crossover Effects Analytic Model..............................93
Hypothesis 3b...........................................................................................................95
Moderation of Direct and Spillover Effects Analytic Model.....................................96
Moderation of Direct and First Set of Crossover Effects Analytic Model.............97
Moderation of Direct and Second Set of Crossover Effects Analytic Model.........98
Moderation of Third Set of Crossover Effects Analytic Model............................103
Hypothesis 4: Moderation by Work-to-Family Conflict..............................................105
Hypothesis 4a...........................................................................................................105
Moderation of Spillover Effects Analytic Model.......................................................106
Moderation of First Set of Crossover Effects Analytic Model................................107
Moderation of Second Set of Crossover Effects Analytic Model........................108
Moderation of Third Set of Crossover Effects Analytic Model............................109
Hypothesis 4b...........................................................................................................110
Moderation of Direct and Spillover Effects Analytic Model.....................................111
Moderation of Direct and First Set of Crossover Effects Analytic Model..............112
Moderation of Second Set of Crossover Effects Analytic Model........................113
Moderation of Third Set of Crossover Effects Analytic Model............................114

CHAPTER VI: DISCUSSION ......................................................................................116

Direct Effects of Economic Pressure on Divorce Proneness Over Time..............118
Indirect Pathways Through Depressive Symptoms and Hostile Conflict Behaviors120
Moderation by Income...........................................................................................123
Moderation by Work-to-Family Conflict.................................................................128
Limitations and Future Directions.........................................................................128
Conclusion.............................................................................................................133
REFERENCES........................................................................................................135

APPENDIX A: ADDITIONAL MEASURE INFORMATION......................................160

APPENDIX B: ADDITIONAL ANALYSES: FAMILY STRESS MODEL NON-APIM

MODEL .................................................................................................................165

APPENDIX C: ADDITIONAL ANALYSES: FULL MODEL TESTS OF SPILLOVER AND

CROSSOVER EFFECTS ......................................................................................166
LIST OF TABLES

Table 1a. Normality Diagnosis and Natural Log Transformation ........................................59
Table 1b. Descriptive Statistics and Bivariate Correlations .............................................61
Table 3. Additional Associations for Figure 3 .................................................................66
Table 4. Additional Associations for Figure 4 .................................................................67
Table 5. Additional Associations for Figure 5 .................................................................70
Table 6. Additional Associations for Figure 6 .................................................................71
Table 7. Additional Associations for Figure 7 .................................................................73
Table 8. Additional Associations for Figure 8 .................................................................76
Table 9. Additional Associations for Figure 9 .................................................................77
Table 10. Additional Associations for Figure 10 .............................................................78
Table 11. Additional Associations for Figure 11 .............................................................81
Table 12. Additional Associations for Figure 12 .............................................................83
Table 13. Additional Associations for Figure 13 .............................................................86
Table 14. Additional Associations for Figure 14 .............................................................87
Table 15. Additional Associations for Figure 15 .............................................................89
Table 16. Additional Associations for Figure 16 .............................................................91
Table 17. Additional Associations for Figure 17 .............................................................92
Table 21. Additional Associations for Figure 21 ...........................................................100
Table 22. Additional Associations for Figure 22 ...........................................................101
Table 23. Additional Associations for Figure 23 ...........................................................103
LIST OF FIGURES

Figure 1. Conceptual Model for Examining Direct and Indirect Pathways……………………………………...24
Figure 2. Direct Effects of W1 Economic Pressure on W4 Divorce Proneness……………………………...63
Figure 3. Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness…………………...65
Figure 4. Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms……………...67
Figure 5. Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors………………………………………………………………………...69
Figure 6. Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness……………………………………………………………………………...71
Figure 7. Direct and Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness………………………………………………………………………………...73
Figure 8. Direct and Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms………………………………………………………………………...75
Figure 9. Direct and Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors………………………………………………………………………...76
Figure 10. Direct and Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness………………………………………………………………………...78
Figure 11. Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness in Lower-Income Couples…………………………………………………………………...81
Figure 12. Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness in Higher-Income Couples…………………………………………………………………...82
Figure 13. Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms in Lower-Income Couples…………………………………………………………………...85
Figure 14. Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms in Higher-Income Couples…………………………………………………………………...86
Figure 15. Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors Lower-Income Couples…………………………………………………………………...89
Figure 16. Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors Middle-Income Couples

Figure 17. Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors Higher-Income Couples

Figure 18. Conceptual Model for Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness

Figure 19. Conceptual Model for Direct and Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness

Figure 20. Conceptual Model for Direct and Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms

Figure 21. Direct and Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors in Lower-Income Couples

Figure 22. Direct and Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors in Middle-Income Couples

Figure 23. Direct and Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors in Higher-Income Couples

Figure 24. Conceptual Model for Direct and Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness

Figure 25. Conceptual Model for Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness

Figure 26. Conceptual Model for Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms

Figure 27. Conceptual Model for Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors

Figure 28. Conceptual Model for Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness

Figure 29. Conceptual Model for Direct and Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness

Figure 30. Conceptual Model for Direct and Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms

x
Figure 31. Conceptual Model for Direct and Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors

Figure 32. Conceptual Model for Direct and Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness
CHAPTER I: INTRODUCTION

Economic difficulties are associated with individual and family well-being (Laxman et al., 2019). Research has linked economic hardship with physical and psychological health concerns and behavioral problems in children and adults (Neppl et al., 2016). In two-parent families, one explanation for these outcomes is the influence of economic hardship on marital functioning and well-being (Conger et al., 2010). The serious consideration of ending one’s marriage (i.e., divorce proneness) can have important consequences for all family members, making it a significant public health concern (Gottman, 1993; Karney & Bradbury, 1995). Consequently, family researchers and practitioners have highlighted the importance of identifying and understanding mechanisms linking economic difficulties and divorce proneness (Dew & Jackson, 2018; Iruka et al., 2012).

A popular conceptualization for linking economic difficulties and marital well-being is Conger and colleagues’ family stress model of romantic relationships (FSM; Conger et al., 1999). This model describes a cascading path from economic pressure to marital distress, through spouses’ emotional distress and marital conflict behaviors. Drawing on family systems theory and the systemic-transactional model (Bodenmann, 1997), the current study adapts the FSM to address several limitations and gaps in the literature. First, marital distress is conceptualized as divorce proneness rather than its more common conceptualization as marital satisfaction (Falconier et al., 2015; Wheeler et al., 2019). This will broaden the understanding of the unique influences of economic pressure on a construct closely linked with family stability outcomes (Gottman, 1993). Second, unlike the original research on the FSM, which aggregated husbands’ and wives’ scores, the current model includes husbands’ and wives’ separate
perspectives in single model and examines both their own (i.e., spillover) and their partners’ (i.e., crossover) effects (Diggs & Neppl, 2018). This will contribute to the knowledge of family dynamics and allow for differences across gender to emerge (Dew & Jackson, 2018; Wickrama & O’Neal, 2019). Third, building on the findings across several studies on economic challenges, the current model examines the direct pathway between economic pressure and divorce proneness in addition to the cascading, indirect pathways described in the FSM (Ponnet et al., 2016; Wheeler et al., 2019). Finally, the current study expands on the FSM to include two moderators that help to place this relational and intrapersonal cascade within a broader context: household income and work-to-family conflict levels (Maisel & Karney, 2012; Yucel, 2017). These moderators may explain some of the variation seen across couples in the various studies utilizing the FSM.

The current study examines the adapted FSM longitudinally in married, different-sex parents of children transitioning to adolescence. This developmental period has been linked with increased conflict between husbands and wives, decreases in parents’ marital satisfaction, and increases in divorce proneness (Cui & Donnellan, 2009). Children’s entry into adolescence can challenge established family dynamics as children become more independent and begin spending more time with their peers and less time with their parents (Schroeder & Mowen, 2014). Parents have reported having more conflict with their partners over child-rearing differences, stemming in part from disagreements over how to respond to the changing psychological and social needs of their children (Cummings et al., 2015). Parent-child conflict also increases during the transition to adolescence, and this can spillover to influence parents’ marital relationship (Cui & Donnellan). Finally, parents may also be faced with increased pressure to spend money on their children’s education and recreation activities as their children enter adolescence. Demands from
pre- and adolescent children for the same resources and products as their economically better-off peers may increase parents’ feelings of economic pressure (Landers-Potts et al., 2015; Ponnet, 2014).

The current study uses a 4-wave (2001 to 2004) longitudinal design to examine: (a) the direct association between economic pressure and later divorce proneness; (b) if the association between economic pressure and divorce proneness cascades through spouses’ depressive symptoms and hostile conflict behaviors; and (c) if these direct and indirect associations are moderated by household income or work-to-family conflict levels. This study includes husbands and wives in a single model and looks at the direct and indirect influences of economic pressure on both their own and their partner’s later divorce proneness (see Figure 1).

Influence of Economic Pressure on Divorce Proneness

The Family Stress Model of Romantic Relationships (Base Model)

Conger and colleagues created the FSM (Conger et al., 1999) to describe the process leading from economic pressure to marital distress in families experiencing the 1980s farm economic crisis. The authors conceptualized economic pressure as the inevitable psychological response couples experience in response to economic hardship (Conger et al., 2010). The FSM suggests that economic pressure only affects marital distress indirectly through spouses’ emotional distress and marital conflict (Conger et al., 1999). The FSM was later expanded to include parenting and child outcomes, often removing measures of marital distress (Conger & Conger, 2002; Conger et al., 2002). In the extended model that includes parenting and child well-being, the indirect association between economic pressure and disrupted parenting is hypothesized to cascade through parents’ emotional distress and conflict-withdrawal behaviors. Disrupted parenting, in turn, influences child and adolescent adjustment.
The sample used in the initial research testing the FSM was largely homogenous (White, Midwestern, rural, married parents). Later studies found evidence for the hypothesized cascade across a variety of races and ethnicities, nationalities, and family structures (see Conger et al., 2010 for a review). In addition to being demographically homogenous, the marital processes of the original sample were examined within the context of the same stressful financial event (i.e., the 1980s farm economic crisis) (Conger et al., 1999). Scholars have supported the validity of using the FSM to examine marital functioning following economic crises both within the United States and in other countries such as Argentina and Turkey (Ascigil et al., 2020; Aytaç & Rankin, 2009; Falconier & Epstein, 2011). Scholars have also applied the FSM to studying diverse families outside of the shared context of an economic crisis, emphasizing extensions and variations of the model (Diggs & Neppl, 2018; Landers-Potts et al. 2015; Neppl et al., 2016).

Adaptations to the Family Stress Model of Romantic Relationships

Divorce proneness as outcome of interest

In the initial conceptualization of the FSM, economic proneness was linked with marital distress, defined as couples’ perception that their relationship was in trouble and the contemplation of divorce or separation (Conger et al., 1999). Most of the research on the FSM has utilized the extended parenting model, removing the marital distress variable entirely to examine the influence of economic pressure on child outcomes via parents’ psychological distress and parenting difficulties (Derlan et al., 2018; Diggs & Neppl, 2018; Hubler et al., 2016; Hurwich-Reiss & Watamura, 2019; Iruka et al., 2012; Jeon & Neppl, 2016; Landers-Potts et al., 2015; Neppl et al., 2016; Ponnet et al., 2016).

Examinations of the FSM focused on marital distress often conceptualized distress as specific dimensions of marital quality, particularly marital satisfaction (Falconier et al., 2015;
Wheeler et al., 2019). Marital satisfaction refers to individual assessments of their spousal relationship (Pedro et al., 2015). Decreases in marital satisfaction are normative across marriages, especially during family transitions and challenges (Solomon & Jackson, 2014). Marital satisfaction trajectories are often not linear and lower marital satisfaction at an earlier time does not indicate that individuals will inevitably remain unsatisfied with their relationships (Jackson et al., 2017; Karney & Bradbury, 2020; Proulx et al., 2017). Even when experiencing a decrease in marital satisfaction, individuals may assume that they are merely going through a “rough patch” and that their relationship will eventually recover (Hutchison, 2019). This can motivate them to work with their partners to try to solve their current problems and improve the quality of their relationships (Ross et al., 2019).

Marital satisfaction (including marital dissatisfaction) and divorce proneness are distinct but interconnected constructs (Gottman, 1994; Karney & Bradbury, 1995). Gottman (1994) described the divorce process as a series of cascading steps originating from decreases in marital quality and ending in legal dissolution, mediated by divorce proneness (labelled by Gottman as “serious considerations of marital dissolution”, p. 97) and marital separation. Divorce proneness refers to the steps individuals seriously consider or take towards divorce (Moore & Buehler, 2011). Indicators include thinking that one’s marital relationship is in trouble, seriously suggesting to one’s spouse that they should consider ending the relationship, and discussing separation with a close friend (Whitton et al., 2013). Although declines in marital satisfaction are more common among divorce-prone couples, there are also couples who report being divorce prone despite being satisfied with their relationships (Markman et al., 2010). Serious contemplation of divorce, unlike changes in marital satisfaction, may indicate the individual’s lack of belief in their ability to improve or repair the relationship. It may also demonstrate an
individual’s belief that they would better off if they were no longer married to their husband or wife (Hou et al., 2019). Lacking the determination to fix one’s relationship may limit the resources men and women are willing to invest in improving their relationship (Demo & Fine, 2009; Lehrer & Son, 2017). Divorce proneness is positively associated with physical, psychological, and emotional issues in adults and their offspring (Karney & Bradbury, 1995). Despite the associations between divorce proneness and various family outcomes, it is unclear if economic pressure influences divorce proneness in the same way as marital satisfaction. To address this knowledge gap, the current study examines the association between economic pressure and divorce proneness, controlling for marital satisfaction.

**Inclusion of direct pathway between economic pressure and divorce proneness**

The FSM suggests that economic pressure only indirectly influences marital distress through spouses’ emotional distress (i.e., depressive symptoms) and conflict behaviors (Conger et al., 1999). However, this finding has been called into question by several scholars who have found evidence of significant direct associations between financial difficulties and reduced marital well-being (Ponnet et al., 2016; Wheeler et al., 2019). According to the investment model of commitment (Rusbult, 1980), individuals are more likely to consider divorce when they perceive attractive alternatives to remaining in their marriages. Individuals attach powerful symbolism to money and economic security and may blame economic pressure on their partners. Individuals experiencing economic pressure may believe that a different partner will provide them with the care, support, and security that they see as lacking in their current relationship (Dew & Dakin, 2011). Viewing divorce as a solution to economic pressure may protect an individual from depressive symptoms. It may also lessen their desire to engage in any form of communication with their partners, including hostile conflict behaviors (Ross et al., 2019). It is
possible that Conger and colleagues did not find evidence of direct associations between economic pressure and marital well-being due to the shared economic context of the sample. The 1980s farm economic crisis influenced the financial well-being of farming families across Iowa (Barnett, 2000). As a result, individuals may have been less likely to believe that a new spouse would relieve their economic pressure and consider divorce as an attractive alternative to remaining married. Consequently, the couples in the Conger et al.’s study may not have experienced decreases in marital well-being as a direct consequence of economic pressure. Given the lack of a homogenous economic context in the current study, and the research linking financial challenges and marital well-being, I hypothesize that economic pressure will have both a direct and indirect association with divorce proneness.

Applying a dyadic approach. The FSM examines couples as a single unit, identically influenced by each variable included in the model (Conger et al., 1999). For example, economic pressure has been conceptualized as a dyadic construct with each spouses’ report of pressure aggregated into a summary composite. Although family systems theory (Cox & Paley, 1997) suggests husbands and wives are interdependent, they may respond in different ways to both their own and their partner’s economic stress, depressive symptoms, hostile conflict behaviors, and divorce proneness (Wheeler et al., 2019). Between-couple differences that have been found in studies that aggregated partners’ reports may have masked gendered dynamics within families (Ponnet, 2014).

Research has found that men and women appear to react in different ways to economic pressure, although findings on differences in the strength of responses across gender are inconclusive (Ponnet et al., 2016; Wickrama & O’Neal, 2019; Williams et al., 2015). Some research has suggested that traditional beliefs around the importance of men holding the primary
income-earning role has led to husbands having stronger emotional reactions to economic pressure than wives (Wickrama & O’Neal). However, women are more likely than men to internalize both their own and their partner’s stress, economic or not, which may strengthen the association between economic pressure and depressive symptoms for wives compared to husbands (Williams et al., 2015). Women may also have stronger emotional reactions to economic pressure due to the responsibilities of holding primary caregiver role (Perry-Jenkins & Gerstel, 2020). Mothers may be more aware of and distressed by their children’s increasing financial demands as they transition to adolescence (Ponnert, 2014).

Men are more likely than women to exhibit externalizing behavior in response to economic pressure. This suggests that men are more likely to engaged in hostile conflict behaviors, even when they are less emotionally distressed than their wives (Williams et al., 2015). In situations where wives used hostile conflict behaviors, husbands have been less likely to consider divorce than women (Hou et al., 2019). Women have been more likely than men to be influenced by negative interactions with their partners and also more likely to mimic their partner’s negative affect (Bloch et al., 2014).

**Moderation by household income levels.** Household income levels are positively associated with mental and emotional health, marital processes, and marital well-being (Barajas-Gonzale & Brooks-Gunn, 2014). Given these outcomes, it is important to examine the cascade from economic pressure to divorce proneness across income levels. Studies of the FSM often do not include measures of economic hardship given that economic pressure is assumed to indicate the presence of hardship (Conger et al., 2010). This conceptualization of economic pressure stems from the initial work on the FSM being conducted among families experiencing the same economic stressor. Rural families in Iowa all felt the effects of the 1980s farm economic crisis
because of the extreme impact it had on farmland values (Economic Research Service, 1997, p. 266)

The current study began data collection in 2001, a time in which the United States was beginning to enter a period of economic recession. Spending on goods such as computers and machinery decreased, leading to the loss of over a million factory jobs. In part this was due to a loss of confidence from consumers stemming from the September 11 attacks (Parry, 2001). Farms were also affected by the recession but less universally than they had been affected by the 1980s farm economic crisis (Langdon et al., 2002). The associations between the variables included in the FSM may look different across families at different income levels when they are not examined in the context of a homogenous economic stressor. Couples who earn higher salaries may define material needs in different ways than lower-income couples, but still struggle to meet those needs. Similarly, they may also struggle to pay their bills, although the bills may be for more luxurious items than those purchased by lower-income couples. Consequently, the marital functioning of higher-income couples may also be influenced by economic pressure (Ponnet, 2014). However, differences in income levels may change the strength of association between the FSM variables of interest (Conger et al., 2010).

Lower-income couples are more likely to be faced with acute and chronic poverty-related stressors in addition to economic pressure (Barajas-Gonzalez & Brooks-Gunn, 2014). For example, lower-income couples are more likely to live in under-resourced neighborhoods that are noisier, more dangerous, and provide less access to resources compared to higher-income couples. Living in under-resourced neighborhoods is linked with increased stress and negative influence on emotional and behavioral health (Jackson et al., 2017). Lower-income couples may also be at increased risk for depressive symptoms and hostile conflict behaviors due to a lack of
resources for outsourcing household and parenting responsibilities (Iruka et al., 2012). This means couples have less time to spend on enjoyable or leisure activities, which can provide protection from stressors by decreasing stress and reducing conflict (Killewald, 2016). Finally, hostile conflict behaviors may have a stronger association with divorce proneness for lower-income couples due to less formal educational attainment. Higher-income individuals are more likely than lower-income individuals to have completed additional schooling or training after high school. Length of education is positively linked with individuals’ belief in their ability to influence the future, including improving their marriages (Choi & Marks, 2013). Drawing on the systemic-transactional model (Bodenmann, 1997), I hypothesize that the additional stress associated with couples having low income will result in the associations between all the variables of interest being more prevalent for lower-income couples compared to middle- and higher-income couples.

**Moderation by work-to-family conflict.** Challenges in balancing work and family responsibilities can strengthen both direct and indirect associations between economic pressure and divorce proneness. Work and family are separate but interconnected domains that influence one another (Amstad et al., 2011). Situations where work and family requirements are incompatible and force individuals to prioritize their work role over their family role are categorized as work-to-family conflict (Carroll et al., 2013; St. Vil, 2014). Goode’s (1960) theory of role strain postulates that, given limited amounts of time and energy, individuals inevitably struggle to meet and balance the expectations and demands of both professional and family life (Perry-Jenkins et al., 2017). Work-to-family conflict is an external stressor that can influence psychological stress and lead to negative interactions between couples (Randall & Bodenmann, 2017).
Two dimensions of employment that can affect family dynamics are strain-based and time-based demands (Sun et al., 2017). Strain-based demands refer to the amount of stress and pressure individuals feel in response to their work responsibilities (Yucel, 2017). Feeling overloaded by work can influence psychological distress, such as increasing feelings of anxiety (Hostetler et al., 2012). Strain-based demands can also reduce the amount of energy individuals have to cope with depressive symptoms and increase hostile conflict behaviors (Sun et al.). Time-based demands refer to the amount of time individuals are required to devote to work (Yucel, 2017). Working long hours can increase both physical and psychological distress, leading to the use of hostile conflict behavior (Caroll et al., 2013). In addition, time-based demands limit the amount of time individuals can spend with their partners and their ability to fulfill family obligations, leading to marital tensions and partners’ use of hostile conflict behaviors. Informed by the systemic-transactional model (Bodenmann, 1997) and past findings, work-to-family conflict is expected to strengthen the association between (a) depressive symptoms and hostile conflict behaviors, and (b) hostile conflict behaviors and divorce proneness.

The Current Study

The current study extends the understanding of the influence of economic pressure on marital well-being by using additional theoretical frameworks to expand the FSM. First, the expanded model used in this study examines the direct influence of economic pressure on divorce proneness, unlike the FSM which only examined the indirect influence. Marital literature often assumes that the couples are only vulnerable to divorce if they exhibit certain emotional characteristics and patterns of interaction (Falconier et al., 2015). Understanding the threat
economic pressure poses, regardless of marital processes, will be beneficial for families, policy makers, and practitioners.

Second, the current study considers the interdependence of couples and specific gendered pathways between economic pressure and divorce proneness. Early research on the FSM assumed that husbands and wives were affected equally by economic pressure and reacted in the same way (Conger et al., 1999). This approach failed to recognize that, although the stress and behavior of one spouse affect the other spouse, they will not necessarily respond to economic pressure in the same way (Zvara et al., 2015). Furthermore, the actions of a spouse may affect an individual’s well-being, behavior, and marital evaluations regardless of their own experiences of economic pressure (Dew & Jackson, 2018; Laxman et al., 2019).

Third, although the FSM makes it clear that the external stress of economic hardship affects individual and marital well-being, it is unclear how additional stressors conditionalize these relationships (Barajas-Gonzalez and Brooks-Gunn, 2014). The current study addresses this gap by including household income levels and work-to-family conflict as moderators of the FSM associations. Identifying factors that weaken or strengthen the associations among economic pressure, spouses’ depressive symptoms, hostile conflict behaviors, and divorce proneness can help shape interventions and policies to suit the unique needs of different groups of families.
CHAPTER II: THEORETICAL FRAMEWORKS

Grounded in the family stress model of romantic relationships (Conger et al., 1999), the current study examines the longitudinal pathway between husbands’ and wives’ economic pressure and both their own and their partner’s divorce proneness four years later. The FSM postulates that couples’ shared economic pressure influences their marital well-being through emotional distress and marital conflict. Conger et al. (1999) conceptualized emotional distress as symptoms of anxiety and depression, anger, and hostile feelings. Although it is common for symptoms of anxiety, depression, anger, and hostility to be comorbid, they have also been shown to have unique influences on marital processes and outcomes (Gudmunson et al., 2007). Therefore, although some authors have continued to aggregate measures of these diverse emotions, other authors have argued in favor of focusing on depressive symptoms (Barton et al., 2018; Neppl et al., 2016; Ponnet, 2014). Depressive symptoms have been shown to have strong associations with the FSM variables of interest (Hanzal & Segrin, 2009; Marshall et al., 2011).

The FSM’s conceptualization of conflict has also changed over time. Although the authors originally conceptualized conflict as encompassing several hostile behaviors, subsequent scholars have used a range of conflict conceptualizations (Hou et al., 2016; Landers-Pott et al., 2015; Neppl et al., 2016). The current study was informed by the FSM’s perspective of conflict and conceptualizes the variable as hostile conflict behaviors. Behaviors used during conflict have a stronger association with marital functioning than do other dimensions of conflict, such as the frequency or length of disagreements (Aloia & Solomon, 2015; Birditt et al., 2010; Cui & Donnellan, 2009; Dew & Dakin, 2011; Gottman, 1994). In addition, hostile conflict behaviors have been found to have a more robust association with marital satisfaction and individual well-
being than do constructive conflict behaviors (Dew et al., 2012; Rivers & Sanford, 2018). Hostile conflict behaviors refer to the use of anger and aggression during disagreements between partners (Zvara et al., 2015). Indicators include yelling at, insulting, and striking one’s partner (Aloia & Solomon; Birditt et al.). These behaviors have been linked with decreases in marital satisfaction, increases in divorce proneness, and divorce (Carroll et al., 2013; Leuchtmann et al., 2019). When an individual uses hostile conflict behavior it can erode feelings of trust between the partners and influence more negative perceptions of one another (Aloia & Solomon; Barton & Bryant, 2016; Dew & Dakin; Whisman & Li, 2015).

The current study also addresses several theoretical and methodological limitations in the FSM literature. These limitations include the use of cross-sectional designs, aggregation of wives’ and husbands’ data, failure to include all the original proposed FSM constructs, and lack of attention given to moderating factors which may explain some of the differences found across couples (Barton et al., 2015; Conger et al., 2010; Derlan et al., 2018; Neppl et al., 2016; Ponnet et al., 2016). To address these limitations, the current study draws on family systems theory (Cox & Paley, 1997), social exchange theory (Thibaut & Kelley, 1959) and the Systemic Transactional Model (Bodenmann, 1995) to make several adaptations to the original FSM model.

**Indirect Effect of Economic Pressure on Divorce Proneness**

Conger and colleagues (1999) developed the FSM to describe the influence of the 1980s agricultural crisis on the marital well-being of rural couples living in north central Iowa. From 1981 to 1986, farm families experienced the most severe financial crisis in the past fifty years in response to federal policies and changes in supply and demand conditions (Barnett, 2000). Across the United States, farmland values fell from an average of $715 per acre in 1982 to $471 in 1987. This decline was especially harsh with farmland values in Iowa falling from $1,694 per
acre in 1982 to $652 in 1987 (Economic Research Service, U.S. Department of Agriculture, “Farmland Value per Acre, U.S. and Iowa, 1970–1990”). Conger et al.’s sample, collected in 1988, consisted of 451 White families with a median household income of $33,399, a focal child in 7th grade, and a sibling within four years of age. Racial composition of Conger et al.’s study was slightly different from the racial make-up of Iowa in 1990 (96.6% White) (U.S. Census Bureau, “Population Trends in the State of Iowa from 1990-2010) and the median household income of the families included in the study was slightly higher than average median household income in Iowa in 1990 ($27,288) (Statista Research Department, 2021).

The process described by the FSM begins with economic hardship or the experience of economic hardship such as low income, job loss, and/or high debts relative to assets. The FSM assumes that economic hardship inevitably results in stressful, daily experiences such as the inability to pay one’s bills or afford necessities like food, shelter, and medical care. These daily experiences are captured in the construct labelled economic pressure. Given this conceptualization, studies of the FSM often control for, or leave out, income and other indicators of economic hardships (Conger et al., 2010; Neppl et al., 2016).

Next, the FSM draws on Berkowitz’s (1989) reformulation of the frustration-aggression hypothesis to link economic pressure with spouses’ emotional distress (anxiety, depressive symptoms, anger) (Conger et al., 1999). In research on both humans and animals, Berkowitz found that troubling and stressful events led to emotional arousal and negative affect (Conger et al., 2010). The FSM postulates that experiencing emotional distress makes it harder for men and women to manage disagreements with their partners, leading to marital conflict. The authors defined marital conflict as “criticism, defensiveness, escalations in negativity, angry withdrawal, and insensitivity” (Conger et al., 1999, p. 56).
In the final step of the cascade, the FSM postulates that marital conflict leads to marital distress. The model conceptualizes marital distress as concern about the status of one’s marriage and divorce proneness (i.e., considering or taking steps towards divorce). The FSM was later expanded to examine the influence on economic pressure on child outcomes (Conger & Conger, 2002; Conger et al., 2002). This extension removed marital distress and instead linked parent’s parents’ emotional distress directly and indirectly, through interparental conflict, to problems with parenting. Problems with parenting (i.e., harsh, inconsistent or uninvolved parenting) are expected to influence emotional and behavioral problems in children (Conger et al., 2010). Support for both the original and extended FSM have been found across a range of ethnic and racial groups and diverse family structures (Conger et al., 2010; Wheeler et al., 2019). The current study is steeped in the FSM version that focused upon marital distress rather than parenting difficulties. Child outcomes also are not addressed in the current study.

**Inclusion of Both Husbands and Wives**

The original FSM conceptualized couples as a single unit, aggregating husbands’ and wives’ scores on economic pressure, emotional distress, marital conflict, and marital distress. However, family systems theory (Cox & Paley, 1997) and social exchange theory (Thibaut & Kelley, 1959) support adapting the original model to include separate scores for husbands and wives that are examined in a single model. A key concept of family systems theory is that family members are part of a shared context, or system, in which family members exert a reciprocal influence on one another’s emotions, thoughts, and behaviors (Cox & Paley). This theory suggests that individual outcomes to certain experiences are influenced by family interactions (Berryhill et al., 2016; Gao et al., 2019). For example, a husband who has a bad day at work may come home and take his frustration out on his wife, putting his wife in a bad mood. This may
lead to a fight between the two and put a strain on the husband-wife relationship. Social exchange theory suggests that husbands and wives are characterized by interdependence (Thibaut & Kelley). Social exchange theory postulates that individuals make decisions about remaining in, or leaving, romantic relationships through comparisons of the costs and benefits (rewards) that come from the relationship, evaluations of the barriers to leaving the relationship, and perceptions of attractive alternatives to their current relationship (Dew et al., 2012). Within romantic relationships, individuals engage in an exchange process with their partners to maximize their benefits and minimize their costs (Wilmarth et al., 2014). For example, an individual may provide their partner with emotional support, costing time and energy that individuals could have otherwise devoted to their own well-being, in return for economic security. The decision to remain with their partners demonstrates individuals’ beliefs that the benefits of remaining in the relationship outweigh the costs. The importance individuals attribute to the benefits they receive from their partners increases as their relationship progresses, increasing partners’ dependence on one another (Ogolsky et al., 2017).

Social exchange theory also suggests that husbands’ and wives’ economic pressure will influence their partner’s emotional distress (i.e., depressive symptoms) due to the likelihood that they see themselves, and their future, as entwined (Ogolsky et al., 2017). In other words, rather than seeing themselves as independent of their partner’s economic concerns, men and women will often see themselves as having a shared risk with their partners. As a result, partner’s as well as one’s own, economic pressure is expected to affect individual and marital well-being (Randall & Bodenmann, 2009).

Two pathways that have been proposed to explain how external stressors influence marital relationships are within-person and across-partner effects (Falconier & Epstein, 2011).
Within-person effects (i.e., spillover) refers to a process in which exposure to external stressors influence how individuals interact with their partners (Austin & Falconier, 2013; Berryhill et al., 2016; Perry-Jenkins et al., 2017). For example, a woman’s frustration from a demanding day of work may spillover to frustration with her husband when she arrives home. Due to this work-related frustration, the wife might react with hostility during a disagreement with her husband. Being upset by his wife’s behavior can lead to the husband responding in a similar manner and result in both partners feeling unsatisfied with the state of their relationship.

Alternatively, relationships may be influenced by cross-partner effects (i.e., crossover effects), a process in which partner’s external stress crosses over to the marital relationship and has direct effect on husband’s or wife’s marital behavior (Perry-Jenkins et al., 2017; Totenhagen et al., 2018). For example, a husband might respond with anger to his wife’s anxiety over being unable to pay the bills because he blames her for the state of their finances. Consequently, instead of offering support, the husband might criticize his wife when she describes her feelings of economic pressure. The lack of unity between husband and wife can lead to both partners considering the costs and benefits of ending their relationship in the hopes of finding more satisfying partners. Based on this theoretical work, I postulate that partners will be influenced by husbands’ and wives’ economic pressure, emotional well-being, and hostile conflict behaviors through spillover and crossover effects.

Spillover and crossover effects can influence couples’ marital processes and individual and marital well-being simultaneously or independently (Lee et al., 2016). The inclusion of both husbands and wives in a single model in the current study allows for examination of between-spouse and gender differences. This adaption to the FSM will expand the knowledge of how spouse’s economic pressure, compared to one’s own economic pressure, affects marital
processes and individual and marital well-being (Laxman et al., 2019). It will also allow for the examination of how these associations differ across gender (Ponnet, 2014; Williams et al., 2015).

**Moderation by Household Income Levels and Work-to-Family Conflict**

Support for the pathways described in the FSM have been found across a variety of samples, including African American (Conger et al., 2002), Latinx (Hurwich-Reiss & Watamura, 2019), Chinese American (Linver et al., 2002), Korean (Kwon et al., 2003) and Turkish couples (Aytaç & Rankin, 2009). However, research has also found that the strength of the associations differs across families (Barton et al., 2015). The presence of additional stressors linked with marital functioning and well-being, in addition to economic pressure, may explain some of these variations. The current model draws on the systemic-transactional model to justify adapting the FSM to include two moderators that implicate additional stressors: household income and work-to-family conflict.

The systemic-transactional model was developed to provide an explanation for how stress functions within-couples (Hilpert et al., 2019). Prior to the development of the systemic-transactional model and similar models, stress had been viewed as an individual experience, independent of interpersonal relationships (Bodenmann et al., 2017). The systemic-transactional model builds on a systemic perspective to suggest that, given couples’ interdependence, men and women are mutually affected by their partner’s experiences of stress (Randall & Bodenmann, 2009). Interdependence refers to the assumption that actions, evaluations, and well-being of members of intimate relationships strongly influence, and are influenced by, their partners (Bodenmann et al., 2017; Thibaut & Kelley, 1959). The systemic-transactional model describes a circular process of external stress spilling over to influence individuals’ behavior towards their partners, partners’ reactions to this behavior and, finally, the stressed individuals’ evaluations of
these responses (Martos et al., 2019a). Stress is experienced by men and women in response to feeling as if they do not have the resources to meet the demands of a situation (Austin & Falconier, 2013). Individuals use different strategies to communicate feelings of stress to their partners and may, either explicitly or implicitly, ask for help (Falconier et al., 2015).

The systemic-transactional model suggests that, in response to stress, couples may engage in either negative or positive mutual behaviors, or dyadic coping (Martos et al., 2019b). Positive dyadic coping refers to strategies that allow couples to work together to handle stress. Strategies may include partners engaging in self-disclosure around their feelings of stress, partners’ offering one another support, or partners brainstorming strategies to reduce stress (Bodenmann et al., 2017; Martos et al., 2019a). Positive dyadic coping strengthens relationships by demonstrating partners’ reliability during times of need, protecting against individuals considering ending their relationships in the hopes of finding more supportive partners (Falconier et al., 2015; Hilpert et al., 2019). Negative dyadic coping refers to couples’ failure to work together to reduce stress (Martos et al., 2019a). Negative dyadic coping includes partners reacting with hostility to husbands’ or wives’ stress (for example, expressing that they perceive their partners as being weak for feeling high levels of stress) or ambivalence (such as expressing support but feeling annoyed or frustrated that their partners need help in coping with their stress) (Austin & Falconier, 2013). Couples are at risk for negative dyadic coping when both partners are under stress, when one or both partners lack emotional intelligence and/or resources, or when only one partner provides support in the relationship (Bodenmann et al.).

**Moderation by Household Income Level**

The FSM describes economic income as an element of economic hardship (Conger et al., 1999). However, studies generally either ignore income completely or include it as an
exogenous/control variable (Ponnet, 2014). This does not allow for an understanding of how different income levels may strengthen or weaken the associations between economic pressure and divorce proneness. Research has suggested that the marital well-being of lower-income couples is more likely to be severely impacted by stressful experiences compared to the marital well-being of higher-income couples (Maisel & Karney, 2012). In response to their own, or their partner’s, economic pressure, lower-income couples may struggle with utilizing positive dyadic coping strategies for several reasons (Zvara et al., 2015). First, low-income individuals are at higher risk of their relationship satisfaction being challenged by their own or their partner’s problematic behaviors, such as substance abuse or infidelity (Jackson et al., 2016). These behaviors make individuals less likely to offer support when their partners are experiencing economic pressure and instead increases the likelihood of depressive symptoms and hostile conflict (Barajas-Gonzalez et al., 2014). Second, the marital well-being of lower-income couples is challenged by the cumulative stress related to a lack of financial resources, limiting the time and energy men and women have available to meet the emotional needs of their partners (Jackson et al., 2017). For example, low-income individuals are vulnerable to physical and psychological health challenges and less likely to receive high-quality medical care (Choi & Marks, 2013). Multiple sources of stress stemming from low-income, in addition to economic pressure, puts individuals at increased risk of depressive symptoms, hostile conflict behaviors, and negative marital evaluations (Barajas-Gonzalez et al.; Neppl et al., 2016). Low-income couples also lack financial resources to utilize paid services that could help reduce their domestic workload, such as childcare or cleaning services (Maisel & Karney). Consequently, they have less leisure time to spend with their partners, weakening their perceptions of being part of the same team as their spouses, and their willingness to put effort into improving the relationship
(Trillingsgaard et al., 2014). The systemic-transactional model suggests that low income exacerbates all the associations included in the FSM because of the increased likelihood that couples will engage in hostile or ambivalent negative dyadic coping.

**Moderation by Work-to-Family Conflict**

Work-to-family conflict is another external stressor that can strengthen the associations between FSM variables due to increasing the risk of negative dyadic coping. Work-family conflict refers to the development of inter-role conflict when individuals struggle to balance work and family responsibilities (St. Vil, 2014). Given that time and energy are considered finite resources, it is assumed that when they are unproportionally devoted to one role, individuals will struggle to meet the expectations and demands of their other role (Paulin et al., 2017). Although this role strain is viewed as bidirectional, the current study focuses on work-to-family conflict or the process of employment demands draining the personal resources that can be applied to the family role (Minnotte et al., 2015; Sun et al., 2017). Work-to-family conflict is believed to stem from work conditions, compared to family-to-work conflict which comes from home conditions (St. Vil). Work responsibilities can deplete resources through both strain- and time-based demands (Voydanoff, 2007). Both types of demands can spillover and/or crossover to influence personal well-being and marital processes (Yucel, 2017).

Strain-based demands refer to stress individuals feel because of their jobs (Sun et al., 2017). Work stress can spillover to family life due to the influence it has on individual’s psychological and emotional distress (Perry-Jenkins & Wadsworth, 2017). This can lead to bad moods at home that individuals take out on their partners during conflict (Minnotte et al., 2015). It may also make it harder for individuals to regulate the emotions and practice healthy communication in expressing their own needs or responding to their partner’s needs (Perry-
Jenkins & MacDermid, 2013). Strain-based demands may also crossover to influence partner’s marital behavior because their partner’s work responsibilities limit their ability to share in family responsibilities (St. Vil, 2014). For example, a wife in a demanding managerial position may expect her husband to take the day off work to stay home with a sick child because she feels as if her meetings for the day are too important to miss. Her husband may resent her for seemingly putting her work obligations above his and not feel like she is owed his support.

Time-based demands refer to amount of time individuals are required to devote to their jobs, at the cost of being able to spend time on other areas of life, such as family (Sun et al., 2017). Time-based demands can spillover to influence marital functioning due to the physical and emotional exhaustion it causes (Perry-Jenkins et al., 2017). It can also crossover from an individual’s work role to influence their partner’s behavior due to the spouse’s frustration at the lack of partner availability (Minnotte et al., 2015). Time away from home due to the work demands may force partners to shoulder the majority of household work, leading to perceptions of the relationship as being unfair (Cooklin et al., 2015). The systemic-transactional model suggests that experiencing positive dyadic coping when struggling with economic pressure can help couples cope with their stress (Carroll et al., 2013). Conversely, the increased risk of negative dyadic coping associated with work-to-family conflict means that the indirect associations between economic pressure and divorce proneness are expected to be stronger in couples higher in work-to-family conflict.
Figure 1. Conceptual Model for Examining for Direct and Indirect Pathways

Note. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. For clarity of presentation, the covariances between exogeneous variables, disturbance terms, and control variables are not shown.
CHAPTER III: LITERATURE REVIEW

The family stress model of romantic relationships (FSM; Conger et al., 1999) is one of the most popular tools for exploring associations between economic pressure and family relationships (Falconier & Jackson, 2020). Originally designed to examine the effects of 1980s agricultural depression on Midwestern couples, the FSM describes a cascading process in which couples’ economic pressure influences marital distress through individual distress and marital conflict (Conger et al., 1999). The model was later adjusted to examine the effects of parenting, influenced by marital conflict, on child outcomes (Conger et al., 2010). Empirical support for the FSM has been found across a variety of samples including different ethnic groups in the United States (such as African-American, Chinese-American; European-American, and Mexican-American families), different socioeconomic groups (lower-, middle-, and higher-income), and populations from a number of countries outside of the United States (such as South Korea, Romania, Argentina and Turkey) (Aytaç & Rankin, 2009; Benner & Kim, 2010; Conger et al., 2002; Falconier & Epstein, 2010; Hurwich-Reiss & Watamura, 2019; Kwon et al., 2003; Laxman et al., 2019; Ponnet, 2014; Robila & Krishnakumar, 2005; White et al., 2015).

However, several limitations of the FSM literature must also be considered. First, many examinations of FSM have been cross-sectional, measuring each construct at the same time point (Neppl et al., 2016). This does not allow for inferences to be drawn about the hypothesized over-time cascade of effects or the direction of associations (Conger et al., 2010). Second, with the exception of emotional distress, the constructs included in the FSM have been conceptualized as couple-level variables and indicated by aggregates of husbands’ and wives’ data (Diggs & Neppl, 2018). This conceptualization does not recognize either individual or gender differences
across partners, nor does it allow for the examination of partner-effects (Ponnet et al., 2016). Third, many studies fail to include all the original measures described in the FSM (Laxman et al., 2019; Neppl et al., 2016; Wickrama & O’Neal, 2019). Furthermore, although despite the use of similar labels for variables, there is a broad range of conceptualizations and measurement methods, limiting the generalizability of the results (Falconier & Jackson, 2020). Fourth, although the FSM contains explanatory mechanisms to explain associations between economic pressure and marital distress, it does not examine moderating factors that may explain variations in associations across families (Dew & Jackson, 2018).

The purpose of the current study is to address these limitations to expand the understanding of the association between economic pressure and a specific dimension of marital distress, divorce proneness. In a sample of 416 different-sex, married couples with at least one early adolescent offspring, I examine the direct associations between husbands’ and wives’ economic pressure in 2001, when their child was in 6th grade (Wave 1, W1) and both their own (spillover effects) and their spouse’s (crossover effects) divorce proneness in 2004, when children were in 9th grade (Wave 4, W4). Building on the FSM, I also examine how this association is explained by the spillover and crossover effects of husbands’ and wives’ depressive symptoms when children are in 7th grade (Wave 2, W2) and their hostile conflict behaviors when children are in 8th grade (Wave 3, W3). Finally, I extend previous research by including two moderators, household income levels and work-to-family conflict, expected to strengthen the direct and indirect associations between economic pressure and later divorce proneness. The following sections review previous research on the variables of interest and associations proposed in this study.
Economic Pressure

Economic pressure refers to the lived experiences that stem from financial hardships that include but are not limited to low income, lacking assets relative to debts, and negative financial events such as job loss (Conger & Conger, 2002; Conger et al., 2010). The FSM conceptualizes economic pressure as the inevitable daily, practical difficulties related to being unable to meet financial needs (Conger et al., 1999). Indicators of economic pressure include being unable to afford material necessities such as food and shelter, not being able to pay bills, and struggling to afford essential expenses such as insurance and medical care (Conger et al., 2010). Support for a moderate effect size between economic hardship and pressure has been documented by a number of studies across a variety of samples (for more information see Conger et al., 2010 and Derlan et al., 2018).

Although economic pressure was originally measured as a couple-level variable, scholars have argued that it should be conceptualized as an individual-level variable (Killewald, 2016; Ponnet et al., 2016). Economic difficulties can have different meanings for spouses for a variety of reasons that are not captured through aggregations of husbands’ and wives’ reports of pressure. For instance, individuals who experienced adverse economic experiences in their family-of-origin may feel more economic pressure in response to economic hardship than their partners due to their previous experience (Carr & Kellas, 2018). Husbands and wives may also experience different levels of economic pressure in response to the same level of economic hardship due to personality characteristics that make them more resilient (or vulnerable) to stressful experiences (Dew & Jackson, 2018). For example, individuals higher in optimism may view economic hardship as temporary. Their belief that their family will be able to overcome their current financial struggles might protect them experiencing the same level of economic
pressure as their spouse (Overall & McNulty, 2017). Using a model that included couples’ economic hardship and wives’ and husbands’ individual reports of economic pressure one year later, Wheeler et al. (2019) found that the pathways for both spouses were each uniquely significant and did not differ in strength (wives: $r = .26, p < .001$; husbands: $r = .28, p < .001$).

The FSM postulates that economic pressure affects marital well-being indirectly through spouses’ emotional distress and conflict behaviors (Conger et al., 2010). However, though not proposed in the original FSM model, scholars recently have suggested that a direct association between economic pressure and divorce proneness also exists given the likelihood of omitted model pathways between other stressors and marital outcomes (Wheeler et al., 2019). In a meta-analysis of 29 studies using the FSM, Falconier and Jackson (2020) found a significant mean effect size of small-to-moderate magnitude ($r = -.24, p \leq .001; K = 29$) for the association between economic pressure and relationship satisfaction. However, differences across samples, conceptualizations of the variables of interest, and differing methodology have led to varying effect sizes across studies. For example, in a sample of 661 remarried couples, Laxman et al. (2019) found that the association between economic pressure and marital quality (i.e., marital happiness and satisfaction) was not significant for either husbands or wives when hostility and warmth towards spouse were included in the model. Archuleta et al. (2011), on the other hand, found in their study of 310 married, mostly White couples a significant association between economic pressure (measured as the number of negative financial events experienced in the previous years) and marital satisfaction ($\beta = -.37, p < .01$). Unlike Laxman et al., Archuleta et al. were not interested in considering marital interactions but instead focused on family demographics, economic hardship (including household income and employment status), religiosity, and financial stressors. Although Laxman et al., did not include the mediators
described in the FSM, their results demonstrated that individuals were more likely to positively evaluate alternatives to their relationships when dealing with stressful financial events. It is important to note, however, that the literature considering the “unmediated” effects of economic pressure on spouses’ marital well-being using the FSM model is scant. The current study adds to the limited research in this area by examining the direct association between husbands’ and wives’ economic pressure and both their own and their partner’s later divorce proneness in addition to the indirect pathways described by the FSM.

**Depressive Symptoms**

A large body of research has linked spouses’ depressive symptoms with marital processes and marital well-being (Dew & Jackson, 2018; Falconier & Epstein, 2011; Marshall et al., 2011; Simons et al., 2016). Depressive symptoms are indicated by feelings of unhappiness, worthlessness and guilt, loss of interest and energy, trouble concentrating, and changes in sleep patterns (Vreeland et al., 2019). The FSM suggests that depressive symptoms, in addition to other types of negative affect and emotional arousal such as anxiety and anger, develop over time in response to economic pressure (Conger et al., 2010; Dew & Jackson). In support of the FSM proposition, longitudinal research has documented a direct, positive link between economic pressure and depressive symptoms (Landers-Potts et al., 2015). For example, in a study of 422 African American adolescent children and their primary caregivers (83.5% biological mothers), Simons et al. (2016) found a significant pathway between economic stress and primary caregivers’ depressive symptoms ($\beta = .44, p < .01$).

Depressive symptoms are conceptualized as individual experiences distinct from but affected by the experiences of other members of the family system (Gudmunson et al., 2007; Williams et al., 2015). Unlike the other constructs in the FSM model, studies typically have
included both husbands’ and wives’ depressive symptoms in a single model as unique, but correlated, variables (Barton et al., 2018; Ponnet, 2014). This strategy serves two purposes. First, it allows for the exploration of gender differences in the association between economic pressure and depressive symptoms. This is important given the research findings regarding women being at higher risk for depressive symptoms when compared with men (Williams et al.). Women are also more likely to report depressive symptoms in response to economic pressure compared to their husbands. In a study of Finnish families examining the effects of economic pressure on couples’ psychoemotional well-being, Leinonen et al. (2002) found that women were more likely to internalize their stress and report emotional outcomes, such as depressive symptoms. Men, on the other hand, were more likely to respond to economic pressure externally through dysfunctional social behaviors such as struggling to make decisions and function normally.

Second, the inclusion of separate variables for wives’ and husbands’ depressive symptoms allows for the examination of the crossover effects of partner’s economic pressure on their husbands’ or wives’ depressive symptoms (Durtschi et al., 2017). Scholars have suggested that there may also be gender differences in how men and women react to their spouse’s stress. For example, women are expected to be at greater risk of internalizing their husbands’ economic pressure resulting from higher levels of empathy in response to their partner’s stress (Hostetler et al., 2012).

**Hostile Conflict Behaviors**

The FSM suggests that experiencing emotional distress in response to economic pressure will lead to hostile conflict behavior over time (i.e., displays of aggression and anger during spousal disagreements) (Conger et al., 2010). Support for this pathway has been found in a large body of work exploring the influence of depressive symptoms on communication patterns and
conflict in intimate relationships (Johnson et al., 2014; Marshall et al., 2011). Vujeva and Furman (2011), for example, found that depressive symptoms at age 15 predicted increases in later conflict with romantic partners. Individuals with depressive symptoms are less likely to believe that they have the ability to improve their relationships or that their relationships will improve over time (Overall & McNulty, 2017). Consequently, depressed individuals might be less likely to be motivated to work with their partners to cope with economic pressure (Williamson et al., 2013). Furthermore, depressive symptoms often manifest as challenges with sleeping, feelings of exhaustion, and expressions of irritability. These experiences can limit the energy individuals have to engage in warm and healthy communication exchanges. These experiences also might foster hostile behaviors with their partners during conflict (Vreeland et al., 2019). In addition, the presence of depressive symptoms might limit positive dyadic coping strategies because individuals have decreased ability to provide their partners with support and empathy during times of stress (Johnson et al.). These various marital patterns can produce a negative family climate that limits husbands’ and wives’ trust in their partners, reduce feelings of intimacy and cohesion, and puts the couple at increased risk for the expression of hostile conflict behaviors (Gudmunson et al., 2007).

Similar to the other variables included in the FSM, hostile conflict behavior was originally operationalized as a couple-level construct. However, research has demonstrated that the hostile conflict behaviors of men and women may be influenced differently by economic pressure and depressive symptoms. Men have been more likely than women to display externalizing behavior such as anger and aggression in response to stressful experiences (Williams et al., 2015). Men may experience economic pressure in a different way from women due to the traditional belief that they should be fulfilling the income-earning role. Their
frustration with being unable to live up to this expectation may make them more likely to engage in hostile conflict behaviors (Gudmunson et al., 2007; Wickrama & O’Neal, 2019). Consequently, although men may report feeling less depressed than women, they may be more likely to exhibit hostile conflict behaviors when experiencing economic pressure. Women have been more likely to feel societal pressure to take on responsibility for family well-being and emotion regulation within their relationships (Bloch et al., 2014; Ponnet et al., 2014). As a result, women may work harder to avoid engaging in hostile conflict behaviors in response to economic pressure, even when experiencing more depressive symptoms than their partners. The association between spouses’ depressive symptoms and hostile conflict behaviors may also differ by gender due to differences in how men and women manage stress. Women have been more likely to discuss their feelings of economic pressure, whether with their spouse or other members of their support networks (Falconier & Epstein, 2011). This can reduce the likelihood that women will lash out at their husbands’ due to feelings of economic pressure and depressed mood.

Examining separate reports of husbands’ and wives’ hostile conflict behavior will also expand the knowledge of the unique ways husbands’ and wives’ depressive symptoms in response to economic pressure may influence their partners’ hostile conflict behavior. Currently, there is very little research in this area, in part due to authors’ decisions to not include a measure of emotional distress even when utilizing the FSM (Laxman et al., 2019; Wickrama & O’Neal, 2019). An exception is the examination of spillover and crossover effects of depressive symptoms on husbands’ and wives’ hostile conflict behaviors in a sample of 431 newlywed couples undertaken by Williamson et al. (2013). Supporting the importance of examining both spillover and crossover effects, the authors found significant differences in the influence of husbands’ and wives’ depressive symptoms. A significant positive association was found
between wives’ depressive symptoms and both their own and their husbands’ hostile conflict behavior ($\beta = .20, p < .01$ and $\beta = .27, p < .05$, respectively). However, husbands’ depressive symptoms were not significantly associated with either their own, or their wives’, hostile conflict behaviors. The results of this study might not be generalizable to other samples (unlike the majority of research utilizing the FSM, more than half of the couples included in this sample did not have children), however, the results highlight the importance of expanding the understanding of gender differences within this cascade.

**Divorce Proneness**

Divorce proneness refers to the steps individuals take, or consider, towards divorce (Gottman, 1994). Although the FSM originally conceptualized marital distress as including divorce proneness, researchers utilizing the FSM have more commonly used marital satisfaction as the outcome of interest (Conger et al., 2010). Marital satisfaction and divorce proneness are unique, but interconnected, constructs. In the cascade model of marital dissolution, Gottman (1994) described changes in marital satisfaction and divorce proneness as stages that couples are likely to move through before making the decision to divorce. Although Gottman emphasized that individuals were unlikely to report divorce proneness without experiencing declines in marital satisfaction, scholars have emphasized the importance of distinguishing the two marital well-being variables (Karney & Bradbury, 1995). Comparisons of the effects of marital dissatisfaction and divorce proneness on individual’s level of stress and emotional well-being have demonstrated stronger associations for divorce proneness than for marital dissatisfaction (Fink & Shapiro, 2013). It is also important to understand predictors of divorce proneness because it can help inform interventions designed to improve troubled, potentially unstable marriages (Gudmunson et al., 2007).
The association between hostile conflict behaviors and divorce proneness is supported by Gottman’s (1993) finding that aggression and negativity during disagreements increased the risk of negative relationship evaluations. Hostile behaviors make it more difficult for couples to resolve their disagreements, to experience emotional and physical intimacy, and to put effort into maintaining or improving their relationships (Barton et al., 2015; Birditt et al., 2010; Carroll et al., 2013; Kliem et al., 2015; Lavner & Bradbury, 2012). Relationships may be especially vulnerable to the deleterious effects of hostile conflict behaviors during struggles with economic pressure because couples are less likely to be able to use positive dyadic coping strategies to alleviate some of their perceived distress (Austin & Falconier, 2013; Falconier et al., 2015). The influence of hostile conflict behaviors on divorce proneness may look different for men and women. In general, men have been more likely than women to report positive evaluations of different aspects of their marital relationship (Rusu et al., 2019). Women also seem to be more affected by partner’s hostile conflict behaviors compared with their husbands (Bloch et al., 2014). One explanation for this phenomenon is that women are more likely to ruminate on negative interactions after the event compared to men (Hou et al., 2019). Variability in the association between hostile conflict behaviors and divorce proneness may also stem from additional stressors not included in the original model such as work-to-family conflict, neighborhood stress, or issues with extended family members (Austin & Falconier, 2013; Randall & Bodenmann, 2009).

**Moderators**

**Household Income**

Household income levels have been highlighted as one potential explanation for differences in cascading associations among economic pressure, depressive symptoms, hostile
conflict behaviors, and divorce proneness (Roy et al., 2019). Conger et al. (1999) described economic pressure as an inevitable outcome of economic hardship, which includes low income. However, middle- and higher-income families may also experience economic pressure due to changes in their financial situations or poor financial decisions (Ponnet, 2014). For example, although lower-income individuals may report being concerned that their salaries will not be high enough to cover rent, higher-income individuals may report being unable to pay for basic necessities because they have overspent on unnecessary luxuries. In addition to differences in the cause of economic pressure across income groups, lower-income families are also often exposed to more cumulative stressors than are wealthier families (Jackson et al., 2017). For example, lower-income individuals are at higher risk for physical health challenges compared to middle- and higher-income families. They are also less likely to receive high-quality medical care (Choi & Marks, 2013). Exposure to these stressors can make lower-income individuals more vulnerable to depressive symptoms when experiencing economic pressure. In an examination of 2,341 individuals in Florida, Maisel and Karney (2012) found, for example, that the association between stressful events and depressive symptoms was stronger for lower-income individuals ($\beta = -.30, p < .001$) compared to higher-income individuals ($\beta = -.12, p = .014$).

The association between depressive symptoms and hostile conflict behaviors is also expected to be stronger for lower-income individuals compared to middle- or higher-income individuals. Lower-income individuals are less likely to have access to financial resources to help protect their relationships against the deleterious effects of depressive symptoms (Barajas-Gonzalez et al., 2014; Neppl et al., 2016). Similarly, lower-income couples do not have access to resources to paid services that could help reduce their domestic workload, such as childcare or cleaning services (Maisel & Karney). Consequently, they have less leisure time to spend with
their partners, weakening their perceptions of being part of the same team as their spouses, and their willingness or opportunities to put effort into improving the relationship (Trillingsgaard et al., 2014). As a result, they are more likely to consider divorce when inter-couple conflict becomes hostile. As such, lower-income individuals also might be more likely to use hostile behavior during conflict due to depleted psychoemotional resources. Given this research, the current study hypothesizes that all the expected associations between the variables of interest will be exacerbated in lower-income families. Income will be measured at one time point in this study because it is considered a chronic stressor that generally remains relatively stable over a few years of time (Conger et al., 2002).

**Work-to-Family Conflict**

Work-family conflict refers to the challenge for individuals to balance the requirements of both employment and family life (Carroll et al., 2013). This conceptualization stems from Goode’s (1960) theory of role strain which states that, given finite amounts of time and energy, individuals may not be able to fulfill the expectations and demands of both employment life and family life (Perry-Jenkins & Wadsworth, 2017). As a result, individuals must choose to prioritize either their work or family demands, jeopardizing their position in the non-prioritized area (St. Vil, 2014). Two dimensions of work-family conflict have been identified: work-to-family conflict (a process in which personal resources are exhausted by work demands, negatively influencing family dynamics) and family-to-work conflict (a process in which personal resources are exhausted by family demands, negatively influencing work dynamics) (Sun et al., 2017; Yucel, 2017). This study focuses on work-to-family conflict to capture how one specific aspect of work moderates the associations between economic pressure and divorce proneness.
Research has identified two types of work demands that contribute to work-to-family conflict: strain-based and time-based demands (Voydanoff, 2007). Strain-based demands refer to the stress produced by work conditions such as workplace conditions, lack of work-autonomy and inconsistent work shifts (Hostetler et al., 2012; Perry-Jenkins et al., 2017). Strain-based demands can influence psychological responses (Sun et al., 2017). For example, in a study of 125, low-income, dual-earner couples with children, Perry-Jenkins et al. (2017) found a negative association between men and women’s strain-based demands (i.e., work policies) and depressive symptoms (men: \( b = -3.26, p < .05 \); women: \( b = -5.21, p < .05 \)). Strain-based demands can also increase hostile conflict behaviors at home due to individuals having depleted their energy to engage in emotional regulation, healthy communication, and effective coping (Perry-Jenkins & MacDermid, 2013).

Time-based demands commonly refer to individuals being required to work long-hours at their jobs, leaving them with less time to spend with their spouses and on family obligations, possibly leading to marital unhappiness and conflict (Voydanoff, 2007). Longer hours can also affect individuals’ psychological and physical health, resulting in similar consequences as those stemming from strain-based demands (Sun et al., 2017). Hughes et al. (1992) found that the amount of time and energy required by individuals in the workplace is one of the explanations for increases in marital tension and subsequent arguments. Given this research, the hypothesized associations are expected to be stronger in families with more work-to-family conflict. In dual-earner families, work-to-family conflict was measured by aggregating wives’ and husbands’ individual reports. In single-earner families, work-to-family conflict was measured through the report of the spouse working outside of the home.
Statement of Hypotheses

Grounded in the FSM and informed by the literature on economic pressure, marital processes, and marital well-being, the current study adds to the existing gaps in knowledge by examining the following hypotheses:

H1. Wives’ and husbands’ W1 economic pressure will be positively associated with both their own and their partners’ divorce proneness at W4.

H2a. Wives’ and husbands’ W1 economic pressure will have an indirect effect on both their own and their partners’ divorce proneness at W4 through W2 depressive symptoms and W3 hostile conflict behaviors.

H2b. The direct association between wives’ and husbands’ W1 economic pressure and both their own and their partners’ divorce proneness at W4 will remain significant when the indirect effects through W2 depressive symptoms and W3 hostile conflict behaviors are added to analytic models.

H3a. Household income levels moderate the indirect spillover and crossover effects from wives’ and husbands’ W1 economic pressure to both their own and their partners’ divorce proneness at W4 through W2 depressive symptoms and W3 hostile conflict behaviors.

H3b. Household income levels moderate the unique direct associations between wives’ and husbands’ W1 economic pressure and both their own and their partners’ divorce proneness at W4 added to the indirect effects through W2 depressive symptoms and W3 hostile conflict behaviors.

H4a. Work-to-family conflict levels moderate the indirect spillover and crossover effects from wives’ and husbands’ W1 economic pressure to both their own and their partners’ divorce proneness at W4 through W2 depressive symptoms and W3 hostile conflict behaviors.
H4b. Work-to-family conflict levels moderate the unique direct associations between wives’ and husbands’ W1 economic pressure and both their own and their partners’ divorce proneness at W4 added to the indirect effects through W2 depressive symptoms and W3 hostile conflict behaviors.

In addition to the variables listed above, the models used to test each hypothesis will control for wives’ W4 marital satisfaction on wives’ W4 divorce proneness and husbands’ W4 marital satisfaction on husbands’ W4 divorce proneness. A large body of research has linked marital satisfaction with both economic pressure and divorce proneness (Gottman, 1994; Derlan et al., 2018; Dew & Jackson, 2018; Fink & Shapiro, 2013).
CHAPTER IV: METHODS

Sampling Procedures and Characteristics

The population of interest in the current study is the married parents of children transitioning into adolescence. The sample utilized for the current study was drawn from a larger study examining how family dynamics affected children over the course of four years from sixth grade to ninth grade (Buehler, 2006). To collect data on a large community-based sample, participants were recruited from thirteen middle schools in a single county in the Southeast United States. Participation in the study was limited to families with parents that were either married or long-term cohabitants. Given the unique characteristics of blended families and funding limitations, the sample was restricted to couples without stepchildren (Buehler et al., 2007).

Recruitment began with sixth graders receiving permission letters during homeroom to bring home to their parents. These materials contained information about the study and a consent form. Nonresponsive parents were also contacted directly to elicit participation. Parents were sent follow-up letters that included self-addressed, stamped envelopes for their responses (Buehler, 2006). 80% of the parents who returned consent forms agreed to participate in the school survey part of the study. Data collection began in fall of 2001.

For the two-parent, 4-year longitudinal part of the study, 416 families, 37% of the eligible families, agreed to participate in the longitudinal study. Using youth report data from the school survey for comparisons, there were no significant differences between eligible families that did and did not agree to participate on any of the study variables (Buehler & Welsh, 2009). Comparisons of the families that did and did not remain in the study, conducted with multivariate
analysis of variance, also did not find any significant differences on any of the study variables (Buehler & Welsh, 2009).

Most participants were European American (91%), with a small percentage of African Americans (3%), and participants with other ethnic backgrounds (6%) (Buehler et al., 2007). The percentage of African Americans included in the study was smaller than the percentage of African Americans in both the county (5%) and the United States (7.8%) at that time (U.S. Census Bureau, 2000a, Table PCT27 of SF4). 51% of the included children were female (Buehler & Welsh, 2009). The average educational status of the couples in the sample was an Associate’s degree or two years of college (Buehler et al.). The sample’s educational status was similar to the average educational attainment of European Americans, over the age of twenty-four, in the United States at that time (U.S. Census Bureau, 2000b, Table P148A of SF4). Of the 414 couples who both provided information on employment status, 306 (73.91%) were dual-earners, 106 (25.60%) were single-earners (10 wives and 96 husbands), and 2 (.5%) were zero-earners. The total number of children living at home ranged from 2 to 7 ($M = 3.40$). The median household income for families in the sample was $70,000. This was somewhat higher than the median household income of married couples in the United States in 2001 ($60,471; DeNavas-Walt & Cleveland, 2002). At the time of initial participation in the study, the sixth-grade students ranged in age from 11- to 14-years old ($M = 11.86, SD = .69$) (Buehler, 2006).

**Data Collection Procedures**

Data were collected annually for three years following the initial collection. Children were in 6th grade at Wave 1 (W1), 7th grade at Wave 2 (W2), 8th grade at Wave 3 (W3), and 9th grade at Wave 4 (W4). Parents and children gave written consent for children to fill out initial questionnaires about their family life when the children were in sixth grade, and consent was re-
affirmed at each subsequent data collection session and wave. Assent also was provided when appropriate (Buehler & Welsh, 2009).

Each year families were mailed questionnaires for wives and husbands to complete independently. These completed questionnaires were collected when researchers visited couples at their homes. During these home visits, couples were also asked to complete a second questionnaire which contained more sensitive information (e.g., hostile conflict behaviors). Researchers were present to ensure that husbands’ and wives’ responses remained private. Families received $100 at W1, $120 at W2, $135 at W3, and $150 at W4 (Buehler & Welsh, 2009). 416 families participated at W1, 366 families at W2, 340 families at W3 and 320 families at W4, and as stated above, there was minimal attrition bias.

Measures

Economic Pressure

Husbands and wives reported on their own economic pressure at W1 with nine items based on the FSM’s conceptualization and assessment of the construct (Conger et al., 1999). Eight items asked husbands and wives about their ability to afford basic necessities. Sample items included “My family has enough money to afford the kind of home we would like to have” and “My family has enough money to afford the kind of food we should have.” Items were scored along a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). For the final item, participants were asked to indicate their level of difficulty in paying bills over the previous 12 months. Answers ranged from 1 (a great deal of difficulty) to 5 (no difficulty at all). Given the different response formats used across items, individual-item scores were converted to z-scores (Irwing, 2018). These scores were then averaged to create summary scores
for each participant. Scores were reverse coded so that higher scores indicated greater economic pressure. Cronbach’s alphas for economic pressure at W1 are .92 for husbands and .92 for wives.

Conger et al.’s (1999) longer version of this measure had good internal consistency reliability (α ranging from .86 to .91). This measure of economic pressure has evidence of construct validity in samples of families with adolescent children. It has been associated positively associated with spouses’ depressive symptoms \( (r = .30, p < .05 \text{ for wives}, r = .26, p < .05 \text{ for husbands}) \) and hostile conflict behaviors \( (r = .23, p < .05 \text{ for wives}, r = .21, p < .05 \text{ for husbands}) \) (Ponnet, 2014). It has also been negatively associated with wives’ and husbands’ marital quality \( (r = -.14, p < .05 \text{ and } r = -.29, p < .001, \text{ respectively}) \) (Wheeler et al., 2019).

**Depressive Symptoms**

Husbands’ and wives’ symptoms were measured at W2 using the twenty-item Center for Epidemiological Studies-Depression scale (CES-D; Radloff, 1977). Husbands and wives were asked to report their frequency of experiencing specific feelings and behaviors during the previous week. Sample statements included “I was bothered by things that usually don’t bother me” and “I talked less than usual.” Items were scored along a four-point Likert scale ranging from 0 (rarely or none of the time, less than 1 day) to 3 (most or all of the time, 5-7 days). Items were averaged to create summary scores for each participant, higher scores indicated a greater number of symptoms. Wave 2 symptoms were included in the analysis to replicate the intended time-ordering pattern hypothesized by the original FSM. Cronbach’s alphas for W2 depressive symptoms are .88 for husbands and .89 for wives.

The CES-D is a widely used measure with good internal consistency reliability \( (α = .88) \) (Orme et al., 1986). This measure of depressive symptoms has been positively associated with stress and anxiety \( (r = .75, p < .001 \text{ and } r = .84, p < .001 \text{ respectively}) \) (Nakamura & Tsong,
This measure of depressive symptoms also been positively associated with both wives’ and husbands’ hostile conflict behaviors ($r = .69, p < .05$ and $r = .66, p < .05$ respectively) and marital instability (wives: $r = .23, p < .05$; husbands: $r = .21, p < .05$) (Gudmunson et al., 2007).

**Hostile Conflict Behaviors**

Husbands’ and wives’ hostile conflict behaviors were measured at W3 with self-reports and partner-reports of overt conflict style using five items from an established measure of overt conflict style (Buehler et al., 1998) and 13 items from the verbal and physical aggression subscales of the Conflicts and Problem-Solving Strategies questionnaire (CPS; Kerig, 1996). Participants were asked to indicate frequency with which both they and their partners engaged in specific behaviors during disagreements. Sample items included “When you and your spouse disagree, how often do you yell at your partner” and “When you and your spouse disagree, how often does your spouse call you names?” Participants rated items using a five-point Likert scale ranging from 1 (*never*) to 5 (*always*). Items were averaged with higher scores indicating more frequent use of hostile behaviors.

Wives’ self-reports and husbands’ partner-reports were aggregated to create a composite score for wives’ hostile conflict behaviors. Wives reported insisting on their point of view, becoming sarcastic, interrupting their spouse, and yelling at their spouse as their most common hostile conflict behaviors. Husbands reported insisting on their point of view, blaming their spouse, criticizing their spouse, and interrupting their spouse as their wives’ most common hostile conflict behaviors.

Husbands’ self-reports and wives’ partner-reports were aggregated to create a composite score for husbands’ hostile conflict behaviors. Husbands reported insisting on their point of view, becoming sarcastic, interrupting their spouse and criticizing their spouse as their most
common hostile conflict behaviors. Wives reported insisting on their point of view, interrupting their spouse, becoming sarcastic, and criticizing their spouse as their husbands’ most common hostile conflict behaviors.

Higher scores indicated greater use of hostile conflict behaviors. Wave 3 behaviors were included in the analysis to replicate the intended time-ordering pattern hypothesized by the original FSM. Cronbach’s alphas for W3 husband’s reports of their own hostile conflict behaviors are .94 and .91 for reports of their spouse’s hostile conflict behaviors. Cronbach’s alphas for W3 wives’ reports of their own hostile conflict behaviors are .91 and .93 for reports of their spouse’s hostile conflict behaviors.

Previous studies found good internal reliability for this measure (α = .90) and evidence of construct validity in samples of families with adolescent children (Zhou & Buehler, 2019). The authors found that hostile conflict behaviors were negatively correlated with marital warmth (r = -.46, p < .05) and constructive problem solving (r = -.53, p < .05). Hostile conflict behaviors were positively correlated with child internalizing and externalizing behaviors (r = .11 and .10 respectively, p < .05).

**Divorce Proneness**

Husbands and wives reported on their own divorce proneness at W4 using self-reports on four-items from the propensity for divorce subscale of the Marital Instability Index (Booth et al., 1983). Participants were asked to indicate the frequency of considering or taking steps towards divorce. Sample items included: “Have you seriously suggested to your spouse the idea of ending your relationship?” and “Have you discussed separation from your spouse with a close friend?” Items were rated on a four-point Likert scale ranging from 1 (not in the last year) to 4 (yes, within the last 3 months). Items were averaged to create summary scores for each
participant, higher scores indicated greater divorce proneness. Wave 4 divorce proneness was included in the analysis to replicate the intended time-ordering pattern hypothesized by the original FSM. Cronbach’s alphas for W4 divorce proneness are .82 for husbands and .90 for wives.

Booth et al.’s (1983) measure of divorce proneness has evidence of construct validity in samples of families with adolescent children. Reverse-coded as marital stability, it has been associated negatively with economic pressure ($r = -.15, p < .01$) and work-to-family conflict ($r = -.15, p < .01$), and positively with marital support ($r = .16, p < .001$) (Ross et al., 2019). In a study using the same sample as the current study, positive associations were found between wives’ divorce proneness and child’s externalizing and internalizing behavior ($r = .15$ and .11 respectively, $p < .05$), and husbands’ divorce proneness and child’s externalizing behavior ($r = .11, p < .05$) (Moore & Buehler, 2011).

**Household Income**

Income was measured at W1 as a couple-level variable. Household income has been shown to be largely stable over time (Conger et al., 2002). Husbands and wives were each asked to report on their total household income, from all sources, over the previous year, before taxes. Possible incomes ranged from “under $2,500” to “$100,000 or more.” Given the strong correlation between husbands’ and wives’ reports of income ($r = .98, p < .001$), spouses’ reports were averaged, except in cases where income was only reported by one partner (Ponnet et al., 2016).

Moderating groups were created conceptually based on the Pew Research Center’s definition of middle-class in the United States referring to household incomes between two-thirds and twice the median American household income (Vega, 2021). Using the median
household income of married couples in the United States in 2001 ($60,471, DeNavas-Walt & Cleveland, 2002), couples with household incomes below $40,000 were categorized as lower income \((n = 48)\), couples with incomes between $40,000 and $89,999 were categorized as middle income \((n = 234)\), and couples with household incomes of $90,000 and above were categorized as higher income \((n = 131)\).

**Work-to-Family Conflict**

Work-to-family conflict was conceptualized as a couple-level variable. At W1, husbands and wives were asked eight questions regarding whether they felt that their work responsibilities interfered with their family responsibilities (Kopelman et al., 1983). Sample items included “My work schedule often conflicts with my family life” and “My family dislikes how often I am preoccupied with my work while I am home.” Items were rated on a five-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree). Scores were reverse coded so that higher scores indicated greater work-to-family conflict. In dual-earner families, the two self-report scores within a couple were averaged. Previous research has advised conceptualizing work-to-family conflict at a couple level because combined reports are a better prediction of marital outcomes than are individual reports (Hostetler et al., 2012). In a single-earner family, the responses to the eight items were averaged. Families were divided into lower \((n = 225)\) and higher work-to-family conflict \((n = 186)\) using a median split (Aziz et al., 2010). Cronbach’s alphas for W1 work-to-family conflict are .88 for husbands and .90 for wives.

Kopelman et al.’s (1983) work-to-family measure has good internal consistency reliability in other samples \((\alpha \text{ from .86 to .87})\) (Park et al., 2021). This measure was significantly negatively correlated with family well-being \((r = -0.19, p < 0.01)\) (Lin, 2018).
Control Variables

Husbands’ and wives’ marital satisfaction was measured at W4 with three items from the Kansas Marital Satisfaction scale (KMS; Schumm et al., 1986). Respondents were asked how satisfied they were with their relationship, marriage, and spouse. Items were rated on seven-point Likert scale ranging from 1 (extremely dissatisfied) to 7 (extremely satisfied). Husbands’ and wives’ scores on the three items were averaged to create summary scores, higher scores indicated greater marital satisfaction. Cronbach’s alphas at W4 are .95 for husbands and .96 for wives.

Analytic Procedures

Mplus (Muthén & Muthén, 2010) was used to calculate descriptive statistics and examine the additional psychometric characteristics of the measures. T-tests were also conducted to determine if there were gender differences on the variables of interest. Hypotheses were tested using path analysis and multi-group regression modeling in Mplus. The significance level for all estimates was set at $p < .05$. To reduce bias as much as possible when addressing missing values, the full information maximum likelihood estimator technique was used (Enders, 2001).

Direct Effects of Economic Pressure on Divorce Proneness (H1)

Hypothesis 1 was tested using an actor-partner interdependence model (APIM; Cook & Kenny, 2005). APIMs are commonly used to analyze husbands’ and wives’ dyadic data because the models account for interdependence between spouses while allowing for the examination of the influence of husbands’ and wives’ predictor variables on both their own (spillover effects) and their spouse’s (crossover effects) outcomes (Barton & Bryant, 2016; Fitzpatrick et al., 2016). My model included two spillover effects (i.e., wives’ W1 economic pressure to wives’ W4 divorce proneness and husbands’ W1 economic pressure to husbands’ W4 divorce proneness)
and two crossover effects (i.e., wives’ W1 economic pressure to husbands’ W4 divorce proneness and husbands’ W1 economic pressure to wives’ W4 divorce proneness). Hypothesis 1 was fully supported if all four paths are statistically significant and partially supported if at least one of the four paths was significant.

**Indirect Effects of Economic Pressure on Divorce Proneness (H2a, H2b)**

Hypotheses 2a and 2b were examined using an extension of the APIM, the actor-partner interdependence mediation model (APIMeM; Ledermann et al., 2011). In addition to spillover and crossover effects, APIMeMs includes spillover and crossover mediation effects, allowing for the simultaneous testing of direct associations and indirect pathways (Helms et al., 2014; Ledermann et al.). Both hypotheses focused on adaptations of the family stress model of romantic relationships in that they included wives’ and husbands’ individual reports of each variable, instead of aggregating scores and only including couple-level variables. This adaptation allowed for the consideration of both spillover and crossover effects within and between spouses.

**Hypothesis 2a**

In accordance with the work done by Conger and colleagues (1999), Hypothesis 2a postulates a cascade model in which W1 economic pressure leads to W2 depressive symptoms which leads to W3 hostile conflict behaviors and, finally, W4 divorce proneness. To reduce the complexity of the model, I tested spillover and crossover effects of each segment in four separate models (Ledermann & Kenny, 2011). In the first model, I examined spillover effects (i.e., the indirect associations between wives’ W1 economic pressure and their own divorce proneness three years later and between husbands’ W1 economic pressure and their own divorce proneness three years later). In the second model, I examined the first set of crossover effects (i.e., the path between wives’ W1 economic pressure and husbands’ depressive symptoms at W2 and the path
between husbands’ W1 economic pressure and wives’ depressive symptoms at W2). In the third model, I examined the second set of crossover effects (i.e., the path between wives’ W2 depressive symptoms and husbands’ hostile conflict behaviors at W3 and the path between husbands’ W2 depressive symptoms and wives’ hostile conflict behaviors at W3). In the fourth model, I examined the third set of crossover effects (i.e., the path between wives’ W3 hostile conflict behaviors and husbands’ divorce proneness at W4 and the path between husbands’ W3 hostile conflict behaviors and wives’ divorce proneness at W4). Each of these three crossover-effects models also included estimation of the two spillover pathways. To further understand the cascading effects, I next examined whether the standardized indirect effects were statistically significant when examining bias-corrected 95% boot-strapped confidence intervals (Hayes et al., 2011). Hypothesis 2a was fully supported if all spillover and crossover effects were statistically significant and partially supported if at least one spillover effect in the first model or one crossover effect in the final three models was significant.

**Hypothesis 2b**

Conger and colleagues (1999) did not find evidence of direct association between economic pressure on marital well-being. However, given findings by other scholars, Hypothesis 2b postulates that the direct associations between: (D1) wives’ W1 economic pressure and their own divorce proneness at W4, (D2) husbands’ W1 economic pressure and their own divorce proneness at W4, (D3) wives’ W1 economic pressure and husbands’ divorce proneness at W4, and (D4) husbands’ W1 economic pressure and wives’ divorce proneness at W4 remain significant when added to each of the analytic models tested in Hypothesis 2a. Similar to Hypothesis 2a, to reduce the complexity of the model, I tested spillover and crossover effects of each segment in four separate models. In the first model, the direct path from wives’ W1
economic pressure to their own divorce proneness three years later was added to wives’ indirect spillover association and the direct path from husbands’ W1 economic pressure to their own divorce proneness three years later was added to husbands’ indirect spillover association. In the second, third and fourth model, the direct path from wives’ W1 economic pressure to husbands’ divorce proneness three years later was added to the indirect crossover association between wives’ W1 economic pressure and husbands’ divorce proneness at W4 and the direct path from husbands’ W1 economic pressure to wives’ divorce proneness three years later was added to the indirect crossover association between husbands’ W1 economic pressure wives’ divorce proneness at W4. Each of these three crossover-effects models also included estimation of the two spillover pathways. To further understand the direct and cascading effects, I next examined whether the standardized direct and indirect effects were statistically significant when examining bias-corrected 95% boot-strapped confidence intervals. Hypothesis 2b was fully supported if all direct effects were statistically significant when added to indirect effects and partially supported if at least one direct effect was significant.

**Moderating Effects of Income (H3a, H3b)**

**Hypothesis 3a**

Building on research demonstrating that the FSM pathways function differently across income levels (Ponnet, 2014), Hypothesis 3a postulates that household income levels (i.e., lower-, middle-, or higher-income) moderate the indirect spillover and crossover effects of wives’ and husbands’ W1 economic pressure on their divorce proneness at W4. Two income groups were compared at a time. First, lower-income couples were compared to middle-income couples. Second, middle-income couples were compared to higher-income couples. Third, lower-income couples were compared to higher-income couples.
Moderating effects of income on the four spillover and crossover effects analytical models from Hypothesis 2a were examined using multi-group regression modeling. First, a fully constrained model was generated in which all path parameter estimates were constrained to be equal across the two income groups. Next, I generated a partially constrained model in which each segment of the FSM (i.e., the path between W1 economic pressure and depressive symptoms at W2, the path between W2 depressive symptoms and hostile conflict behaviors at W3, and the path between W3 hostile conflict behaviors and divorce proneness at W4) were allowed to differ across income levels. In the crossover effects analytical models, the spillover paths corresponding to the crossover paths were also constrained (for example, in first set of crossover effects model, I constrained the path between wives’ W1 economic pressure and wives’ depressive symptoms at W2 and the path between husbands’ W1 economic pressure and husbands’ depressive symptoms at W2).

To test these hypotheses, nested models were generated by constraining all pathways to be equal across groups and then comparing these models to unconstrained model using the chi-square difference test (Hou et al., 2019). A non-significant change in chi-square value demonstrated that the constrained model was preferable given that the process of constraining paths increases degrees of freedom (Ponnet, 2014). A significant change in chi-square value at six degrees of freedom ($p < .05$) indicated that there were significant differences in the strength of at least one association across the two income levels.

If the change in chi-square value was significant, I conducted one-by-one comparisons of path by comparing a partially constrained model with the fully constrained model. In the partially constrained model, only one segment of the indirect pathway (i.e., one path) was constrained across income whereas all other FSM paths were allowed to differ across income.
level. The paths between marital satisfaction and divorce proneness and the covariances between wives’ and husbands’ same-wave variables were all constrained to equality across groups. In the crossover effects analytic partially constrained models, the spillover paths were also constrained across income groups. Significant changes in the chi-square values at one degree of freedom ($p < .05$) indicated that the strength of the specific path differed across the two income levels. The path estimates were then examined across income groups to identify the nature of the moderating effect. Hypothesis 3a was fully supported if all spillover and crossover effects were significantly different across at least two levels of income and partially supported if at least one spillover or crossover effect significantly differed across at least two levels of income.

**Hypothesis 3b**

Hypothesis 3b postulated that the direct associations between: (D1) wives’ W1 economic pressure and their own divorce proneness at W4, (D2) husbands’ W1 economic pressure and their own divorce proneness at W4, (D3) wives’ W1 economic pressure and husbands’ divorce proneness at W4, and (D4) husbands’ W1 economic pressure and wives’ divorce proneness at W4 remain significant when added to each of the analytic models tested in Hypothesis 3a. Two income groups were compared at a time. First, lower-income couples were compared to middle-income couples. Second, middle-income couples were compared to higher-income couples. Third, lower-income couples were compared to higher-income couples.

Moderating effects of income on the direct effects added to the four spillover and crossover effects analytical models from Hypothesis 3a were examined using multi-group regression modeling. Fully constrained models were compared with partially constrained models (i.e., only the two direct associations and any spillover or crossover paths that differed across income levels in the H3a analytical models were allowed to differ across income). A significant
change in chi-square value ($p < .05$) indicated that there were significant differences in the strength of at least one association across the two income levels.

If the change in chi-square value was significant, I conducted one-by-one comparisons of path by comparing a partially constrained model with the fully constrained model. In the partially constrained model, the direct associations and, if included, the significant FSM segments were constrained one-by-one across income. The other direct association and significant FSM segments were not constrained. The paths between marital satisfaction and divorce proneness and the covariances between wives’ and husbands’ same-wave variables were all constrained to equality across income groups. In the crossover effects analytic partially constrained models, the spillover paths were also constrained across income. Significant changes in the chi-square values at one degree of freedom ($p < .05$) indicated that the strength of the specific pathway differed across the two income levels. The path estimate was then compared to identify the nature of the moderating effect. Hypothesis 3b was fully supported if all direct effects were significantly different across at least two levels of income and partially supported if at least one direct effect significantly differed across at least two levels of income.

**Moderating Effects of Work-to-Family Conflict (H4a, H4b)**

**Hypothesis 4a**

Building on research demonstrating that work-to-family conflict may influence how the FSM pathways function (Sun et al., 2017; Yucel, 2017), Hypothesis 4a postulates that work-to-family conflict (i.e., lower or higher work-to-family conflict) moderates the indirect spillover and crossover effects of wives’ and husbands’ W1 economic pressure on their divorce proneness at W4. Moderating effects of work-to-family conflict on the four spillover and crossover effects analytical models from Hypothesis 2a were examined using multi-group regression modeling.
First, a fully constrained model was generated in which all path parameter estimates were constrained to be equal across the two work-to-family conflict groups. Next, I generated a partially constrained model in which each segment of the FSM (i.e., the path between W1 economic pressure and depressive symptoms at W2, the path between W2 depressive symptoms and hostile conflict behaviors at W3, and the path between W3 hostile conflict behaviors and divorce proneness at W4) were allowed to differ across work-to-family conflict levels. In the crossover effects analytical models, the spillover paths corresponding to the crossover paths were also constrained.

To test these hypotheses, nested models were generated by constraining all pathways to be equal across groups and then comparing these models to unconstrained model using the chi-square difference test (Hou et al., 2019). A non-significant change in chi-square value demonstrated that the constrained model was preferable given that the process of constraining paths increases degrees of freedom (Ponnet, 2014). A significant change in chi-square value at six degrees of freedom ($p < .05$) indicated that there were significant differences in the strength of at least one association across the two work-to-family conflict levels.

If the change in chi-square value was significant, I conducted one-by-one comparisons of path by comparing a partially constrained model with the fully constrained model. In the partially constrained model, only one segment of the indirect pathway (i.e., one path) was constrained across work-to-family conflict levels whereas all other FSM paths were allowed to differ across work-to-family conflict level. The paths between marital satisfaction and divorce proneness and the covariances between wives’ and husbands’ same-wave variables were all constrained to equality across groups. In the crossover effects analytic partially constrained models, the spillover paths were also constrained across work-to-family conflict groups.
Significant changes in the chi-square values at one degree of freedom ($p < .05$) indicated that the strength of the specific pathway differed across the two work-to-family conflict levels. The path estimates were then compared to identify the nature of the moderating effect. Hypothesis 4a was fully supported if all spillover and crossover effects were significantly different across work-to-family conflict levels and partially supported if at least one spillover or crossover effect significantly differed across work-to-family conflict level.

**Hypothesis 4b**

Hypothesis 4b postulates that the direct associations between: (D1) wives’ W1 economic pressure and their own divorce proneness at W4, (D2) husbands’ W1 economic pressure and their own divorce proneness at W4, (D3) wives’ W1 economic pressure and husbands’ divorce proneness at W4, and (D4) husbands’ W1 economic pressure and wives’ divorce proneness at W4 remain significant when added to each of the analytic models tested in Hypothesis 4a. Moderating effects of work-to-family conflict on the direct effects added to the four spillover and crossover effects analytical models from Hypothesis 4a were examined using multi-group regression modeling. Fully constrained models were compared with partially constrained models (i.e., only the two direct associations and any spillover or crossover paths that differed across work-to-family conflict levels in the H4a analytical models were allowed to differ across work-to-family conflict level). A significant change in chi-square value ($p < .05$) indicated that there were significant differences in the strength of at least one association across work-to-family conflict.

If the change in chi-square value was significant, I conducted one-by-one comparisons of path by comparing a partially constrained model with the fully constrained model. In the partially constrained model, the direct associations and, if included, the significant FSM
segments were constrained one-by-one across work-to-family conflict. The other direct association and significant FSM segments were not constrained. The paths between marital satisfaction and divorce proneness and the covariances between wives’ and husbands’ same-wave variables were all constrained to equality across work-to-family conflict groups. In the crossover effects analytic partially constrained models, the spillover paths were also constrained across work-to-family conflict. Significant changes in the chi-square values at one degree of freedom ($p < .05$) indicated that the strength of the specific pathway differed across work-to-family conflict level. The path estimate was then compared to identify the nature of the moderating effect. Hypothesis 4b was fully supported if all direct effects were significantly different across work-to-family conflict levels and partially supported if at least one direct effect significantly differed across work-to-family conflict levels.
CHAPTER V: RESULTS

Preliminary Analyses

Prior to testing hypotheses, I performed a normality diagnosis on each variable. The statistical procedures used in the current study assume that data are normally distributed. If this is not the case, chances of committing either a Type I or Type II error increase (Osborne, 2005). The assumption of multivariate normality was examined through skewness and kurtosis (Table 1). Skewness refers to non-symmetrical data distribution in which most of the data are distributed to one side of the scale, as opposed to the center (normally distributed data has a skewness of 0). Kurtosis refers to the peakedness of the distribution, which may indicate issues with the data, such as the presence of outliers or limited variance (Jain, 2018). Data are considered non-normal if skewness is above or below the absolute value of 2 and kurtosis is above or below the absolute value of 7 (West et al., 1995).

Scores for both wives’ and husbands’ W4 divorce proneness indicated non-normal distributions and positive skewness (2.63 and 3.32 respectively). Husbands’ divorce proneness also had a kurtosis higher than 7. I took the natural log of both variables to adjust distributions closer to normality (Osborne, 2005). The transformed divorce proneness scores showed improved distribution (wives’ = 2.03, husbands’= 2.46), therefore the transformed scores were used in subsequent analyses. All of the variables had adequate variability in scores to conduct additional analyses.
Table 1a. Normality Diagnosis and Natural Log Transformation

<table>
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<tr>
<th>Original Scores</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. W1 Wives’ economic pressure</td>
<td>1.02</td>
<td>1.34</td>
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<td>2. W1 Husbands’ economic pressure</td>
<td>0.75</td>
<td>0.60</td>
</tr>
<tr>
<td>3. W2 Wives’ depressive symptoms</td>
<td>1.95</td>
<td>5.55</td>
</tr>
<tr>
<td>4. W2 Husbands’ depressive symptoms</td>
<td>1.52</td>
<td>2.77</td>
</tr>
<tr>
<td>5. W3 Wives’ hostile conflict behaviors</td>
<td>0.96</td>
<td>2.15</td>
</tr>
<tr>
<td>6. W3 Husbands’ hostile conflict behaviors</td>
<td>0.95</td>
<td>1.79</td>
</tr>
<tr>
<td>7. W4 Wives’ divorce proneness</td>
<td>2.63</td>
<td>6.51</td>
</tr>
<tr>
<td>8. W4 Husbands’ divorce proneness</td>
<td>3.32</td>
<td>11.87</td>
</tr>
<tr>
<td>9. W1 Couples’ income level</td>
<td>-0.18</td>
<td>-0.59</td>
</tr>
<tr>
<td>10. W1 Couples’ work-to-family conflict*</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>11. W4 Wives’ marital satisfaction</td>
<td>-1.50</td>
<td>2.06</td>
</tr>
<tr>
<td>12. W4 Husbands’ marital satisfaction</td>
<td>-1.70</td>
<td>2.67</td>
</tr>
</tbody>
</table>

| Transformed Scores | |
|-------------------|-----------------|-----------------|
| W4 Wives’ divorce proneness | 2.03 | 3.07 |
| W4 Husbands’ divorce proneness | 2.46 | 5.60 |

Note. Work-to-family conflict was not tested for normality since it was binary (0 = lower work-to-family conflict and 1 = higher work-to-family conflict). W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4.

I next conducted reliability analyses and bivariate correlations. Inter-item reliability was determined using Cronbach’s alpha. Cronbach’s alphas indicate inter-item consistency and values above .80 indicate that a set of items are measuring the same construct (Dyer, 2015). Alphas in the current study ranged from .82 to .96, indicating good inter-item reliability across all variables (Table 2). Paired t-tests revealed that wives displayed more hostile conflict behaviors at W3, \( t(334) = 3.51, p < .01 \), and reported greater divorce proneness at W4, \( t(306) = 2.31, p < .05 \), compared to husbands. There were no gender differences in either W1 economic pressure or W2 depressive symptoms. The correlation between husbands’ and wives’ reports of economic pressure at W1 was .66 (\( p < .01 \)), indicating about 44% shared variance between reports. The correlation between husbands’ and wives’ reports of depressive symptoms at W2 was .11 (\( p = .06 \)), indicating no shared variance between reports. The correlation between
husbands’ and wives’ hostile conflict behaviors was .84 ($p < .01$), indicating about 71% shared variance between reports. The correlation between husbands’ and wives’ reports of divorce proneness was .59 ($p < .01$), indicating about 35% shared variance between reports. Additionally, both husbands’ and wives’ W1 economic pressure were correlated with husbands’ divorce proneness three years later at W4 ($r = .11$ for both, $p < .05$ for husbands and $p < .01$ for wives). The prospective correlations between W1 economic pressure and wives’ reports of divorce proneness three years later were not statistically significant.
Table 1b. Descriptive Statistics and Bivariate Correlations

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<td>.11**</td>
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<td>-.04</td>
<td>-.20**</td>
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<td>-.26**</td>
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<td>.38**</td>
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<td>-.32**</td>
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<td>6. W3 Husbands’ hostile conflict behaviors</td>
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<td>7. W4 Wives’ divorce proneness</td>
<td>.59**</td>
<td>-.01</td>
<td>.06</td>
<td>-.58**</td>
<td>-.23**</td>
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<td>9. W1 Couples’ income level</td>
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<td>.07</td>
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<td>10. W1 Couples’ work-to-family conflict</td>
<td>.10’</td>
<td>.03</td>
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<td>11. W4 Wives’ marital satisfaction</td>
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<td>12. W4 Husbands’ marital satisfaction</td>
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\[
\begin{array}{cccccccccccc}
M & 0.00_z & 0.00_z & 0.38 & 0.37 & 1.78 & 1.73 & 0.07 & 0.06 & 2.20 & 0.45 & 5.73 & 5.75 \\
SD & 0.78_z & 0.78_z & 0.37 & 0.36 & 0.46 & 0.44 & 0.15 & 0.13 & 0.63 & 0.50 & 1.32 & 1.39 \\
Cronbach’s Alpha & 0.92 & 0.92 & 0.89 & 0.88 & 0.95 & 0.92 & 0.90 & 0.82 & --- & 0.84 & 0.96 & 0.95 \\
\end{array}
\]

*Note. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. \(z\) indicates variables that used z-scores. \(*p < .05; **p < .01.\)
Hypothesis Testing

Hypothesis 1

Hypothesis 1 postulates that there are direct effects between husbands’ and wives’ W1 economic pressure and both their own and their partners’ divorce proneness at W4, controlling for marital satisfaction at W4. Two spillover effects (i.e., within person) were tested: (a) wives’ W1 economic pressure to their own divorce proneness three years later, and (b) husbands’ W1 economic pressure to their own divorce proneness three years later. Neither association was significant, providing no support for direct effects of economic pressure on self-reported divorce proneness over time.

Two crossover effects were also tested: (a) wives’ W1 economic pressure to husbands’ divorce proneness three years later, and (b) husbands’ W1 economic pressure to wives’ divorce proneness three years later. The crossover effect from wives’ economic pressure to husbands’ divorce proneness was statically significant and in the expected direction but the association between husbands’ W1 economic pressure and wives’ divorce proneness at W4 was not (Figure 2). These findings provided partial support for Hypothesis 1.
Figure 2. Direct Effects of W1 Economic Pressure on W4 Divorce Proneness

Note. All reported coefficients are standardized values. W1 = wave 1; W4 = wave 4. Non-significant associations are indicated by dashed lines. * $p < .05$; ** $p < .001$. For ease of presentation, estimated covariances between wives’ W4 marital satisfaction and W1 economic pressure ($r = -.17$, $p < .01$), husbands’ W4 marital satisfaction and W1 economic pressure ($r = -.24$, $p < .01$), and wives’ and husbands’.

**Hypothesis 2: Spillover and Crossover Patterns**

**Hypothesis 2a**

Hypothesis 2a postulates that there are indirect spillover and crossover effects between wives’ and husbands’ W1 economic pressure and divorce proneness at W4 through W2 depressive symptoms and W3 hostile conflict behaviors, controlling for their own marital satisfaction at W4. I examined two spillover effects (wives’ and husbands’ economic pressure to their own divorce proneness) and six crossover effects (three from wives’ economic pressure to
husbands’ divorce proneness and three from husbands’ economic pressure to wives’ divorce proneness). A model only including the two spillover effects was first tested, and the direct effects from economic pressure to divorce proneness were not included in these particular analytic models. Next, the crossover effects of each segment of the proposed FSM were examined one segment at a time (three separate analyses). Though statistical power was adequate to examine all six crossover effects in one analytic model with the total sample, this segmented procedure was used to facilitate similar tested “base” models when testing later moderating hypotheses that have smaller subsamples. Each total indirect effect was examined using bias-corrected bootstrapped intervals with 5000 bootstraps (Kenny, 2012).

First, the two spillover effects were tested: (a) wives’ W1 economic pressure to their own divorce proneness three years later through their own W2 depressive symptoms and their W3 hostile conflict behaviors, and (b) husbands’ W1 economic pressure to their own divorce proneness three years later through their own W2 depressive symptoms and their W3 hostile conflict behaviors (Figure 3). Wives’ W1 economic pressure was significantly and positively associated with wives’ depressive symptoms at W2. Wives’ W2 depressive symptoms were not significantly associated with wives’ hostile conflict behaviors at W3. Finally, wives’ W3 hostile conflict behaviors were significantly and positively associated with wives’ divorce proneness at W4. The total indirect effect from wives’ W1 economic pressure to wives’ W4 divorce proneness was not significant (b = .00, 95% CI [.00, .00], p = .77), likely because of the nonsignificant association between depressive symptoms and women’s own hostile conflict behaviors to her spouse.

Husbands’ W1 economic pressure was significantly and positively associated with husbands’ depressive symptoms at W2. Husbands’ W2 depressive symptoms were not
significantly associated with husbands’ hostile conflict behaviors at W3. Finally, husbands’ W3 hostile conflict behaviors were significantly and positively associated with husbands’ divorce proneness at W4. The indirect effect from husbands’ economic pressure to husbands’ divorce proneness was not significant ($b = .00, 95\% CI [.00, .00], p = .16$). Given the nonsignificant spillover findings between wives’ and husbands’ depressive symptoms, it is important to note the high, within-wave association between W3 wives’ and husbands’ hostile conflict behaviors that allowed for little remaining variance to be explained with other variables (Table 3).

**Figure 3. Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness**

*Note.* All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. *$p < .05$; **$p < .01$; ***$p < .001$. For ease of presentation, the covariances between exogeneous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 3.
Table 3. Additional Associations for Figure 3

<table>
<thead>
<tr>
<th>Covariances</th>
<th>$b$</th>
<th>$\beta$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>wEP1 &lt;-&gt; hEP1</td>
<td>.39</td>
<td>.66</td>
<td>.00</td>
</tr>
<tr>
<td>wDS2 &lt;-&gt; hDS2</td>
<td>.01</td>
<td>.09</td>
<td>.05</td>
</tr>
<tr>
<td>wHCB3 &lt;-&gt; hHCB3</td>
<td>.17</td>
<td>.84</td>
<td>.00</td>
</tr>
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<td>wDP4 &lt;-&gt; hDP4</td>
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<td>.00</td>
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<tr>
<td>wMS4 &lt;-&gt; hMS4</td>
<td>.65</td>
<td>.35</td>
<td>.00</td>
</tr>
</tbody>
</table>

*Note. w = wives’; h = husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness; MS4 = W4 marital satisfaction.*

Next, the first two crossover effects were tested: (c) wives’ W1 economic pressure to husbands’ divorce proneness three years later through husbands’ W2 depressive symptoms and husbands’ W3 hostile conflict behaviors, and (d) husbands’ W1 economic pressure to wives’ divorce proneness three years later through wives’ W2 depressive symptoms and wives’ W3 hostile conflict behaviors (Figure 4). Wives’ W1 economic pressure was not significantly associated with husbands’ depressive symptoms at W2. Husbands’ W2 depressive symptoms were not significantly associated with husbands’ hostile conflict behaviors at W3. Finally, husbands’ W3 hostile conflict behaviors were significantly associated with husbands’ divorce proneness at W4. The total indirect effect from wives’ W1 economic pressure to husbands’ W4 divorce proneness was not significant ($b = .00$, 95% CI [.00, .00], $p = .78$).

Husbands’ W1 economic pressure was not significantly associated with wives’ depressive symptoms at W2. Wives’ W2 depressive symptoms were not significantly associated with wives’ hostile conflict behaviors at W3. Finally, wives’ W3 hostile conflict behaviors were significantly associated with wives’ divorce proneness at W4. The total indirect effect from husbands’ W1 economic pressure to wives’ W4 divorce proneness was not significant ($b = .00$, 95% CI [.00, .00], $p = .59$).
Figure 4. Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms

Note. All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. *p < .05; **p < .01; ***p < .001. For ease of presentation, the covariances between exogeneous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 4.

Table 4. Additional Associations for Figure 4

<table>
<thead>
<tr>
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<tr>
<td>wDS2 &lt;-&gt; hDS2</td>
<td>.01</td>
<td>.09</td>
<td>.05</td>
</tr>
<tr>
<td>wHCB3 &lt;-&gt; hHCB3</td>
<td>.17</td>
<td>.84</td>
<td>.00</td>
</tr>
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<td>wDP4 &lt;-&gt; hDP4</td>
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<tr>
<td>wMS4 &lt;-&gt; hMS4</td>
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Note. w = wives’; h = husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, MS4 = W4 marital satisfaction.

Next, the second two crossover effects were tested: (e) wives’ W1 economic pressure to husbands’ divorce proneness three years later through wives’ W2 depressive symptoms and
husbands’ W3 hostile conflict behaviors, and (f) husbands’ W1 economic pressure to wives’
divorce proneness three years later through husbands’ W2 depressive symptoms and wives’ W3
hostile conflict behaviors (Figure 5). Wives’ W1 economic pressure was significantly associated
with wives’ depressive symptoms at W2. Wives’ W2 depressive symptoms were significantly
associated with husbands’ hostile conflict behaviors at W3, even controlling for the high within-
wave association between wives’ and husbands’ W3 hostile conflict behaviors. Finally,
husbands’ W3 hostile conflict behaviors were significantly associated with husbands’ divorce
proneness at W4. The total indirect effect from wives’ W1 economic pressure to husbands’ W4
divorce proneness was statistically significant ($b = .00, 95\% \text{ CI} [.00, .00], p = .04$).

Husbands’ W1 economic pressure was significantly associated with husbands’ depressive
symptoms at W2. Husbands’ W2 depressive symptoms were significantly associated with wives’
hostile conflict behaviors at W3. Finally, wives’ W3 hostile conflict behaviors were significantly
associated with wives’ divorce proneness at W4. The total indirect effect from husbands’ W1
economic pressure to wives’ W4 divorce proneness was statistically significant ($b = .00, 95\% \text{ CI}
[.00, .01], p = .04$).

Finally, the last two crossover effects were tested: (g) wives’ W1 economic pressure to
husbands’ divorce proneness three years later through wives’ W2 depressive symptoms and
wives’ W3 hostile conflict behaviors, and (h) husbands’ W1 economic pressure to wives’ divorce
proneness three years later through husbands’ W2 depressive symptoms and husbands’ W3
hostile conflict behaviors (Figure 6). Wives’ W1 economic pressure was significantly associated
with wives’ depressive symptoms at W2. Wives’ W2 depressive symptoms were not
significantly associated with wives’ hostile conflict behaviors at W3. Finally, wives’ W3 hostile
conflict behaviors were not significantly associated with husbands’ divorce proneness at W4.
The total indirect effect from wives’ W1 economic pressure to husbands’ W4 divorce proneness was not significant ($b = .00$, 95% CI [.00, .00], $p = .80$).

**Figure 5. Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors**

*Note.* All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. *$p < .05$; **$p < .01$; ***$p < .001$. For ease of presentation, the covariances between exogeneous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 5.
Table 5. Additional Associations for Figure 5

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Note. w = wives’; h = husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, MS4 = W4 marital satisfaction.

Husbands’ W1 economic pressure was significantly associated with husbands’ depressive symptoms at W2. Husbands’ W2 depressive symptoms were not significantly associated with husbands’ W3 hostile conflict behaviors. Finally, husbands’ W3 hostile conflict behaviors were not significantly associated with wives’ divorce proneness at W4. The total indirect effect from husbands’ W1 economic pressure to wives’ W4 divorce proneness was not significant ($b = .00$, 95% CI [.00, .00], $p = .28$). The results from the four models provided partial support for Hypothesis 2a.
Figure 6. Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness

Note. All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. *p < .05; **p < .01; ***p < .001. For ease of presentation, the covariances between exogeneous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 6.

Table 6. Additional Associations for Figure 6

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Note. w = wives’; h = husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, MS4 = W4 marital satisfaction.
Hypothesis 2b

Hypothesis 2b postulates that the direct associations between wives’ W1 economic pressure and both their own and their husbands’ divorce proneness at W4 and husbands’ W1 economic pressure and both their own and their wives’ divorce proneness at W4 remain significant when added to each of the analytic models tested in Hypothesis 2a. I first examined the addition of the direct associations from husbands’ and wives’ economic pressure to their own divorce proneness to the spillover model. Then, I examined the addition of the direct associations from husbands’ and wives’ economic pressure to their partners’ divorce proneness to each crossover effect model.

First, the addition of the direct associations to the spillover effects were tested: (a) the addition of the direct association from wives’ W1 economic pressure to their own divorce proneness three years later to the spillover effect from wives’ W1 economic pressure to their own divorce proneness at W4 through their own W2 depressive symptoms and their W3 hostile conflict behaviors, and (b) the addition of the direct association from husbands’ W1 economic pressure to their own divorce proneness three years later to the spillover effect from husbands’ W1 economic pressure to their own divorce proneness at W4 through their own W2 depressive symptoms and their W3 hostile conflict behaviors (Figure 7.) The direct association from wives’ W1 economic pressure and wives’ W4 divorce proneness was not significant. The total indirect effect from wives’ W1 economic pressure to wives’ W4 divorce proneness was not significant (b = .00, 95% CI [.00, .00], p = .76). The direct association from husbands’ W1 economic pressure to husbands’ W4 divorce proneness was not significant. The total indirect effect from husbands’ W1 economic pressure to husbands’ W4 divorce proneness was not significant (b = .00, 95% CI [.00, .00], p = .17).
Figure 7. Direct and Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness

Note. All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. *p < .05; **p < .01; ***p < .001. For ease of presentation, the covariance between exogeneous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 7.

Table 7. Additional Associations for Figure 7

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Note. w = wives’; h = husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, W4 marital satisfaction.

Next, the addition of the direct associations to the first two crossover effects were tested: (c) the addition of the direct association from wives’ W1 economic pressure to husbands’ divorce proneness three years later to the crossover effect from wives’ W1 economic pressure to husbands’ divorce proneness at W4 through husbands’ W2 depressive symptoms and husbands’
W3 hostile conflict behaviors, and (d) the addition of the direct association from husbands’ W1 economic pressure to wives’ divorce proneness three years later to the crossover effect from husbands’ W1 economic pressure to wives’ divorce proneness at W4 through wives’ W2 depressive symptoms and wives’ W3 hostile conflict behaviors (Figure 8). The direct association from wives’ W1 economic pressure and husbands’ W4 divorce proneness was not significant. The total indirect effect from wives’ W1 economic pressure to husbands’ W4 divorce proneness was not significant ($b = .00, 95\% \text{ CI } [.00, .00], p = .60$). The direct association from husbands’ W1 economic pressure to wives’ divorce proneness at W4 was not significant. The total indirect effect from husbands’ W1 economic pressure to wives’ W4 divorce proneness was not significant ($b = .00, 95\% \text{ CI } [.00, .00], p = .78$).

Next, the addition of the direct associations to the second two crossover effects were tested: (e) the addition of the direct association from wives’ W1 economic pressure to husbands’ divorce proneness three years later to the crossover effect from wives’ W1 economic pressure to husbands’ divorce proneness at W4 through wives’ W2 depressive symptoms and husbands’ W3 hostile conflict behaviors, and (f) the addition of the direct association from husbands’ W1 economic pressure to wives’ divorce proneness three years later to the crossover effect from husbands’ W1 economic pressure to wives’ divorce proneness at W4 through husbands’ W2 depressive symptoms and wives’ W3 hostile conflict behaviors (Figure 9). The direct association from wives’ W1 economic pressure to husbands’ divorce proneness at W4 was not significant. The total indirect effect from wives’ W1 economic pressure to husbands’ W4 divorce proneness was statistically significant ($b = .00, 95\% \text{ CI } [.00, .00], p = .04$). The direct association from husbands’ W1 economic pressure to wives’ divorce proneness at W4 was not significant. The total indirect effect from husbands’ W1 economic pressure to wives’ W4 divorce proneness was
statistically significant ($b = .00$, 95% CI [.00, .01], $p = .04$). Note that in this analytic model, each spillover pathways is significant in addition to the two crossover pathways. As such, the results from testing the analytic model in Figure 9 with the total sample provides support for the cascading pattern within spouses as well as with their partners. In addition, as hypothesized by Conger and colleagues (1999), there were no significant remaining main effects from economic pressure to divorce proneness over time.

**Figure 8. Direct and Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms**

*Note.* All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. *$p < .05$; **$p < .01$; ***$p < .001$. For ease of presentation, the covariance between exogeneous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 8.
Table 8. Additional Associations for Figure 8

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Note. $w =$ wives’; $h =$ husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, W4 marital satisfaction.

Figure 9. Direct and Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors

Note. All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. *$p < .05$; **$p < .01$; ***$p < .001$. For ease of presentation, the covariance between exogeneous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 9.
Table 9. Additional Associations for Figure 9

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*Note.* $w =$ wives’; $h =$ husbands’; $EP1 =$ W1 economic pressure; $DS2 =$ W2 depressive symptoms; $HCB3 =$ W3 hostile conflict behaviors; $DP4 =$ W4 divorce proneness, W4 marital satisfaction.

Finally, the addition of the direct associations to the last two crossover effects were tested: (g) the addition of the direct association from wives’ W1 economic pressure to husbands’ divorce proneness three years later to the crossover effect from wives’ W1 economic pressure to husbands’ divorce proneness at W4 through wives’ W2 depressive symptoms and wives’ W3 hostile conflict behaviors, and (h) the addition of the direct association from husbands’ W1 economic pressure to wives’ divorce proneness three years later to the crossover effect from husbands’ W1 economic pressure to wives’ divorce proneness at W4 through husbands’ W2 depressive symptoms and husbands’ W3 hostile conflict behaviors (Figure 10). The direct association from wives’ W1 economic pressure to husbands’ divorce proneness at W4 was not significant. The total indirect effect from wives’ W1 economic pressure to husbands’ W4 divorce proneness was not significant ($b = .00$, 95% CI [.00, .00], $p = .82$). The direct association from husbands’ W1 economic pressure to wives’ divorce proneness at W4 was not significant. The total indirect effect from husbands’ W1 economic pressure to wives’ W4 divorce proneness was not significant ($b = .00$, 95% CI [.00, .00], $p = .29$).

In summary, no support for Hypothesis 2b was found. None of the direct effects remained significant when added to the spillover and crossover analytic models tested in Hypothesis 2a.
Figure 10. Direct and Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness

Note. All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. *p < .05; **p < .01; ***p < .001. For ease of presentation, the covariance between exogeneous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 10.

Table 10. Additional Associations for Figure 10

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Note. w = wives’; h = husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, W4 marital satisfaction
Hypothesis 3: Moderation by Household Income Levels

Hypothesis 3a

Hypothesis 3a postulates that household income levels moderate the indirect spillover and crossover effects of wives’ and husbands’ W1 economic pressure on their divorce proneness at W4. The moderating effects of income level for each of the four analytic models tested in Hypothesis 2a were examined separately using multiple-group regression modeling (i.e., the spillover effects model and the three crossover effects models). I began by generating a model in which all path parameter estimates were constrained to be equal across the three income levels. Next, I generated a model in which wives’ and husbands’ FSM regression paths were unconstrained across income levels (except for corresponding spillover paths in the crossover effects analytic models). These models were then compared using a chi-square difference test. A significant change in chi-square value ($p < .05$) indicated that there were significant differences in the strength of at least one association across two particular levels of income (i.e., at least one path). First, differences were examined between lower- and middle-income couples. Second, differences were examined between middle- and higher-income couples. Third, differences were examined between lower- and higher-income couples. To identify the specific path that differed across groups, one-by-one comparisons of the constrained model to the unconstrained model were made for each path. Significant changes in the chi-square values at one degree of freedom ($p < .05$) indicated that the strength of the specific pathway differed across income levels. The regression estimates were then compared to identify the nature of the moderating effect.

Moderation of Spillover Effects Analytic Model. First, moderation effects by income of the two spillover effects were tested within the same model: (a) wives’ W1 economic pressure to their own divorce proneness three years later through their own W2 depressive symptoms and
their W3 hostile conflict behaviors, and (b) husbands’ W1 economic pressure to their own divorce proneness three years later through their own W2 depressive symptoms and their W3 hostile conflict behaviors. I started by examining differences were examined between lower- and middle-income couples. The $\chi^2$ difference test was not significant ($\chi^2(6) = 12.58, p = .05$) indicating that the spillover effects analytic model did not operate differently for lower- and middle-income couples. Second, differences were examined between middle- and higher-income couples. The $\chi^2$ difference test was not significant ($\chi^2(6) = 7.29, p = .30$) indicating that the spillover effects analytic model did not operate differently for middle- and higher-income couples. The figure and table for middle-income couples can be seen in Appendix C (Figure AC 1). Third, differences were examined between lower- and higher-income couples. The $\chi^2$ difference test was significant ($\chi^2(6) = 14.79, p = .02$) indicating that the spillover effects operated differently for lower- and higher-income couples.

Among lower-income couples, wives’ W1 economic was not significantly associated with wives’ depressive symptoms at W2 (Figure 11). Wives’ W2 depressive symptoms were significantly and positively associated with wives’ hostile conflict behaviors at W3. Wives’ W3 hostile conflict behaviors were significantly and positively associated with wives’ divorce proneness at W4. Husbands’ W1 economic was significantly and positively associated with husbands’ depressive symptoms at W2. Husbands’ W2 depressive symptoms were not significantly associated with husbands’ hostile conflict behaviors at W3. Husbands’ W3 hostile conflict behaviors were not significantly association with husbands’ divorce proneness at W4.
Figure 11. Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness in Lower-Income Couples

Note. All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. **p < .01; ***p < .001. For ease of presentation, the covariances between exogeneous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 11.

Table 11. Additional Associations for Figure 11

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Note. w = wives'; h = husbands'; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, MS4 = W4 marital satisfaction.

Among higher-income couples, none of the paths between wives’ W1 economic pressure and wives’ divorce proneness at W4 were significant (Figure 12). Husbands’ W1 economic was
significantly and positively associated with husbands’ depressive symptoms at W2. Husbands’ W2 depressive symptoms were not significantly associated with husbands’ hostile conflict behaviors at W3. Husbands’ W3 hostile conflict behaviors were not significantly associated with husbands’ divorce proneness at W4.

**Figure 12. Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness in Higher-Income Couples**

*Note.* All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. *p < .05; ***p < .001. For ease of presentation, the covariances between exogeneous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 12.
Table 12. Additional Associations for Figure 12

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*Note. w = wives’; h = husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, MS4 = W4 marital satisfaction.*

Next, one-by-one comparisons of each path were made across lower- and higher-income couples. The path between wives’ W2 depressive symptoms and wives’ hostile conflict behaviors at W3 ($\chi^2(1) = 8.69, p = .00$) was significantly different across income levels. The path was significant among lower-income couples but not significant among higher-income couples.

**Moderation of First Set of Crossover Effects Analytic Model.** Next, moderation effects by income of the first two crossover effects were tested: (c) wives’ W1 economic pressure to husbands’ divorce proneness three years later through husbands’ W2 depressive symptoms and husbands’ W3 hostile conflict behaviors, and (d) husbands’ W1 economic pressure to wives’ divorce proneness three years later through wives’ W2 depressive symptoms and wives’ W3 hostile conflict behaviors. The two corresponding spillover effects were constrained to be equal across the two income groups in both the constrained and unconstrained models (i.e., the path between wives’ W1 economic pressure and wives’ depressive symptoms at W2 and the path between husbands’ W1 economic pressure and husbands’ depressive symptoms at W2). First, differences were examined between lower- and middle-income couples. The $\chi^2$ difference test was not significant ($\chi^2(6) = 11.81, p = .07$) indicating that the first set of crossover effects analytic model did not operate differently for lower- and middle-income couples. Second,
differences were examined between middle- and higher-income couples. The χ² difference test was not significant (χ²(6) = 8.23, p = .22) indicating that the first set of crossover effects analytic model did not operate differently for middle- and higher-income couples. The figure and table showing this model for middle-income couples are in Appendix C (Figure AC 2). Third, differences were examined between lower- and higher-income couples. The χ² difference test was significant (χ²(6) = 18.03, p = .01) indicating that the first set of crossover effects analytic model operated differently for lower- and higher-income couples.

Among lower-income couples, none of the paths between wives’ W1 economic pressure and husbands’ divorce proneness at W4 were significant (Figure 13). Husbands’ W1 economic pressure was not significantly associated with wives’ depressive symptoms at W2. Wives’ W2 depressive symptoms were significantly and positively associated with wives’ hostile conflict behaviors at W3. Wives’ W3 hostile conflict behaviors were significantly and positively associated with wives’ divorce proneness at W4.

Among higher-income couples, none of the paths between wives’ W1 economic pressure and husbands’ divorce proneness at W4 were significant (Figure 14). Husbands’ W1 economic pressure was significantly and negatively associated with wives’ depressive symptoms at W2. Wives’ W2 depressive symptoms were not significantly associated with wives’ hostile conflict behaviors at W3. Wives’ W3 hostile conflict behaviors were not significantly associated with wives’ divorce proneness at W4.

Next, one-by-one comparisons of each path were made across lower- and higher-income couples. The path between husbands’ W1 economic pressure and wives’ depressive symptoms at W2 (χ²(1) = 4.38, p = .04) was significantly different across income levels. The path was significant among higher-income couples but not significant among lower-income couples. The
path between wives’ W2 depressive symptoms and wives’ hostile conflict behaviors at W3 ($\chi^2(1) = 8.70, p = .00$) was also significantly different across income levels. The path was significant among lower-income couples but not significant among higher-income couples. As such, when including these two crossover paths there were differences between lower- and higher-income couples in both spillover and crossover associations.

**Figure 13. Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms in Lower-Income Couples**

*Note.* All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. **$p < .01$; ***$p < .001$. For ease of presentation, the covariances between exogeneous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 13.
Table 13. Additional Associations for Figure 13

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Note. w = wives’; h = husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, MS4 = W4 marital satisfaction.

Figure 14. Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms in Higher-Income Couples

Note. All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. *p < .05; **p < .01; ***p < .001. For ease of presentation, the covariances between exogeneous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 14.
Table 14. Additional Associations for Figure 14

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Note. $w =$ wives’; $h =$ husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, MS4 = W4 marital satisfaction.

Moderation of Second Set of Crossover Effects Analytic Model. Next, moderation effects by income of the second two crossover effects were tested: (e) wives’ W1 economic pressure to husbands’ divorce proneness three years later through wives’ W2 depressive symptoms and husbands’ W3 hostile conflict behaviors, and (f) husbands’ W1 economic pressure to wives’ divorce proneness three years later through husbands’ W2 depressive symptoms and wives’ W3 hostile conflict behaviors. The two corresponding spillover effects were constrained to be equal across the two income groups in both the constrained and unconstrained models (i.e., the path between wives’ W2 depressive symptoms and wives’ hostile conflict behaviors at W3 and the path between husbands’ W2 depressive symptoms and husbands’ hostile conflict behaviors at W3). First, differences were examined between lower- and middle-income couples. The $\chi^2$ difference test was significant ($\chi^2(6) = 15.54, p = .02$) indicating that the first set of crossover effects analytic model operated differently for lower- and middle-income couples. Second, differences were examined between middle- and higher-income couples. The $\chi^2$ difference test was not significant ($\chi^2(6) = 6.99, p = .32$) indicating that the second set of crossover effects analytic model operated similarly for middle- and higher-income couples. Third, differences were
examined between lower- and higher-income couples. The $\chi^2$ difference test was significant ($\chi^2(6) = 19.33, p = .00$) indicating that the second set of crossover effects analytic model operated differently for lower- and higher-income couples.

Among lower-income couples, wives’ W1 economic pressure was not significantly associated with wives’ depressive symptoms at W2 (Figure 15). Wives’ W2 depressive symptoms were not associated with husbands’ hostile conflict behaviors at W3. Husbands’ W3 hostile conflict behaviors were not significantly associated with husbands’ divorce proneness at W4. Husbands’ W1 economic pressure was significantly and positively associated with husbands’ depressive symptoms at W2. Husbands’ W2 depressive symptoms were not significantly associated with wives’ hostile conflict behaviors at W3. Wives’ hostile conflict behaviors were significantly and positively associated with wives’ divorce proneness at W4.

Among middle-income couples, wives’ W1 economic pressure was significantly and positively associated with wives’ depressive symptoms at W2 (Figure 16). Wives’ W2 depressive symptoms were significantly and positively associated with husbands’ hostile conflict behaviors at W3. Husbands’ W3 hostile conflict behaviors were significantly and positively associated with husbands’ divorce proneness at W4. Husbands’ W1 economic pressure was significantly and positively associated with husbands’ depressive symptoms at W2. Husbands’ W2 depressive symptoms were significantly and positively associated with wives’ hostile conflict behaviors at W3. Wives’ W3 hostile conflict behaviors were not significantly associated with wives’ divorce proneness at W4.
Figure 15. Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors in Lower-Income Couples

Note. All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. **p < .01; ***p < .001. For ease of presentation, the covariances between exogenous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 15.

Table 15. Additional Associations for Figure 15

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Note. w = wives’; h = husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, MS4 = W4 marital satisfaction.
Among higher-income couples, wives’ W1 economic pressure was not significantly associated with wives’ depressive symptoms at W2 (Figure 17). Wives’ W2 depressive symptoms were significantly and positively associated with husbands’ hostile conflict behaviors at W3. Husbands’ W3 hostile conflict behaviors were not significantly associated with husbands’ divorce proneness at W4. Husbands’ W1 economic pressure was significantly and positively associated with husbands’ depressive symptoms at W2. Husbands’ W2 depressive symptoms were significantly and positively associated with wives’ hostile conflict behaviors at W3. Wives’ W3 hostile conflict behaviors were not significantly associated with wives’ divorce proneness at W4.

Next, one-by-one comparisons of each path were made across lower- and middle-income couples. The path between wives’ W2 depressive symptoms and husbands’ hostile conflict behaviors at W3 ($\chi^2(1) = 7.19, p = .01$) and the path between wives’ W3 hostile conflict behaviors and wives’ divorce proneness at W4 ($\chi^2(1) = 4.90, p = .03$) were significantly different across income levels. Both were significant among middle-income couples but not significant among lower-income couples.

Next, one-by-one comparisons of each path were made across lower- and higher-income couples. The path between wives’ W2 depressive symptoms and husbands’ hostile conflict behaviors at W3 ($\chi^2(1) = 10.23, p = .00$) and the path between husbands’ W2 depressive symptoms and wives’ hostile conflict behaviors at W3 ($\chi^2(1) = 5.82, p = .02$) were significantly different across income levels. Both were significant among higher-income couples but not significant among lower-income couples. These results demonstrate that, when including these two crossover paths there were differences between lower- and both middle- and higher-income couples in both spillover and crossover associations.
Figure 16. Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors in Middle-Income Couples

Note. All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. **p < .01; ***p < .001. For ease of presentation, the covariances between exogeneous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 16.

Table 16. Additional Associations for Figure 16

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Note. w = wives’; h = husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, MS4 = W4 marital satisfaction.
Figure 17. Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors in Higher-Income Couples

Note. All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. *p < .05; ***p < .001. For ease of presentation, the covariances between exogenous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 17.

Table 17. Additional Associations for Figure 17

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Note. w = wives’; h = husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, MS4 = W4 marital satisfaction.
Moderation of Third Set of Crossover Effects Analytic Model. Finally, moderation effects by income of the last two crossover effects were tested: (g) wives’ W1 economic pressure to husbands’ divorce proneness three years later through wives’ W2 depressive symptoms and wives’ W3 hostile conflict behaviors, and (h) husbands’ W1 economic pressure to wives’ divorce proneness three years later through husbands’ W2 depressive symptoms and husbands’ W3 hostile conflict behaviors (Figure 18). The two corresponding spillover effects were constrained to be equal across the two income groups in both the constrained and unconstrained models (i.e., the path between wives’ W3 hostile conflict behaviors and wives’ divorce proneness at W4 and the path between husbands’ hostile conflict behaviors and husbands’ divorce proneness at W4). First, differences were examined between lower- and middle-income couples. The $\chi^2$ difference test was not significant ($\chi^2(6) = 6.97, p = .32$) indicating that the third set of crossover effects analytic model did not operate differently for lower- and middle-income couples. Second, differences were examined between middle- and higher-income couples. The $\chi^2$ difference test was not significant ($\chi^2(6) = 7.38, p = .22$) indicating that the third set of crossover effects analytic model did not operate differently for middle- and higher-income couples. Third, differences were examined between lower- and higher-income couples. The $\chi^2$ difference test was not significant ($\chi^2(6) = 10.95, p = .09$) indicating that the third set of crossover effects analytic model did not operate differently for lower- and higher-income couples. The figures and tables showing these models for each group are in Appendix C (Figures AC 3-5).
In summary, I found partial support for Hypothesis 3a. Household income significantly moderated the spillover effects and the first and second set of crossover effects. Specifically, in the spillover effects analytical model, the path between wives’ W2 depressive symptoms and wives’ hostile conflict behaviors at W3 was significant for lower-income couples but not higher-income couples. In the first set of moderated crossover effects, the path between husbands’ W1 economic pressure and wives’ depressive symptoms at W2 was significant for higher-income couples but not for lower-income couples. Conversely, the path between wives’ W2 depressive symptoms and wives’ hostile conflict behaviors at W3 were significant for lower-income couples but not for higher-income couples. In the second set of moderated crossover effects, both the path between wives’ W2 depressive symptoms and husbands’ hostile conflict behaviors at W3 and the path between husbands’ W2 depressive symptoms and wives’ hostile conflict behaviors at W3 were significant among higher-income couples but not significant among lower-income couples. Income did not moderate the spillover effects or the third set of crossover effects.
Hypothesis 3b

Hypothesis 3b postulates that household income levels moderate the unique direct associations added to the models of indirect spillover and crossover effects of economic pressure on divorce proneness (analytic models tested for 3a). The moderating effects of income level for each of the four analytic models were examined separately using multiple-group regression analyses. To begin, I examined each analytic model across lower-, middle-, and higher-income level. First, I generated a model in which all path parameter estimates were constrained to be equal across the three income levels. Next, I generated a model in which the two direct associations between W1 economic pressure and divorce proneness at W4 were unconstrained across income levels. In addition, any spillover or crossover paths that differed between income groups in H3a were unconstrained. All other paths remained constrained across the three income groups. These models were then compared using a chi-square difference test. A significant change in chi-square \( (p < .05) \) indicated that there were significant differences in the strength of at least one of the unconstrained paths across lower-, middle-, and higher-income couples. If the chi-square difference test was significant, I compared the fully constrained and partially unconstrained models across pairs of groups, using a chi-square difference test.

Using these procedures, differences were first examined between lower- and middle-income couples. Second, differences were examined between middle- and higher-income couples. Third, differences were examined between lower- and higher-income couples. A significant change in chi-square value \( (p < .05) \) indicated that there were significant differences in the strength of at least one association across the two levels of income. To identify if, and which, one of the direct effects differed across income levels, I compared separate models in which first one and then the other direct association was constrained to be equal across income
level. This constrained model was then compared to the unconstrained model. Significant changes in the chi-square values ($p < .05$) indicated that the strength of the specific pathway differed across income levels (i.e., the unstandardized regression coefficients for the path differed across the two groups).

**Moderation of Direct and Spillover Effects Analytic Model.** First, moderation effects by income of the addition of the direct associations to the two spillover effects were tested within the same model: (a) the addition of the direct association from wives’ W1 economic pressure to their own divorce proneness three years later to the spillover effect, and (b) the addition of the direct association from husbands’ W1 economic pressure to their own divorce proneness three years later to the spillover effect (Figure 19). Previous tests of the moderating effects of income on the spillover effects (i.e., H3a) indicated no significant moderation of the spillover paths; therefore, only the two direct effects were constrained. The $\chi^2$ difference test was not significant ($\chi^2(4) = 7.20, p = .13$) indicating that the direct and spillover effects analytic model did not operate differently across the three household income levels (i.e., the test for H3b). The figures and tables showing these models for each group are in Appendix C (Figures AC 6-8).
Figure 19. Conceptual Model for Direct and Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness

Note. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4.

Moderation of Direct and First Set of Crossover Effects Analytic Model. Next, moderation effects by income of the addition of the direct associations to the first two crossover effects were tested: (c) the addition of the direct association from wives’ W1 economic pressure to husbands’ divorce proneness three years later to the crossover effect from wives’ W1 economic pressure to husbands’ divorce proneness at W4 through husbands’ W2 depressive symptoms and husbands’ W3 hostile conflict behaviors, and (d) the addition of the direct association from husbands’ W1 economic pressure to wives’ divorce proneness three years later to the crossover effect from husbands’ W1 economic pressure to wives’ divorce proneness at W4 through wives’ W2 depressive symptoms and wives’ W3 hostile conflict behaviors (Figure 20).

In previous analyses, the path between husbands’ W1 economic pressure and wives’ depressive symptoms at W2 was significant for higher-income couples. Therefore, this path, in addition to the two direct effects, were unconstrained across income levels. The $\chi^2$ difference test was not significant ($\chi^2(4) = 12.29, p = .06$) indicating that the analytic model depicting the direct and first
set of crossover effects did not operate differently across the three household income levels. The figures and tables showing these models for each group are in Appendix C (Figures AC 9-11).

**Figure 20. Conceptual Model for Direct and Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms**

![Conceptual Model](image)

*Note.* W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4.

**Moderation of Direct and Second Set of Crossover Effects Analytic Model.** Next, moderation effects by income of the addition of the direct associations to the second two crossover effects were tested: (e) the addition of the direct association from wives’ W1 economic pressure to husbands’ divorce proneness three years later to the crossover effect from wives’ W1 economic pressure to husbands’ divorce proneness at W4 through wives’ W2 depressive symptoms and husbands’ W3 hostile conflict behaviors, and (f) the addition of the direct association from husbands’ W1 economic pressure to wives’ divorce proneness three years later to the crossover effect from husbands’ W1 economic pressure to wives’ divorce proneness at W4 through husbands’ W2 depressive symptoms and wives’ W3 hostile conflict behaviors. In previous analyses, the paths between both wives’ and husbands’ W2 depressive symptoms and their partners’ hostile conflict behaviors at W3 were significant for middle- and higher-income couples. Therefore, both these paths, in addition to the two direct effects, were unconstrained
across income levels. The $\chi^2$ difference test was significant ($\chi^2(8) = 20.69$, $p = .01$) indicating that the direct and second set of crossover effects operated differently for lower-, middle-, and higher-income couples.

First, differences were examined between lower- and middle-income couples. The $\chi^2$ difference test was significant ($\chi^2(4) = 10.81$, $p = .03$) indicating that the direct and second set of crossover effects analytic model operated differently for lower- and middle-income couples. Considering first the tests of the added direct effects (i.e., H3b), the direct association from wives’ W1 economic pressure to husbands’ divorce proneness at W4 was not significant for either lower- (Figure 21) or middle-income couples (Figure 22), nor did it significantly differ ($\chi^2(1) = .27$, $p = .60$). The direct association from husbands’ W1 economic pressure to wives’ divorce proneness at W4 was not significant for either lower- or middle-income couples, nor did it significantly differ ($\chi^2(1) = 2.10$, $p = .15$). Thus, when comparing lower- and middle-income families, there was no direct association between economic pressure and later divorce proneness in this crossover analytic model. The previously identified pattern regarding the differential crossover effects between depressive symptoms and partners’ hostile conflict behaviors remained (i.e., nonsignificant in lower-income couples and significant in middle-income couples). In this analysis, spillover effects were evident across lower- and middle-income couples.

Second, differences were examined between middle- and higher-income couples. The $\chi^2$ difference test was not significant ($\chi^2(4) = 7.48$, $p = .11$) indicating that the direct and second set of crossover effects analytic model did not operate differently for middle- and higher-income couples.
Figure 21. Direct and Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors in Lower-Income Couples

Note. All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. **p < .01; ***p < .001. For ease of presentation, the covariances between exogeneous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 21.

Table 21. Additional Associations for Figure 21

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Note. w = wives’; h = husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, MS4 = W4 marital satisfaction.
Figure 22. Direct and Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors in Middle-Income Couples

Note. All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. **p < .01; ***p < .001. For ease of presentation, the covariances between exogeneous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 22.

Table 22. Additional Associations for Figure 22

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Note. w = wives’; h = husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, MS4 = W4 marital satisfaction.

Third, differences were examined between lower- and higher-income couples. The $\chi^2$ difference test was significant ($\chi^2(4) = 16.17, p = .00$) indicating that the direct and second set of
crossover effects analytic model operated differently for lower- and higher-income couples. The direct association from wives’ W1 economic pressure to husbands’ divorce proneness at W4 was not significant for either lower- or higher-income couples (Figure 23), nor did it significantly differ ($\chi^2(1) = 2.92, p = .09$). The direct association from husbands’ W1 economic pressure to wives’ divorce proneness at W4 was not significant for either lower- or higher-income couples, nor did it significantly differ ($\chi^2(1) = .09, p = .77$). Thus, when comparing lower- and higher-income families, there was no direct association between economic pressure and later divorce proneness in this crossover analytic model. The previously identified pattern regarding the differential crossover effects between depressive symptoms and partners’ hostile conflict behaviors remained (i.e., nonsignificant in lower-income couples and significant in higher-income couples). In this analysis, spillover effects were evident across lower- and higher-income couples.
Figure 23. Direct and Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors in Higher-Income Couples

Note. All reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. **p < .01; ***p < .001. For ease of presentation, the covariances between exogenous variables, disturbance terms, and control variables are not shown in the figure and are presented in Table 23.

Table 23. Additional Associations for Figure 23

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Note. w = wives’; h = husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, MS4 = W4 marital satisfaction.

Moderation of Third Set of Crossover Effects Analytic Model. Finally, moderation effects by income of the addition of the direct associations to the last two crossover effects were
tested: (g) the addition of the direct association from wives’ W1 economic pressure to husbands’ divorce proneness three years later to the crossover effect from wives’ W1 economic pressure to husbands’ divorce proneness at W4 through wives’ W2 depressive symptoms and wives’ W3 hostile conflict behaviors, and (h) the addition of the direct association from husbands’ W1 economic pressure to wives’ divorce proneness three years later to the crossover effect from husbands’ W1 economic pressure to wives’ divorce proneness at W4 through husbands’ W2 depressive symptoms and husbands’ W3 hostile conflict behaviors (Figure 24). Previous tests of the moderating effects of income on the crossover effects indicated no significant moderation of the spillover paths; therefore, only the two direct effects were constrained. The \( \chi^2 \) difference test was not significant (\( \chi^2(4) = 7.64, p = .11 \)) indicating that the direct and third set of crossover effects analytic model did not operate differently across the three household income levels. The figures and tables showing these models for each group are in Appendix C (Figures AC 12-14).

In summary, no support for Hypothesis 3b was found. There were no significant differences in the strength of the direct associations between economic pressure and later divorce proneness across income levels for any of the four analytical models tested.
Hypothesis 4: Moderation by Work-to-Family Conflict

Hypothesis 4a

Hypothesis 4a postulates that work-to-family conflict moderates the indirect spillover and crossover effects of wives’ and husbands’ W1 economic pressure on their divorce proneness at W4. The moderating effects of work-to-family conflict for each of the four analytic models tested in Hypothesis 2a (i.e., the spillover effects model and the three crossover effects models) were examined separately using multiple-group regression modeling. I began by generating a model in which all parameter estimates pathways were constrained to be equal across work-to-family conflict levels (i.e., lower and higher). Next, I generated a model in which wives’ and husbands’ FSM regression paths were unconstrained across work-to-family conflict levels (except for corresponding spillover paths in the crossover effects analytic models). These models were then compared using a chi-square difference test. A significant change in chi-square value ($p < .05$) indicated that there were significant differences in the strength of at least one association across the lower and higher work-to-family conflict couples. To identify the specific
paths that differed across groups, one-by-one comparisons of the constrained model to the unconstrained model were made for each path. For example, a model in which only the path between wives’ W1 economic pressure and wives’ depressive symptoms at W2 was constrained across work-to-family conflict level, whereas all other FSM paths were unconstrained, was compared with the model in which all FSM paths were unconstrained across work-to-family conflict level. Significant changes in the chi-square values at 1 degree of freedom ($p < .05$) indicated that the strength of the specific pathway differed across work-to-family conflict levels.

**Moderation of Spillover Effects Analytic Model.** First, moderation effects by work-to-family conflict of the two spillover effects were tested within the same model: (a) wives’ W1 economic pressure to their own divorce proneness three years later through their own W2 depressive symptoms and their W3 hostile conflict behaviors, and (b) husbands’ W1 economic pressure to their own divorce proneness three years later through their own W2 depressive symptoms and their W3 hostile conflict behaviors (Figure 25). The $\chi^2$ difference test was not significant ($\chi^2(6) = 3.07, p = .80$) indicating that the spillover effects did not operate differently for lower work-to-family conflict couples and higher work-to-family conflict couples. The figures and tables showing these models for each group are in Appendix C (Figures AC 15 and 16).
Figure 25. Conceptual Model of Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness

Note. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4.

Moderation of First Set of Crossover Effects Analytic Model. Next, moderation effects by work-to-family conflict of the first two crossover effects were tested: (c) wives’ W1 economic pressure to husbands’ divorce proneness three years later through husbands’ W2 depressive symptoms and husbands’ W3 hostile conflict behaviors, and (d) husbands’ W1 economic pressure to wives’ divorce proneness three years later through wives’ W2 depressive symptoms and wives’ W3 hostile conflict behaviors (Figure 26). The two corresponding spillover effects were constrained to be equal across the two work-to-family-income groups in both the constrained and unconstrained models (i.e., the path between wives’ W1 economic pressure and wives’ depressive symptoms at W2 and the path between husbands’ W1 economic pressure and husbands’ depressive symptoms at W2). The $\chi^2$ difference test was not significant ($\chi^2(6) = 3.16, p = .79$) indicating that the crossover effects analytic model did not operate differently across work-to-family conflict levels. The figures and tables showing these models for each group are in Appendix C (Figures AC 17 and 18).
Figure 26. Conceptual Model for Direct and Crossover Effects of Economic Pressure on Partners’ Depressive Symptoms

Note. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4.

Moderation of Second Set of Crossover Effects Analytic Model. Next, moderation effects by work-to-family conflict of the second two crossover effects were tested: (e) wives’ W1 economic pressure to husbands’ divorce proneness three years later through wives’ W2 depressive symptoms and husbands’ W3 hostile conflict behaviors, and (f) husbands’ W1 economic pressure to wives’ divorce proneness three years later through husbands’ W2 depressive symptoms and wives’ W3 hostile conflict behaviors (Figure 27). The two corresponding spillover effects were constrained to be equal across work-to-family conflict groups in both the constrained and unconstrained models (i.e., the path between wives’ W2 depressive symptoms and wives’ hostile conflict behaviors at W3 and the path between husbands’ W2 depressive symptoms and husbands’ hostile conflict behaviors at W3). The $\chi^2$ difference test was not significant ($\chi^2(6) = 4.53, p = .61$) indicating that the crossover effects analytic model did not operate differently for lower and higher work-to-family conflict couples. The figures and tables showing these models for each group are in Appendix C (Figures AC 19 and 20).
Figure 27. Conceptual Model of Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors

![Diagram of Conceptual Model](image)

*Note.* W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4.

**Moderation of Third Set of Crossover Effects Analytic Model.** Finally, moderation effects by work-to-family conflict of the last two crossover effects were tested: (g) wives’ W1 economic pressure to husbands’ divorce proneness three years later through wives’ W2 depressive symptoms and wives’ W3 hostile conflict behaviors, and (h) husbands’ W1 economic pressure to wives’ divorce proneness three years later through husbands’ W2 depressive symptoms and husbands’ W3 hostile conflict behaviors (Figure 28). The two corresponding spillover effects were constrained to be equal across work-to-family conflict groups in both the constrained and unconstrained models (i.e., the path between wives’ W3 hostile conflict behaviors and wives’ divorce proneness at W4 and the path between husbands’ hostile conflict behaviors and husbands’ divorce proneness at W4). The $\chi^2$ difference test was not significant ($\chi^2(6) = 2.65, p = .85$) indicating that the crossover effects did not operate differently for lower work-to-family conflict couples and higher work-to-family conflict couples. The figures and tables showing these models for each group are in Appendix C (Figures AC 21 and 22).
In summary, no support for Hypothesis 4a was found. There were no significant differences in the strength of the indirect spillover or crossover associations between economic pressure and later divorce proneness across work-to-family conflict levels for any of the four analytical models tested.

**Figure 28. Conceptual Model of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness**

![Conceptual Model of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness](image)

*Note. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4.*

**Hypothesis 4b**

Hypothesis 4b postulates that work-to-family conflict moderates the unique direct associations added to the models of indirect spillover and crossover effects of economic pressure on divorce proneness (analytic models tested for 4a). The moderating effects of work-to-family conflict for each of the four analytic models were examined separately using multiple-group regression analyses. I began by generating a model in which all parameter estimates pathways were constrained to be equal across work-to-family conflict levels (i.e., lower and higher). Next, I generated a model in which the two direct associations between W1 economic pressure and divorce proneness at W4 were unconstrained across work-to-family conflict levels. In addition, any spillover or crossover paths that differed between work-to-family conflict groups in H4a
were unconstrained. All other paths remained constrained across the two work-to-family conflict levels. These models were then compared using a chi-square difference test. A significant change in chi-square ($p < .05$) indicated that there were significant differences in the strength of at least one association across the lower and higher work-to-family conflict couples. To identify the specific paths that differed across groups, one-by-one comparisons of the constrained model to the unconstrained model were made for the direct paths. To identify if, and which, one of the direct effects differed across work-to-family conflict levels, I compared separate models in which first one and then the other direct association was constrained to be equal across work-to-family conflict levels. This constrained model was then compared to the unconstrained model. Significant changes in the chi-square values ($p < .05$) indicated that the strength of the specific pathway differed across work-to-family conflict levels (i.e., the unstandardized regression coefficients for the path differed across the two groups).

**Moderation of Direct and Spillover Effects Analytic Model.** First, moderation effects by work-to-family conflict of the addition of the direct associations to the two spillover effects were tested within the same model: (a) the addition of the direct association from wives’ W1 economic pressure to their own divorce proneness three years later to the spillover effect, and (b) the addition of the direct association from husbands’ W1 economic pressure to their own divorce proneness three years later to the spillover effect (Figure 29). In previous analyses (i.e., H4a), the path between both wives’ W2 depressive symptoms and wives’ hostile conflict behaviors at W3 was significant only for higher work-to-family conflict couples and the path between husbands’ W1 economic pressure and husbands’ depressive symptoms at W2 was significant for both lower and higher work-to-family conflict couples but statistically different. Therefore, both these paths, in addition to the two direct effects, were unconstrained across work-to-family conflict levels.
The $\chi^2$ difference test was not significant ($\chi^2(4) = .88, p = .93$) indicating that the direct and spillover effects did not operate differently for lower and higher work-to-family conflict couples. The figures and tables showing these models for each group are in Appendix C (Figures AC 23 and 24).

**Figure 29. Conceptual Model of Direct and Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness**

![Diagram of conceptual model](image)

*Note.* W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4.

**Moderation of Direct and First Set of Crossover Effects Analytic Model.** Next, moderation effects by work-to-family conflict of the addition of the direct associations to the first two crossover effects were tested: (c) the addition of the direct association from wives’ W1 economic pressure to husbands’ divorce proneness three years later to the crossover effect from wives’ W1 economic pressure to husbands’ divorce proneness at W4 through husbands’ W2 depressive symptoms and husbands’ W3 hostile conflict behaviors, and (d) the addition of the direct association from husbands’ W1 economic pressure to wives’ divorce proneness three years later to the crossover effect from husbands’ W1 economic pressure to wives’ divorce proneness at W4 through wives’ W2 depressive symptoms and wives’ W3 hostile conflict behaviors (Figure 30). Previous tests of the moderating effects of work-to-family conflict on the crossover
effects (i.e., H4a) indicated no significant moderation of the crossover paths; therefore, only the two direct effects were constrained. The $\chi^2$ difference test was not significant ($\chi^2(2) = 2.12, p = .35$) indicating that the analytic model depicting the direct and first set of crossover effects did not operate differently across couples with lower and higher work-to-family conflict. The figures and tables showing these models for each group are in Appendix C (Figures AC 25 and 26).

**Figure 30. Conceptual Model for Direct and Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms**

![Conceptual Model](image)

**Note.** W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4.

**Moderation of Second Set of Crossover Effects Analytic Model.** Next, moderation effects by work-to-family conflict of the addition of the direct associations to the second two crossover effects were tested: (e) the addition of the direct association from wives’ W1 economic pressure to husbands’ divorce proneness three years later to the crossover effect from wives’ W1 economic pressure to husbands’ divorce proneness at W4 through wives’ W2 depressive symptoms and husbands’ W3 hostile conflict behaviors, and (f) the addition of the direct association from husbands’ W1 economic pressure to wives’ divorce proneness three years later to the crossover effect from husbands’ W1 economic pressure to wives’ divorce proneness at W4 through husbands’ W2 depressive symptoms and wives’ W3 hostile conflict behaviors (Figure
31). Previous tests of the moderating effects of work-to-family conflict on the crossover effects indicated no significant moderation of the crossover paths; therefore, only the two direct effects were constrained. The \( \chi^2 \) difference test was not significant (\( \chi^2(2) = 2.12, p = .35 \)) indicating that the analytic model depicting the direct and second set of crossover effects did not operate differently across couples with lower and higher work-to-family conflict. The figures and tables showing these models for each group are in Appendix C (Figures AC 27 and 28).

**Figure 31. Conceptual Model for Direct and Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors**

Note. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4.

**Moderation of Third Set of Crossover Effects Analytic Model.** Finally, moderation effects by work-to-family conflict of the addition of the direct associations to the last two crossover effects were tested: (g) the addition of the direct association from wives’ W1 economic pressure to husbands’ divorce proneness three years later to the crossover effect from wives’ W1 economic pressure to husbands’ divorce proneness at W4 through wives’ W2 depressive symptoms and wives’ W3 hostile conflict behaviors, and (h) the addition of the direct association from husbands’ W1 economic pressure to wives’ divorce proneness three years later to the crossover effect from husbands’ W1 economic pressure to wives’ divorce proneness at W4
through husbands’ W2 depressive symptoms and husbands’ W3 hostile conflict behaviors (Figure 32). In previous analyses, the paths between both wives’ and husbands’ W3 hostile conflict behaviors and their partners’ divorce proneness at W4 were significant only for lower work-to-family conflict couples. Therefore, both these paths, in addition to the two direct effects, were unconstrained across work-to-family conflict levels. The $\chi^2$ difference test was not significant ($\chi^2(2) = 3.38, p = .18$) indicating that the direct and third set of crossover effects did not operate differently for lower and higher work-to-family conflict couples. The figures and tables showing these models for each group are in Appendix C (Figures AC 29 and 30).

In summary, no support for Hypothesis 4b was found. There were no significant differences in the strength of the direct associations between economic pressure and later divorce proneness across lower and higher work-to-family conflict couples for any of the four analytical models tested.

Figure 32. Conceptual Model for Direct and Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness

Note. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4.
CHAPTER VI: DISCUSSION

It is well-established that stress stemming from economic difficulties plays an important role in influencing individual, marital, and family well-being. One of the most popular and well-supported frameworks for explaining the negative outcomes of economic pressure on relationship functioning is the family stress model of romantic relationships (FSM; Conger et al., 1999). The purpose of the current study was to examine several adaptations of Conger and colleagues’ model in a sample of mostly White, different-sex, married couples with children entering adolescence. Developed in response to the 1980s farm economic crisis, the FSM describes a series of cascading experiences in which (a) couples’ economic pressure at Time 1 leads to husbands’ and wives’ emotional distress at Time 2, (b) individual emotional distress leads to couples’ marital conflict at Time 2, and (c) marital conflict leads to couples’ marital distress at Time 3. In the original study, the sample used to test this model consisted of White, lower- and middle-class married parents living in north central Iowa. Later, the FSM was expanded to include child outcomes resulting from economic pressure (Conger & Conger, 2002; Conger et al., 2002). Since its creation, the FSM, either in part or in its entirety, has been supported across different races/ethnicities and nationalities, in different family structures, and within the context of other socio-economic factors (Conger et al., 2010). However, several limitations in the FSM literature have also emerged and are addressed in the current study.

First, scholars have largely examined marital satisfaction as the outcome of interest in FSM studies (Falconier et al., 2015; Wheeler et al., 2019). This differs from Conger et al.’s (1999) original conceptualization of marital distress as divorce proneness or “the degree to which spouses have considered divorce or separation” (p. 60). Although marital satisfaction and divorce proneness are closely related, they are also conceptually unique and have different influences on
individual and family well-being and happiness (Gottman, 1994; Karney & Bradbury, 1995). The current study addressed this issue by examining divorce proneness as the outcome variable, controlling for wives’ and husbands’ individual marital satisfaction at the same wave.

Second, with the exception of emotional distress, Conger and colleagues (1999) summed husbands’ and wives’ scores to create a composite score for couples on each variable. Family systems theory (Cox & Paley, 1997) postulates that, although partners are interdependent and influenced by their shared family context, they also have unique reactions to both their own and their partners’ stressors and behaviors (Wheeler et al., 2019). Furthermore, gender socialization differences may influence family stress processes within families (Ponnet et al., 2016; Wickrama & O’Neal, 2019; Williams et al., 2015). To address this limitation, the current study included wives’ and husbands’ reports on each variable, and estimated covariances between spouses reports at each wave, in the same model. I also included both spillover (individuals’ influence on themselves) and crossover (individuals’ influence on their partners) pathways.

Third, the original FSM studies, and most subsequent research utilizing the FSM, did not include direct effects between economic pressure and divorce proneness. Although Conger et al. (1999) originally included a direct path between economic pressure at Time 1 and marital distress at Time 3, upon finding it to not be statistically significant, the authors dropped it from the model. More recently, however, other scholars have examined this direct effect in their expansive models and have reported finding significant associations between economic struggles and lower marital well-being (Ponnet et al., 2016; Wheeler et al., 2019). Given these findings, the current study examined direct effects in several ways. First, they were examined in an analytic model without any intervening variables. Next, they were examined in models including indirect effects (i.e., spillover and crossover pathways). I also examined the models with direct
and indirect effects within the context of considering the two moderating variables (household income and work-to-family conflict).

Fourth, scholars who have incorporated socio-economic contextual and/or cultural factors into FSM studies, such as neighborhood quality and acculturation, have primarily focused on families of color (Hurwich-Reiss & Watamura, 2019; White et al., 2015). The lack of contextual variables in FSM studies of White samples reinforces a centralized view of Whiteness in which only the relationship health of people of color are influenced by shared, external factors whereas the relationships of White couples are solely influenced theoretically by internal factors such as psychological well-being and marital interactions. The current study attempts to disrupt this narrative by examining two moderators that represent, in part, elements of the sociostructural contexts in which microprocesses unfold: household income (lower, middle, or higher) and work-to-family conflict (lower or higher).

Direct Effects of Economic Pressure on Divorce Proneness Over Time

My findings regarding direct effects were consistent with the model proposed by Conger et al. (1999). None of the direct effects between husbands’ and wives’ W1 economic pressure and either their own or their partners’ divorce proneness at W4 were significant when added to models which included indirect pathways through W2 depressive symptoms and W3 hostile conflict behaviors. This demonstrates that Conger and colleagues’ finding was not merely an artifact of their decision to aggregate husbands’ and wives’ reports, but rather indicative of the strain economic pressure puts on personal well-being and marital interactions which can subsequently lead to divorce.

This finding contradicted my hypothesis that men’s and women’s W1 economic pressure would directly influence both their own and their partners’ divorce proneness three years later, in
addition to indirectly influencing divorce proneness through the internalization of stress and marital conflict behaviors. This hypothesis was based on evidence from previous research on associations between financial stressors and marital well-being (Falconier & Jackson, 2020; Archuleta et al., 2011). Previous research may have found significant direct effects because they did not include the intervening variables predicted by the FSM. For example, Hubler et al. (2016) tested an actor-partner interdependence model that looked at associations between husbands’ and wives’ family-of-origin financial strain, current financial strain, and relationship satisfaction. The authors found that both husbands’ and wives’ reports of current financial strain predicted husbands’ relationship satisfaction. Similarly, when I tested direct effects in a model without including depressive symptoms and hostile conflict behaviors (H1), I also found a significant association between wives’ W1 economic pressure and husbands’ divorce proneness at W4. The lack of significant direct effects in models including the FSM cascade indicates that the relationship between the variables can be explained by internalization of economic pressure and hostile marital interactions. This demonstrates that the experience of stress may not be inherently problematic to a relationships’ health, but rather how individuals react to that stress, both individually and as a couple.

Another explanation for the differences in my results compared to previous research may stem from difference in how I conceptualized the marital well-being outcome. For example, although I looked at predictors of divorce proneness, Archuleta et al. (2011) were interested in the direct effect of financial stressors on marital satisfaction ($\beta = -0.37, p < .01$), conceptualized as men and women’s reports of regret over marrying their spouses. In other words, whereas I was interested in individuals’ intentions regarding the future of their relationships, Archuleta and colleagues were interested in whether, given their current knowledge of their financial well-
being, men and women wished that they had made different romantic decisions in the past. People who are fundamentally against divorce, or do not perceive divorce as an option, may believe that their marital decisions have influenced their current economic state and wish that they had chosen different partners in the past. However, this does not mean that not see divorce as an option for solving their financial problems, regardless of economic pressure. Furthermore, given how expensive divorce often is, experiencing economic stress may making individuals less likely to consider of divorce unless they are facing other issues within their relationships (Gjelten, n.d.).

**Indirect Pathways Through Depressive Symptoms and Hostile Conflict Behaviors**

Consistent with Conger and colleagues’ (1999) cascade model, wives’ and husbands’ indirect spillover effects were significant when direct effects and crossover effects between W2 depressive symptoms and hostile conflict behaviors at W3 were included in the same model (i.e., Figure 9). Wives’ and husbands’ W1 economic pressure were also positively associated with their depressive symptoms at W2 when the other crossover effects were included in the model and when the model only included the spillover paths. Wives’ and husbands’ W2 depressive symptoms, on the other hand, were not significantly associated with their own hostile conflict behaviors at W3 when the other crossover effects were included in the model or when the model only included the spillover paths. Finally, the paths between wives’ and husbands’ W3 hostile conflict behaviors and their own divorce proneness at W4 were significant when the model only included the spillover paths or the crossover effect between economic pressure and depressive symptoms but were not significant when the model included the crossover effect between hostile conflict behaviors and divorce proneness.
The crossover effects between wives’ and husbands’ W1 economic pressure and their partners’ depressive symptoms at W2 were not significant. The path between wives’ W2 depressive symptoms and husbands’ hostile conflict behaviors at W3 and the path between husbands’ W2 depressive symptoms and wives’ hostile conflict behaviors at W3 were both significant. Neither crossover effect between W3 hostile conflict behaviors and partners’ divorce proneness at W4 was significant.

The finding of the significant path between wives’ and husbands’ economic pressure and their own depressive symptoms a year later supports Berkowitz’s (1989) reformulation of the frustration-aggression hypothesis in which he stated that experiencing a stressful event, such as feeling unable to meet financial needs, leads to psychological distress (Conger et al., 2010). The lack of significant crossover paths between economic pressure and partners’ depressive symptoms was contrary to expectations. Informed by the systemic-transactional model, I expected individuals’ economic pressure to influence partners’ emotional well-being due to couples’ interdependence (Bodenmann et al., 2017; Randall & Bodenmann, 2009). The systemic-transactional model suggests that communication of stress by one’s partner influences would influence their husbands’ or wives’ depressive symptoms. However, it is possible that individuals are less likely to share their economic concerns with their partners than other types of stress given the complicated feelings individuals carry towards finances. Men and women may feel ashamed of their financial concerns and are not willing to share them with their spouses. Or they may not share the feelings of stress because they do not feel like their partners will be able to support them or provide solutions (Falconier et al., 2015).

Wives’ and husbands’ W2 depressive symptoms were only positively associated with their own hostile conflict behaviors at W3 when crossover effects were also included in the
model. This demonstrated that one’s own depressive symptoms alone are not enough to influence marital interactions, but rather only when they coincide with their partners’ depressive symptoms. Previous research has indicated that individuals’ depressive symptoms may make it harder for them to manage disagreements with their spouses (Conger et al., 2010). The current study suggests that individuals with more depressive symptoms are more likely to engage in hostile conflict behaviors if they are also married to a partner also experiencing depressive symptoms. One explanation for this finding may be that when both partners are experiencing depressive symptoms, they are less capable of utilizing positive dyadic coping strategies during disagreements, such as expressing their feelings of vulnerability, working together to find solutions, or being open to compromises (Bodenmann et al., 2017; Martos et al., 2019a). As a result, both individuals are more likely to engage in hostile conflict behaviors in response to both their own and their partners’ depressive symptoms (Austin & Falconier, 2013).

Finally, wives’ and husbands’ W3 hostile conflict behaviors were only significantly associated with their own divorce proneness at W4 when crossover effects between hostile conflict behaviors and partners’ divorce proneness were not included in the model. This finding may be due to the difference in how I conceptualized hostile conflict behavior (as an individual-level variable) compared to how the FSM conceptualized hostile conflict behavior (as a couple-level variable). Given that one spouse’s hostile behavior will often prompt similar hostility in their partner, it is possible that it is the shared context of hostility within the relationship which leads to consideration of divorce, rather than the individual influence of either one’s own behavior or one’s partners behavior.
Moderation by Income

One of the primary gaps in the FSM literature is the lack of attention given to external, or context-level, influences on family stress processes (Ponnet, 2014). Multiple studies have demonstrated that external factors influence numerous family processes (Barajas-Gonzalez & Brooks-Gunn, 2014; Criss et al., 2016; Simons et al., 2016). Yet only a very small body of research has explored sociostructural variables as potential factors that might help variations among couples in these cascading stress processes. Furthermore, studies that included additional sociostructural factors have primarily focused on families of color. For example, in a sample of Latino families, Hurwich-Reiss and Watamura (2019) included parental acculturation as a mediator of the direct association between economic pressure and parenting self-efficacy. Also looking at Latino families, White et al. (2015) examined familism value orientation as an additional mediator between perceptions of neighborhood danger and parenting. The lack of studies exploring contextual variables as factors for explaining variations in family stress processes among White families, strengthens the narrative that although other racial and ethnic groups share common characteristics, the marital processes of White couples are unique to the microprocess functioning of individual families.

The current study addressed this gap by examining income as a potential moderator of the FSM in a sample of mostly White couples. None of the direct effects were significant at any level of income. This finding is significant because some scholars have suggested that the reason lower-income couples are at higher risk for divorce is due to more lenient attitudes towards divorce and less feelings of commitment towards marriage (Ross et al., 2019). However, the lack of any direct effects at any level of income suggests that the association between economic
pressure and later divorce proneness is driven, at least in part, by internal stress processes rather than fundamental differences in marital attitudes related to income.

In terms of spillover effects, the results of the current findings demonstrate the importance of including income as a contextual factor for discovering unique gendered patterns even when there are not distinct differences across income groups. In analytic models including both spillover and crossover effects, the spillover paths between wives’ W1 economic pressure and wives’ depressive symptoms at W2 and between wives’ W2 depressive symptoms and wives’ hostile conflict behavior at W3 were significantly and positively associated, and the path between wives’ W3 hostile conflict behavior was significantly and negatively associated with wives’ divorce proneness at W4 among all three income levels. Similarly, the spillover paths between husbands’ W1 economic pressure and between husbands’ W2 depressive symptoms and hostile conflict behavior at W3 were significant and positive. However, the path between husbands’ W3 hostile conflict behaviors and husbands’ divorce proneness at W4 was non-significant at all three levels of income.

As noted in the results section, income was not a significant moderating factor in the crossover analytic model that examined the associations between hostile conflict behaviors and divorce proneness. However, as shown in the Appendix figures AC 3-5, wives’ hostile conflict behaviors were associated negatively with their own divorce proneness a year later. Although this might be a statistical artifact given this association was positive in the total sample, future research might need to reexamine this association in a larger sample of income diverse couples. This finding that across all three levels of income, women were less likely to contemplate or take steps towards divorce when they used more hostile conflict behaviors was unexpected and may indicate that gender plays a stronger role in marital evaluations than income level. This
phenomenon may stem from cultural and societal perceptions of women, held both by themselves and others, of wives being responsible for their family’s happiness and well-being (Ponnet, 2014). Consequentially, women may be more attuned and empathetic to their partners’ emotional distress even when their husbands do not explicitly share their concerns. Men, on the other hand, may be less likely to identify or respond to their wives’ depressive symptoms unless their wives clearly lay them out. Although negative in the short term, engaging in hostile conflict behaviors may provide women with the opportunity to share issues with their husbands and lead to beneficial changes within the relationship (Overall, 2018). This finding might suggest that, regardless of financial resources, engaging in hostile conflict behaviors may give women the opportunity to tell their husbands what they are feeling and explain the causes of wives’ depressive symptoms. As a result, husbands may attempt to alleviate some of their wives’ stress and decreasing the likelihood of women considering ending their relationships.

The lack of significant association between husbands’ hostile conflict behaviors and their later divorce proneness at any level of income was also somewhat surprising. However, previous research has indicated that whereas women are at greater risk for internalized symptoms such as emotional distress, men are at greater risk for externalized behavior such as aggressive forms of communication (Leinonen et al., 2002; Williams et al., 2015). Given that women may be more aware than their husbands of their partners’ emotional well-being, there may be no benefits for men in engaging in hostile conflict behaviors. However, given the propensity of men to cope with stress and emotional distress through externalizing behavior, engaging in hostile conflict behavior may not indicate that husbands are feeling especially negative towards their wives or their relationships.
Income played a more significant role in differences in patterns of crossover effects across lower-, middle- and higher-income couples. Among lower income couples, none of the crossover effects for either wives or husbands were significant. There are several possible explanations for this finding. First, lower-income, White individuals are at risk of multiple sources of stress, such as more physical and mental health problems, less access to resources that can help alleviate stress, and greater risk of living in dangerous neighborhoods (Barajas-Gonzalez et al., 2014; Choi & Marks, 2013). As a consequence, lower-income men and women may have more experience than more affluent couples with being in relationships with partners coping with stress and emotional distress and therefore may be less influenced by their partners’ experiences. Another explanation is that lower-income individuals are forced to devote the majority of their personal resources and energy to meeting their basic, survival needs (Jackson et al., 2016). Consequently, they may be less likely to consider divorce when dealing with a partners’ hostile behavior because the economic benefits of remaining married outweigh concerns about relationship dynamics. This finding is consistent with previous research demonstrating that lower-income individuals are less likely to attribute divorce to partner incompatibility or personality differences compared to higher-income individuals (Amato & Previti, 2003).

Among middle- and higher-income couples, wives’ W1 economic pressure was not associated with husbands’ depressive symptoms at W2. However, among higher-income couples, husbands’ W1 economic pressure was significantly and negatively associated with wives’ depressive symptoms at W2 (i.e., Figure 14). White, higher-income couples may be likely than middle-income couples to be self-focused, rather than couple-focused (Karney, 2021). As a result, higher-income husbands and wives may spend less time together in shared activities and more
time engaging in separate activities with friends, peers, and coworkers. Men may also feel particularly pressured to maintain an image of material wealth and well-being. Consequently, when experiencing economic pressure, men may feel unable to discuss their concerns with even close friends or family members. Instead, men may turn to their wives for comfort. As a result, wives may come to feel more strongly that they are members of the same team as their husbands and, as a result, less likely to experience depressive symptoms. The lack of crossover effect on wives’ depressive symptoms or on either middle- or higher-income husbands’ depressive symptoms may indicate that individuals are unlikely to discuss their economic concerns with their spouses except when they feel like they have no other outlets (such as the case of higher-income husbands).

Among both middle- and higher-income couples, wives’ and husbands’ W2 depressive symptoms were significantly and positively associated with their partners’ hostile conflict behaviors at W3. As described earlier, both partners experiencing emotional distress may make couples less likely to use dyadic coping strategies to solve disagreements (Bodenmann et al., 2017; Martos et al., 2019a). Unlike lower-income partners, the behaviors of middle- and higher-income spouses may be more strongly influenced by their partners’ depressive states due to having more time to spend with one another in leisure and intimate activities.

Finally, among both middle- and higher-income couples, husbands’ W3 hostile conflict behaviors were significantly and positively associated with wives’ divorce proneness at W4. Middle- and higher-income White women may have specific expectations about how their husbands should communicate with them and what their hostile conflict behaviors indicate (Choi & Marks, 2013). Women may view husbands’ behavior as symbolizing a lack of affection for her or an indication that her husband is unwilling to work together to try to solve their problems
and maintain their relationship (Overall & McNulty, 2017). Previous research has demonstrated that middle- and higher-income couples are more likely than lower-income couples to report struggles with communication and perceptions of intimacy as the most pressing issues they face in their relationships (Jackson et al., 2016).

Moderation by Work-to-Family Conflict

In addition to examining moderation by household income, the current study examined how work-to-family conflict moderated the FSM pathways. Unlike income, work-to-family conflict was not a significant moderator of this process cascade. This finding may relate to the current study’s sample being composed of parents with children entering adolescence. Parents of younger children may face more issues with navigating work and family responsibilities. Women in particular may be affected by work-to-family conflict when their children are young due to the lack of supportive family policies and practices in the United States (Perry-Jenkins et al., 2017). Due to societal pressure to be children’s primary caregivers, women may feel more guilt over the time they must spend at work, or the lack of energy they have to devote to their children when at home, compared to their husbands (Carroll et al., 2013; Ponnet, 2014). However, as children age, parents may feel less concerned about the consequences of their employment on their offspring. Furthermore, mothers and fathers may develop stronger coparenting relationships, lessening some of the strain put on individuals by work responsibilities (Pudasainee-Kapri et al., 2015).

Limitations and Future Directions

Although the current findings provide several contributions to the FSM literature, several important limitations must also be addressed. First, many of the variables were measured with self-reports using questionnaires, potentially leading to elevated associations caused by monomethod and reporter bias (Shadish et al., 2002). However, given that economic pressure,
depressive symptoms, and divorce proneness are subjective experiences, individual’s psychological or emotional state were expected to influence stress processes. As such, rather than attempting to remove personal bias, the variables were expected to reflect it. Only one of the FSM variables included in my study was not related to internal processes, hostile conflict behaviors, and thus was measured by combining self-reports and partner-reports. This decreased the threat of attributing a significant path to a specific construct when it was actually the result of the use of homogenous method (Barajas-Gonzalez & Brooks-Gunn, 2014). It is highly possible that spouses’ interpretations of economic pressure are significantly different from their partners’, explaining why there were very few examples of crossover from economic pressure to depressive symptoms. In other words, it is possible that when husbands or wives perceive their partners as experiencing economic pressure, they do in fact experience depressive symptoms, but they are often unable to recognize their partners’ psychological distress. Future research may want to include difference scores between individuals’ self-reports and partner-reports of economic pressure as a mediator between economic pressure and partners’ depressive symptoms. This research can help practitioners design tools for helping couples discuss their feelings of stress with their partners and ask their partners for help. This support could enhance couples’ positive dyadic coping strategies in the face of stress and decrease individuals’ depressive symptoms even when experiencing economic pressure. Future research should also consider refining the FSM by focusing on conflict around financial issues, one of the primary sources of disagreement within couples, instead of the more general hostile conflict behaviors construct (Dew & Dakin, 2011). The disconnect between individuals’ experience of economic pressure and partners’ perception of that experience may stem from couples’ communication around finances, which is not explicitly measured in the current study. Given the symbolism individuals
assign to money, disagreements around financial security, differences in opinions about how money should be spent and disagreements about how economic concerns should be solved may play a more significant role in evaluations of the marriage than other types of disagreements. It would be helpful for practitioners to know if specific topics of disagreement put couples at higher risk of dissolution than others. Therefore, future research should consider substituting hostility during financial conflict for the hostile conflict behavior construct.

Second, although this study’s sample was economically diverse, the participants were almost entirely racially homogenous. As discussed above, income and work-to-family conflict may affect the family stress processes of White couples in unique ways that distinguish them from couples of other races and ethnicities. Therefore, we should be cautious in replicating these findings to non-White individuals. Furthermore, given that all the families included in the study were from one region of the United States, we should also be cautious in generalizing the results to White couples in other parts of the country. Future research should replicate these findings among racially and ethnically diverse samples, as well as geographically diverse samples.

Third, although the current study was longitudinal, data were only collected during the developmental period of interest (early adolescence). This developmental period was chosen because research has demonstrated that as children transition into adolescence, parents are at risk of increased economic demands to meet their children’s needs and desires (Landers-Potts et al., 2015; Ponnet, 2014). However, increases in economic pressure due to children’s growing economic needs may have a stronger influence on parents’ depressive symptoms than absolute value of economic pressure. Future research should consider including changes in levels of economic pressure as a mediator of the relationship between economic pressure and depressive symptoms.
Fourth, there were several limitations around the measure and conceptualization of income in this study. The decision to use a conceptual process to identify which income level each family led to a small sample size for lower-income families \((n = 48)\), resulting in the possibility of low statistical power. However, despite the size of this subsample, I was still able to find significant effects. Future studies using income as a moderator of the FSM should attempt to sample a large number of lower-income couples, especially if they have additional variables included in the model. Another concern was that, although this study provided important insights into the importance of household income as a moderator, there were no data on husbands’ and wives’ individual incomes. It is possible that differences in within-couple individual incomes accounts for some of the differences in stress processes that we see across income groups. Couples at different income levels may have unique expectations about how their income should compare. For example, higher-income husbands may expect to make more money than their wives and it is the failure to meet this expectation in addition to experiencing economic pressure that increases depressive symptoms, rather than economic pressure alone. Future research should compare the influences of household income, differences in income, and a combination of both to determine the source of depressive symptoms. Additionally, the current study did not consider how the financial resources of individuals’ family-of-origin may influence the FSM associations. Regardless of current income, individuals who grew up in poverty may enter their relationship with enduring vulnerabilities stemming from earlier exposure to unsafe or disordered neighborhoods, mental and physical health problems and unstable family dynamics. This history can make it more difficult for adults to cope with stressful situations, such as economic pressure, increasing the emotional distress, hostile conflict behaviors and divorce proneness (Jackson et al., 2017). Future research should consider family histories in addition to current household
income as a moderator. In addition, household income rather than accumulated wealth was the focus of the current study. Accumulated wealth has been shown to be a more refined measure of financial well-being because it captures family wealth and resources as well as decisions around money (Collins & Urban, 2019). For example, two families may have the same household income but, due to decisions around budgeting, differ greatly in their financial security. Differences in wealth can influence the impact of income on individuals’ well-being and marital processes. Future research should consider either substituting measures of wealth for income as a moderator of the FSM or test both variables as moderators.

Fifth, the moderation by work-to-family conflict outcomes may have been influenced by how I conceptualized the construct. Research has demonstrated that work-to-family conflict is influenced by both strain-based and time-based demands (Sun et al., 2017). In the current study, I did not differentiate between the two types of strains. It is possible that the different types of strain influence the processes in different ways and that nuance may have been lost by combining them into one variable. Furthermore, men and women may be at different risk for each kind of strain and differentiating between the two would allow us to examine the gendered influence of work-to-family conflict. Although previous research has justified aggregating husbands’ and wives’ reports of work-to-family conflict to create a couple-level score, future research may want to differentiate between spouses’ reports, in addition to gathering information on the source of the conflict. Husbands and wives also only reported on their own work-to-family conflict in cases where they were employed outside the home. Gathering data on how partners’ view work-to-family conflict in future research may provide more accurate information on family context. In addition, individuals’ divorce proneness may be more influenced by how their view their partners’ work-to-family conflict compared to how they view their own work-to-
family conflict. The lack of partner reports may also explain why there was no correlation between employment status and variables of interest included in the study. It is possible that husbands and wives in dual-employment relationships significantly differ in how they view their partners’ work-to-family conflict compared to husbands and wives in single- or no-employment relationships.

**Conclusion**

This study expands our understanding of the FSM by demonstrating the unique ways family stress processes function within couples across gender, income levels, and work-to-family conflict levels. These findings can help practitioners and clinicians address both unique and general family dynamics when designing interventions and family counseling. For example, I found that hostile conflict behaviors appear to serve different purposes for men and women, regardless of income or work-to-family conflict level. For women, engaging in hostile conflict behaviors actually decreased their divorce proneness. This suggests that these behaviors may allow women to address a specific relationship need in a way that actually improves the health of their relationships. This may indicate that women are having a specific relationship need met when they engage in hostile conflict behaviors that they may not otherwise have addressed. Furthermore, although most research has suggested that communication is the primary cause of negative marital evaluations, partners’ hostile conflict behaviors only appear to affect spouses under specific circumstances. It is important, therefore, for clinicians and practitioners designing interventions to focus on strategies that allow women to share their concerns and desires for relationship changes with their partners rather than solely focusing on style of communication. On the other hand, given that neither men nor women in lower-income couples are affected by their partners’ emotions or behaviors, it may be more important for this group to receive
assistance in handling economic concerns rather than providing interventions focused on improving communication.

Furthermore, this study demonstrates the importance of decentralizing Whiteness and including contextual variables when using the FSM with samples of predominantly White couples. Although household income may influence the stress processes of couples across a range of races and ethnicities, the mechanism explaining differences in association may be unique to different groups. For example, higher-income African American couples, especially when most of their peers are White, may have stronger relationships with their spouses due to shared experiences of racism. Displays of material wealth may hold unique cultural symbolic meanings for higher-income White couples that influence depressive symptoms when they are unable to purchase their desired goods. These findings highlight the importance of continuing to investigate how factors external to individuals and couples influence family economic stress processes.
REFERENCES


135


139


Vega, N. (2021, July). Use this calculator to find out if you qualify as middle class. CNBC. https://www.cnbc.com/2021/07/21/middle-class-calculator.html


APPENDIX A: ADDITIONAL MEASURE INFORMATION

Economic Pressure (W1)

Husbands and wives completed eight questions about their ability to afford material goods and necessities and one question about their ability to pay bills (Conger et al., 1999).

My family has enough money to afford the kind of…
1. Home we would like to have
2. Clothing we should have
3. Furniture or household equipment we should have
4. Car we should have
5. Food we should have
6. Medical care we should have
7. Leisure and recreational activities we want to participate in
8. Our income never seem to catch up with our expenses

Response scale: (1) strongly disagree; (2) disagree; (3) neither agree or disagree; (4) agree; (5) strongly agree

9. Think back over the last 12 months and please mark how much difficulty you had paying your bills

Response scale: (1) no difficulty at all; (2) a little difficulty; (3) some difficulty; (4) quite a bit of difficulty; (5) a great deal of difficulty

Source:

Depressive Symptoms (W2)

Husbands and wives completed 20 items from the Center for Epidemiological Studies Depression (CES-D; Radloff, 1977).

Using the scale below, fill in the circle by the statement that best describes how often YOU felt or behaved this way DURING THE PAST WEEK:

1. I was bothered by things that usually don’t bother me.
2. I did not feel like eating; my appetite was poor.
3. I felt that I could not shake off the blues even with help from my family or friends.
4. I felt that I was just as good as other people.
5. I had trouble keeping my mind on what I was doing.
6. I felt depressed.
7. I felt that everything I did was an effort.
8. I felt hopeful about the future.
9. I thought my life had been a failure.
10. I felt fearful.
11. My sleep was restless.
12. I was happy.
13. I talked less than usual.
15. People were unfriendly.
16. I enjoyed life.
17. I had crying spells.
18. I felt sad.
19. I felt that people disliked me.
20. I could not get “going.”

Response scale: (0) rarely or none of the time (less than 1 day); (1) some or a little of the time (1-2 days); (2) occasionally or a moderate amount of time (3-4 days); (3) most or all of the time (5-7 days)

Source:

**Hostile Conflict Behaviors (W3)**

Husbands and wives completed 18 items about both their own and their partners’ conflict style and verbal and physical aggression (Buehler et al., 1998; Kerig, 1996).

When you and your spouse disagree, how often do you:
1. Call my spouse names.
2. Threaten my spouse.
3. Yell at my spouse.
4. Insult (show disrespect for) my spouse.
5. Tell my spouse to shut up.
7. Become sarcastic.
8. Insist on own point of view.
10. Slap my spouse.
11. Strike, kick, or bite my spouse.
12. Push, pull, shove, or grab my spouse.
15. Criticize my spouse.
16. Demand that my spouse change.
17. Interrupt my spouse.
18. Talk louder than my spouse so he or she can’t interrupt me.

Response Scale: (1) never; (2) rarely; (3) sometimes; (4) usually; (5) always

When you and your spouse disagree, how often does your spouse:

1. Call me names.
2. Threaten me.
3. Yell at me.
4. Insult (show disrespect for) me.
5. Tell me to shut up.
7. Becomes sarcastic.
8. Insists on his or her own point of view.
9. Beats me up.
10. Slaps me.
11. Strikes, kicks, or bites me.
12. Pushes, pulls, shoves, or grabs me.
13. Throw things, slam doors, or break things.
14. Blames me.
15. Criticizes me.
16. Demands that I change.
17. Interrupts me.
18. Talk louder than me so I can’t interrupt him or her.

Response Scale: (1) never; (2) rarely; (3) sometimes; (4) usually; (5) always

Source:

**Divorce Proneness (W4)**

Husbands and wives completed 4 items regarding propensity for divorce (Booth, Johnson, & Edwards, 1983):

1. Have you seriously suggested to your spouse the idea of ending the relationship?
2. Have you discussed separation from your spouse with a close friend?
3. Have you thought your marital relationship might be in trouble?
4. Has the thought of separating from your spouse crossed your mind?

Response Scale: (1) not in the last year; (2) yes, within the last year; (3) yes, within the last 6 months; (4) yes, within the last 3 months
Moderator: Household Income (W1)

Husbands and wives selected their household income from a list of 41 ranges.

In which of these groups did your total family income, from all sources, fall last year before taxes?

01 = under $2,500  15 = $35,000-$37,499  29 = $70,000-$72,499
02 = $2,500-$4,999  16 = $37,500-$39,999  30 = $72,500-$74,999
03 = $5,000-$7,499  17 = $40,000-$42,499  31 = $75,000-$77,499
04 = $7,500-$9,999  18 = $42,500-$44,999  32 = $77,500-$79,999
05 = $10,000-$12,499 19 = $45,000-$47,499  33 = $80,000-$82,499
06 = $12,500-$14,999 20 = $47,500-$49,999  34 = $82,500-$84,999
07 = $15,000-$17,499 21 = $50,000-$52,499  35 = $85,000-$87,499
08 = $17,500-$19,999 22 = $52,500-$54,999  36 = $87,500-$89,999
09 = $20,000-$22,499 23 = $55,000-$57,499  37 = $90,000-$92,499
10 = $22,500-$24,999 24 = $57,500-$59,999  38 = $92,500-$94,999
11 = $25,000-$27,499 25 = $60,000-$62,499  39 = $95,000-$97,499
12 = $27,500-$29,999 26 = $62,500-$64,999  40 = $97,500-$99,999
13 = $30,000-$32,499 27 = $65,000-$67,499  41 = $100,000 or more
14 = $32,500-$34,999 28 = $67,500-$69,999

Moderator: Couples’ Work-to-Family Conflict (W1)

Husbands and wives who indicated that they were employed outside of the home completed 8 items about their work-to-family conflict (Kopelman et al., 1983).

1. My work schedule often conflicts with my family life
2. After work, I come home too tired to do some of the things I’d like to do
3. On the job I have so much work to do that it takes away from my personal interests.
4. My family dislikes how often I am preoccupied with my work while I am home
5. Because my work is demanding, at times I am irritable at home.
6. The demands of my job make it difficult to be relaxed all the time at home
7. My work takes up time that I’d like to spend with my family
8. My job makes it difficult to be the kind of spouse or parent I’d like to be.

Response scale: (1) strongly agree; (2) agree; (3) neither agree nor disagree; (4) disagree; (5) strongly disagree

Source:
Control: Marital Satisfaction (W4)

Husbands and wives completed 3 items from the Kansas Marital Satisfaction scale (Schumm et al., 1986).

1. How satisfied are you with your marriage?
2. How satisfied are you with your husband/wife as a spouse?
3. How satisfied are you with your relationship with your husband/wife?

Response Scale: (1) extremely dissatisfied; (2) very dissatisfied; (3) somewhat dissatisfied; (4) mixed; (5) somewhat satisfied; (6) very satisfied; (7) extremely satisfied

Source:
AB Figure 1. Replication of Conger et al.’s (1999) Family Stress Model of Romantic Relationships

Note. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. **p < .01; ***p < .001.
For ease of presentation, estimated covariances between wives’ W2 depressive symptoms and husbands’ W2 depressive symptoms (r = .09, p < .11).
APPENDIX C: ADDITIONAL ANALYSES: FULL MODEL TESTS OF SPILLOVER AND Crossover Effects

For all figures, all reported coefficients are standardized values. W1 = wave 1; W2 = wave 2; W3 = wave 3; W4 = wave 4. Non-significant associations are indicated by dashed lines. *p < .05; **p < .01; ***p < .001. For ease of presentation, the covariances between exogeneous variables, disturbance terms, and control variables are not shown in the figure and are presented in the following table.

For all tables, w = wives’; h = husbands’; EP1 = W1 economic pressure; DS2 = W2 depressive symptoms; HCB3 = W3 hostile conflict behaviors; DP4 = W4 divorce proneness, MS4 = W4 marital satisfaction.

Hypothesis 3a

AC Figure 1. Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness in Middle-Income Couples
AC Table 1. Additional Associations for AC Figure 1

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AC Figure 2. Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms in Middle-Income Couples

AC Table 2. Additional Associations for AC Figure 2

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AC Figure 3. Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness in Lower-Income Couples

AC Table 3. Additional Associations for AC Figure 3

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AC Figure 4. Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness in Middle-Income Couples

![Diagram showing the crossover effects of W3 hostile conflict behaviors on partners' W4 divorce proneness in middle-income couples.]

AC Table 4. Additional Associations for AC Figure 4

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AC Figure 5. Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness in Higher-Income Couples

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Hypothesis 3b

AC Figure 6. Direct and Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness in Lower-Income Couples

AC Table 6. Additional Associations for AC Figure 6

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AC Figure 7. Direct and Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness in Middle-Income Couples
AC Table 7. Additional Associations for AC Figure 7

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AC Figure 8. Direct and Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness in Higher-Income Couples

AC Table 8. Additional Associations for AC Figure 8

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AC Figure 9. Direct and Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms in Lower-Income Couples

AC Table 9. Additional Associations for AC Figure 9

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AC Figure 10. Direct and Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms in Middle-Income Couples
### AC Table 10. Additional Associations for AC Figure 10

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### AC Figure 11. Direct and Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms in Higher-Income Couples

![Diagram showing direct and crossover effects](image)

### AC Table 11. Additional Associations for AC Figure 11

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AC Figure 12. Direct and Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness in Lower-Income Couples

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AC Figure 13. Direct and Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness in Middle-Income Couples
AC Table 13. Additional Associations for AC Figure 13

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AC Figure 14. Direct and Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness in Higher-Income Couples

AC Table 14. Additional Associations for AC Figure 14

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Hypothesis 4a

AC Figure 15. Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness in Lower Work-to-Family Conflict Couples

AC Table 15. Additional Associations for AC Figure 15

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AC Figure 16. Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness in Higher Work-to-Family Conflict Couples

AC Table 16. Additional Associations for AC Figure 16

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AC Figure 17. Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms in Lower Work-to-Family Conflict Couples

AC Table 17. Additional Associations for AC Figure 17

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AC Figure 18. Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms in Higher Work-to-Family Conflict Couples

AC Table 18. Additional Associations for AC Figure 18

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AC Figure 19. Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors in Lower Work-to-Family Conflict Couples

AC Table 19. Additional Associations for AC Figure 19

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AC Figure 20. Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors in Higher Work-to-Family Conflict Couples

AC Table 20. Additional Associations for AC Figure 20

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AC Figure 21. Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness in Lower Work-to-Family Conflict Couples

AC Table 21. Additional Associations for AC Figure 21

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AC Figure 22. Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness in Higher Work-to-Family Conflict Couples

AC Table 22. Additional Associations for AC Figure 22

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Hypothesis 4b

AC Figure 23. Direct and Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness in Lower Work-to-Family Conflict Couples

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AC Figure 24. Direct and Spillover Effects from W1 Economic Pressure to W4 Divorce Proneness in Higher Work-to-Family Conflict Couples

185
AC Table 24. Additional Associations for AC Figure 24

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AC Figure 25. Direct and Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms in Lower Work-to-Family Conflict Couples

AC Table 25. Additional Associations for AC Figure 25

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AC Figure 26. Direct and Crossover Effects of W1 Economic Pressure on Partners’ W2 Depressive Symptoms in Higher Work-to-Family Conflict Couples

AC Table 26. Additional Associations for AC Figure 26

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AC Figure 27. Direct and Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors in Lower Work-to-Family Conflict Couples
AC Table 27. Additional Associations for AC Figure 27

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AC Figure 28. Direct and Crossover Effects of W2 Depressive Symptoms on Partners’ W3 Hostile Conflict Behaviors in Higher Work-to-Family Conflict Couples

AC Table 28. Additional Associations for AC Figure 28

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AC Figure 29. Direct and Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness in Lower Work-to-Family Conflict Couples

AC Table 29. Additional Associations for AC Figure 29

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AC Figure 30. Direct and Crossover Effects of W3 Hostile Conflict Behaviors on Partners’ W4 Divorce Proneness in Higher Work-to-Family Conflict Couples
AC Table 30. Additional Associations for AC Figure 30

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