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The present study examined the relationship between adolescents' problem behaviors and parents' divorce proneness with a sample of 416 families. Over three years, participants completed measures of internalizing and externalizing problem behaviors, parental divorce proneness, and parental efficacy. Three hypotheses were examined. The first hypothesis examined the association between adolescents' problem behaviors and parents' divorce proneness. Controlling for initial levels of divorce proneness, the second hypothesis addressed whether adolescents' problem behaviors predicted changes in parents' divorce proneness over two and three years. The third hypothesis examined parental efficacy as a mediator of this relationship. Results of regression analyses indicated that adolescents' problem behaviors were related significantly to wives' reports of divorce proneness over two and three years. Controlling for initial levels of divorce proneness, adolescents' internalizing problem behaviors were related significantly to increases in wives' divorce proneness over two but not over three years. Adolescents' externalizing problem behaviors were related significantly to increases in wives' reports of divorce proneness over three years. Although parental efficacy did not mediate this relationship, indirect effects were found. Adolescents' problem behaviors were not related to husbands' divorce proneness.

LINKING ADOLESCENTS' PROBLEM BEHAVIORS
AND PARENTS' DIVORCE PRONENESS

by

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To Joseph, my faithful and loving husband, may we remember this if we ever have adolescents. To my family, without your constant love and support this would have been an even more difficult process. I love you all.

APPROVAL PAGE

This thesis has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina at Greensboro.

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CHAPTER I

INTRODUCTION

Statement of the Problem

Historically, research has examined how marital variables, such as marital conflict or marital disruption, are linked to adolescent adjustment (Amato, 2000; Doyle & Markiewicz, 2005; Peterson & Zill, 1986). Although recent literature has suggested that children also shape family interactions (Crouter & Booth, 2003), research primarily has examined the connections between parent-child relationships in a unidirectional manner moving from the parent (and parents' marital quality or marital conflict) to the child. With few exceptions, scholars have failed to examine the influence adolescents may have on broader family dynamics, such as the marital relationship, of which they are only indirectly involved. (For exceptions see the recent work of Jenkins, Simpson, Dunn, Rasbash, & O'Connor, 2005 and Whiteman, McHale, & Crouter, 2007).

A large body of research affirms that marital functioning impacts adolescents' development (for an overview, see Appendix A), and the present study in no way seeks to dispute this notion. Rather, the present study seeks to broaden the current understanding of the interactions that take place between family members by suggesting that the relationship between adolescents and

their parents' marital processes is transactional in nature. The transition to parenthood literature suggests that the mere presence of children is linked to changes in marital dynamics (Belsky, Spanier, & Rovine, 1983; Schulz, Cowan, & Cowan, 2006; Shapiro, Gottman, & Carrere, 2000; Wallace & Gotlib, 1990). Research suggests that couples raising children characterized by difficult temperament and poor physical health exhibit increased marital distress in comparison with couples raising children who do not have difficult temperaments and are in good health (Leve, Scaramella, & Fagot, 2001; Gaither, Bingen, & Hopkins, 2000). Thus, there is evidence to suggest that in addition to the parents' marital relationship influencing the child, the child might also contribute to the functioning of the marital relationship. The present study suggests that children influence the marital relationship as they exhibit behavioral problems associated with the transition into adolescence (Reitz, Dekovic, & Meijer, 2005).

Recently longitudinal research has begun to address the topic of child contributions to parents' marital relationship outcomes. For instance, Schermerhorn, Cummings, DeCarlo, and Davies (2007) examined a sample of kindergarten students and their families and found that children's behavior influenced parents' marital discord. Similarly, Whiteman et al. (2007) examined the influence of adolescents' pubertal development on their parents' marital relationship. Whiteman et al. studied the relationship between pubertal development in offspring and parents' marital satisfaction, conflict, and quality. Whiteman et al.'s results support the hypothesis that there are child effects on

the marital relationship. Pubertal changes were linked with changes in parents' reports of marital quality over time.

Another longitudinal study that examined the relationship between child problem behaviors and parents' marital functioning is the recent work of Jenkins et al. (2005). They studied the mutual influence between parents' conflict and children's externalizing problem behaviors and found that this relationship is bidirectional. Youth externalizing problem behaviors predicted increases in parents' conflict, specifically conflict about the child who exhibited the externalizing behaviors. This finding supports the proposed hypothesis, but it should be noted that the Jenkins et al. study included complex family structures such as stepfamilies and co-habitants, which comprised 25% of the sample. Furthermore, the present study's dependent variable of interest, divorce proneness, was not examined.

The present study seeks to build upon and add to this new body of research by examining whether a link exists between adolescents' problem behaviors and parents' reports of divorce proneness. More specifically, the present study examines if there is a significant relationship between adolescents' internalizing and externalizing problem behaviors across the transition into adolescence and parents' reports of divorce proneness across four years. The present study also will examine parental efficacy as a possible mediator of this relationship.

Theoretical Foundations

The theoretical underpinnings for the present study are drawn from two sources. First, elements of family systems theory are used to support the position that dyads, in this case the marital dyad, do not operate in isolation, but are influenced by other subsystems within the family. (See Jenkins et al. [2005] and Whiteman et al. [2007] for examples of this use of systems perspective.) The second theoretical perspective is based on Gottman's (1994) cascade model of marital dissolution which delineates divorce proneness as one of the steps preceding divorce.

Family Systems Theory

Five concepts fundamental to family systems theory are used to ground the present study. These concepts are first presented in general and then described in regards to how they relate to the present study. The first concept is the notion of wholeness. According to systems theory, families are composed of interdependent elements that combine to form an organized whole. The whole is more than the sum of the individual parts (Cox & Paley, 1997). The second concept derived from systems theory is that the family is composed of subsystems such as the sibling relationship and the marital relationship. These subsystems are subject to the preceding concept in that subsystems are interdependent and combine to form the family system (Cox & Paley, 1999; Mangelsdorf & Schoppe-Sullivan, 2007). Interactions not only occur within the subsystems, but across the different systems as well. Within the family, the

different subsystems (parent-child, husband-wife) do not function in isolation. The third concept is termed circularity. Circularity refers to the transactional, bi-directional, non-linear nature of exchanges that take place between family members on the micro interaction level (Mangelsdorf & Schoppe-Sullivan, 2007). Although not directly observed at the micro level in the present study, this concept illustrates the interdependent nature of the family and buttresses support for the idea that the impact of adolescents' behaviors are not limited to one family member but instead can reverberate throughout the family systems. The fourth concept is that of boundaries. Each subsystem operates within boundaries. The permeability or the rigidity of these boundaries determines how the interactions within one subsystem influence what takes place in the other subsystems (Cox & Paley, 1997). The subsystems are separated by boundaries, but the boundaries, unless they are very rigid, do not keep what happens in one subsystem from influencing what happens in another. The fifth concept drawn from family systems theory is known as spillover. This concept illustrates the interdependent nature of the family subsystems and the importance of boundaries. The idea behind spillover is that stress, affect, and behavior experienced in one subsystem or by one family member are not isolated to that subsystem or to that family member. Stress, affect, and behavior can "spill over" or transfer into other subsystems (Anderson, Lindner, & Bennion, 1992; Gerard, Krishnakumar, & Buehler, 2006; Szinovacz, 2003). The rigidity or permeability of the boundaries separating the different subsystems determines the amount of spillover.

Boundaries that are highly rigid will limit spillover effects whereas boundaries that are less rigid and more permeable will allow greater spillover.

The present study relies on these concepts as it uses systems theory to highlight the importance of studying the influence of adolescents on broader family processes. According to Cox and Paley (1997), the family is an organized whole composed of interdependent units. In the case of the family system, the whole is more than the sum of the individual family members as each individual is uniquely influenced by the others. Within the family, “individual family members are necessarily interdependent, exerting a continuous and reciprocal influence on one another” (p. 246). Thus, consistent with a systems perspective, the present study hypothesizes that the effects of adolescents’ problem behaviors are not isolated to adolescents. Due to the interdependent nature of the members of the family and the circular nature of family interactions, family members and family subsystems beyond the adolescent are also affected by adolescents’ problem behaviors. When early adolescents engage in problem behaviors, the parents might be viewed as being responsible for the adolescents’ behavior. Yet, often parents struggle with knowing how to parent effectively adolescents who are being rebellious or are suffering from depression. The stress this adds to parents’ lives can spillover into their marital relationship just as work-related stress often spills over and affects family functioning or vice versa (Matjasko, & Feldman, 2006).

For the purpose of the present study, it is expected that adolescents' problem behaviors stress the parent-child subsystem. Parents also function as a marital dyad and the boundaries separating these subsystems are not rigid. Due to the close proximity of the parent-child subsystem to the marital dyad, a reasonable expectation is that adolescents' problem behaviors may influence parents' marital relationships. If problems are taking place in the parent-child subsystem, the stress experienced by the parents is likely to spill over into their marital relationship. Research suggests that stress experienced in the work place can spill over into the marital relationship (Matjasko, & Feldman, 2006). The present study suggests that the same underlying principle applies to the parenting relationship and the influence of stress on the marital relationship.

A systems perspective also suggests that times of transition for one member or subsystem of the family reverberate through the other members and subsystems of the family (Steinberg, 1990). Traditionally, systems theory research focuses on major transitions such as the birth of a child into a family (Crockenberg, Leerkes, & Lekka, 2007; McHale & Rotman, 2007). However, Whiteman et al. (2007) set a precedent for using systems theory to study the transition into adolescence as it relates to parents' marital functioning. They studied this age group and examined spillover effects of adolescents' experiences on their parents' marriages by examining adolescents transitioning through puberty and the corresponding changes that took place in the parents' marital relationships.

In accordance with systems theory's emphasis on family transitions, sixth grade is a prime target age for research on adolescence because at this age youth are transitioning into middle school and are also starting to transition from childhood into adolescence. Early adolescence is an especially vulnerable time for adolescents due to the simultaneous nature of the changes that occur both within and outside of the child, from pubertal development and cognitive changes to school transitions (Reitz et al., 2005). Further research supports that there is often an increase in the prevalence of problem behaviors around the time of puberty (McCord, 1990; Moffitt, 1993; Siegel & Scovill, 2000). Over 60% of youth are involved in some type of problem behavior during the course of adolescence (Reitz et al.).

As youth transition into middle school, face the challenges associated with becoming an adolescent, and exhibit more externalizing and internalizing problem behaviors than before, parents find themselves facing a new set of challenges. Substantiating this, in a meta-analysis of the parent-adolescent literature, Laursen, Coy, and Collins (1998) found that the level of negative affect in parent-child conflict reaches a peak during early adolescence. Parents maintain more of an influence on middle school children than they do over their more independent high school children. Parents are also likely to see themselves as more responsible for their young adolescents' behaviors than for their older adolescents' behavior. Consequently, the transition into adolescence is a time during which parental efficacy is a salient factor in the lives of parents and their

youth. Gerard et al. (2006) point out that the transition to adolescence has been understudied in the marital research literature. Thus, the present study fills a gap in the research literature by relying on family systems theory to study the link between adolescents' problem behaviors and parents' divorce proneness while also examining parental efficacy as a mediator of this relationship.

Gottman's Cascade Model of Marital Dissolution

Gottman and Levenson (1992) set out to identify a set of precursor variables to divorce. Their goal was to identify and arrange these variables in a stage or cascade model. The underlying assumption of the stage model is that couples who are in the precursor stages are more likely to eventually divorce than couples who are not in these stages. By using such a model, Gottman (1994) proposed that a short-term longitudinal study more accurately could predict which couples would eventually divorce.

Gottman's cascade model of marital dissolution suggests that the process of marital dissolution progresses through a four-stage sequence (see Appendix B for a visual representation of this). Stage one is characterized by declines in marital satisfaction. As a result of the decline in marital satisfaction, couples often enter stage two. Stage two is termed divorce proneness and is characterized by couples thinking their marriage might be in trouble and considering separation or divorce. If this consideration is favorable, couples enter stage three, separation. Finally, the cascade ends when couples finalize their separation with a legal divorce. A large number of studies have shown that these stages are related.

Spouses' reports of marital happiness and satisfaction are inversely related with thoughts of divorce and subsequent marital dissolution (Bradbury, Fincham, & Beach, 2000; Glenn, 1991; Lewis & Spanier, 1979 as cited by Previti & Amato, 2003). Additional research suggests that divorce proneness is a predictor of marital dissolution (Booth, Johnson, & Edwards 1983; Booth & White, 1980; Bugaighis, Schumm, Jurich, & Bollman, 1985).

Although divorce is often viewed as an event, recent literature highlights the importance of recognizing that divorce is actually a process (Fine & Harvey, 2006). Gottman's (1994) model of marital dissolution highlights the underlying processes that couples experience when a marriage is in the divorce process by focusing on the relationship between declining marital satisfaction, thoughts of ending the marriage, separation, and eventual legal divorce. It is important to understand the broader processes of the family, outside of the marital dyad, as they relate to divorce. For instance, research suggests that divorce negatively affects children and that problem behaviors often increase after a divorce (Heatherington & Kelly, 2002; Zill, Morrison, & Coiro, 1993). New research raises the need to examine this relationship from the other side of the coin and to examine the effects children have on the marital relationship (Schermerhorn et al., 2007).

Further compounding our need to understand these complex processes, recent research suggests that not all couples who divorce have marriages characterized by moderate to high levels of marital conflict (Amato, 2007). Thus,

understanding marital conflict and its relationship to adolescents' problem behaviors is limited by the fact that not all dissolving marriages are characterized by high levels of marital conflict. Understanding how adolescents' problem behaviors influence parents' divorce proneness will move the discussion forward by focusing on the broader family processes involved in relationship dissolution.

It is important to note that Gottman (1994) does not suggest that all couples who experience declines in marital satisfaction or who consider dissolving their marriage are bound to separate or divorce. Rather, the goal of the stage model is to suggest a process through which married couples who divorce progress as they move from a state of marriage to a state of divorce. Gottman's cascade model of dissolution is important to the present study given that the second step, the consideration of separation or divorce, is the dependent variable of interest.

Purpose Statement

Drawing on elements of a systems perspective, the present study seeks to examine the relationship between adolescents' problem behaviors and their parents' divorce proneness. The goal of this examination is to isolate a potential influence on the second step in Gottman's (1994) cascade model of marital dissolution, the consideration of separation or divorce. The resulting information is important because it will lead to a better understanding of the interconnection of the different members and subsystems of the family, specifically the interconnection between adolescents and the marital dyad.

Study Justification

The present study will fill a gap in the research literature by addressing the influence of adolescents' problem behaviors on parental divorce proneness. Although a substantial body of research has examined the effects of marital conflict and parental divorce on children and a few studies have examined the effects of child problem behaviors on partner conflict (Jenkins et al., 2005; O'Connor & Insabella, 1999), no research to date has examined the relationship between adolescents' problem behaviors and parents' divorce proneness. Drawing on a systems perspective, the present study seeks to fill this gap by examining whether adolescents' problem behaviors are associated with parents' divorce proneness.

The resulting information potentially can be used to enhance the field of family studies and to stimulate new research questions that take into consideration broader family processes. Moreover, the implications that this research will have for marital counselors is substantial. If a link is found between adolescents' problem behaviors and parents' divorce proneness, it will be important to incorporate such information into the clinical setting. Couples should not be treated in isolation. Full consideration of the other family subsystems will be a necessity.

CHAPTER II

LITERATURE REVIEW

The present study seeks to examine the relationship between adolescents' problem behaviors and parents' divorce proneness. There are two independent variables and one dependent variable. The independent variables are adolescents' internalizing and externalizing problem behaviors. The dependent variable is divorce proneness. Parental efficacy is hypothesized as a mediator and adolescents' gender is hypothesized as a moderator. Family income is a control variable. The following presents a review of the literature that addresses these constructs and their relation to one another.

Adolescents' Problem Behaviors

Internalizing and externalizing problem behaviors are distinct from one another and will be defined below. First, it is important to note that a substantial body of evidence supports the co-occurrence or co-morbidity of these two types of behaviors. However, numerous studies indicate that in spite of their co-occurrence, internalizing and externalizing behaviors should be considered as separate but interrelated forms of problem behavior due to their inherent differences (Reitz et al. 2005).

Internalizing Problem Behaviors

Internalizing behaviors refer to the internal psychological, emotional, and affective cognitions and behaviors of an individual. Internalizing problem behaviors often represent a lack of skills necessary for daily functioning in the presence of stressful situations (Walker, Ramsey, & Greshman, 2004). For instance, anxiety and depression are both considered internalizing problem behaviors. Such behaviors can be difficult to study because they are normally inner-directed and thus not always observable. Left untreated, internalizing problem behaviors eventually may result in harm, impairment, or distress to the individual (Reynolds, 1992; Stone, Buehler, & Barber, 2002). Scales that examine attitudes and feelings such as shyness, worthlessness, inferiority, anxiety, depression, and isolation are often used to measure internalizing behaviors (Cowan, Chon, Cowan & Pearson, 1996; McCarty, Zimmerman, Diguseppe, & Christakis, 2005). Given the difficult task of observing internalizing behaviors and the fact that they are often not immediately disruptive, little substantive longitudinal research has been conducted examining the relationship of adolescents' internalizing problem behaviors and parents' divorce proneness.

Although there is a lack of research studying the effects of adolescents' internalizing problem behaviors on parents' divorce proneness, numerous related marital variables have been examined. For instance, early research focused on the relationship between marital satisfaction and youth internalizing behavior problems (e.g., Cowan, Cowan, Heming, & Miller, 1991; Howes & Markman,

1989, as cited by Katz & Gottman, 1993). There is also a substantial body of literature documenting a robust and moderate relationship between marital conflict and internalizing behavior in youth (Cummings & Davies, 2002; Emery, 1982; Erel & Burman, 1995; Grych & Fincham, 1990).

Given the lack of research on adolescents' internalizing problem behaviors and its relationship to parents' divorce proneness, it is important to understand the research that has been done on related variables, such as marital conflict. Much of the research examining marital conflict and youth internalizing behaviors is cross sectional. Thus, the direction of effects cannot be examined.

In a meta-analysis examining the relationship between marital conflict and total problem behavior in children ages 5 to 18, Buehler, Anthony, Krishnakumar, Stone, Gerard, and Pemberton (1997) found an average effect size of .32 for the association between marital hostility and total adolescent problems. The average effect size was .31 in the studies reviewed in which the dependent variable was youth internalizing problem behavior. Thus, marital conflict was related to internalizing problem behaviors. Recognizing this relationship, the present study will differ from these previous studies in that internalizing problem behaviors will be treated as the independent variable rather than the dependent variable. The results of the present study will build upon the existing body of research by painting a broader picture of family functioning and examining the complex relationship between adolescents and parents.

Recent cross sectional research affirms the association between interparental conflict and youth internalizing problem behaviors. Krishnakumar, Buehler, and Barber (2003) used a sample of 692 youth (150 African-American and 542 European American) drawn from the Tennessee Adolescents in Families Project. The sample included youth whose parents were married or divorced. Thus, rather than only examining marital conflict, the study examined interparental conflict and its association with youth problem behaviors. Five items drawn from Emery and O'Leary's (1982) Personal Data Form were used to gather youth reports of hostile interparental conflict. Youth reports of internalizing problem behaviors were measured using the Youth Self-Report version of Achenbach's (1987) Child Behavior Checklist. In the combined sample of European and African American youth, internalizing behavior problems correlated .34 ($p < .001$) with youth reports of interparental conflict. The correlation between interparental conflict and youth internalizing behaviors was stronger in the European American sample than in the African American sample, but both were individually significant (European American, $\beta = .35$; African American, $\beta = .25$). Interparental conflict was found to correlate significantly with internalizing problem behaviors for the European American sample regardless of the youths' parents' marital status, although the association was greater in the married group (married, $\beta = .38$; divorced, $\beta = .23$). However, the relationship between interparental conflict and youth internalizing behaviors was only significant among the African American youth whose parents were married ($\beta =$

.37). This suggests that there is a significant relationship between marital processes and youth problem behaviors. The racial differences found in this study were explained, in part, by noting the role of racial socialization in the African American community and the different spousal interaction styles exhibited by these two racial groups. The results from this research are important to the present study given the present study's emphasis on the relationship between adolescents' internalizing problem behaviors and parents' marriages. The present study's sample is also predominately European American so it is important to note the racial differences and to not assume a broader generalization from the present study's findings. Furthermore, given the cross sectional nature of this research, a causal relationship cannot be assumed. It should be noted that the present study will be longitudinal in nature and will rely on multiple informants rather than relying on youth to self report problem behaviors and parents' actions. Adolescents will report their problem behaviors and wives and husbands will report their divorce proneness.

Going beyond cross sectional work, Katz and Gottman (1993) conducted a longitudinal study in which they examined the predictive relationship of marital conflict interaction patterns on young children's internalizing problem behaviors. Their sample consisted of 56 families who had a target child between the ages of 4 and 5 at the start of the study. Families were followed for three years. Marital conflict interaction patterns were coded at time one based on the observation of a 15 minute high-conflict discussion that took place in a laboratory setting. Child

behavior problems were reported by the child's teacher at the three year follow-up using both the Teacher Report Form of Achenbach's (1991b) Child Behavior Checklist and Cowan and Cowan's (1990) Children's Adaptive Behavior Inventory. Findings indicated that husbands' withdrawn and angry conflict styles predicted teacher reports of child internalizing problem behavior ($R = .53, p < .001$). This research is important to the present study because it suggests a relationship between husbands' interactions with their wives and children's internalizing problem behaviors. The present study moves beyond early childhood by studying the transition to adolescence. The present study includes both wives' and husbands' reports of divorce proneness in the analysis.

More recently, Doyle and Markiewicz (2005) published results from a longitudinal study of 175 adolescents, in which they examined the influence of marital conflict on adolescents across the transition from early to middle adolescence. Adolescents' internalizing problem behaviors were measured by summing scores on the subscales withdraw, somatic complaints, and anxious/depressed of the Youth Self-Report version of the Achenbach (1991c) Child Behavior Checklist. Frequency and intensity of interparental conflict were measured by youth reports of their perceptions of interparental conflict. Perceived marital conflict at time one was associated positively with internalizing behavior problems such as low self-esteem at time two. This longitudinal study suggested that over time marital conflict was associated with adolescents' internalizing problem behaviors. By establishing a relationship between marital

conflict and adolescents' internalizing problem behaviors, a systems perspective would suggest that this relationship might be circular rather than linear.

Adolescents' internalizing problem behaviors also may provoke strife in the marital relationship. The present study seeks to examine the effects of adolescents' internalizing problem behaviors not on parents' marital conflict, but on their thoughts and feelings indicative of divorce proneness.

Given that internalizing behaviors are less observable, they often are not as immediately demanding or stress provoking as externalizing problem behaviors are for parents. Yet, logic and research suggest that internalizing behaviors, such as depression or anxiety, eventually may provoke parents to worry about their adolescent (Cheah & Rubin, 2004). According to systems theory, parental stress brought on by adolescents' problem behaviors, unless mediated by parental efficacy, could spill over into the marital relationship and lead to decreases in marital satisfaction. According to Gottman's cascade model of marital dissolution, decreases in marital satisfaction precede increases in divorce proneness. Theoretically, the effects of adolescents' problem behaviors are more proximally related to decreases in marital satisfaction than divorce proneness. Thus, the changes in divorce proneness resulting from adolescents' problem behaviors may be evident over time rather than immediately.

In summary, based on this research and broad meta-analyses of this subject area (Buehler et al., 1997; Erel & Burman, 1995), it is clear that marital conflict is associated positively with adolescents' internalizing problem behaviors.

However, the key dependent variable of the present study, divorce proneness, has yet to be examined in relation to adolescents' internalizing problem behaviors. What remains to be researched is whether adolescents' problem behaviors also are associated with increases in parents' divorce proneness.

Externalizing Problem Behaviors

Whereas internalizing behaviors are directed inward toward the individual, externalizing behaviors are directed outward by the individual toward their social environment (Walker et al., 2004). Internalizing problem behaviors have been described as resulting from a deficit of necessary skills and behaviors, whereas externalizing problem behaviors are said to represent an excess of behavior (Walker et al.). Examples of externalizing problem behaviors include a variety of inappropriate, observable behaviors such as substance abuse, delinquency, antisocial behavior, inappropriate hostility, off-task behavior, rule-breaking behavior, arguing, lying, physical fighting, aggression, and/or inappropriate hyperactivity (Arthur, Hawkins, Pollard, Catalano, & Baglinoi, 2002; Cowan, Cohn, Cowan, & Pearson, 1996; Zhang, Welte, & Wieczorek, 2002). In adolescent research, externalizing problem behaviors often are assessed through the use of scales and checklists, such as Achenbach's Child Behavior Checklist (Achenbach, Howell, Quay, & Conners, 1991; Lochman & Conduct Problems Prevention Research Group, 1995). Given the nature of these behaviors, observing externalizing problem behaviors is easier than observing internalizing behaviors. This, compounded with the fact that externalizing

behaviors are often immediately disruptive and stressful to parents and teachers, has led to a large body of research examining the relationship of adolescents' externalizing problem behaviors and broader family functioning.

However, to date, research has yet to examine the link between adolescents' externalizing problem behaviors and parents' divorce proneness although many other marital variables have been addressed. Some of this research will be reviewed in an attempt to highlight the relationship between adolescents' problem behaviors and parents' marital relationships. Similar to the research on internalizing problem behaviors, the general directional trend in this body of research is from the marital unit to the adolescent. Early research examined the role of marital disharmony in relation to adolescents' behavior problems (Gable, Belsky, & Crnic, 1992; Erel & Burman, 1995, for a review see Fincham, 1994). In subsequent years, research narrowed in focus, isolating marital conflict as a specific variable associated with adolescents' externalizing problem behaviors (Cummings & Davies, 2002; Cowan et al. 1996; Cowan & Hetherington, 1991; El-Sheikh & Elmore-Staton, 2004). It is important to understand this research in light of the present study's emphasis on adolescents' problem behaviors and broader marital processes.

In the Buehler et al. (1997) meta analysis on interparental conflict and youth problem behavior described previously, the average effect size was .39 for the studies reviewed that specifically used externalizing behavior problems as the dependent variable and marital conflict as the independent variable.

Externalizing problem behaviors were not examined as an independent variable. In no way seeking to discredit this established relationship, the present study will differ from these previous studies in that externalizing problem behaviors will be treated as an independent variable. The results of the present study will add to the existing body of research by painting a broader picture of family functioning and examining the complex relationship between adolescents and their parents.

Similar to the research on internalizing problem behaviors, the majority of early research examining links between marital conflict and adolescents' externalizing problem behaviors was cross sectional (see Grych & Fincham, 1990). Numerous studies from the 1980's found moderate to large associations between overt marital conflict (hostility to which children were exposed) and children's externalizing behaviors (e.g., Johnson & O'Leary, 1987; Johnston, Gonzalez, & Campbell, 1987; Jouriles, Murphy, & O'Leary, 1989; Wierson, Forehand, & McCombs, 1988 as cited by Grych & Fincham). However, given the cross sectional nature of these studies, causal pathways can only be inferred. The longitudinal nature of the present study will enable the direction of effects to be examined.

In their decade review on observing marital interaction, Gottman and Notarius (2000) reviewed a substantial body of research that examined the link between marital conflict and child problem behaviors. One example is the work of Emery and O'Leary (1984). They conducted a cross sectional study using a non-clinical sample of 132 married mothers and their children and examined the

relationship between marital conflict and youth problem behavior. Significant correlations were found between mothers' reports of marital conflict and children's externalizing problem behaviors (for the entire sample of boys and girls correlations ranged from .13 to .18, all of which were significant at $p < .05$). For example, in the total sample marital conflict was significantly related to child delinquency (.17) and conduct problems (.18). Thus, a clear relationship existed between marital conflict and youth problem behaviors. However, given the cross-sectional nature of this study, the direction of effects cannot be considered. The present study will rely on longitudinal data to examine the relationship between adolescents' problem behaviors and parents' divorce proneness. In addition to using longitudinal data, rather than relying on mothers to report both adolescents' problem behaviors and marital conflict, the present study will use adolescents' self reports of problem behaviors and spousal reports of divorce proneness. Using multiple informants in this way limits problems associated with having a single reporter, specifically problems of shared method variance (Bank, Dishion, Skinner, & Patterson, 1989).

A second example of cross sectional research that examined the association between marital conflict and youth externalizing problem behaviors can be found in the more recent work of Buehler, Krishnakumar, Stone, Anthony, Pemberton, and Gerard (1998). Their results suggested that hostile marital conflict styles were associated even more strongly with youth problem behavior than were general marital disagreement variables. Overall, more than 20% of

variance in youth problem behavior was explained by marital conflict variables including frequency of disagreement and use of overt and covert conflict styles. Although this research design was cross-sectional, a unique contribution stems from the fact that data were gathered from two different sites in order to replicate the results from one site with the results from the second site. However, given the cross sectional nature of this research, directionality cannot be determined. The longitudinal nature of the present study will enable these relationships to be examined over time and will move the focal point beyond marital conflict by focusing on divorce proneness.

Recently, longitudinal research has begun to address issues related to the relationship between marital conflict and adolescents' problem behaviors. The directional trend in this research mirrors that found in the research on internalizing behaviors and is from marital conflict to adolescents' externalizing behaviors. Two of these longitudinal studies are described below.

Cui, Conger, and Lorenz, (2005) used a sample of over 400 families drawn from the Iowa Youth and Families Project and found significant associations between marital conflict, marital distress (changes in satisfaction and happiness) and adolescent adjustment. Results suggested that there were corresponding increases and decreases in adolescents' hostility and delinquency based on changes in both marital distress and marital conflict. The families were targeted via their 7th grade adolescent. Similarly, the families in the present study were recruited as their adolescents began the transition into adolescence (at the

start of 6th grade) and continued to participate through middle school and into the first year of high school. Rather than focusing broadly on marital conflict and distress, the present study isolates divorce proneness as the dependent variable of interest.

The second example of longitudinal research is drawn from the work of Gerard et al. (2006). They conducted a longitudinal study examining the mediational role of parent-child relationships on the association between marital conflict and adolescent maladjustment. Using data from the National Survey of Families and Households, they found a direct association of .29 between marital conflict and adolescents' externalizing behavior problems which accounted for 20% of the variance in problem behavior.

The aforementioned research certainly helps document the relationship between marital conflict and adolescents' externalizing problem behaviors. Yet, this is a complex relationship. In his overview, Fincham (1994) points out a common flaw in most studies of marital conflict on adolescents. Children are often viewed as a blank slate, a 'tabula rosa', upon which marital conflict makes a permanent black mark. Fincham's point is that in so doing, researchers deny the possibility that children are active agents, interpreting, filtering, and processing external input. The goal of the present study is in no way to deny the relationship of marital conflict and adolescents' problem behaviors; rather, the suggestion is that this relationship is potentially bi-directional in nature and that as active agents children have the potential to influence the marital dyad. Almost three

decades ago, Bell (1979), in his article on reciprocal influences, suggested that parents and children are part of a “moving bidirectional system” (p. 822) such that, “the responses of each participant serve not only as the stimuli for the other, but also change as a result of the same stimulus exchanges leading to the possibility of altered response on the part of the other” (p. 822). Bell’s thoughts buttress the concept of interdependence previously described when discussing family systems theory. The present study examines the relationship of adolescents’ problem behaviors on the marital dyad to see if there are effects of adolescents’ problem behaviors on their parents’ marital relationship processes.

One study, mentioned in the introduction, examined the relationship between child problem behaviors and parents’ marital functioning (Jenkins et al., 2005). Jenkins et al. studied the mutual influence between children’s externalizing problem behaviors and marital conflict. Their results suggested that this relationship was bidirectional. Marital conflict increased as adolescents’ externalizing problem behavior escalated. This is encouraging support for the proposed study as it supports the directional relationship of child effects on the parental unit. However, unlike the present study, Jenkins et al.’s sample was not limited to first time marriages. Complex family structures, such as stepfamilies, comprised 25% of the sample. Furthermore, Jenkins et al. focused on marital conflict and not on divorce proneness. The present study extends their findings of child effects beyond marital conflict by examining the relationship between adolescents’ problem behaviors and parents’ divorce proneness.

Divorce Proneness

Conceptualization of Divorce Proneness

Due to a historical lack of definitional clarity in the marital research literature, it is necessary to define as independent, but related, the constructs of divorce proneness and marital stability. Amato, Johnson, Booth, and Rogers (2003) define divorce proneness as thoughts or actions that precede and may lead to divorce. Divorce proneness is a concept separate from marital satisfaction and marital stability, although they are related theoretically and empirically. Divorce proneness conceptually is defined as describing whether or not a married individual thinks and/or acts in a way that indicates an inclination towards future separation or divorce. Thus, divorce proneness is an individual level variable not a dyadic variable.

Divorce proneness has both cognitive and behavioral elements (Amato et al., 2003). Indicators of divorce proneness include thinking one's marriage might be in trouble, contemplating marital dissolution or separation, discussing with one's spouse or friend the possibility of divorce, meeting with a divorce attorney, and/or one spouse deciding to physically move out of the home. Potential key correlates of divorce proneness include (but are not limited to) an increasing acceptance of divorce, precursor decreases in marital quality and satisfaction, and increasing marital conflict characterized by Gottman's (1994) "four horseman of the apocalypse": contempt, criticism, defensiveness, and stonewalling. As noted earlier, it is important to understand that not all couples' relationships that

eventually end in divorce are characterized by increasing levels of marital conflict (Amato, 2007).

Relationship of Divorce Proneness and Marital Satisfaction

As previously mentioned in the discussion of Gottman's (1994) cascade model of marital dissolution, marital satisfaction is related to divorce proneness. However, marital satisfaction is not part of the conceptual definition of divorce proneness because it is a separate concept preceding divorce proneness. Decreases in marital satisfaction can trigger increases in divorce proneness which can lead to marital instability. The inverse also is true. Increasing marital satisfaction is associated with decreases in divorce proneness which translate into marital stability.

Marital Stability/Instability and its Historical Relation to Divorce Proneness

Marital stability is a dichotomous construct (Trussell, Rao, & White, 1989). Stability refers to the state of an intact dyad. Marital instability, on the other hand, is the term used to describe marital dissolution through separation or divorce. Divorce rates are indicators of marital instability in the population. The divorce rate, until 1920, was measured as the number of divorces for every 1,000 marriages. Since 1920 it has been measured as the number of divorces for every 1,000 married women (Furstenberg, 1990). In 2005, the divorce rate, based on data from 46 states and Washington, D.C., was 3.6 per 1,000 married women (NCHS, Provisional Data for 2005, Table A). In terms of percentages, Schoen

and Standish (2001) estimate that 44% of marriages contracted around 1995 can be expected to divorce.

Although marital stability is a dichotomous variable (stable or not stable, intact or separated/divorced), early research on marital instability often measured this construct using items from the Marital Instability Index (Booth et al., 1983). Problematically, these items also have been used as measures of divorce proneness (Booth, Johnson, White, & Edwards, 1986). The items on this scale address cognitions about marital dissolution, actions taken towards marital dissolution (consulting a divorce attorney, discussing separation or divorce with spouse and/or close friend), and affective states (feelings about one's marriage). According to early research by Booth et al. (1983), marital instability is related to divorce proneness and refers to a dyad's propensity to "dissolve an existing marriage, even though dissolution may not be the final outcome" (p. 388). In recent decades, the conceptualization of marital instability has been refined so as to limit the overlapping of the differing concepts of marital instability and divorce proneness. (See Rhoden [2003] for an example.)

Moderating Variable: Adolescents' Gender

A variable that influences the relationship between two other variables is said to moderate their association. Moderating variables often refer to the conditions under which the relationship between the independent and dependent variables exist, such as the attributes of those being studied (Vogt, 2005). Adolescents' gender is proposed as a moderator in the present study. Although

males and females engage in both types of problem behaviors, females are more likely than males to engage in internalizing problem behaviors, such as depression (Seiffge-Krenke & Kollmar, 1998). Likewise, males are more likely than females to engage in externalizing problem behaviors, such as delinquency (Prinz, Onghena, & Hellinckx, 2006).

These gender differences have implications for parental efficacy. A parent may view male adolescents' externalizing behavior as more normative than female externalizing problem behaviors and may expect internalizing problem behaviors to be more consistent with female adolescent development. Thus, if adolescents' problem behaviors are viewed as non-normative, for example if a female is engaging in aggressive and delinquent behavior, the expectation is that parental efficacy would be more challenged than if an adolescent male were engaging in similar behavior. For these reasons, adolescents' gender will be tested as a moderating variable.

Mediator: Parental Efficacy

Based on Bandura's work on efficacy, the present study examines parental efficacy as a mediator of the relationship between adolescents' problem behaviors and spouses' divorce proneness. Bandura (1997) defined self-efficacy as the "beliefs one holds in one's capabilities to organize and execute the courses of actions required to produce given attainments" (as cited by Montigny & Lacharité, 2005, p. 390). Thus, parental efficacy is the belief a parent holds in his or her ability to parent a child successfully. As such, parental efficacy is an

individual level variable not a dyadic variable. Like the concept of divorce proneness, the research surrounding parental efficacy has lacked definitional clarity, often interchanging terms such as parental confidence and parental competence (for examples, see Montigny & Lacharité). In seeking to demarcate the concept of parental efficacy from other related terms, Montigny and Lacharité reviewed parenting literature from the past two decades in the fields of psychology and nursing. Their extensive work lays out a clear definition of parental efficacy based on Bandura's original work. Their definition of parental efficacy utilizes four attributes: personal beliefs, capabilities, integration of skills leading to result producing actions, and situation specific tasks. The end result is a single definition of parental efficacy: beliefs, thoughts, and judgments held by parents of their ability to implement and carry out necessary and beneficial tasks related to parenting. Specifically related to parents of adolescents, parental efficacy is a combined measure of the parents' perspectives of how well they can handle the problem behavior of their adolescent and a gauge of how normative parents perceive their adolescent's behavior to be. Overall, measures of parental efficacy assess the degree to which mothers and fathers feel competent as parents.

In the present study, parental efficacy is suggested as a mediator between the independent variable, adolescents' problem behaviors and the dependent variable, parents' divorce proneness. Little research has examined parental efficacy in this way, although related research suggests that this relationship is

possible. For instance, recent cross-sectional research relying on data from the National Longitudinal Study of Adolescent Health suggests that high levels of parental efficacy are associated with lower levels of adolescent delinquency (Perrone, Sullivan, Pratt, & Margaryan, 2004). Given the cross-sectional nature of this finding, it is possible that problem behaviors, such as delinquency, lead to decreases in parental efficacy. Similarly, a study of parents of elementary school students found that parents who reported the highest efficacy also reported the greatest levels of marital stability (Swick, 1987). Thus, it appears that parental efficacy is related to marital variables. The present study suggests that mothers and fathers experiencing high levels of parental efficacy, who believe that their adolescent's problem behaviors are normative and that they have the parental skills necessary to parent their adolescent, will report lower levels of divorce proneness than mothers and fathers who report lower levels of parental efficacy.

Control Variable: Family Income

Recent work on the family and on adolescents' problem behaviors set a precedent for using economic hardship as a control variable (Vandewater & Lansford, 2005). Economic distress has been linked both with poor marital quality and marital instability, suggesting a link between economic distress and divorce proneness (Conger, Elder, & Lornez, 1990; Conger, Rueter, & Elder, 1999; Elder, Eccles, Ardel, & Lord, 1995; Tzeng, 1992). Economic hardship has also been found to contribute to decreases in parental efficacy (Elder et al.) and to have spillover effects on adolescent adjustment (Conger et al., 1990; Elder et al.).

Given the present study's interest in these key variables, family income is treated as a control variable.

Limitations of Current Research

As Demo (1991) suggested, as research in the area of adolescents and the family progresses, it is crucial for scholars to expand their conceptualization of adolescent-parent interactions in such a way that the broader social contexts in which these relationships exist are more fully taken into account. This recommendation is in keeping with the notion that systems are composed of interdependent parts. Subsystems, like that of the parent-child, are not separate from other family sub-systems, namely the marital dyad.

With few notable exceptions, such as the recent work of Jenkins et al. (2005) and Whiteman et al. (2007), research has failed to examine the role adolescents play in influencing parents' marital processes. The present study overcomes these research limitations by examining the link between adolescents' internalizing and externalizing problem behaviors and their relationship to parental divorce proneness.

Statement of Hypotheses

According to a systems perspective, what takes place in the adolescent-parent dyad may spill over into the marital dyad. The general hypothesis in the present study is that adolescents' problem behaviors are associated positively with parents' divorce proneness. It also is hypothesized that this relationship is mediated by parental efficacy. The following hypotheses will be examined:

Hypothesis 1: Adolescents' problem behaviors are associated positively with parents' divorce proneness.

Hypothesis 2: Controlling for parental divorce proneness at wave one (W1), adolescents' problem behaviors at W1 are associated with increases in parental divorce proneness over two years (at wave three, W3) and three years (at wave four, W4).

Hypothesis 3: Wave 2 (W2) parental efficacy mediates the association between adolescents' problem behaviors and parental divorce proneness.

CHAPTER III

METHOD

Sampling

Population of Interest and Sampling Procedures

For the present study, the population of interest consisted of families in which the parents were married and had a child who was transitioning into adolescence. In order to recruit married couples with an adolescent, a sample of sixth graders and their parents was drawn from a larger study examining the effects family life has on the transition from childhood into adolescence (Buehler, 2006). Participants in this larger study were drawn from 13 middle schools located in one county in a southeastern state.

In 2001 during homeroom, sixth graders in the selected schools received a letter informing them about the study. They were instructed to share this information with their parents. Follow-up letters were mailed to their individual households in an effort to obtain parental consent and family participation. A self-addressed, stamped return envelope was included in the final mailing. Of the 71% of families who returned the consent form, 80% agreed to take part in the study. The initial sample consisted of 2,346 sixth graders.

Parents' reported their relationship status as part of the informed consent form. The parent providing participation consent for the child checked one of 8

boxes that described their current relationship status (e.g. never married, married to this child's parent). Although to participate in the present study parents could be long-term cohabitants (living together for three years or more) none of the families in the present study were long-term cohabitants. Thus, all of the families in the present study were married to the participating child's parent.

In addition to being married or long-term cohabitants, a second inclusion criterion was that there could be no stepchildren in or outside of the home. Of those meeting these criteria, 37% (416 families) agreed to participate. The 416 families who agreed to participate were similar on all variables when compared to the eligible, non-participating families. The main reasons eligible families chose not to participate were worry over the amount of time it would take to participate and concern about the videotaping that took place during the home visit (observational data not used in the present study). Following the initial questionnaires, families were asked to complete questionnaires again once a year for three more years. The retention rate was 77%, resulting from 366 families at W2, 340 families at W3, and 320 families at W4. There were no significant differences on study variables between the families that dropped out and those that stayed in the study.

There were various strengths associated with this sampling strategy. First, it enabled an initially large ($N = 2,346$) sample to be recruited. Second, by using the school system as a recruitment mechanism, the population recruited was a non-clinical sample. Furthermore, middle schools provide a population

representative of the county diversity. Together, these factors increased the generalizability of the study's findings.

Sample Characteristics

Of those married parents who consented to participate, 91% were European American. African Americans comprised 3% of the sample. The remaining 6% of the sample consisted of individuals with other ethnic backgrounds. These percentages were slightly different from the county makeup in that married African American families who live with their own children comprised 5% of the county population and 7.8% of the national population (U.S. Census, 2000, table PCT27 of SF4). Educational status of parents indicated that on average parents had an associate's degree or 2 years of college education. In terms of education, the population was comparable to that of European American county residents older than 24 years of age (average was some college, but no degree; U.S. Census, 2000, Table P148A of SF4). Median 2001 household income was around \$70,000. Compared with the 1999 median income of \$59,548 for European American families in the United States, the sample for this study reported greater than average county-level household incomes (U.S. Census, 2000, Table PCT40 of SF3). Adolescents' gender was split with a ratio of 51% female and 49% male. Sixth graders were aged 11 through 14 years old ($M = 11.86$, $SD = .69$).

Procedure

Assent and Consent

Consent was obtained in writing from the parents of the sixth graders as part of the recruitment process. Letters sent home explained the study and asked for parental consent. Only the parents who returned the consent forms and the adolescents who assented were included in the sample.

Data Collection

A series of questionnaires administered at four different time periods were used as the primary method of data collection. The first time period was during the adolescents' 6th grade year (W1). The second series of questionnaires were administered one year later when the adolescents were in the 7th grade (W2). The third set was administered two years later, during the adolescents' 8th grade year (W3), and the fourth series of questionnaires was administered three years later, during the adolescents' 9th grade year (W4). During each assessment, adolescents completed a series of questionnaires at school and were compensated with a pizza party. Adolescents and both parents also independently completed questionnaires that were mailed to their households. Completing each year's assessment, a home visit occurred during which the mailed questionnaires were collected and a second questionnaire was completed. Participating families were compensated financially for their participation. Families received \$100 at W1, \$120 at W2, \$135 at W3, and \$150 at W4.

Measures

Independent Variables: Adolescents' Internalizing and Externalizing Problem Behaviors

Adolescents' problem behaviors were assessed at W1 using the Child Behavior Checklist-Youth Self-Report (CBL-YSR, Achenbach, 1991c) to obtain reports of problem behavior from the 416 adolescents. This measure was comprised of various statements examining their behavior during the previous six months. The measure included 31 items that assessed internalizing problems. Examples of these items included the following statements: "I feel worthless or inferior" and "I am unhappy, sad, or depressed" ($\alpha = .88$). The measure also consisted of 30 items that assessed externalizing problems. Examples of these items included: "I lie or cheat" and "I disobey at school" ($\alpha = .85$). Responses were given according to the following scale: (0) not true, (1) somewhat or sometimes true, or (2) very often or often true. According to Achenbach's (1991a) recommendation, raw scores were used. Higher scores indicated greater levels of problem behaviors. (See Appendix C for a list of all items.)

Dependent Variable: Divorce Proneness

Divorce proneness was assessed by having wives and husbands respond to four questions that examined thoughts and attitudes relating to marital difficulty and possible separation or divorce (Booth et al., 1983). Example items included, "Have you thought your marital relationship might be in trouble" and "Have you seriously suggested to your spouse the idea of ending the relationship?" The

response format was (1) not in the last year; (2) yes, within the last year; (3) yes, within the last six months; (4) yes, within the last three months. Higher scores indicated greater levels of divorce proneness. Cronbach's alphas were .89 for mothers and .80 for fathers.

Moderator: Adolescents' Gender

Internalizing and externalizing behaviors vary by adolescents' gender (Seiffge-Krenke & Kollmar, 1998). It is possible that parents may view externalizing behaviors as more normative for their male adolescents and internalizing behaviors to be more normative for their female adolescents. Thus, due to the potential moderating effect of adolescents' gender on family process, gender was examined as a moderator (Davies & Lindsay, 2001). Gender was dummy coded so that male = 1 and female = 0.

Mediator: Parental Efficacy

Parental efficacy was assessed using eight of the ten items from the Parent's Self-Agency Measure (Dumka, Stoerzinger, Jackson, & Rossa, 1996). Sample items included: "When things are going badly between this child and me, I keep trying until things begin to change," and "I can solve most problems between this child and me." Responses were given on a 5-point Likert-type scale that ranged from (1) rarely to (5) always. Higher scores indicated greater levels of parental efficacy. Cronbach's alphas were .79 for mothers and .85 for fathers.

Control Variable: Family Income

Family income was used as a control variable based on the findings of Elder et al. (1995) that economic hardship contributes to increased levels of parental stress and decreased feelings of parental efficacy. Such research also suggests that low family income places strain on marital relationships and has been linked with divorce proneness. Family income was reported at W1 by mothers and was coded from 1 (less than \$2,500) to 41 (\$100,000 or more) using Census categories.

Analysis Plan

Preliminary Analyses

Pearson correlations between W1 adolescents' problem behaviors and parents' divorce proneness were used to establish a relationship between the independent and dependent variables. A paired t-test examined whether or not there were significant differences between adolescents' reports of internalizing and externalizing problem behaviors.

Testing the First and Second Hypotheses

To test the first hypothesis, regression analyses estimated the association between W1 adolescents' internalizing and externalizing problem behaviors and W3 and W4 wives' and husbands' divorce proneness. To test the second hypothesis, regression analyses estimated the relationship between W1 adolescents' internalizing and externalizing problem behaviors and changes over

two years (at W3) and over three years (at W4) in wives' and husbands' divorce proneness while controlling for W1 divorce proneness.

Testing the Third Hypothesis: Mediation

In order to function as a mediator, parental efficacy has to mediate the statistically significant relationship between adolescents' problem behaviors and wives' and husbands' divorce proneness. Baron and Kenny (1986) list three statistical requirements for mediation. First, a significant relationship between the independent variable and the mediator must be established. Second, there must be a significant relationship between the mediator and the dependent variable, and third, there must be a significant relationship between the independent and dependent variables. Mediation occurs when the previously significant relationship between the independent and dependent variables is reduced to a nonsignificant relationship when the mediator is added to the equation (Howell, 2006).

Baron and Kenny's (1986) test for mediation has received criticism in recent years. In their original test, significant relationships were established between the independent variable and the mediator, the mediator and the dependent variable, and the independent and dependent variable. However this method has been criticized because it fails to estimate the indirect pathway between the variables (Mackinnon, Lockwood, Hoffman, West, & Sheet, 2002). As such, Baron and Kenny's model sometimes fails to identify real associations. One key critique of Mackinnon et al. on Baron and Kenny's causal method of

testing for mediation is that Baron and Kenny's model lacks a joint test of the relationship between all three variables, independent, mediator, and dependent. In order to overcome this limitation, Mackinnon et al. suggest calculating a statistical estimate for the total pathway rather than separate estimates of the pathway between the independent variable and the mediator and the mediator and the dependent variable. Mackinnon et al. suggest using Sobel's (1982) first-order *t*-test in conjunction with Baron and Kenny's method to establish the significance of the indirect pathway. McLoyd, Jayaratne, Cebally, and Borquez (1994) provided an example of testing for mediation using Baron and Kenny's method and supplementing this with Sobel's test.

To examine the third hypothesis, parental efficacy was entered in the third block on each of the preceding regression analyses. Baron and Kenny's (1986) steps were followed to test parental efficacy as a mediator. Sobel's joint test of the relationship between all three variables was estimated to ensure appropriate statistical power and to overcome the previously mentioned critiques of Baron and Kenny's classic test of mediation (MacKinnon et al., 2002).

Conducting Separate Analyses

Analyses were conducted separately for adolescents' internalizing and externalizing problem behaviors. As previously noted, in spite of their co-occurrence, internalizing and externalizing behaviors should be considered as separate forms of problem behavior due to their inherent differences (Reitz et al. 2005). Given that these behaviors are distinct from one another they are

expected to affect parents in different ways. For instance, externalizing problems are immediately demanding and stressing for parents whereas internalizing behaviors are less immediately demanding but have been shown to provoke parents to worry about their adolescent over time (Cheah & Rubin, 2004).

Analyses also were conducted separately for wives and husbands. There were two reasons for this. One, both divorce proneness and parental efficacy are individual level variables not dyadic variables. Thus, it is possible for different levels of divorce proneness to be reported within one couple. For instance, the wife might be experiencing higher levels of divorce proneness than the husband. By running analyses separately for wives and husbands these differences were noted. Two, it is possible that adolescents' problem behaviors affect mothers and fathers differently. Research confirms that there are differences between mother and father perceptions of adolescents' problem behavior (Seiffge-Krenke & Kollmar, 1998). It is possible that mothers and fathers experience their adolescents' problem behaviors differently and are influenced by these behaviors in different ways. Running separate analyses enabled these differences to be explored.

Summary

The goal of the present study is to fill a gap in the literature by better understanding the relationship between adolescents' problem behaviors and parents' divorce proneness and to examine the impact parental efficacy has on explaining this relationship.

CHAPTER IV

RESULTS

The following chapter presents the results of the analyses that were conducted to test the relationship between adolescents' problem behaviors and parents' divorce proneness. Regression analyses estimated the relationship between these variables. The first set of analyses examined the relationship between internalizing problem behaviors and wives' and husbands' divorce proneness. The second set of analyses examined the relationship between externalizing problem behaviors and wives' and husbands' divorce proneness. This relationship was examined first for Wave three (W3) divorce proneness and then repeated for Wave four (W4) divorce proneness. As previously mentioned, the results are presented separately for wives and husbands. To test hypothesis one, regression analyses were conducted without controlling for Wave one (W1) levels of divorce proneness. To test hypothesis two, regression analyses were conducted to examine changes in divorce proneness over two years (at W3) and over three years (at W4) by controlling for initial levels of divorce proneness (at W1).

Descriptive and Preliminary Analyses

Correlations, means and standard deviations are presented in Table 1.

Table 1

Correlations and Descriptive Statistics (N = 416)

Variables	1	2	3	4	5	6	7	8	9	10
1. W1 Wives' Divorce Proneness	-									
2. W1 Husbands' Divorce Proneness	.58	-								
3. W3 Wives' Divorce Proneness	.52	.31	-							
4. W3 Husbands' Divorce Proneness	.44	.55	.58	-						
5. W4 Wives' Divorce Proneness	.37	.35	.61	.37	-					
6. W4 Husbands' Divorce Proneness	.20	.35	.52	.59	.59	-				
7. W1 Adolescents' Internalizing	.11	.11	.16	.12	.14	.10	-			
8. W1 Adolescents' Externalizing	.15	.04	.16	.03	.20	.03	.54	-		
9. W2 Mothers' Parental Efficacy	-.17	-.21	-.21	-.21	-.18	-.20	-.08	-.17	-	
10. W2 Fathers' Parental Efficacy	-.14	-.20	-.12	-.17	-.18	-.21	-.02	-.03	.43	-
Mean	1.24	1.12	1.28	1.21	1.27	1.20	10.96	9.45	4.15	4.14
Range	1-4	1-4	1-4	1-4	1-4	1-4	0-45	0-41	2.5-5	2.4-5
Standard Deviation	.56	.46	.64	.53	.61	.50	7.50	5.98	.41	.43

Note. W1 means Wave 1, W2 means Wave 2, W3 means Wave 3, and W4 means Wave 4.

Note. Bold = $p < .05$.

Adolescents' Problem Behaviors

Adolescents' reports of problem behaviors correlated significantly. At W1 adolescents reported greater levels of internalizing problem behaviors ($M = 10.96$, $SD = 7.50$) than externalizing problem behaviors ($M = 9.47$, $SD = 5.98$). A paired t-test confirmed that there were significant differences between W1 adolescents' reports of internalizing and externalizing behaviors ($t(415) = -4.58$, $p < .01$).

Divorce Proneness

In the entire sample, the average level of divorce proneness for all four time points was between one and two on a scale of one to four, with one meaning "not in the last year," and two meaning "yes, within the last year." Spouses' reports of divorce proneness positively correlated across each wave of data. Wives reported greater levels of divorce proneness. A paired t test highlighted significant differences between wives' and husbands' reports of divorce proneness at W1 ($t(411) = 3.36$, $p < .01$), W3 ($t(331) = 2.51$, $p < .05$), and W4 ($t(306) = 2.39$, $p < .05$).

Adolescents' Problem Behaviors and Parental Divorce Proneness

Before presenting the results of the longitudinal regression analyses, in this paragraph the correlations between W1 adolescents' problem behaviors and W1 parents' divorce proneness are summarized. W1 adolescents' reports of internalizing problem behaviors significantly correlated with W1 wives' reports of divorce proneness ($r = .11$, $p < .05$). W1 adolescents' reports of externalizing

problem behaviors significantly correlated with W1 wives' reports of divorce proneness ($r = .15, p < .05$). W1 adolescents' reports of internalizing problem behaviors significantly correlated with W1 husbands' reports of divorce proneness ($r = .11, p < .05$). W1 adolescents' reports of externalizing problem behaviors did not correlate with W1 husbands' reports of divorce proneness ($r = .04, p > .05$).

Adolescents' Gender: Testing for Moderation

Adolescents' gender was examined as a moderator of the association between adolescents' problem behaviors and parental efficacy and between adolescents' problem behaviors and parents' divorce proneness. Analytically, adolescents' internalizing problem behaviors were centered and an interaction term was created between the centered variable and adolescents' gender. The same analyses were carried out using adolescents' externalizing problem behaviors. Thus, two interaction terms were created: one from the centered variable for internalizing problem behaviors and adolescents' gender and another from the centered variable for externalizing problem behaviors and adolescents' gender. These interaction terms were used to test the moderating role of adolescents' gender.

Adolescents' gender did not moderate the relationship between adolescents' problem behaviors (either internalizing or externalizing) and parental divorce proneness. Nor did adolescents' gender moderate the relationship between adolescents' problem behaviors and parental efficacy. The

regression coefficient of the interaction term was not significant in any of the moderating analyses. For instance, when estimating a model examining the interaction term of adolescents' internalizing problem behaviors and adolescents' gender and its relation to W3 wives' divorce proneness, $\beta = .01$ and $p = .94$. (See Appendix D for further statistical results of the analyses examining adolescents' gender as a moderator.) Therefore, adolescents' gender was used as a control in all subsequent analyses rather than as a moderator.

Hypothesis 1: Linking Problem Behaviors and Divorce Proneness

A series of hierarchical multiple regression analyses tested the first hypothesis that there is a positive association between adolescents' reports of problem behaviors and parents' reports of divorce proneness. In the first series of analyses, W3 divorce proneness was treated as the dependent variable. In the second set of analyses, W4 divorce proneness was examined instead. Three models were estimated in each set of analyses. Model one included the control variables, family income and adolescents' gender. Model two continued to control for family income and adolescents' gender, but also included the independent variable, adolescents' reports of problem behaviors. Model three included parental efficacy and the results from these analyses are discussed later in the section summarizing hypothesis three (i.e., mediating patterns).

W1 Adolescents' Internalizing Problem Behaviors and W3 Divorce Proneness

Wives' divorce proneness. Hierarchical multiple regression analyses examined the relationship between W1 adolescents' reports of internalizing

problem behaviors and W3 wives' reports of divorce proneness (Table 2).

Adolescents' internalizing problem behaviors were associated positively with wives' divorce proneness. In terms of the control variables, adolescents' gender was not associated with wives' reports of divorce proneness ($\beta = .02, p > .05$). In model one, family income was associated negatively with W3 wives' reports of divorce proneness ($\beta = -.13; p < .05$). In model two, W1 adolescents' internalizing problem behaviors were associated positively with W3 wives' reports of divorce proneness, as hypothesized ($\beta = .16; p < .05$).

Husbands' divorce proneness. Hierarchical multiple regression analyses also examined the relationship between W1 adolescents' reports of internalizing problem behaviors and W3 husbands' reports of divorce proneness (Table 3). Contrary to the hypothesis, adolescents' internalizing problem behaviors were not associated with husbands' divorce proneness. In terms of the control variables, in model one, family income negatively related to W3 reports of divorce proneness ($\beta = -.14; p < .05$) and adolescents' gender was not associated with husbands' divorce proneness ($\beta = -.03; p > .05$). In model two, W1 adolescents' internalizing problem behaviors were not associated with W3 husbands' reports of divorce proneness ($\beta = .12; p < .05$).

Table 2

Summary of Hierarchical Regression Analyses for Adolescents' Internalizing Problem Behaviors and W3 Wives' Divorce Proneness (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Family Income	-.01	.004	-.13*	-.01	.004	-.12*	-.08	.044	-.11*
Adolescents' Gender	.02	.072	.02	.03	.071	.02	.03	.070	.02
W1 Adol. Internalizing Problem Behaviors				.01	.005	.16*	.01	.055	.14*
W2 Wives' Parental Efficacy							-.30	.084	-.19*
<i>R</i> ²		.02			.04			.08	
<i>F</i>		2.71			4.47*			6.53*	

* $p < .05$.

Table 3

Summary of Hierarchical Regression Analyses for Adolescents' Internalizing Problem Behaviors and W3 Husbands' Divorce Proneness (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Family Income	-.01	.003	-.14*	-.01	.004	-.12*	-.01	.003	-.13*
Adolescents' Gender	-.03	.059	-.03	.03	.059	-.03	-.04	.058	-.04
W1 Adol. Internalizing Problem Behaviors				.01	.004	.11	.01	.004	.10
W2 Husbands' Parental Efficacy							-.19	.067	-.16*
<i>R</i> ²		.02			.03			.06	
<i>F</i>		3.22			3.36*			4.67*	

**p* < .05.

W1 Adolescents' Internalizing Problem Behaviors and W4 Divorce Proneness

Wives' divorce proneness. Next, hierarchical multiple regression analyses examined the association between W1 adolescents' reports of internalizing problem behaviors and W4 wives' reports of divorce proneness (instead of W3). Adolescents' internalizing problem behaviors were associated with wives' divorce proneness. In each model, neither family income nor adolescents' gender significantly related to wives' reports of divorce proneness (Table 4). In model two, W1 adolescents' internalizing problem behaviors positively related to W4 wives' reports of divorce proneness, as hypothesized ($\beta = .14$; $p < .05$).

Husbands' divorce proneness. Similar regression analyses estimated the relationship between W1 adolescents' reports of internalizing problem behaviors and W4 husbands' reports of divorce proneness and there were no significant relationships between variables. Specifically, in model one, neither family income nor adolescents' gender significantly related to husbands' reports of divorce proneness (Table 5). In model two, W1 adolescents' internalizing problem behaviors were not significantly related to W4 husbands' reports of divorce proneness ($\beta = .10$, $p > .05$).

Table 4

Summary of Hierarchical Regression Analyses for Adolescents' Internalizing Problem Behaviors and W4 Wives' Divorce Proneness (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Family Income	.00	.004	-.00	.00	.004	.01	.00	.004	.01
Adolescents' Gender	.07	.072	.06	.08	.071	.07	.08	.070	.06
W1 Adol. Internalizing Problem Behaviors				.01	.005	.14*	.01	.005	.12*
W2 Wives' Parental Efficacy							-.26	.085	-.17*
<i>R</i> ²		.00			.02			.05	
<i>F</i>		.54			2.25			3.99*	

**p* < .05.

Table 5

Summary of Hierarchical Regression Analyses for Adolescents' Internalizing Problem Behaviors and W4 Husbands' Divorce Proneness (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Family Income	-.01	.003	-.09	-.00	.003	-.09	-.00	.003	-.08
Adolescents' Gender	-.05	.058	-.05	-.05	.058	-.05	-.06	.057	-.06
W1 Adol. Internalizing Problem Behaviors				.01	.004	.10	.01	.004	.09
W2 Husbands' Parental Efficacy							-.25	.066	-.21*
<i>R</i> ²		.01			.02			.06	
<i>F</i>		1.56			1.94			4.95*	

**p* < .05.

W1 Adolescents' Externalizing Problem Behaviors and W3 Divorce Proneness

Wives' divorce proneness. Hierarchical multiple regression was used to estimate the association between W1 adolescents' reports of externalizing problem behaviors and W3 wives' reports of divorce proneness (Table 6). Adolescents' externalizing problem behaviors significantly related to wives' divorce proneness. In model one, family income negatively related to W3 wives' reports of divorce proneness ($\beta = -.13$; $p < .05$). In model two, W1 adolescents' externalizing problem behaviors were associated positively with W3 wives' reports of divorce proneness, as hypothesized ($\beta = .16$; $p < .05$).

Husbands' divorce proneness. Hierarchical multiple regression analyses also examined W1 adolescents' reports of externalizing problem behaviors and W3 husbands' reports of divorce proneness. Adolescents' externalizing problem behaviors were not associated significantly with husbands' divorce proneness. In terms of the control variables, in model one, family income was associated negatively with W3 husbands' reports of divorce proneness ($\beta = -.14$; $p < .05$). Adolescents' gender was not related significantly to husbands' reports of divorce proneness (Table 7). In model two, adolescents' externalizing problem behaviors at W1 were not associated with W3 husbands' reports of divorce proneness ($\beta = .02$, $p > .05$).

Table 6

Summary of Hierarchical Regression Analyses for Adolescents' Externalizing Problem Behaviors and W3 Wives' Divorce Proneness (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Family Income	-.01	.004	-.13*	-.01	.004	-.12*	-.01	.004	-.11*
Adolescents' Gender	.02	.072	.01	-.01	.072	-.01	-.01	.071	-.01
W1 Adol. Externalizing Problem Behaviors				.02	.006	.16*	.01	.006	.13*
W2 Wives' Parental Efficacy							-.28	.086	-.18*
<i>R</i> ²		.01			.04			.07	
<i>F</i>		2.71			4.48*			6.13*	

* $p < .05$.

Table 7

Summary of Hierarchical Regression Analyses for Adolescents' Externalizing Problem Behaviors and W3 Husbands' Divorce Proneness (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Family Income	-.01	.003	-.14*	-.01	.003	-.14*	-.01	.003	-.13*
Adolescents' Gender	-.03	.059	-.03	-.04	.060	-.04	-.05	.059	-.04
W1 Adol. Externalizing Problem Behaviors				.00	.005	.02	.00	.005	.02
W2 Husbands' Parental Efficacy							-.20	.068	-.16*
<i>R</i> ²		.02			.02			.05	
<i>F</i>		3.22*			2.19*			3.79*	

**p* < .05.

W1 Adolescents' Externalizing Problem Behaviors and W4 Divorce Proneness

Wives' divorce proneness. Hierarchical multiple regression analyses also estimated the relationship between W1 adolescents' reports of externalizing problem behaviors and W4 wives' reports of divorce proneness. Adolescents' externalizing problem behaviors were associated significantly with W4 wives' divorce proneness. In terms of the control variables, in model one, neither family income nor adolescents' gender significantly related to wives' reports of divorce proneness (Table 8). In model two, W1 adolescents' externalizing problem behaviors positively related to W4 wives' reports of divorce proneness, as hypothesized ($\beta = .20; p < .05$).

Husbands' divorce proneness. Similar regression analyses estimated the relationship between W1 adolescents' reports of externalizing problem behaviors and W4 husbands' reports of divorce proneness. A significant association was not found. In model one, neither family income nor adolescents' gender related to husbands' reports of divorce proneness (Table 9). In model two, W1 adolescents' externalizing problem behaviors were not related to W4 husbands' reports of divorce proneness ($\beta = .03, p > .05$).

Table 8

Summary of Hierarchical Regression Analyses for Adolescents' Externalizing Problem Behaviors and W4 Wives' Divorce Proneness (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Family Income	.00	.004	-.00	.00	.004	.01	.00	.004	.02
Adolescents' Gender	.07	.072	.06	.03	.072	.03	.00	.072	.00
W1 Adol. Externalizing Problem Behaviors				.02	.006	.20*	.02	.006	.17*
W2 Wives' Parental Efficacy							-.23	.086	-.15*
<i>R</i> ²		.00			.04			.06	
<i>F</i>		.54			4.20*			4.98*	

**p* < .05.

Table 9

Summary of Hierarchical Regression Analyses for Adolescents' Externalizing Problem Behaviors and W4 Husbands' Divorce Proneness (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Family Income	-.01	.003	-.09	-.01	.003	-.09	-.00	.003	-.08
Adolescents' Gender	-.05	.058	-.05	-.05	.059	-.05	-.06	.058	-.06
W1 Adol. Externalizing Problem Behaviors				.00	.005	.03	.00	.005	.02
Husbands' Parental Efficacy W2							-.25	.066	-.21*
<i>R</i> ²		.01			.01			.06	
<i>F</i>		1.56			1.11			4.31*	

**p* < .05.

Summary of Results Regarding Hypothesis 1

Wives' divorce proneness. Controlling for adolescents' gender and family income, W1 adolescents' problem behaviors significantly related to both W3 and W4 wives' reports of divorce proneness. This hypothesis was supported for both internalizing and externalizing problem behaviors. Thus, the first hypothesis was supported for wives' divorce proneness.

Husbands' divorce proneness. Neither W1 adolescents' internalizing nor externalizing problem behaviors significantly related to W3 or W4 husbands' divorce proneness. Thus, hypothesis one was not supported for husbands.

Hypothesis 2: Estimating Change in Divorce Proneness

A series of autoregressive hierarchical regression analyses were conducted to test the second hypothesis that there is a relationship between adolescents' reports of problem behaviors and changes in wives' and husbands' reports of divorce proneness during early adolescence. Two sets of analyses tested this relationship. First, changes in reports of divorce proneness over two years (at W3) were treated as the dependent variable (controlling for W1 levels of divorce proneness). Second, changes in reports of divorce proneness over three years (at W4) were treated as the dependent variable (controlling for W1 levels of divorce proneness). As with the hypothesis one analyses, three models were estimated. Model one included the control variables, family income, adolescents' gender, and W1 reports of divorce proneness were added for the hypothesis two analyses. Model two continued to control for W1 reports of divorce proneness,

family income, and adolescents' gender, but also included the independent variable, W1 adolescents' reports of problem behaviors. Model three included the control and independent variables and added W2 reports of parental efficacy as a mediator. The results from the model three analyses are discussed later in the section summarizing hypothesis three (i.e., mediating patterns). Analyses are reported separately for internalizing and externalizing problem behaviors and separately for wives and husbands.

W1 Adolescents' Internalizing Problem Behaviors and Changes in Divorce Proneness Over Two Years

Wives' divorce proneness. The first autoregressive hierarchical regression analyses examined the relationship between W1 adolescents' reports of internalizing problem behaviors and changes in wives' reports of divorce proneness over two years (at W3). Adolescents' reports of internalizing problem behaviors were related to increases in wives' reports of divorce proneness. In terms of the control variables, in model one, W1 wives' reports of divorce proneness significantly correlated with their W3 reports of divorce proneness ($\beta = .52$; $p < .05$). Family income significantly correlated with decreases in W3 wives' reports of divorce proneness ($\beta = -.13$; $p < .05$). Adolescents' gender was not related significantly to changes in wives' reports of divorce proneness (Table 10). In model two, W1 adolescents' internalizing problem behaviors significantly related to increases in wives' reports of divorce proneness over two years, as hypothesized ($\beta = .10$; $p < .05$).

Husbands' divorce proneness. Autoregressive hierarchical regression analyses examined the relationship between W1 adolescents' reports of internalizing problem behaviors and changes in husbands' reports of divorce proneness over two years (at W3). Adolescents' internalizing problem behaviors were not associated with changes in husbands' reports of divorce proneness. In terms of control variables, in model one, W1 husbands' reports of divorce proneness correlated with their W3 reports of divorce proneness ($\beta = .56; p < .05$). Family income significantly related to decreases in W3 husbands' reports of divorce proneness ($\beta = -.16; p < .05$). Adolescents' gender was not related to changes in husbands' reports of divorce proneness (Table 11). In model two, adolescents' internalizing problem behaviors were not significantly related to changes in husbands' reports of divorce proneness over two years ($\beta = .04, p > .05$).

Table 10

Summary of Autoregressive Analyses for Adolescents' Internalizing Problem Behaviors and Changes in Wives' Divorce Proneness over Two Years (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Wives' Divorce Proneness	.26	.055	.52*	.58	.055	.51*	.56	.055	.49*
Family Income	-.01	.003	-.13*	-.09	.033	-.13*	-.09	.003	-.12*
Adolescents' Gender	.03	.061	.03	.04	.061	.03	.04	.060	.03
W1 Adol. Internalizing Problem Behaviors				.01	.004	.10*	.09	.004	.09*
W2 Wives' Parental Efficacy							-.17	.074	-.11*
<i>R</i> ²		.29			.30			.31	
<i>F</i>		42.35*			33.20*			28.05*	

* $p < .05$.

Table 11

Summary of Autoregressive Analyses for Adolescents' Internalizing Problem Behaviors and Changes in Husbands' Divorce Proneness over Two Years (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Husbands' Divorce Proneness	.69	.057	.56*	.68	.057	.55*	.67	.059	.54*
Family Income	-.01	.002	-.16*	-.01	.003	-.16*	-.00	.003	-.15*
Adolescents' Gender	-.04	.049	-.04	-.04	.049	-.03	-.04	.049	-.04
W1 Adol. Internalizing Problem Behaviors				.00	.003	.04	.00	.003	.05
W2 Husbands' Parental Efficacy							-.06	.058	-.05
<i>R</i> ²		.33			.33			.34	
<i>F</i>		51.55*			38.87*			31.35*	

* $p < .05$.

W1 Adolescents' Internalizing Problem Behaviors and Changes in Divorce Proneness Over Three Years

Wives' divorce proneness. The next analyses examined the relationship between W1 adolescents' reports of internalizing problem behaviors and changes in wives' reports of divorce proneness over three years (at W4). Contrary to the hypothesis, adolescents' internalizing problem behaviors were not related to changes in wives' divorce proneness. In terms of control variables, in model one, W1 wives' reports of divorce proneness related to their W4 reports of divorce proneness ($\beta = .37; p < .05$). Family income and adolescents' gender were not significantly related to changes in wives' reports of divorce proneness (Table 12). In model two, W1 adolescents' internalizing problem behaviors were not related to changes to wives' reports of divorce proneness over three years ($\beta = .10, p > .05$).

Husbands' divorce proneness. Autoregressive analyses examined the relationship between W1 adolescents' reports of internalizing problem behaviors and changes in husbands' reports of divorce proneness over three years (at W4). Adolescents' problem behaviors were not related to increases or decreases in husbands' divorce proneness over three years. In terms of control variables, in model one, W1 husbands' reports of divorce proneness correlated with their W4 reports of divorce proneness ($\beta = .36; p < .05$). Family income was related to decreases in husbands' reports of divorce proneness ($\beta = -.11, p < .05$) in model one although this relationship dropped to nonsignificant in later models.

Adolescents' gender was not related significantly to changes in husbands' reports of divorce proneness in any of the models (Table 13). In model two, W1 adolescents' internalizing problem behaviors were not related significantly to changes in husbands' reports of divorce proneness over three years ($\beta = .06, p > .05$).

Table 12

Summary of Autoregressive Analyses for Adolescents' Internalizing Problem Behaviors and Changes in Wives' Divorce Proneness over Three Years (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Wives' Divorce Proneness	.41	.060	.37*	.40	.060	.36*	.39	.060	.34*
Family Income	.00	.003	-.01	-.00	.003	.00	.00	.003	.00
Adolescents' Gender	.08	.067	.07	.09	.066	.07	.08	.066	.07
W1 Adol. Internalizing Problem Behaviors				.01	.004	.10	.01	.004	.09
W2 Wives' Parental Efficacy							-.18	.081	-.12
<i>R</i> ²		.14			.15			.17	
<i>F</i>		16.21*			13.07*			11.51*	

* $p < .05$.

Table 13

Summary of Autoregressive Analyses for Adolescents' Internalizing Problem Behaviors and Changes in Husbands' Divorce Proneness over Three Years (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Husbands' Divorce Proneness	.42	.064	.36*	.41	.064	.35*	.38	.065	.32*
Family Income	-.01	.003	-.11*	-.01	.003	-.10	-.01	.003	-.09
Adolescents' Gender	-.05	.054	-.05	-.05	.055	-.05	-.06	.054	-.06
W1 Adol. Internalizing Problem Behaviors				.00	.004	.06	.00	.004	.06
W2 Husbands' Parental Efficacy							-.17	.064	-.15*
<i>R</i> ²		.14			.14			.16	
<i>F</i>		15.62*			11.98*			11.21*	

* $p < .05$.

W1 Adolescents' Externalizing Problem Behaviors and Changes in Divorce Proneness Over Two Years

Wives' divorce proneness. Autoregressive analyses were estimated to examine the relationship between W1 adolescents' reports of externalizing problem behaviors and changes in wives' reports of divorce proneness over two years (at W3). Contrary to the hypothesis, adolescents' externalizing problem behaviors were not related to changes in wives' divorce proneness. In terms of the control variables, in model one, W1 wives' reports of divorce proneness correlated with W3 reports of divorce proneness ($\beta = .52; p < .05$). Family income was related to decreases in W3 wives' reports of divorce proneness ($\beta = -.13; p < .05$). Adolescents' gender was not related to changes in wives' reports of divorce proneness (Table 14). In model two, W1 adolescents' externalizing problem behaviors were not related significantly to changes in wives' reports of divorce proneness over two years ($\beta = .08, p > .05$).

Husbands' divorce proneness. Autoregressive analyses also examined the relationship between W1 adolescents' reports of externalizing problem behaviors and changes in husbands' reports of divorce proneness over two years (at W3). Adolescents' externalizing problem behaviors were not associated with increases or decreases in husbands' divorce proneness. In terms of the control variables, in model one, W1 husbands' reports of divorce proneness correlated with their W3 reports of divorce proneness ($\beta = .52, p < .05$) and family income negatively correlated with husbands' reports of divorce proneness over two years

($\beta = -.16, p < .05$). Adolescents' gender was not related to changes in husbands' reports of divorce proneness in any of the models (Table 15). In model two, W1 adolescents' externalizing problem behaviors did not correlate with changes in husbands' reports of divorce proneness over two years ($\beta = .01, p > .05$).

Table 14

Summary of Autoregressive Analyses for Adolescents' Externalizing Problem Behaviors and Changes in Wives' Divorce Proneness over Two Years (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Wives' Report of Divorce Proneness	.60	.055	.52*	.58	.055	.51*	.57	.055	.49*
Family Income	-.01	.003	-.13*	-.01	.003	-.13*	-.01	.003	-.13*
Adolescents' Gender	.03	.061	.03	.02	.062	.01	.02	.061	.01
W1 Adol. Externalizing Problem Behaviors				.09	.005	.08	.08	.055	.06
W2 Wives' Parental Efficacy							-.17	.075	-.11*
<i>R</i> ²		.29			.29			.30	
<i>F</i>		42.35*			32.55*			27.40*	

* $p < .05$.

Table 15

Summary of Autoregressive Analyses for Adolescents' Externalizing Problem Behaviors and Changes in Husbands' Divorce Proneness over Two Years (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Husbands' Divorce Proneness	.69	.057	.56*	.69	.057	.56*	.68	.058	.55*
Family Income	-.01	.002	-.16*	-.01	.003	-.16*	-.01	.003	-.16*
Adolescents' Gender	-.04	.049	-.04	-.04	.049	-.04	-.04	.049	-.04
W1 Adol. Externalizing Problem Behaviors				.00	.004	.01	.00	.004	.00
W2 Husbands' Parental Efficacy							-.06	.058	-.05
<i>R</i> ²		.33			.33			.33	
<i>F</i>		51.57*			38.54*			31.08*	

* $p < .05$.

W1 Adolescents' Externalizing Problem Behaviors and Changes in Divorce Proneness Over Three Years

Wives' divorce proneness. Autoregressive analyses examined the relationship between W1 adolescents' reports of externalizing problem behaviors and changes in wives' reports of divorce proneness over three years. As hypothesized, adolescents' externalizing problem behaviors significantly correlated with increases in wives' divorce proneness over three years. In terms of control variables, in model one, W1 wives' reports of divorce proneness correlated with their W4 reports of divorce proneness ($\beta = .37; p < .05$). Family income and adolescents' gender were not related to wives' reports of divorce proneness (Table 16). In model two, W1 adolescents' externalizing problem behaviors significantly related to increases in wives' reports of divorce proneness over three years ($\beta = .14, p < .05$).

Husbands' divorce proneness. Autoregressive analyses examined the relationship between W1 adolescents' reports of externalizing problem behaviors and changes in husbands' reports of divorce proneness over three years (at W4). Contrary to the hypothesis, adolescents' problem behaviors were not correlated with changes in husband's divorce proneness. In terms of the control variables, in model one, W1 husbands' reports of divorce proneness correlated with their W4 reports of divorce proneness ($\beta = .36, p < .05$) and family income correlated with decreases in their reports of divorce proneness ($\beta = -.11; p < .05$). In each model, adolescents' gender was not related to husbands' reports of divorce

proneness (Table 17). In model two, W1 adolescents' externalizing problem behaviors were not significantly correlated with changes in husbands' reports of divorce proneness over three years ($\beta = .01, p > .05$).

Table 16

Summary of Autoregressive Analyses for Adolescents' Externalizing Problem Behaviors and Changes in Wives' Divorce Proneness over Three Years (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Wives' Divorce Proneness	.41	.060	.37*	.39	.060	.35*	.37	.060	.34*
Family Income	.00	.003	-.01	.00	.003	.00	.00	.003	.01
Adolescents' Gender	.08	.067	.07	.05	.067	.04	.05	.067	.05
W1 Adol. Externalizing Problem Behaviors				.02	.006	.14*	.01	.006	.13*
W2 Wives' Parental Efficacy							-.16	.082	-.11
<i>R</i> ²		.14			.16			.17	
<i>F</i>		16.21*			14.04*			12.06*	

**p* < .05

Table 17

Summary of Autoregressive Analyses for Adolescents' Externalizing Problem Behaviors and Changes in Husbands' Divorce Proneness over Three Years (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Husbands' Divorce Proneness	.42	.064	.36*	.42	.064	.36*	.39	.065	.33*
Family Income	-.01	.003	-.11*	-.01	.003	-.11	-.01	.003	-.10
Adolescents' Gender	-.05	.054	-.05	-.05	.055	-.05	-.06	.055	-.61
W1 Adol. Externalizing Problem Behaviors				.00	.005	.01	.00	.005	.01
W2 Husbands' Parental Efficacy							-.17	.064	-.15*
<i>R</i> ²		.14			.14			.16	
<i>F</i>		15.62*			11.69*			10.96	

* $p < .05$

Summary of Results Regarding Hypothesis 2

Changes in wives' divorce proneness. W1 adolescents' internalizing problem behaviors were significantly related to increases in wives' divorce proneness over two but not three years. W1 adolescents' externalizing problem behaviors were significantly related to increases in wives' reports of divorce proneness across three years but not two years.

Changes in husbands' divorce proneness. W1 adolescents' internalizing and externalizing problem behaviors were not significantly related to increases or decreases in husbands' reports of divorce proneness over either two or three years. Thus, hypothesis two was not supported for changes in husbands' divorce proneness over time.

Hypothesis 3: Examining Parental Efficacy as a Mediator

There was no association between adolescents' problem behaviors and husbands' divorce proneness. Thus, mediating effects technically only could be examined for wives' divorce proneness. Mediating analyses were estimated using the models described earlier when parental efficacy was entered into the third block of the hierarchical multiple regression analyses. Parental efficacy did not mediate the relationship between adolescents' problem behaviors and divorce proneness (Tables 2 - 17). Adding parental efficacy to the model did not reduce significantly the direct association between adolescents' problem behavior and parents' divorce proneness.

Supplementary Analyses

Follow-up analyses were conducted to examine indirect effects. Indirect effects are demonstrated when the pathway between the independent variable and the intervening variable and the pathway between the intervening variable and the dependent variable are significant, but the direct effect between the independent variable and the dependent variable does not diminish when the third variable is included in the model (Stone et al., 2002). In this case, adolescents' problem behaviors were associated with mothers' parental efficacy and parental efficacy was associated with divorce proneness. Indirect effects were tested statistically using Sobel's test (i.e., $\alpha\beta$ divided by the square root of $\alpha^2\sigma_\beta^2 + \beta^2\sigma_\alpha^2$, where α represents the association, calculated using regression, between adolescents' problem behaviors and parental efficacy and β represents the association between parental efficacy and divorce proneness, σ_α represents the standard error of α and σ_β represents the standard error of β). Resulting values were treated as z-test statistics where any value 1.96 or above represented a statistically significant result ($p < .05$). The results of the regression analyses are presented in Table 18 and Table 19. The results of the Sobel's calculations are presented in Table 20.

Table 18

Indirect Effects without Controlling For W1 Levels of Divorce Proneness

W2 Wives' Parental Efficacy			
	<i>B</i>	<i>SE B</i>	<i>p</i>
W1 Adolescents' Internalizing Problem Behaviors	-.00	.003	.15
W1 Adolescents' Externalizing Problem Behaviors	-.01	.001	.00*
W3 Wives' Divorce Proneness			
	<i>B</i>	<i>SE B</i>	<i>p</i>
W2 Wives' Parental Efficacy	-.31	.085	.00*
W4 Wives' Divorce Proneness			
	<i>B</i>	<i>SE B</i>	<i>p</i>
W2 Wives' Parental Efficacy	-.27	.086	.00*

* $p < .05$.

Table 18 Continued

Indirect Effects without Controlling For W1 Levels of Divorce Proneness

	W2 Husbands' Parental Efficacy		
	<i>B</i>	<i>SE B</i>	<i>p</i>
W1 Adolescents' Internalizing Problem Behaviors	-.00	.003	.76
W1 Adolescents' Externalizing Problem Behaviors	-.00	.004	.75
	W3 Husbands' Divorce Proneness		
	<i>B</i>	<i>SE B</i>	<i>p</i>
W2 Husbands' Parental Efficacy	-.20	.067	.00*
	W4 Husbands' Divorce Proneness		
	<i>B</i>	<i>SE B</i>	<i>p</i>
W2 Husbands' Parental Efficacy	-.25	.066	.00*

* $p < .05$.

Table 19

Indirect Effects Controlling For W1 Levels of Divorce Proneness

W2 Wives' Parental Efficacy			
	<i>B</i>	<i>SE B</i>	<i>p</i>
W1 Adolescents' Internalizing Problem Behaviors	-.00	.003	.25
W1 Adolescents' Externalizing Problem Behaviors	-.01	.004	.01*
W3 Wives' Divorce Proneness			
	<i>B</i>	<i>SE B</i>	<i>p</i>
W2 Wives' Parental Efficacy	-.18	.074	.01*
W4 Wives' Divorce Proneness			
	<i>B</i>	<i>SE B</i>	<i>p</i>
W2 Wives' Parental Efficacy	-.18	.081	.03*

**p* < .05.

Table 19 Continued

Indirect Effects Controlling For W1 Levels of Divorce Proneness

W2 Husbands' Parental Efficacy			
	<i>B</i>	<i>SE B</i>	<i>p</i>
W1 Adolescents' Internalizing Problem Behaviors	-.00	.003	.91
W1 Adolescents' Externalizing Problem Behaviors	-.00	.004	.85
W3 Husbands' Divorce Proneness			
	<i>B</i>	<i>SE B</i>	<i>p</i>
W2 Husbands' Parental Efficacy	-.06	.058	.28
W4 Husbands' Divorce Proneness			
	<i>B</i>	<i>SE B</i>	<i>p</i>
W2 Husbands' Parental Efficacy	-.17	.064	.01*

**p* < .05.

Table 20

Statistical Estimate (z) of Indirect Effects Pathways using Parental Efficacy

	W1 Adolescent Internalizing Problem Behaviors	W1 Adolescent Externalizing Problem Behaviors
W3 Wives' Divorce Proneness	1.25	2.32*
W4 Wives' Divorce Proneness	1.23	2.17*
W3 Husbands' Divorce Proneness	.33	.25
W4 Husbands' Divorce Proneness	.33	.25
W3 Changes in Wives' Divorce Proneness	.93	1.76
W4 Changes in Wives' Divorce Proneness	.91	1.68
W3 Changes in Husbands' Divorce Proneness	0	1
W4 Changes in Husbands' Divorce Proneness	0	1

* $p < .05$.*Internalizing Problem Behaviors*

Indirect effects and mothers' parental efficacy. Indirect effects were not present for adolescents' internalizing problem behaviors and wives' divorce proneness. W1 adolescents' reports of internalizing problem behaviors were not associated with W2 mothers' reports of parental efficacy ($\beta = -.08, p > .05$). W2 mothers' reports of parental efficacy were associated inversely with their W3

reports of divorce proneness ($\beta = -.20$; $p < .05$) and inversely with their W4 reports of divorce proneness ($\beta = -.27$, $p < .05$). Calculating the indirect effect yielded nonsignificant results both with W3 wives' divorce proneness ($z = 1.25$, $p > .05$) and W4 wives' divorce proneness ($z = 1.23$, $p > .05$).

Indirect effects and fathers' parental efficacy. In the initial analyses, there were no direct effects between adolescents' internalizing problem behaviors and W3 or W4 husbands' divorce proneness. There also were no indirect effects for adolescents' internalizing problem behaviors, fathers' parental efficacy, and husbands' divorce proneness. Without controlling for W1 levels of divorce proneness, W1 adolescents' reports of internalizing problem behaviors were not associated with W2 fathers' reports of parental efficacy ($\beta = -.02$, $p > .05$). W2 fathers' reports of parental efficacy were associated negatively with their W3 reports of divorce proneness ($\beta = -.16$; $p < .05$) and negatively with their W4 reports of divorce proneness ($\beta = -.21$, $p < .05$). Sobel's test confirmed there were no indirect effects at W3 ($z = .33$, $p > .05$) and at W4 ($z = .33$, $p < .05$).

Externalizing Problem Behaviors

Indirect effects and mothers' parental efficacy. Indirect effects existed among adolescents' externalizing problem behaviors, parental efficacy, and W3 and W4 wives' divorce proneness. W1 adolescents' reports of externalizing problem behaviors were associated negatively with W2 mothers' reports of parental efficacy ($\beta = -.23$, $p < .05$). W2 mother's reports of parental efficacy were associated inversely with their W3 reports of divorce proneness ($\beta = -.20$; $p <$

.05) and with their W4 reports of divorce proneness ($\beta = -.27, p < .05$). Sobel's test of the indirect pathway from W1 adolescents' externalizing problem behaviors to W2 mothers' parental efficacy to W3 wives' divorce proneness was significant ($z = 2.32, p < .05$). Sobel's test of the indirect pathway from W1 adolescents' externalizing problem behaviors to W2 mothers' parental efficacy to W4 wives' divorce proneness also was significant ($z = 2.17, p < .05$).

Indirect effects and fathers' parental efficacy. In the initial analyses, there were no direct effects between adolescents' externalizing problem behaviors and husbands' divorce proneness. Also, there were no indirect effects among adolescents' externalizing problem behaviors, fathers' parental efficacy, and husbands' divorce proneness. Without controlling for W1 levels of divorce proneness, W1 adolescents' reports of externalizing problem behaviors were not associated with W2 fathers' reports of parental efficacy ($\beta = -.02, p > .05$). W2 fathers' reports of parental efficacy were associated negatively with their W3 reports of divorce proneness ($\beta = -.16; p > .05$) and negatively with their W4 reports of divorce proneness ($\beta = -.21, p > .05$). Sobel's test confirmed there were no indirect effects at W3 ($z = .25, p > .05$) and at W4 ($z = .25, p > .05$).

Summary of Indirect Effects without Controlling for W1 Levels of Divorce Proneness

Without controlling for W1 levels of divorce proneness, indirect effects were significant in the model examining adolescents' externalizing (but not internalizing) problem behaviors, mothers' parental efficacy, and W3 and W4

wives' divorce proneness. No indirect effects were found in the models examining adolescents' problem behaviors, fathers' parental efficacy and their divorce proneness.

Indirect Effects and Changes in Wives' Divorce Proneness over Time

A follow-up set of analyses examined if indirect effects existed between adolescents' externalizing problem behaviors, parental efficacy, and changes in wives' divorce proneness over time (Table 19). Controlling for W1 levels of divorce proneness, W1 adolescents' reports of externalizing problem behaviors were associated with decreases in W2 mothers' reports of parental efficacy ($\beta = -.15, p < .05$). Controlling for W1 levels of divorce proneness, W2 mother's reports of parental efficacy were associated with decreases in their W3 reports of divorce proneness ($\beta = -.12; p < .05$) and with decreases in their W4 reports of divorce proneness ($\beta = -.12, p < .05$). However, Sobel's test of the indirect pathway yielded nonsignificant pathways both at W3 ($z = 1.76, p > .05$) and at W4 ($z = 1.68, p > .05$).

Summary of Results by Hypothesis

Hypothesis one stated that adolescents' problem behaviors are associated positively with parents' divorce proneness. Results from wives' analyses supported the hypothesis that W1 adolescents' problem behaviors were significantly related to both W3 and W4 wives' reports of divorce proneness. This hypothesis was supported for both internalizing and externalizing problem behaviors. However, results from husbands' analyses did not support hypothesis

one. Neither W1 adolescents' internalizing nor externalizing problem behaviors significantly related to W3 or W4 husbands' divorce proneness.

Hypothesis two stated that controlling for W1 parental divorce proneness, W1 adolescents' problem behaviors would be associated with increases in parental divorce proneness over two years (W3) and over three years (W4). For wives' analyses, W1 adolescents' internalizing problem behaviors were significantly related to increases in wives' divorce proneness over two but not over three years. W1 adolescents' externalizing problem behaviors were significantly related to increases in wives' reports of divorce proneness over three but not over two years. Hypothesis two was not supported in the husbands' analyses. W1 adolescents' internalizing and externalizing problem behaviors were not significant correlates of increases or decreases in husbands' reports of divorce proneness over either two or three years.

Hypothesis three stated that W2 parental efficacy would mediate the association between adolescents' problem behaviors and parental divorce proneness. Hypothesis three was not supported. Parental efficacy did not mediate the previously established relationships between adolescents' problem behaviors and divorce proneness.

CHAPTER V

DISCUSSION

Summary of Findings

Adolescents' problem behaviors were related significantly to both W3 and W4 wives' reports of divorce proneness. This was the case for both internalizing and externalizing problem behaviors. Controlling for W1 divorce proneness, W1 adolescents' internalizing problem behaviors were related significantly to increases in wives' divorce proneness over two but not over three years. W1 adolescents' externalizing problem behaviors were related significantly to increases in wives' reports of divorce proneness over three but not over two years. Adolescents' problem behaviors were not related to husbands' divorce proneness.

Youth gender did not moderate these relationships nor did parental efficacy mediate the previously established relationships between adolescents' problem behaviors and divorce proneness. Indirect effects were found between adolescents' problem behaviors, mothers' parental efficacy, and their reports of divorce proneness.

Theory Implications

To better understand the results from the present study, it is important to ground them in theory and to try to understand the underlying mechanisms

through which adolescents' problem behaviors contribute to mothers' divorce proneness. In order to do this, key questions must be answered. First, what is it about adolescents' problem behaviors that might contribute to divorce proneness? Are there any differences in this explanation for internalizing and externalizing problem behaviors? Second, why were there differences in the influence of problem behaviors over time? Third, why were problem behaviors only related to mothers' divorce proneness?

Adolescents' Problem Behaviors and Divorce Proneness

One answer to the question, what is it about adolescents' problem behaviors that links it to divorce proneness, is stress. As research suggests, adolescents' problem behaviors are associated with parenting stress (Creasey & Reese, 1996). This stress stems from both intangible and tangible elements associated with adolescents' problem behaviors. Stress comes from worry and concern over the adolescents' well-being as well as the physical demands that accompany adolescents' problem behaviors, such as dealing with trips to the principal's office, possibly taking a child in for counseling, and time spent trying to address the emotional and behavioral issues with the adolescent.

Generally speaking, the types of stress parents experience differ by the type of problem behavior. The parenting stress associated with adolescents' internalizing problem behaviors comes primarily from concern over the adolescents' mental well-being. Parents worry about their adolescent's feelings and may try to set up counseling to help their child cope and adjust. In extreme

cases of adolescents' internalizing problem behaviors, especially severe depression, parents may stress over fears that their adolescent may be thinking about attempting suicide.

Although all parents experience some level of stress as it relates to parenting (Crinc & Greenberg, 1990), parents whose children engage in externalizing problem behaviors report significantly greater levels of parenting stress than parents whose children do not engage in externalizing problem behaviors (Eyberg, Boggs, & Rodriguez, 1992; Morgan, Robinson, & Aldridge, 2002). Illuminating the indirect effects between adolescents' problem behaviors and parental efficacy, Morgan et al. (2002) identified the stress associated with adolescents' externalizing problem behaviors as stemming from parents perceiving themselves as lacking the necessary parental knowledge and competence to appropriately parent their adolescent. Thus, parents who experienced stress associated with adolescents' problem behaviors reported lowered levels of parental efficacy. Parenting stress is compounded by a growing concern over the adolescents' physical well-being (e.g., from physical fights or substance abuse). Moreover, externalizing behaviors often require parents to re-arrange their schedules to pick up their adolescent from after-school detention or to have a meeting with the teacher, middle school counselor or principal. In extreme cases, parents may have to arrange to take time off from work to handle their adolescent's behavior issues such as if the adolescent has been suspended from school for externalizing behavior.

Research suggests that mothers often report greater parenting stress than do fathers (Calzada, Eyberg, Rich, & Querido, 2004). The accumulating effect of this stress, regardless of whether it stems from adolescents' internalizing or externalizing problem behaviors, is exhausting. Thus, not only do adolescents' problem behaviors physically take one spouse's time away from the marriage, but when the spouse finally does have time to spend with the other spouse she is so exhausted mentally and physically that she is unable to give her marriage her full focus and attention. Research confirms that parenting stress is negatively associated with marital quality (Lavee, et al. 1996). Given that mothers often report greater parenting stress (Calzada, Eyberg, Rich, & Querido, 2004; Krauss, 1993), it is not surprising that compared to their husbands', wives' marital experiences are more negatively influenced by adolescents' problem behaviors.

The finding that adolescents' problem behaviors are associated with mothers' divorce proneness also illustrates the interdependence of subsystems and family members. Systems theory describes family relationships as being interdependent (Cox & Paley, 1997). Thus, what happens to one family member influences other family members and vice versa. Minuchin (1974) stressed the need to maintain an apparent but permeable boundary between the parent-child and marital relationships. However, this is difficult to do in the face of stress. Cummings (1994) noted that in families experiencing times of distress, especially within one of these subsystems, these boundaries are likely to be dissolved. When these boundaries dissolve, spillover is inevitable and can lead to declining

marital satisfaction and increasing divorce proneness. A key difference between fathers and mothers is that fathers, more than mothers, seem to compartmentalize their different roles and to limit the level of spillover between the different aspects of their lives (Crouter, 1984; Matjasko, & Feldman, 2006). This relationship will be explained after the following section.

Problem Behaviors and Changes in Divorce Proneness over Time

Internalizing problem behaviors were related to changes in wives' reports of divorce proneness over two years but not over three years. Thus, it appears that the influence of adolescents' internalizing problem behaviors dissipates over time. The opposite effect was found for externalizing problem behaviors. In the present study, externalizing problem behaviors were associated with changes in wives' divorce proneness over three years, but not over two years. This is consistent with recent research on the relationship between parent-child conflict and youth externalizing behaviors (Burt, McGue, Krueger, & Iacono, 2005). Burt et al. found a bidirectional relationship between parent-child conflict and youth externalizing problem behaviors over three years such that each independently predicted the other three years after the original data collection. These results support the finding in the present study that adolescents' problem behaviors were related to wives' divorce proneness over three years. Thus, it appears that there are brief sleeper effects (Clarke & Clarke, 1981) such that adolescents' externalizing problem behaviors are not predictive of changes in wives' divorce proneness over two years but that these effects emerge after three years. This

might be a cumulative effect of pile-up or exhaustion resulting from parenting stress associated with adolescents' problem behaviors.

These brief sleeper effects were not found for adolescents' internalizing problem behaviors. Adolescents' internalizing problem behaviors predicted increases in mothers' reports of divorce proneness over two years, but not over three years. No other research to date has observed this type of relationship between adolescents' internalizing problem behaviors and parents' marital relationships. One explanation for this finding could be that adolescents' internalizing problem behaviors peak during early adolescence and then drop as adolescents progress through middle school. In the present study, at W1 adolescents reported a mean of 10.96 for internalizing behaviors and by W4 the mean had dropped to 7.92. However, these findings are not consistent with other research. In fact, internalizing problem behaviors have been found to be relatively stable over time (Reitz et al., 2005). Future research should examine the change in the relationship between adolescents' internalizing problem behaviors and mothers' divorce proneness to better understand the mechanisms behind the observed phenomena.

Explaining the Mother/Father Difference

One reason adolescents' problem behaviors were related to mothers' divorce proneness but not to fathers' divorce proneness may be a lack of father involvement in parenting. Although ideals concerning father involvement have shifted in recent decades such that equality in parenting is now more expected

than in previous generations, the reality is that mothers still bear the weight of daily parenting responsibilities (Milkie, Bianchi, Mattingly, & Robinson, 2002). Although fathers in dual-earner families are more involved in parenting than in the past, on the whole, women still handle the majority of parenting tasks (Bonney, Kelley, Levant, 1999; Hart & Kelly, 2006). Thus, it is possible that with the additional responsibilities associated with parenting adolescents exhibiting problem behaviors, mothers are more likely to resent the lack of father involvement and to feel unsupported and isolated from their spouse. This resentment could creep over not only to how they see their spouse as a father but also to how they see their spouse as a husband. This resentment could lead to decreases in marital satisfaction and increases in divorce proneness.

Another explanation for why the results were found for mothers but not for fathers is that in addition to handling more of the parenting responsibilities, wives may also self-identify more as mothers than husbands do as fathers (Reitzes, & Mutran, 2002). The boundaries separating their identities as mothers and their identities as wives are less rigid than the boundaries fathers place around these roles. According to systems theory, if the boundaries are less rigid then they are more permeable. What happens in the parenting role is more likely to spillover into the marital role for mothers than fathers.

This concept is in keeping with existing research which suggests that mothers experience higher levels of spillover than fathers, especially in regards to work and family (Crouter, 1984; Matjasko, & Feldman, 2006). Crouter found

that mothers of young children reported greater amounts of spillover from their home life to their work experiences than did fathers. Matjasko and Feldman's research suggested that spillover also occurred from work to home and that this spillover was greater for mothers than fathers. They found evidence of spillover for mothers based on the emotions they experienced at work. Work to home emotional transmission was found for mothers' happiness, anger, and anxiety. Spillover was only found for fathers' anxiety. It appears that mothers are more likely to allow the emotions associated with work to spill over into their home lives and vice versa. It is possible that similar levels of spillover could also occur in non-work related aspects of mothers' lives. For instance, the more stressed mothers are in the role of parent, the more likely they may be to report feeling stressed in their marriages. Fathers, on the other hand, seem to compartmentalize their different roles and limit the level of spillover between the different aspects of their lives. This would explain the differences found in the present study between mothers and fathers and their different responses to adolescents' problem behaviors.

Another argument stemming from research on identity theory, is that the roles of mother and father are defined differently. The responsibilities most often associated with mothering, beyond the everyday physical care of the child, include that of "comfort-giver" whereas a father is seen more as a playmate for both indoor and outdoor play (Ellestad, & Stets, 1998; Lamb 1987; Marsiglio 1991; Minton & Pasley 1996; Thompson & Walker 1991). Mothers see it as their

responsibility to help their child overcome their internalizing problem behaviors. They are therefore more affected in their parenting role by their adolescents' problem behaviors than are fathers. As part of this process, it is possible that mothers' parental efficacy is likely to be influenced negatively by their adolescents' problem behaviors, especially if they are trying to offer comfort to a child experiencing internalizing behaviors but that child is not receptive to the comfort being given. This could lead them to feeling ineffective and helpless as a mother and parental efficacy would decline.

Integration with Previous Research

The findings from the present study illustrate how adolescents' problem behaviors are related to parents' marriages and build upon previous research on family processes and the marital relationship. To date, research has yet to examine the relationship of adolescents' problem behaviors and parents' divorce proneness. The present study sought to fill this gap in the research literature. One reason for the lack of research on divorce proneness and its relation to adolescents' problem behaviors may be the distal nature of the relationship between these two constructs and the fact that there are more proximal processes related to adolescents' functioning and parents' marital interactions. For instance, marital conflict is sometimes a precursor to declining marital satisfaction and increasing divorce proneness (Gottman, 1994) and a vast body of research has linked marital conflict and adolescents' problem behaviors. Some of this research, such as that of Jenkins et al., has even examined the bi-

directional influences of adolescents' problem behaviors and parents' marital conflict. Given that marital conflict often precedes divorce proneness, prior to influencing divorce proneness it is logical that, for high-distress and conflict ridden couples, adolescents' problem behaviors would first influence marital conflict before influencing divorce proneness. The present study sought to build upon the marital conflict research literature. Specifically, the present study built upon the research of Whiteman et al. (2007), Jenkins et al. (2005), Cui, Conger, & Lorenz (2005) and Katz and Gottman (1997) who each contributed to the body of literature examining marital conflict and child problem behaviors.

Whiteman et al. (2005) examined the influence of adolescents' pubertal development on parents' marital conflict as well as its influence on marital satisfaction and marital quality. Their results supported the idea that children can negatively influence parents' marital functioning. Specifically, adolescents' pubertal changes were linked with changes in parents' reports of marital quality. Their results correspond with the results from the present study. Previous research suggests that pubertal changes are linked with problem behaviors across the transition to adolescence (Laitin-Krispijn, Van der Ende, Hazebroek-Kampschreur, & Verhulst, 1999). Thus, the results from the present study, combined with the results from the work of Whiteman et al. suggest that across the transition to adolescence, youth can negatively influence parents' marital relationships. Although not directly examined in the present study, it is possible that pubertal development and adolescents' problem behaviors create stress for

parents as previous research suggests (Creasey & Resse, 1996). Parenting stress also has been linked with poor marital quality (Lavee, Sharlin, & Katz, 1996). Poor marital quality has been linked with marital dissolution (Amato, 2007). The results from the present study are consistent with these earlier findings. Adolescents influence the marital relationship as they exhibit behavioral problems associated with the transition into adolescence (Reitz et al., 2005) and one mechanism through which this process may occur is increased parenting stress.

Jenkins et al.'s (2005) longitudinal study also examined the relationship between youth problem behaviors and parents' marital functioning. They studied the relationship between youths' externalizing problem behaviors and parents' marital conflict. Their findings indicated that this relationship is bi-directional. Youth externalizing problem behaviors predicted increases in parents' conflict, specifically conflict about the child who exhibited the externalizing behaviors. The present study suggests that the influence of adolescents' problem behaviors extends deeper into the marital relationship for mothers to the point that they report feeling concerned about their marriages and have thoughts about separation or divorce. Rather than only influencing the immediate and more proximal processes such as marital conflict, the present study suggests that adolescents' problem behaviors may also influence more distally related marital processes such as divorce proneness.

Cui, Conger, and Lorenz (2005) conducted longitudinal research in which they found that changes in marital conflict and marital distress predicted corresponding increases or decreases in adolescents' behavior problems. According to family systems theory, this relationship might be bi-directional rather than unidirectional (Mangelsdorf & Schoppe-Sullivan, 2007). Adolescents' problem behaviors may provoke strife in the marital relationship. The present study examined the effects of adolescents' problem behaviors on parents' marriages and found that mothers were influenced by their adolescents' problem behaviors. Mothers whose adolescents reported higher levels of problem behaviors were more likely to report higher levels of divorce proneness compared with mothers' whose adolescents reported lower levels of problem behaviors.

Although Gottman has not studied adolescents' influence on parents' progression through his model of marital dissolution, he has examined the influence of marital conflict and marital dissolution on children's social relationships (Katz & Gottman, 1997). In this research he suggested that one avenue through which children are influenced by marital conflict or marital dissolution is through the parent-child relationship. Research suggests that parents who struggle in their marriages show less warmth, more negativity, more withdrawal, less parental responsiveness and more inconsistency toward their children than parents who are not struggling in their marriages (Katz & Gottman, 1997; Miller, Cowan, Cowan, Hetherington, & Clingempeel, 1993). These

dimensions of parenting have been linked with negative child adjustment (Fauber, Rorehand, Thomas, & Wierson, 1990). In their research, Katz and Gottman identified aspects of the parent-child relationship that acted as buffers during times of marital conflict or dissolution. They found, using correctional data, that parent-child relationships characterized by parental warmth, parental praise, and parental acceptance helped to minimize the negative impact of marital conflict and marital dissolution on children.

These findings are important to the present study. Even though Gottman's model of marital dissolution does not directly address the role of other family members, his research suggests that family dynamics are important during times of marital distress. The present study builds on this previous research by suggesting that not only is the parent-child relationship important in terms of how children or adolescents are influenced by their parents' marriages, but parents' marriages are influenced by the behaviors of adolescents.

Parental Efficacy: Links to Previous Research

The present study also examined parental efficacy and its relationship to adolescents' problem behaviors and parents' divorce proneness. Although parental efficacy was not found to mediate this relationship, indirect effects were found between adolescents' problem behaviors and mothers' parental efficacy and wives' divorce proneness. Parental efficacy is related to parenting stress as previously mentioned. The implications of this for mothers have been discussed,

especially in regard to why parental efficacy may buffer against divorce proneness.

The finding that there are indirect effects between adolescents' problem behaviors, parental efficacy, and divorce proneness corresponds with previous research. Lower levels of adolescent delinquency have been linked with higher reports of parental efficacy (Perrone et al., 2004). With repeated bad behavior, parents are likely to question their ability to effectively parent their adolescent and to doubt themselves. Given that high levels of parental efficacy have been linked with marital stability (Swick, 1987) it is not surprising that indirect effects were found between adolescents' externalizing problem behaviors, decreases in mothers' parental efficacy, and increases in wives' divorce proneness.

Strengths

Numerous strengths are associated with the present study. The study benefits from the longitudinal nature of the data that was gathered from a large sample comprised of multiple informants within each family. Taken together, these strengths make this research more reliable and valid than if it were cross sectional data collected from a small sample in which only one member of each family responded.

The first key strength associated with the present study is the longitudinal nature of the data. By examining adolescents and their parents over four years, a comprehensive understanding of the changes that take place in the reports of divorce proneness over time is possible. Moreover, rather than providing a

snapshot of one point in time, as is the case with cross-sectional data, longitudinal research provides data that can be compared across various time points. In the case of the current study, changes in parents' reports of divorce proneness were measured and compared first over two years and then over three years.

The second strength associated with the present study is the large sample size. Initially 416 families consented to participate. Large samples more accurately approximate the broader population than do small samples. As previously mentioned, the current sample closely resembled the county from which it was drawn.

One final strength of the present study is that data were gathered from multiple informants. Whereas previous research on the family has relied on only one informant, such as the mother, in the present study adolescents self-reported their internalizing and externalizing problem behaviors and mothers and fathers self reported their feelings of parental efficacy and divorce proneness. The use of multiple informants has been shown to increase both reliability and validity (Kumar, Stern, & Anderson, 1993) and avoids problems of shared method variance.

Limitations

Although using the school system to recruit families has numerous strengths, one limitation is that school-based samples are biased in that they do not include adolescents who are the most at risk for problem behaviors.

Adolescents who drop out of school or were suspended the day of data collection are not included in the sample. Another limitation of the present study is that the sample lacks diversity in regards to race and family structure. Thus, the results from the present study cannot be generalized to non-white families. Likewise, these results cannot be generalized to complex family structures such as families in which there are step parents or stepchildren present in the home.

Directions for Future Research

Future research should examine the relationship between adolescents' problem behaviors and parents' divorce proneness using more diverse samples. For instance, at risk populations, such as youth who were suspended the days of data collection were not included in the sample. Future research should examine youth who have already been identified as prone to problem behaviors such as those in counseling. Likewise, mixed family structures (i.e., stepfamilies or lesbian and gay households) also should be examined.

Based on the previously reviewed research and broad meta-analyses of this subject area (Buehler et al., 1997; Erel & Burman, 1995), there is little dispute over the idea that marital conflict is associated positively with adolescents' problem behaviors. The present study did not examine marital conflict and focused instead on the more distal construct of divorce proneness and its relationship to adolescents' problem behaviors. The present study sought to fill a gap in the literature by researching whether spillover can occur such that adolescents' problem behaviors are associated with increases in parents' divorce

proneness. In order to understand fully the complex nature of family dynamics, future research should examine the relationship between adolescents' problem behaviors and marital conflict over time while also measuring divorce proneness. It would be interesting to measure the relationship between these variables over time to see if adolescents' problem behaviors lead to increases in marital conflict and if the marital conflict sparked by adolescents' problem behaviors leads to increases in divorce proneness.

Moreover, researchers should study the relationship between adolescents' problem behaviors and other aspects of marriage besides divorce proneness. For example, is marital satisfaction or marital separation influenced by adolescents' problem behaviors? How do adolescents' problem behaviors influence the first and third stages of Gottman's cascade model of marital dissolution? Research should also examine the everyday aspects of family life by studying how adolescents' problem behaviors influence parental stress, parents' daily marital functioning, and marital communication.

Conclusion

Previously reviewed literature suggests that marital conflict negatively impacts youth behavior. The present study attempts to suggest that a similar relationship also exists such that adolescents' behavior impacts parents' marriages. Few studies have examined the influence of youth on parents' marriages. By examining the relationship of adolescents' problem behaviors on parents' divorce proneness, the present study sought to fill a gap in the research

literature. The results from this study highlight the need for continued research focused on complex family dynamics.

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Appendix A

Literature Chart: Directional Trends in Research on Parenting, Marriage, and Adolescents

Source	Description	N	Direction	Variables	Results
Booth & Amato (1994)	12 year longitudinal study looked at the relationship between parents' marital quality and parent-child relationships	419 Dyads	Parents' Marital Quality → Children's Relationships with their Parents	IV: Marriage Quality (happiness, interaction, conflict, divorce proneness) DV: Parental Closeness Mediating: Parental Support	Children's closeness to mothers was associated positively with parents' marital happiness and associated negatively with parents' divorce proneness. Children were closer to their fathers when parents' marital happiness was high. Divorce proneness predicted closeness to mother.
Doyle & Markiewicz (2005)	Marital conflict was examined in relation to young adolescents' adjustment over 2 years	179 Adolescents	Parents Marital Conflict → Adolescents' Problem Behaviors	IV: Marital Conflict & Family relationships DV: Adolescent adjustment (depression, self-esteem, delinquency)	Perceived marital conflict was associated with increases in internalizing and externalizing problem behaviors (EPB).

Source	Description	N	Direction	Variables	Results
Eisenberg et al. (2005)	3 wave longitudinal study examined parental warmth/positive expressivity and children's effortful control (EC) and EPB	186 Adolescents	Parents' Warmth/ Expressivity → Children's EC → EPB	IV: Parental Warmth & positive expressivity DV: Externalizing Problem Behaviors (EPB)	Children's EC mediated the relationship between parental positive expressivity & children's EPB
Heaven, Newbury, & Mak (2002)	Cross Sectional Design – Examined effects of adolescent & parental characteristics on depression (internalizing PB) & delinquency (externalizing PB)	276 Dyads	Parenting → Adolescent Problem Behaviors	IV: parental personality, parenting practices DV: Youth self-reported delinquency, depression, parental bonding	Father's personality linked with adolescent adjustment "adolescent & parental factors jointly determined adolescent well-being" (p. 182)
El-Sheikh & Elmore-Staton (2004)	Sought to identify variables that influenced the "pathway between marital conflict and child functioning" (p. 631)	103 Dyads	Marital Conflict → Adolescent Problem Behaviors	IV: Marital & Parent-child Conflict DV: Child adjustment (including measures of IPB & EPB)	"Marital conflict accounted for 23% of the variance in children's externalizing problems" (p. 637) and 15% for internalizing problem behaviors (IPB).

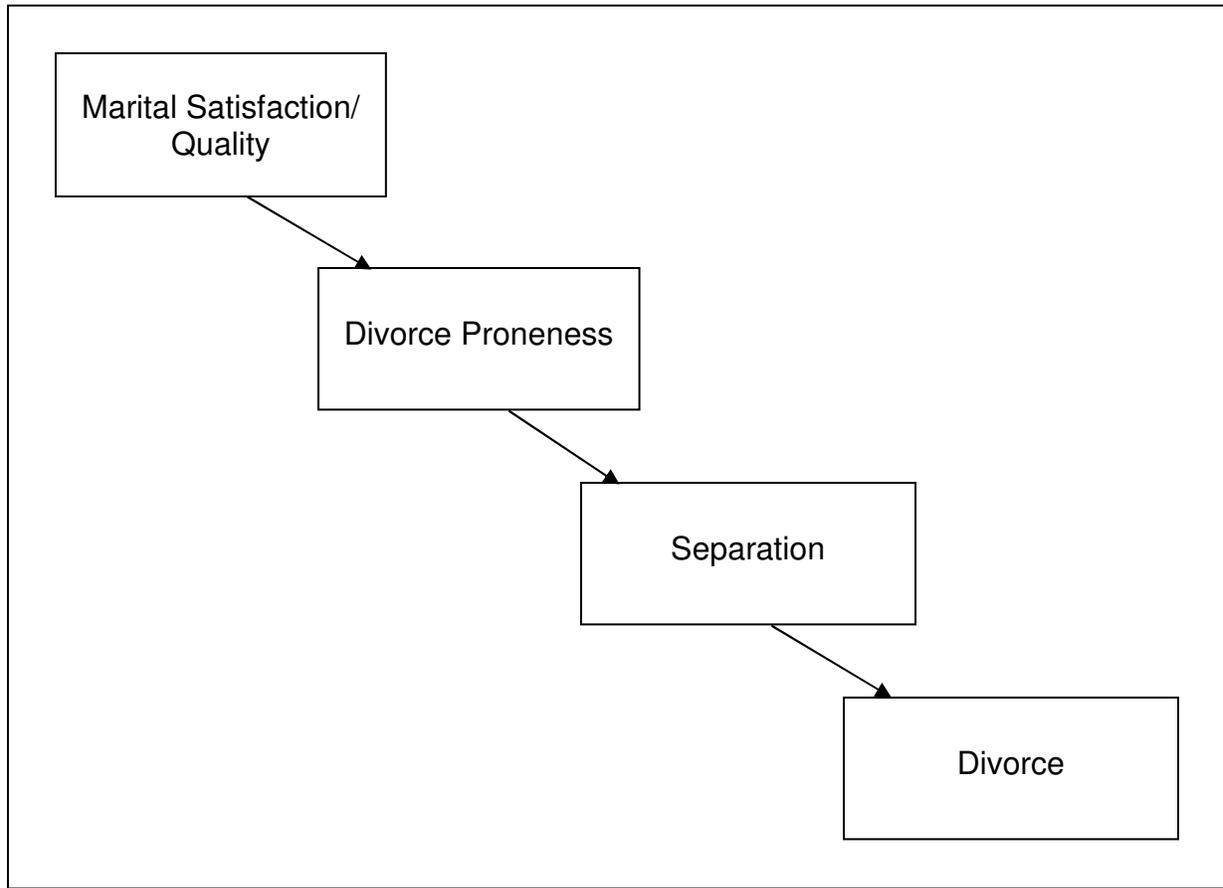
Source	Description	N	Direction	Variables	Results
McCarty et al., (2005)	Longitudinally looked at the relationship between parental emotional support and children's externalizing problem behaviors (EPB)	1,361 Six year olds	Parental Emotional Support → Child's Problem Behavior (EPB)	IV: Parental emotional support DV: mother reports of child's EPB	Parental emotional support, while controlling for the child's EPB, negatively related to child EPB two years later. Overall, lower levels of parental emotional support were associated with EPB.
Benzies et al. (2004)	Looked at the relationship of infant characteristics & family environment on child problem behavior	62 Moms 56 Dads	Parenting Stress & Marital Quality → Child Problem Behavior	IV: Parenting Stress, Dyadic Adjustment (marital satisfaction) DV: Child Behavior Problems	Mothers' parenting stress due to infant's distractibility predicted behavior problems at 7 years. Fathers' marital quality at infancy predicted problem behavior when child was 7 years old.
Cowan et al. (1996)	Examined the relationship between marital conflict, parenting style, & children's problem behaviors	27 Moms 27 Dads	Marital Conflict, Parenting Style → Child's Behavior	IV: Marital Quality, & Parenting Style DV: Child's Behavior	"Direct & indirect links from marital interaction & parenting style to children's externalizing & internalizing behavior patterns" (p.61)

Source	Description	N	Direction	Variables	Results
Belsky et al. (1991)	Examined “the interrelation of marital and parent-child relationship subsystems in the family” (p. 487)	100 Families	Marital Change Patterns → Parental Behavior → Child Behavior (w/ a stated need to look at these as reciprocal)	IV: Marital Quality DV: Parent Behavior Child Behavior Marital Change Patterns	For fathers, “marriages that were deteriorating in quality were associated with more negative and intrusive father behavior and more negative and disobedient child behavior” (p. 487).
Erel & Burman (1995)	Examined whether or not there was a link between parents’ marital quality and parent-child relationships.	68 studies (Meta Analysis)	Marital Relationship Quality → Parent-Child Relationship Quality	IV: Marital Quality DV: Parent/Child Relationship Quality	There was a positive relationship b/w parent’s marital quality and the quality of the parent-child relationships.
Rogers & White (1998)	Noted previous research has looked at how marital happiness impacts parental satisfaction - considered how parenting might independently affect marital quality.	1,189 Married adults	Bidirectional – Looked both at Marital Happiness → Parenting Satisfaction & at Parenting Satisfaction → Marital Happiness	IV: Marital Happiness DV: Parenting Satisfaction	Found that the relationship between parenting satisfaction and marital quality was bidirectional. The strongest determinant of parental satisfaction was marital relationship quality.

Source	Description	N	Direction	Variables	Results
Dekovic & Buist (2005)	Looked at the degree to which family relationships, including the marital relationship, affect adolescent adjustment	288 Families	Family Relationships → Adolescent Adjustment	IV: Affective Quality of Spousal Relationship DV: Adolescents' Problem Behaviors	Significant but moderate relationship b/w parents' marital relationship quality and parent-child relationship quality. A relationship was found b/w marital conflict and deviant adolescent behavior.
Lavee, Sharlin, & Katz (1996)	Hypothesis: "the effect children have on their parents' marriages is due to stress in the parental role" (p. 114)	287 Families	Parenting Stress → Marital Quality	IV: Parenting Stress, Psychological Distress DP: Marital Quality	Substantial impact of parenting stress on marital quality
McBride, Schoppe, & Rane (2002)	Examined parents' perceptions of children's temperament, parental stress and parental involvement in childrearing	100 Families	Child Characteristics → Parenting Stress Child Characteristics → Parental Involvement	Involvement variables, parental stress, child temperament	Note: Correlational - Less emotionally intense children were less stressful to parents - Sociable children = less stress for moms - Less active children = less stress for moms

Appendix B

Gottman's (1994) Conceptual Progression to Divorce



Source:

Gottman, J. M. (1994). *What predicts divorce? The relationship between marital processes and marital outcomes*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Appendix C: Items

Adolescents' Problem Behaviors

Youth completed the following items from the Youth Self-Report Child Behavior

Check List (Achenbach, 1991c):

Internalizing Problem Behaviors

- 12. I feel lonely
- 14. I cry a lot
- 18. I deliberately try to hurt or kill myself
- 31. I am afraid I might think or do something bad
- 32. I feel that I have to be perfect
- 33. I feel that no one loves me
- 34. I feel that others are out to get me
- 35. I feel worthless or inferior
- 42. I would rather be alone than with others
- 45. I am nervous or tense
- 50. I am too fearful or anxious
- 51. I feel dizzy
- 52. I feel too guilty
- 54. I feel overtired
- 56. Physical problems without known medical cause:
 - a. Aches or pains (*not* headaches)
 - b. Headaches
 - c. Nausea, feel sick
 - d. Problems with eyes (describe)
 - e. Rashes or other skin problems
 - f. Stomachaches or cramps
 - g. Vomiting, throwing up
 - h. Other (describe)
- 65. I refuse to talk
- 69. I am secretive or keep things to myself
- 71. I am self-conscious or easily embarrassed
- 75. I am shy
- 89. I am suspicious
- 91. I think about killing myself
- 102. I don't have much energy
- 103. I am unhappy, sad, or depressed
- 111. I keep from getting involved with others
- 112. I worry a lot

Externalizing Problem Behaviors

3. I act too young for my age
7. I brag
16. I am mean to others
19. I try to get a lot of attention
20. I destroy my own things
21. I destroy things belonging to others
23. I disobey at school
26. I don't feel guilty after doing something I shouldn't
27. I am jealous of others
37. I get in many fights
39. I hang out with kids who get in trouble
43. I lie or cheat
57. I physically attack people
63. I would rather be with older kids than with kids my own age
67. I run away from home
68. I scream a lot
72. I set fires
74. I show off or clown
81. I steal at home
82. I steal from places other than home
86. I am stubborn
87. My moods or feelings change suddenly
90. I swear or use dirty language
93. I talk too much
94. I tease others a lot
95. I have a hot temper
97. I threaten to hurt people
101. I cut classes or skip school
104. I am louder than other kids
105. I use alcohol or drugs for nonmedical purposes

Response Scale: (0) *not true*; (1) *somewhat or sometimes true*; (2) *very true or often true*

Source:

Achenbach, T. M. (1991c). *Manual for the youth self-report form and 1991 profile*. Burlington: Department of Psychiatry, University of Vermont.

Divorce Proneness

Divorce proneness was assessed by having wives and husbands respond to the following four items (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 separation from your spouse crossed your mind?

Responses Scale: (1) *not in the last year*, (2) *yes, within the last year*, (3) *yes, within the last six months*, (4) *yes, within the last three months*.

Source:

Booth, A., Johnson, D., & Edwards, J. N. (1983). Measuring marital instability. *Journal of Marriage and the Family*, 45, 387-384.

Parental Efficacy

Parental efficacy was assessed by having the parents respond to the following ten items (Dumka, Stoerzinger, Jackson, & Rossa, 1996):

1. I feel sure of myself as a mother/father.
2. No matter what I try, my child will not do what I want.
3. When something goes wrong between me and my child, there is little I can do to correct it.
4. I know I am doing a good job as a mother/father.
5. I feel useless as a mother/father.
6. My child usually ends up getting his/her way.
7. I know things about being a mother/father that would be helpful to other parents.
8. When my child gets upset with me, I usually give in.
9. I can solve most problems between my child and me.
10. When things are going badly between my child and me, I keep trying until things begin to change.

Responses Scale: (1) *rarely* to (5) *always*.

Source:

Dumka, L. E., Stoerzinger, H. D., Jackson, K. M., & Rosa, M. W. (1996).

Examination of the cross-cultural and cross-language equivalence of the parenting self-agency measure. *Family Relations: Journal of Applied Family and Child Studies*, 45, 216-222.

Appendix D: Moderating Analyses

Moderating Effects of Adolescents' Gender on W2 Wives' Parental Efficacy (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Adolescents' Internalizing PB	-.00	.003	-.08	-.00	.003	-.08	-.01	.004	-.10
Adolescents' Gender				-.01	.043	-.01	-.01	.043	-.01
Problem Behaviors x Gender							.00	.006	.03
R ²		.01			.01			.01	
F		2.38			1.20			.84	

Note: Adolescents' problem behaviors were centered at the mean.

* $p < .05$.

Moderating Effects of Adolescents' Gender on W2 Wives' Parental Efficacy (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Adolescents' Externalizing PB	-.01	.004	-.17*	-.01	.004	-.17*	-.01	.006	-.16
Adolescents' Gender				.02	.044	.02	.02	.044	.02
Problem Behaviors x Gender							-.00	.008	-.01
R ²		.03			.03			.03	
F		10.73*			5.45*			3.63*	

Note: Adolescents' problem behaviors were centered at the mean.

* $p < .05$.

Moderating Effects of Adolescents' Gender on W3 Wives' Divorce Proneness (N = 416)

Variable	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
W1 Adolescents' Internalizing PB	.01	.005	.16*	.01	.005	.16*	.01	.006	.16*
Adolescents' Gender				.04	.069	.03	.04	.069	.03
Problem Behaviors x Gender							.00	.009	.01
R ²		.03			.03			.03	
F		8.99*			4.63*			3.08*	

Note: Adolescents' problem behaviors were centered at the mean.

*p < .05.

Moderating Effects of Adolescents' Gender on W3 Wives' Divorce Proneness (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Adolescents' Externalizing PB	.02	.006	.16*	.02	.006	.17*	.02	.010	.21*
Adolescents' Gender				-.01	.070	-.01	-.01	.071	-.01
Problem Behaviors x Gender							-.01	.012	-.06
R ²		.03			.03			.03	
F		9.25*			4.61*			3.19*	

Note: Adolescents' problem behaviors were centered at the mean.

* $p < .05$.

Moderating Effects of Adolescents' Gender on W4 Wives' Divorce Proneness (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Adolescents' Internalizing PB	.01	.005	.14*	.01	.005	.14*	.01	.006	.12
Adolescents' Gender				.08	.069	.07	.08	.069	.07
Problem Behaviors x Gender							.00	.009	.03
R ²		.02			.02			.02	
F		5.76*			3.55*			2.40	

Note: Adolescents' problem behaviors were centered at the mean.

* $p < .05$.

Moderating Effects of Adolescents' Gender on W4 Wives' Divorce Proneness (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Adolescents' Externalizing PB	.02	.006	.20*	.02	.006	.20*	.02	.010	.16
Adolescents' Gender				.03	.070	.03	.03	.070	.03
Problem Behaviors x Gender							.01	.012	.05
R ²		.04			.04			.04	
F		13.01*			6.62*			4.49*	

Note: Adolescents' problem behaviors were centered at the mean.

**p* < .05.

Moderating Effects of Adolescents' Gender on W2 Husbands' Parental Efficacy (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Adolescents' Internalizing PB	-.00	.003	-.02	-.00	.003	-.02	.00	.004	.03
Adolescents' Gender				-.05	.045	-.05	-.05	.045	-.05
Problem Behaviors x Gender							-.01	.006	-.08
R ²		.00			.00			.01	
F		.11			.54			.77	

Note: Adolescents' problem behaviors were centered at the mean.

* $p < .05$.

Moderating Effects of Adolescents' Gender on W2 Husbands' Parental Efficacy (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Adolescents' Externalizing PB	-.00	.004	-.03	-.00	.004	-.02	-.00	.007	-.04
Adolescents' Gender				-.04	.046	-.05	-.04	.046	-.05
Problem Behaviors x Gender							.00	.008	.03
R ²		.00			.00			.00	
F		.29			.54			.39	

Note: Adolescents' problem behaviors were centered at the mean.

* $p < .05$.

Moderating Effects of Adolescents' Gender on W3 Husbands' Divorce Proneness (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Adolescents' Internalizing PB	.01	.004	.12*	.01	.004	.11*	.01	.005	.10
Adolescents' Gender				-.02	.057	-.02	-.02	.058	-.21
Problem Behaviors x Gender							.00	.008	.02
R ²		.01			.01			.01	
F		4.44*			2.29			1.53	

Note: Adolescents' problem behaviors were centered at the mean.

* $p < .05$.

Moderating Effects of Adolescents' Gender on W3 Husbands' Divorce Proneness (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Adolescents' Externalizing PB	.00	.005	.03	.00	.005	.03	.00	.008	.03
Adolescents' Gender				-.03	.059	-.03	-.03	.059	-.03
Problem Behaviors x Gender							-.00	.010	-.00
R ²		.00			.00			.00	
F		.23			.26			.17	

Note: Adolescents' problem behaviors were centered at the mean.

* $p < .05$.

Moderating Effects of Adolescents' Gender on W4 Husbands' Divorce Proneness (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Adolescents' Internalizing PB	.01	.004	.10	.01	.004	.10	.01	.005	.10
Adolescents' Gender				-.04	.057	-.04	-.04	.057	-.04
Problem Behaviors x Gender							.00	.008	.00
R ²		.01			.01			.01	
F		3.28			1.89			1.26	

Note: Adolescents' problem behaviors were centered at the mean.

**p* < .05.

Moderating Effects of Adolescents' Gender on W4 Husbands' Divorce Proneness (N = 416)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
W1 Adolescents' Externalizing PB	.00	.005	.03	.00	.005	.03	.01	.008	.10
Adolescents' Gender				-.05	.058	-.05	-.05	.058	-.05
Problem Behaviors x Gender							-.01	.010	-.09
R ²		.00			.00			.01	
F		.19			.46			.56	

Note: Adolescents' problem behaviors were centered at the mean.

**p* < .05.