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Effect of negative work-to-family spillover on adolescent externalizing behavior via parental stress and parental involvement

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Effect of negative work-to-family spillover on adolescent externalizing behavior via parental stress and parental involvement

by

Cheng Peng

A dissertation submitted to the graduate faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Human Development and Family Studies

Program of Study Committee:
Clinton Gudmunson, Major Professor
Cynthia Fletcher
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Iowa State University

Ames, Iowa

2017

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DEDICATION

I dedicate this dissertation to my husband Dong, whose support help me during the whole process of this work, and to my son Ethan and my daughter Evelyn, who are the source of my motivation.
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ABSTRACT

The current study used structural equation modeling to explore how negative work-to-family spillover affects children’s externalizing behaviors through parental stress and parental involvement. Specifically, by analyzing data from single working mothers, partnered working mothers, and dual-earner couples in the Flourishing Family Project (FFP), the current study want to make a contribution to the current body of research on the role of family structure and parent gender in association within negative work-to-family spillover and children’s externalizing behaviors, as well as explore the mediating pathways between these two constructs.

Overall, results of the current study demonstrated the usefulness of examining the family structure as a moderator of the associations among negative work-to-family spillover, parental stress, parental involvement, and child externalizing behavior. First, findings revealed that family structure matters in understanding the link between negative work-to-family spillover and parental stress. Results indicated that the link between negative work-to-family spillover and parental stress held for single working mothers but not partnered working mothers. Second, findings also revealed that parental stress was indirectly associated with child externalizing behavior through parental involvement for partnered working mothers while not for single working mothers.

In addition, findings of the current study underscore the importance of considering the role of parent gender when studying how work and family interfere with each other. Study results revealed both similarities and differences in this work-family process by gender. First, findings revealed that the link between negative work-to-family spillover and parental stress held up for fathers but not mothers. Second, findings
indicated that, regardless of gender, parental involvement could serve as the mechanism through which parental stress affected child externalizing behavior. Furthermore, the current study revealed that fathers and mothers responded to the parental stress of their spouse differently. In particular, when mother’s parental stress was high, the other parent had a significant lower level of involvement in their children’s lives, whereas mother’s parental involvement was not significantly affected by father’s parental stress level.

The findings of the current study provided us a better understanding of underlying processes by which negative work-to-family spillover is associated with children’s externalizing problem behaviors, and how this process may differ depending on family structure and parent gender. Implications, including specific suggestions for practice and recommendations for future research, were also presented.
CHAPTER 1. INTRODUCTION

Balance between work and family has always been a hot topic ever since the increasing trend of dual-earner families in the 1950s when increasing number of women with children joining the workforce (Byron, 2005; Matthews & Rodin, 1989; Moen & Yu, 2000). With both members of the couple provide economic support for the household, parents, particularly those with children, have to fulfill responsibilities and challenges at work as well as family demands and responsibilities at home. Contemporary families are struggling in finding a balance between work and family life (Hall and MacDerimid 2009, Karimi and Nouri 2009).

With the increasing demands and challenging task of balancing multiple roles in contemporary society, concerns with whether and how maternal employment affects children’s development has long been a focus area in the work-family related literature. Although researchers have paid increasing attention to the significant impact of maternal work on children’s development, the most conclusive findings in the past decades have shown that the effects of maternal employment on children’s adjustment appear to be indirect (Harvey, 1999). Therefore, to better understand this relationship, researchers have begun to focus more attention on identifying the processes that may mediate the association between mothers’ employment and children’s outcomes. For example, there is emerging evidence which suggests that often it is not the direct effect of parents’ work per se that influences children’s developmental outcomes but rather the ways in which work may influence factors such as parental well-being and parental monitoring, which could ultimately have consequences for children’s developmental outcomes.
(Greenberger, O'Neil, & Nagel, 1994; Guelzow, Bird, & Koball, 1991; Menaghan & Parcel, 1990). Similarly, Galambos and colleagues (1995) examined a three-stage model regarding the association between stress from work and adolescents’ adjustment problems. They proposed parents’ occupational stress (i.e., feeling overloaded) was related to their generalized feelings of stress, which in turn affected parent-child relationships, including the warmth and conflict evident in these relations. And finally, parent-child relations were linked to adolescents’ problem behavior.

Despite a growing interest in the ways in which maternal employment influences children’s development, the processes through which negative work-to-family spillover make their mark on specific aspects of children’s development such as children’s externalizing behavior have not been well explained. Negative work-to-family spillover, defined as participation in work negatively impacts participation in family activities (Hertz, 2006; Kinnunen, Feldt, Geurts, & Pulkkinen, 2006), has classically been studied from the perspective of Goode’s (1960) theory of role strain. The theory suggests that engaging in multiple roles (e.g., employee, parent, and spouse) is seen as difficult, and inevitably creates strain and conflicts within and between the demands of work and family life. Consistent with role strain theory, negative work-to-family spillover could be examined as another source of stress that has been linked to many undesirable effects.

The consequences on mothers’ well-being and their parenting experience has come under increased scrutiny from a perspective of role strain theory. For example, some evidence suggests that parents’ experience of negative work-to-family spillover appears to have an adverse impact in parents’ psychological well-being (Deater-Deckard, 2005; Frone, Russell, & Cooper, 1992; Higgins, Duxbury, & Irving, 1992; Jacobs & Gerson, 2001).
and parenting experience such as parenting behavior, parent-child interactions, and parental involvement with children (Cummings, Goeke-Morey, & Raymond, 2004; Jacobs & Gerson, 2001; MacEwen & Barling, 1991; Repetti, 1994; Repetti & Wood, 1997; Westman, 2002), which have been identified as influential factors associated with child externalizing behavior (Kim-Cohen, Moffitt, Taylor, Pawlby, & Caspi, 2005; D. A. Nelson, Yang, Coyne, Olsen, & Hart, 2013).

Achenbach (2006) characterized externalizing behavior as overt disruptive behaviors such as defiance, aggression, delinquent behavior, or over activity. Externalizing behavior has been shown to potentially place adolescents on a negative developmental path which could lead to poorer functioning later in life. Some negative outcomes in adolescence and adulthood include heavy drinking (Lamb, 2004), less academic competence (Masten et al., 2005), and early mortality (Jokela, Ferrie, & Kivimäki, 2009). Therefore, identifying the pathways between negative work-to-family spillover and child externalizing behavior has important implications for both parents and policymakers for enhancing positive youth development.

Although negative work-to-family spillover has been linked to many undesirable effects, little is known about the effects of negative work-to-family spillover on parenting stress, which may play an important role in helping us understand the effects of negative work-to-family spillover on child outcomes. A popular conceptualization of parenting stress is provided by Abidin (1990), who proposed that parenting stress usually refers to the aversive feelings that parents experienced when they perceive the demands associated with their role in parenting exceeding the resources available for dealing with those demands from their children. The idea that parental stress has adverse effects on
children’s externalizing behavior has been well established (Crnic, Low, & Bornstein, 2008). In addition, Abidin (1990) has proposed a mediation model of parenting stress to provide a better understanding of the mechanism through which children are affected by parenting stress. This model has shown that higher levels of parenting stress often generate increased dysfunctional parenting, which in turn has a negative impact on children’s externalizing behavior. These findings underscore the importance of focusing on parenting practices when studying child externalizing behavior.

Although there have been great advances made using process-oriented approaches, not enough research has been done to explore the contextual factors that may moderate the already complicated processes. For example, more research is still needed to explore whether different family structures (e.g. single-parent families and two-parent families) affect the processes between negative work-to-family spillover and child externalizing behavior. With the increasing trend in the number of single-parent households (U.S. Census Bureau, 2015) and more mothers joining the labor force, research is needed to examine how family structure affects work-family interactions for those working mothers. However, little research has been done on how working mothers, single or with a partner, experience negative work-to-family spillover. Relatively little is known about how family structure moderates the process between negative work-to-family spillover and child externalizing behavior.

Because of the trend of more mothers getting into the labor force, a large body of work-family research has focused on the impact of maternal employment on child outcomes in the past few decades, though fathers are currently more involved in the lives of their children than was the case in the past (Lewis & Lamb, 2010). Therefore, another
limitation in the current work-family literature is that it typically examined relationships between maternal variables and child outcomes and often neglected to examine fathers’ beliefs, attitudes, and behaviors, although children reared in two-parent families clearly experience the influence of both parents (Baxter & Alexander, 2008; Campos, 2008; Ciabattari, 2007; Hertz, 2006; Hughes & Gray, 2005; Marsiglio, Amato, Day, & Lamb, 2000; Martin, Ryan, & Brooks-Gunn, 2007; Son & Bauer, 2010). Thus, little information is known about the process between fathers’ experience of negative work-to-family spillover and children’s externalizing behavior problems and how this process differs from that of mothers. Furthermore, because couples often influence each other's thoughts, emotions, and behavior, Kenny et al. (2006) suggested that the mutual influence of individuals in close relationships should be further investigated. However, even with an emerging trend in the work-family literature focusing on the crossover of partners’ work-family lives, a critical gap in contemporary work-family studies is the limited examination focused on couple-level and crossover effects from one partner to the other (Hammer, Cullen, Neal, Sinclair, & Shafiro, 2005; Parasuraman & Greenhaus, 2002). Furthermore, to the best of our knowledge, no empirical studies have examined the cross-partner influence of negative work-to-family spillover, parental stress, and parental involvement to date. Therefore, more investigation on the different associations between negative work-to-family spillover and child externalizing behavior for mothers and fathers has become necessary, and the current study was designed to shed light on these limitations of the past research.

Guided by the theoretical framework of role strain theory (Goode, 1960) and Abidin’s parenting stress model (Abidin, 1990), the current study sought to address these
limitations by conceptualizing parental stress and parental involvement as possible mediating variables, which links negative work-to-family spillover to children’s externalizing behaviors, to broaden our insight on the processes by which negative work-to-family spillover is associated with children’s externalizing problem behaviors. Specifically, study one is designed to investigate the associations among negative work-to-family spillover, parental stress, parental involvement, and children’s externalizing problem behaviors for working mothers. In addition, to explore the potential effects of family structure, we examined whether these associations differed for single working mothers versus partnered working mothers.

Study two is designed to examine the associations among negative work-to-family spillover, parental stress, parental involvement, and children’s externalizing problem behaviors for both working mothers and working fathers within the same family (i.e., dual-earner families). Using an actor–partner interdependence model (APIM) (Kashy, Kenny, Reis, & Judd, 2000; Kenny et al., 2006), we investigate how negative work-to-family spillover experienced by fathers and mothers influences children’s externalizing behaviors, and we further explore whether mother’s/father’s experiences of negative spillover from work to family influence the spouse’s parental stress, and whether mother’s/father’s parental stress has an influence on the spouse’s level of parental involvement. At the same time, we examine whether the strengths of the effects within and between partners are similar for both parents. Therefore, the inclusion of both parents will not only consider the dependent nature of couple behavior, but also allows us to study crossover effects between the couples.
In sum, by analyzing data from single working mothers, partnered working mothers, and dual-earner couples in the Flourishing Family Project (FFP), we want to make a contribution to the current body of research on the role of family structure and gender in association within negative work-to-family spillover and children’s externalizing behaviors, as well as explore the mediating pathways between these two constructs. We believe the findings of the current study will provide us a better understanding of underlying processes, and it will help policymakers effectively meet the special needs of different types of families.
CHAPTER 2. EFFECT OF NEGATIVE WORK-TO-FAMILY SPILLOVER ON ADOLESCENT EXTERNALIZING BEHAVIOR VIA THROUGH PARENTAL STRESS AND PARENTAL INVOLVEMENT AMONG SINGLE AND PARTNERED WORKING MOTHERS

Introduction

Although U.S. society is well beyond the transition from the norm of traditional family structures (i.e., a single male breadwinner and stay-at-home mother) to more dual-income families and single working mothers (Hall & Richter, 1988; Matthews & Rodin, 1989), women who have entered the paid labor force still usually face the challenging task of balancing multiple roles, e.g., employee, parent, and spouse. In contemporary society, concerns with whether and how maternal employment affects children’s development has long been a focus area in the work-family literature. Although researchers paid attention to the significant impact of maternal work on children’s development, the most conclusive findings in the past decades have shown that maternal employment, in itself, has few consistent positive or negative effects on children’s outcomes (Harvey, 1999). For example, there is emerging evidence suggesting that factors such as job satisfaction, parental monitoring, and parental well-being are critical factors that may link employment to family life (Greenberger et al., 1994; Guelzow et al., 1991; Menaghan & Parcel, 1990). However, a generally accepted model for the study of connections between mothers’ employment and children’s outcomes is still lacking. Although studies have investigated how negative work-to-family spillover negatively impacts child outcomes (Hertz, 2006; Kinnunen et al., 2006) this is the first study to examine children’s externalizing behavior though mothers’ parental stress and parental involvement.
Most research regarding the negative spillover effect from work to family has been based on Goode’s (1960) theory of role strain, which suggests that engaging in multiple roles (e.g., employee, parent, and spouse) is seen as difficult, and inevitably creates strain or conflict within and between the demands of work and family life. Consistent with role strain theory, negative work-to-family spillover could be examined as another source of stress that may influence parenting experience. For example, evidence suggests that parents’ experience of negative spillover from work to family appears to have an adverse impact in the quality of parent-child interactions and parental involvement with children (Cummings et al., 2004; Repetti, 1994; Repetti & Wood, 1997; Westman, 2002). However, we know little about the effects of the work-to-family interface on parental stress, which has detrimental impacts on development and well-being of parents, children, and the family as a whole (Crnic et al., 2008).

The idea that parental stress has negative impacts on children’s functioning has been well established (Crnic et al., 2008). However, little research has been done on examining the mechanisms through which children are affected. One of the most influential mediation models of parenting stress has been developed by Abidin (1990). In this parenting stress model, Abidin proposed that higher levels of parenting stress led to increased dysfunctional parenting, which in turn has a negative impact on children’s externalizing behavior. However, relatively little research has explicitly tested Abidin’s (1990) mediation model. Therefore, a better understanding how parenting stress affects child functioning still remains as an issue that needs deeper exploration.

Although we cannot deny the advantages that a process-oriented approach has brought when helping us understand the work-to-family spillover, not enough research
has been done to explore the contextual factors that may moderate the already complicated processes. For example, the question of whether different family structures (e.g. single-parent families and two-parent families) affect the processes between negative work-to-family spillover and child externalizing behavior awaits investigation.

There is an increasing trend in the number of single-parent households. Roughly 67% of children lived with both parents in 2009 compared to an estimated 85% in 1970 (U.S. Census Bureau, 2009). In addition, with the welfare reform in 1996, benefit recipients were asked to increase their time spent in labor force in order to continue receiving support, most of whom were single mothers (Gemelli, 2008; Lleras, 2008). Under such trends, research is needed on how family structure moderates the work-family interactions of workers, especially those mothers who returned to the workforce.

In sum, the complexity of understanding what factors may moderate or mediate the association between mothers’ experience of negative work-to-family spillover and children’s externalizing behaviors has not been addressed adequately. The current study aims to bridge this gap by conceptualizing the categorical variable of family structure (i.e., single-mother families vs. partnered-mother families) as the moderating variable. The mediating variables, which link negative work-to-family spillover to children’s externalizing behaviors, are parental stress and parental involvement. Therefore, guided by the theoretical framework of role strain theory (Goode, 1960) and Abidin’s parenting stress model (Abidin, 1990), the current study examined the relationships among negative work-to-family spillover encountered by working mothers, parental stress, parental involvement, and children’s externalizing problem behaviors. This will advance our understanding of the processes by which negative work-to-family spillover is associated
with children’s externalizing problem behaviors. In addition, the current study will
examine how two types of working-class families, single-mother families and partnereds-
mother families serve as distinct contexts within which the connections between negative
work-to-family spillover and child externalizing behavior may differ.

Literature Review

Negative Work-to-Family Spillover and Parenting: Perspective of Role Strain
Theory

Negative work-to-family spillover occurs when participation in the work domain
negatively impacts participation in family domain (Jacobs & Gerson, 2001; J. H. Pleck,
1995). Spillover refers to the transfer of mood, beliefs, attitudes, skills, values, strain, and
behavior patterns from one domain to the other (Geurts & Demerouti, 2003), and it can
be in a negative or positive direction. Negative spillover, the focus of the current study,
suggests negative events, such as stressors (Kazdin & Whitley, 2003), and bad moods or
attitudes (Repetti, 1994; Repetti & Wood, 1997) resulting from one domain (e.g., work)
impacting the other (e.g., family).

Negative work-to-family spillover has classically been studied from the
perspective of Goode’s (1960) theory of role strain, which proposes that engaging in
multiple roles (e.g., employee, parent, and spouse) are problematic, and inevitably creates
strain and conflict within and between the demands of work and family. Goode
introduced the term “role strain,” which was defined originally as the “difficulty in
fulfilling multiple role obligations.” He believed that specific obligations are attached to
each of the multiple roles, and that individuals who struggles to fulfill all of them would
experience role strain. Therefore, he asserted that the resultant tendency toward role
strain is normal. The argument is based on the scarcity hypothesis, which suggests that people have fixed amounts of time and energy resources with which to complete different role obligations, the fulfillment of multiple roles is likely to deplete these scarce resources and increases the possibility of negative spillover across multiple roles. This approach has clearly dominated most studies of the work-family interface (Allen, Herst, Bruck, & Sutton, 2000; Coiro & Emery, 1998).

When individuals expend these resources into the workplace, for example, they cannot use these limited resources in the family domain; therefore, strain and frustration may result from individuals’ inability to meet the competing demands of work and family. Goode identified four sources of role strain to help people better understand this concept. First, role demands might not be difficult to fulfill but might be difficult to conform to at particular times and places. Second, it is difficult to deal with diverse obligations from multiple roles because different roles have different demands. Third, it is difficult to deal with different or contradictory norms among different roles. Finally, people engage in multiple roles with different individuals. It is difficult to satisfy everyone, who are part of the one’s role network, and meet their demands.

Research findings supporting role strain theory (Goode, 1960) suggest that multiple social roles are most commonly preserved as a burden on the individual. Theoretical and empirical results related to multiple roles indicated that the combination of work and family often generates more role demands than one can handle, which in turn leads to an overload. Consequently, there is a high risk of work-to-family role conflicts, where employment activities may conflict with activities at home or negatively affect the employer’s ability to satisfy personal and family needs. The tension generated from the
inability to meet family needs can bring stress to family life (Greenhaus & Beutell, 1985; Kazdin & Whitley, 2003; Kinnunen & Mauno, 1998; Lundberg, Mårdberg, & Frankenheuser, 1994; Reifman, Biernat, & Lang, 1991; Tausig & Fenwick, 2001). For example, research has suggested that many working mothers struggle to meet the overload demands from work and family, experiencing time-related difficulties as well as psychological tensions fulfilling multiple roles (Friedman & Greenhaus, 2000; Goldberg, Greenberger, Hamill, & O'NEIL, 1992) and feeling stressed by overwhelming obligations of multiple roles at the same time (Perry-Jenkins, Seery, & Crouter, 1992).

Consistent with role strain theory, negative work-to-family spillover is another source of stress that may influence the experience of parenting. Thus, we hypothesize that negative work-to-family spillover would be positively related to problems in parenting experience. The rationale for this hypothesis is that if a person is frequently struggling with meeting the demands of family because of interference from work, he or she is more likely to report a reduction in the quality of his or her parenting experience. Previous studies support this hypothesis. For example, studies have shown that parents’ experience of negative work-to-family spillover leads to poor quality parent-child relationships, such as more negative interactions, less involvement with children, less knowledge of children’s daily activities, and more punishing parenting behavior (Costigan, Cox, & Cauce, 2003; Cummings et al., 2004; Jacobs & Gerson, 2001; Repetti, 1994; Repetti & Wood, 1997; Westman, 2002). MacEwen and Barling (1991) argued that tension among multiple roles have a negative impact on parenting behaviors. Crouter and Bumpus (2001) suggested that parents’ feelings of overload predict higher parent-child conflict, which in turn resulted in negative adjustments of the children. More recently, Vieira and
colleagues (2012) found that higher levels of work-to-family conflict led to higher levels of stress in the parental role. In sum, given the relatively little research on the impact of work-to-family interface on parental stress, this study would provide great contribution by examining the impacts of the negative effects of work-to-family spillover on participants’ parental stress.

**Parental Stress and Child Externalizing Behavior Direct Effects**

To date, a substantial amount of research has supported the direct effects between elevated parental stress and children’s externalizing behaviors, suggesting that higher levels of parental stress may directly relate to negative outcomes, such as child’s behavioral adjustment problems and insecure attachment (Crnic et al., 2002; Cummings, Davies, & Campbell, 2002; Jarvis & Creasey, 1991; Pett, Vaughan-Cole, & Wampold, 1994; Thompson Jr, Merritt, Keith, Murphy, & Johndrow, 1993). Specifically with regard to parenting stress and child adjustment, Abidin, Jenkins, and McGaughey (1992) examined how early family functioning variables affect subsequent child adjustment. They found that parental stress has been significantly associated with problematic child development, such as more externalizing behavior problems. Similarly, Belsky et al. (2001) suggested a causal association between parenting stress and problematic child behavior through a study of children ages 2 to 3 years old. The study found that maternal parental stress was an important factor separating troubled families from healthy families. In a study of African American families recruited from Head Start preschools, Anthony et al. (2005) examined whether parenting stress in the home context is directly related to children’s behavioral problems in preschool. They found that parental stress was directly associated positively with child externalizing behaviors.
Conceptualized somewhat differently, stress associated with daily parenting hassles has been found to be related to child externalizing behavior problems. For example, in two studies, Crnic and colleagues (Crnic, Gaze & Hoffman, 2005; Crnic & Greenberg, 1990) confirm the strength of this association. In a cross-sectional study, Crnic and Greenberg (1990) developed a model of daily parenting hassles, where parental stress was conceptualized as irritating, frustrating or distressing demands that particularly occur in families with young children. In their study, higher levels of daily parenting daily hassles proved to be associated with increased child externalizing behavior problems. These findings supported their hypothesis that parental stress, generated from daily hassles of parenting, does affect children’s development. Similarly, Crnic, Gaze, and Hoffman (2005) examined in a sample of 125 typically developing children and their mothers, where parenting stress was conceptualized as daily parenting hassles during children’s preschool period. They found that parenting stress is relatively stable across the preschool period, and it made a meaningful direct contribution to child behavior problems.

**Parental Stress and Child Externalizing Behavior Indirect Effects: Abidin’s Parenting Stress Model**

The idea that parental stress has negative impacts on children’s functioning has been well established (Crnic et al., 2002). However, little research has been done on examining the mechanism through which children are affected. Therefore, more recently, a major issue of research involves identifying factors which mediate this relationship. Debater-Deckard (2009) proposed an assumption that parenting behavior is a likely mediator of the relationship between parental stress and children’s behavior problems.
Abidin developed one of the most influential mediation models of parenting stress (1990). This parenting stress model integrated sociological, environmental, and behavioral variables that were believed to be central to the role of parenting, and it used parenting stress as the main construct, with parenting stress contributing to dysfunctional parenting. The model proposed that parenting stress is a function of certain parent characteristics (e.g. sense of competence, depression, attachment relationship with child, relationship with spouse, restrictions of role, parental health) and child characteristics (e.g. adaptability, acceptability, demandingness, mood, hyperactivity, reinforces parent). In this parenting stress model, Abidin also proposed that higher amounts of parenting stress would lead to increased dysfunctional parenting and, in turn, such dysfunctional parenting behavior would have a direct impact on children’s behavior, causing an increase in behavioral adjustment problems. Therefore, according to this model, dysfunctional parenting is likely a key variable mediating or explaining the relationship between parenting stress and adolescent outcomes.

A substantial amount of empirical study has, in fact, supported the paths outlined in Abidin’s model (1990). First, parental stress has been significantly associated with negative parental behavior (Abidin, 2009; Abidin, 2012; Rodgers, 1993; Tausig & Fenwick, 2001). Studies have shown that parenting stress leads to negative parenting style, such as authoritarian and permissive parenting styles (McBride & Lutz, 2004; Tausig & Fenwick, 2001); and ineffective, harsh discipline techniques, such as criticism, physical punishment, more use of commands and less nurturing behaviors, as well as more negative parenting attitudes (Anthony et al., 2005; Deater-Deckard, 2009; Reitman
et al., 2001; Webster-Stratton, 1988) and less involvement in children’s lives (Fagan, Schmitz, & Lloyd, 2007; McBride & Mills, 1993).

Second, much research has documented a relationship between negative parental behavior and child externalizing behavior. For example, studies have shown that negative parenting behavior, such as harsh discipline, controlling behavior, ignorance and rejecting, leads to increased child difficulties, including children’s internalizing and externalizing behavior problems, maladjustment and adolescent deviance (Conger, Patterson, & Ge, 1995; Patterson, Reid, & Dishion, 1992; Qi & Kaiser, 2003). Reitz et al. (2006), showed relations between parenting and externalizing problem behavior during early adolescence. Their design was longitudinal, which makes it possible to address the developmental significance of parenting effects. Similar results have been shown by Nievar and Luster (2006), who examined the linkages among family income, maternal psychological distress, parenting behavior, and children’s externalizing behavior problems in early and middle childhood, in addition to the results related to family income and maternal psychological distress, they found that mothers who have fewer positive interactions with their children and use more physical punishment tended to have a negative impact on children’s externalizing behavior problems.

In summary, various research has shown direct associations between parenting stress and child adjustment problems as well as parenting behaviors. And parenting behaviors have also been repeatedly found to be related to child behavior problems. However, given these significant associations, relatively few studies have explicitly tested Abidin’s (1990) mediation model. Although it has been often presumed that the association between parental stress and child functioning is mediated by parenting
behavior, few studies have directly tested this mediational process (Mackler et al., 2015),
even fewer studies have used longitudinal data that was capable of testing the mediation
effect. Thus, a better understanding of the mechanisms between parenting stress and child
functioning remains as an issue to be further investigated.

To date, to the best of our knowledge, among all research exploring the mediation
effects of parenting behavior, only one known cross-sectional study has demonstrated this
mediated relationship, which is supported by Abidin’s mediation model. With a sample
of 12-60 months younger children, Deater-Deckard and Scarr (2004) found evidence
supporting authoritarian parenting style mediated the association between parental stress
and child behavior problems.

At the meantime, lots of studies, either cross-sectional or longitudinal, have failed
to identify mediation effects of dysfunctional parenting behaviors between parenting
stress and child behavior problems (Anthony et al., 2005; Deater-Deckard, 2005; Crnic,
Gaze, & Hoffman, 2000). For instance, Anthony and colleagues (2005) suggested that
parenting stress directly related to child externalizing behaviors. However, this
relationship was not mediated by dysfunctional parenting behavior, such as strict
discipline or low nurturance.

**The Role of Family Structure**

Although no known studies have specifically examined the moderation effect of
family structure on the relationship between negative work-to-family spillover, parental
stress, parenting behavior and child outcome, little research has considered the potential
role of family structure in shaping workers’ experiences reconciling work and family
when examining work and family interactions. It was suggested that single mothers have
higher levels of negative work-to-family spillover and work-to-family conflict than other workers do (Ciabattari, 2007; Coiro & Emery, 1998; Duxbury, Higgins, & Lee, 1994; Lewis & Lamb, 2010; Mason, 2003; Winslow, 2005). A meta-analysis examining work–family conflict articles found single mothers experienced more work-to-family conflict than mothers with partners (Byron 2005). Continuing with this idea, research also showed statistically significant positive relationship between single parenthood status and the experience of work and family conflict (Winslow, 2005). Studies have since tried to finding possible explanations for this association. Since family obligations cannot be shared, and the imperative to work is stronger among single mothers (Duxbury et al., 1994), some scholars have argued that single working mother might have more problems in juggling work and family than dual-earner families do. Mason (2003) and Ciabattari (2007) also revealed a similar finding that single working mothers who face challenges of reconciling work and family are likely to experience greater stress compared to partnered working mothers. Specifically, as a result of stress and limited resources, single mothers experience more conflict from their pursuits of their lifestyle through working due to simultaneously providing care for their children, and there is nobody else to share the responsibility with them (Mason 2003; Ciabattari 2007).

Moreover, studies have shown the importance of having a partner in the parenting process related to child outcomes (Forgatch, Patterson, & Skinner, 1988; Mason, 2003; Meltzer, Gatward, Goodman, & Ford, 2003; Webster-Stratton, 1988; Weinraub & Wolf, 1983). To begin with, single mothers tend to experience more parental stress than mothers living with their partners (Forgatch et al., 1988; Weinraub & Wolf, 1983). Meanwhile, Webster-Stratton (1988) also found that, compared with their married
counterparts, single mothers perceive themselves as being more stressed and were observed to have more negative parenting behaviors. Single mothers handle less well their children’s externalizing behavior than women who live with partners (Webster-Stratton, 1988). More recently, this potential impact of family structure on the parenting process and child outcomes was also confirmed by Melzter and colleagues (2003), who suggested that in addition to the potentials of facing more parental stress and dysfunctional parenting behaviors, children living with single mothers are more likely to develop externalizing problem behavior than those living with both parents. Altogether, the above studies have pointed to the importance of an examination of the relationship between parenting process and child outcomes that considers whether parenting process has different impacts on child outcomes, such as externalizing behavior problems, dependent on family structure.

The Current Study

Based on a role strain perspective on work-family relationships, and Abidin’s parenting stress model (Abidin, 1990), as well as previous research showing associations between negative work-to-family spillover, parenting stress, parental involvement, and child externalizing behavior, the proposed theoretical model to be tested is illustrated in Figure 1. This model was estimated as a two-group model to examine whether associations between negative work-to-family spillover and parental stress and parental involvement and adolescent externalizing behavior varied depending on family structure. More specifically, we address the following research questions and/or hypotheses.
First, it is hypothesized that mothers’ experience of negative work-to-family spillover will be positively associated with mothers’ parental stress. Second, mothers’ parental stress is hypothesized to be negatively associated with mothers’ parental involvement and positively associated with children’s externalizing behaviors. Finally, it is hypothesized that mothers’ involvement in their children’s life will be negatively associated with children’s externalizing behaviors.

**Method**

**Data and Sample**

The data for the current study are from the Flourishing Families Project (FFP), which is an ongoing, longitudinal study of inner family life involving families randomly selected with a child between the ages of 10 and 14 at the beginning of the study (2007). Subsequently, families were interviewed at yearly intervals for a second (2008), third (2009), fourth (2010), and fifth time (2011). The project consisted of 500 families at Wave 1, and the retention rate was 96% at Wave 2 (n = 480, 155 single parent and 325 two-parent families), 91.8% at Wave 3 (n = 459, 138 single parent and 321 two-parent families), 93.8% at Wave 4 (n = 469, 149 single parent and 320 two-parent families), and 92.6% at Wave 5 (n = 463, including 151 single parent families, and 311 two-parent families). The retention rate for the FFP is high and averages over 92% (with a net loss of about 45 families) for the full 5 years. All procedures of the data collection process were approved by Brigham Young University Institutional Review Boards. In terms of ethnicity, 76% of the families were European American, 4% African American, 1% Asian, and 19% of families reported that family members were multi-ethnic.
The participants for the current study were taken from Waves 2, 3 and 4 of the FFP. In the present study, only mothers who were the first and primary caregiver in the families and were working for pay outside the home at Wave 2 were eligible to participate, a requirement that necessitated the exclusion of 129 families and resulted in a sample of 371 mother-child dyads for this study. Regarding marital status, 108 (29%) were single mothers and 263 (71%) were partnered mothers. In terms of gender of adolescents, 191 (52%) were girls and 180 (48%) were boys. The average working hours for the single mothers was 37.08 (SD = 11.71) and 30.97 (SD = 13.78) for partnered mothers. On average single working mothers’ annual income level was 4.07 (SD = 1.76), and partnered working mothers’ annual income level was 3.83 (SD = 2.10).

**Procedure**

Participant families for the FFP were randomly selected from targeted census tracts in a large northwestern city in the United States, and were identified using a purchased national telephone survey database (Polk Directories/InfoUSA). Of the 692 eligible families contacted, 423 agreed to participate, resulting in an 61% response rate. However, lower SES families were underrepresented because the Polk Directory national database was generated using telephone, magazine, and Internet subscription reports. In an attempt to more closely represent the demographics of the local area, a limited number of families were recruited into the study through other means (e.g., referral, fliers; n = 77, 15%), resulting in 500 total families participating at Wave 1 that closely resembled the demographics of the local area. Through this approach, the project was able to significantly increase the socio-economic and ethnic diversity of the sample. At each wave of data collection, families were interviewed in their homes, with each interview
consisting of 1.5 hour self-administered questionnaires completed by the child, mother, and father in the home (participants were encouraged to complete questionnaire in separate rooms and not to discuss answers during administration). Both parents and children completed informed consent documents at the start of each in-home visit, and the project was approved by the institutional review board at the university from which the research originated. It is important to note that there was very little missing data, less than 5%. As interviewers collected each segment of the in-home interview, questionnaires were screened for missing answers and double marking.

**Measures**

**Negative Work-to-Family Spillover**

To assess mothers’ negative work-to-family spillover, mothers responded to a 4-item measure of negative work-to-family spillover, based on a 5-point Likert scale ranging from 1 (never) to 5 (all the time) (Grzywacz & Marks, 2000) at Wave 2 (2008), with higher scores indicating greater levels of negative spillover from work to family. Sample questions include, “your job reduces the effort you can give to activities at home” and “job worries or problems distract you when you are at home.” Cronbach’s Alpha reliability coefficient for this measure was .817 for mothers (Grzywacz & Marks, 2000), and in the current study reliability was adequate for mothers (.813).

**Parental Stress**

The 5-item measure was adapted from a maternal stress measure (Osborne & McLanahan, 2007) to assess mothers’ parental stress at Wave 2 (2008). Example questions from the stress measure include “as a parent, I often feel that I cannot handle things well” and “I enjoy being a parent.” Mothers answered on a 5-point Likert-type
scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores representing higher levels of parental stress. Previously, the Cronbach’s Alpha reliability coefficient was reported as .89 (Osborne & McLanahan, 2007). The reliability coefficient for this research sample was .72.

**Parental Involvement**

Parental involvement in their child’s life was measured using a modified 8-item from the Inventory of Father Involvement (Hawkins et al., 2002) at Wave 3 (2009). Mothers rated the extent of their involvement in their child’s life with the items using a 5-point Likert scale ranging from 1 (never) to 5 (very often). Sample questions include, “Attend your child’s activities (like a soccer game or something he/she is doing at school)?” and “Give encouragement to your child?” Higher scores indicate greater degrees of mother involvement in the child’s life. Previous the Cronbach’s Alpha reliability coefficients (Hawkins et al., 2002) have been found to range from .69 to .80 in terms of the 5 distinct subscales. For the modified version used in the current study, one item was dropped because it adversely affected the measures reliability. The reliability coefficient for this research sample was .72. The screen plot showed that a two-factor solution was appropriate for the factor analysis of the 7 items of parental involvement. The results revealed that one factor is more related to affective involvement, which includes 3 questions items such as “Give encouragement to your child?” . The other factor is more related to behavioral involvement, which includes 4 questions items such as “Attend your child’s activities (like a soccer game or something he/she is doing at school)?”.
Adolescent Externalizing Behavior

The 9-item measure was adapted from the Child Behavior Checklist Youth Self-Report (Achenbach, 1991) to assess adolescent externalizing behavior at Wave 4 (2010). Mothers responded to sample items that include “My child lies or cheats.” and “My child steals things from places other than home.” And adolescents responded to sample items include “I lie or cheat.” and “I steal things from places other than home.” Responses ranged from 0 (not true) to 2 (very true or often true) with higher scores representing higher levels of externalizing behaviors. In the current study, the Cronbach’s Alpha reliability coefficients were found to be .765 for mothers’ report and .781 for adolescents’ report.

Control Variable

In the current study, the analyses included child gender and mother’s annual income from Wave 2 of the data set as control variables. Child gender was a dummy variable coded 0 (female) or 1 (male). Mothers rated their annual income level using a 12-point Likert scale ranging from 1 (Under $10,000 per year) to 12 ($200,000 or more per year).

Plan of Analysis

Manifest Variables and Latent Variables

Considering the benefits of using latent variables (i.e. creating more representative constructs of the variables under study, free of random error; Markus, 2012) and the sample size, we used manifest predictors (negative work-to-family spillover and parental stress) and latent variables (parental involvement and adolescent externalizing behavior) instead of a full latent model, as the latter would have generated a
model with too many latent variables in relation to the size of the sample. Negative work-
to-family spillover and parental stress were modeled as manifest variables with the
average scores of the scale items being their indicators. For mother report on parental
involvement, an exploratory principal component factor analysis with a Promax rotation
was conducted on the 7 items of parental involvement to identify the most appropriate
number of underlying factors. We decided to use an oblique rotation because the factors
may be potentially correlated. Criteria for the number of factors to retain included
consideration of eigenvalues >1.0, scree plots, and interpretability (Ford, MacCallum, &
Tait, 1986). Exploratory factor analysis was conducted using SPSS Statistics, 21. After
obtaining the two-factor solution, average scores of the items comprising affective
involvement and behavioral involvement were computed and used as observed indicators
of the parental involvement latent variable. For adolescent externalizing behavior, a latent
variable was constructed using the average scores of the scale items from mothers’
responses and child’s responses.

Testing the Measurement and Conceptual Models

To test the conceptual model shown in Figure 1, we used Mplus version 7 (L. K.
Muthén & B. O. Muthén, 1998) for structural equation modeling (SEM) analyses and the
maximum likelihood method for estimation of the hypothesized models. The first step in
testing the conceptual model shown in Figure 1 was to evaluate the measurement model.
Then, the researcher evaluated the fit of the hypothesized structural equation model
presented in Figure 1. This model was estimated as a two-group model to examine
whether associations between negative work-to-family spillover and parental stress and
parental involvement and adolescent externalizing behavior varied depending on family
specifically, differences in beta weights across the two groups were examined by constraining certain individual pathways to be equal across single working mothers and partnered working mothers and by comparing the models to unconstrained models. The change in the chi-square value between models with individual pathways constrained (e.g., the path from single working mothers’ negative work-to-family spillover to parental stress was set equal to the path from partnered working mothers’ negative work-to-family spillover to parental stress) and a baseline model in which all pathways were unconstrained was then examined to determine which, if any, paths differed significantly between single working mothers and partnered working mothers. If a non-significant change in the chi-square value was found between models, the constrained model was preferable model. During this analysis process, loadings for the measured variables on the latent variables were constrained to equality for single working mothers and partnered working mother to ensure that the same latent variables were identified across single and partnered mothers.

In addition, a formal test for evidence of mediation was performed, with parental involvement as mediator between parental stress and adolescent externalizing behavior. Since bootstrap results provide more accurate confidence intervals for indirect effect than Baron and Kenny’s (1986) procedure and the Sobel test (Sobel, 1982), bias-corrected bootstrap sampling procedure was used to test the significance of the mediation hypotheses. Bootstrap extracted 1000 new samples and both direct and indirect estimates of the model were calculated. When the bias-corrected confidence interval does not include zero, the null hypothesis is rejected, which means that there is a significant mediation effect.
The overall fit indices used in assessing the fit of the measurement and the conceptual models included the chi-square test, the comparative fit index (CFI; values above .95 indicate good fit, and value above .90 indicate moderate fit), and the root mean-square error of approximation (RMSEA; values below .05 indicate good fit, and below .08 indicate moderate fit). Full information maximum likelihood (FIML) method for estimating missing data were used to handling missing variables in the current study (L. Muthén & B. Muthén, 1998). This method enables Mplus to make use of all cases, even cases with missing information on some of the variables, to provide a more complete picture of all participants in the study (Schafer & Graham, 2002).

**Results**

As shown in Table 2, loadings of manifest variables on the latent variables were all highly significant for both single working mothers and partnered working mothers.

[Insert Table 2 here]

The correlations among the observed variables included in the model are presented in Table 2, which indicates the correlations among these variables were in the expected direction. For example, negative work-family spillover correlated positively with parental stress, which correlated positively with both mother’s report and child’s report on externalizing behavior for both single working mothers and partnered working mothers. In addition, for both single working mothers and partnered working mothers, parental stress correlated negatively with both affective involvement and behavioral involvement, which correlated negatively with both mother’s report and child’s report on externalizing behavior.
As detailed in Table 2, for negative work-family spillover, the mean score for single working mothers was 2.63 (SD = 0.74) and 2.54 (SD = 0.66) for partnered working mothers. For parental stress, the mean score for single working mothers was 2.10 (SD = 0.81) and 1.91 (SD = 0.68) for partnered working mothers. The mean affective involvement score for single working mothers was 4.34 (SD = 0.51) and 4.19 (SD = 0.58) for partnered working mothers. The mean behavioral involvement score for single working mothers was 3.80 (SD = 0.63) and 3.81 (SD = 0.49) for partnered working mothers. Among single working mothers, the average mother’s report on child externalizing behavior was 0.20 (SD = 0.27) and 0.11 (SD = 0.19) among partnered working mothers. Among single working mothers, the average child’s report on their own externalizing behavior was 0.29 (SD = 0.34) and 0.21 (SD = 0.25).

Results indicated that the measurement model had a good fit to the data, $\chi^2(14, N = 371)=30.83$ with $p = .11$, CFI = .97 and RMSEA = .05. Given the results of the measurement model in the above analysis, the next step was to evaluate the fit of the hypothesized structural equation model to the data while controlling for child gender and mother’s annual income. As shown in Figure 2, the final structural model indicated a good fit with the data, $\chi^2(26, N = 371)=39.58$ with $p = .04$, CFI = .95 and RMSEA = .05. Standardized coefficients for the paths for both single and partnered working mothers are shown in Figure 2.

As shown in Figure 2, for single working mothers, negative work-family spillover was significantly positively associated with parental stress ($\beta = .37, p < .001$). Parental
stress was significantly positively associated with child externalizing behavior ($\beta = .26, p < .05$), but not significantly associated with parental involvement. In addition, parental involvement was significantly negatively associated with child externalizing behavior ($\beta = -.44, p < .05$). Therefore, mothers’ parental involvement didn’t mediate the relationship between parental stress and child externalizing behavior for single working mothers.

For partnered working mothers, there was no significant association between negative work-family spillover and parental stress. In addition, parental stress was significantly negatively associated with parental involvement ($\beta = -.18, p < .05$), which in turn was significantly associated with child externalizing behavior ($\beta = -.32, p < .001$). However, the direct effects of parental stress on child externalizing behavior was not significant when parental involvement was introduced into the model as a mediator. Thus, parental involvement fully mediated the direct effects of parental stress on child externalizing behavior for partnered working mothers.

For each pathway in the model, differences by family structure were tested. One-by-one comparisons of the constrained model to the unconstrained model revealed a gender difference in the effects from negative work-to-family spillover to parental stress, $\Delta \chi^2(1) = 5.83, p < .05$. This finding indicated that negative work-to-family spillover in single working mothers has a significantly positive effect on parental stress, whereas there is no significant association between negative work-to-family spillover in partnered working mothers and their parental stress.

Mediation relationships among the variables are specified in the conceptual model. Results of the analysis based on the bias-corrected bootstrap sampling procedure are as follows: For partnered working mothers, parental stress had significant indirect
effects on child externalizing behavior through parental involvement ($b = .058$, 95% confidence interval [CI] [.001, .044]). However, for single working mothers, parental stress did not have significant indirect effects on child externalizing behavior.

**Discussion and Conclusion**

Guided by the theoretical framework of role strain theory (Goode, 1960) and Abidin’s parenting stress model (Abidin, 1990), the current study sought to address these limitations by conceptualizing parental stress and parental involvement as possible mediating variables, which links negative work-to-family spillover to children’s externalizing behaviors, to broaden our insight on the processes by which negative work-to-family spillover is associated with children’s externalizing problem behaviors. Furthermore, with the increasing attention to the role of family structure in association between negative work-to-family spillover and children’s externalizing behaviors (Byron, 2005; Mason, 2003), this study investigated whether the underlying processes differed for single-mother families and partnered-mother families.

Overall, results of the current study demonstrated the usefulness of examining the family structure as a moderator of the associations among negative work-to-family spillover, parental stress, parental involvement, and child externalizing behavior. First, our findings revealed that family structure matters in understanding the link between negative work-to-family spillover and parental stress. In particular, we found that the link between negative work-to-family spillover and parental stress held for single working mothers but not partnered working mothers. More specifically, higher levels of negative work-to-family spillover experienced by single working mothers were predictive of higher levels of parental stress. This suggests that greater parental stress reported by
single working mothers is associated with experienced difficulty in balancing work and family roles, while for partnered working mothers the experienced negative work-to-family spillover is not associated with increased levels of parental stress. One potential explanation for this finding is that single working mothers may not have similarly high levels of support, such as social support and financial support, from their partner as partnered working mothers do, which may help them to reduce the negative effect of work-to-family conflict on their parental stress. For this reason, single working mothers, who spend more time on working frequently struggle with meeting the demands of family because of interference from work, may find parenting especially stressful because these conflicting pressures make the stressors of parenting a child even more salient. Indeed, studies have shown that for single working mothers having other adult presents at home has been conceptualized as an important source of support that they may rely on in accommodating work and family life (Baxter & Alexander, 2008; Hertz, 2006). For instance, if a partnered working mother must work overtime, then her partner can help her watch children or cook dinner, which also may help reduce negative work-to-family spillover and its effect on parental stress. However, when facing such conflict situations, single working mothers may not be able to easily find someone to turn to for help in a short notice. Furthermore, having a partner present in the household may provide not only social or emotional support but also financial support to partnered working mothers. Since most of the partnered working mothers came from dual-earner families, they may have more additional financial resources to cope with the stress from work-family conflict. However, limited financial resources for many single working mothers has left them with less monetary flexibility in balancing work and family life compared to
partnered working mothers (Hernandez & Ziol-Guest, 2009; Malone, Stewart, Wilson, & Korsching, 2010). Altogether, it is reasonable for us to find the moderation effect of family structure on the relationship between negative work-to-family spillover and parental stress, such that negative work-to-family spillover related to greater increase in parental stress for single working mothers than for partnered working mothers.

Second, our findings also revealed that parental stress was indirectly associated with child externalizing behavior through parental involvement for partnered working mothers while not for single working mothers. More specifically, higher levels of parental stress experienced by partnered working mothers were predictive of lower levels of parental involvement, which in turn predicted higher levels of child externalizing behavior. Therefore, this mediation effect for partnered working mothers supported Abidin’s mediation model (Abidin, 1990), which suggests negative parental behavior is a key variable mediating the relationship between parenting stress and adolescent outcomes. In this regard, our findings for partnered working mothers are consistent with previous studies indicating that mothers exhibiting higher levels of parental stress were more likely to be less involved in children’s lives (Fagan et al., 2007; McBride & Mills, 1993), which in turn gives rise to potential externalizing behavior problems in children (Reitz et al., 2006). For single working mothers, parental stress, instead of being expressed through parental involvement, was directly associated with child externalizing behavior. This lack of indirect effects from parental stress to parental involvement to child externalizing behavior adds to the body of literature that failed to find support for Abidin’s model (1990) (Anthony et al., 2005; Deater-Deckard, 2005; Crnic, Gaze, & Hoffman, 2000). One possible explanation for this difference process between single and
partnered working mothers would be because partnered working mothers have another parent at home to share parenting responsibilities with. Therefore, partnered working mothers, if they are unable to involved in their children’s lives, can still rely on their partners’ involvement, which allows them being less involved if they have higher parental stress. For example, if a partnered working mother is too stressed out because of the parenting to take care of children or help with homework, then there is always the possibility that the father in the family can step in to help with such tasks; thereby allowing partnered working mother to be less involved. In contrast, parental involvement such as taking care of children and helping with homework, however, is far from being optional activities for single working mothers. The level of parental stress does not matter as much for those single working mothers, since they still have to be involved as a parent fulltime even though they may pretty stressed out. Hence, that may be why no direct effect from parental stress to parental involvement was observed for single working mothers. Altogether, our findings underscore the importance of considering the potential role of family structure on the relationships between negative work-to-family spillover, parental stress, parental involvement and child externalizing behavior. Although our findings further clarify the important effect of family structure on the interrelationships among negative work-to-family spillover, parental stress, parental involvement and child externalizing behavior, several limitations should be noted when interpreting the results of the current study. First, caution should be taken when generalizing our findings to other populations. Participants in the current study were from a large northwestern city in the U.S. and were predominantly well-educated with moderately high incomes. Therefore, this limitation of the data set may limit the
generalizability of our findings among more diverse groups of working mothers with lower socioeconomic status. However, the current study provides preliminary analysis for future research with a larger and more diverse sample to conduct the multiple group analyses for verifying the generalizability of our findings. Second, it should be noted that the current study only examined how parental involvement works as mediator between parental stress and child externalizing behavior. However, several other kinds of parenting behaviors not examined in the current study may also link parental stress and child externalizing behavior. The lack of findings for the mediation effect of single mothers’ parental involvement on the relationship between parental stress and child externalizing behavior may also be because of not assessing other key mediators. Therefore, future studies also should pay attention to other possible factors between parental stress and children’s well-being. Finally, the current study only analyzed the direct effect from negative work-to-family spillover to parental stress. Future work is needed in examining the mechanisms by which negative work-to-family spillover affect parental stress. Also, because only negative spillover from work to family was examined in the current study, future research attempts to replicate our findings could consider including positive work-to-family spillover.

Although our findings must be considered in light of these limitation, the current study contribute to a more systemic understanding of the processes between negative work-to-family spillover and child externalizing behavior and attempt to provide empirical foundation for developing interventions that are aimed at reducing work-family conflict and preventing adolescent delinquency. First, given that parental stress was significantly associated with negative work-to-family spillover among single working
mothers, it appears that policies and practices that reduce negative work-to-family 
spillover among single working mothers may be more impactful on the reduction of their 
parental stress. One strategy is to increase flexibility of workplaces, including more 
flexible working hours, telecommuting job opportunities, high quality workplace child-
care services and parental leave benefits for childcare, which may be an effective tool for 
single working mothers with children to effectively balance their roles as workers and 
parents, thereby reducing negative work-to-family spillover (Jacobs & Gerson, 2001; 
Tausig & Fenwick, 2001). Second, the significant association between parental 
involvement and child externalizing behavior problems for both single and partnered 
working mothers in this study in particular has bearing on practices. Since child 
externalizing behavior problems have long-lasting effects on their development, health 
and well-being, our findings suggested that it is important to help working mothers find 
way to increase their levels of parental involvement and therefore decrease the levels of 
their children’s externalizing behavior. However, given that parental involvement among 
partnered working mothers completely mediated the relationship between their parental 
stress and child externalizing behavior, it appears that policies and practices, such as the 
Positive Parenting Program (Turner & Sanders, 2006), that aimed at improving parental 
involvement may be especially necessary for those partnered working mothers. 
Furthermore, given that our findings for single working mothers suggested that child 
externalizing behavior was significantly associated with both higher parental stress and 
decreased levels of parental involvement, it appears that parental stress and parental 
involvement may simultaneously need to be targets of intervention for this group of 
mothers. For example, since mothers’ work schedules may interfere with opportunities to
partake in their children’s school activities, it would be beneficial if practitioners in school settings offered more opportunities for involvement that better fit the schedules of those single working mothers. Additionally, it would be beneficial if practitioners could provide mothers with information and explanation about parental stress and its potential impact on their children’s externalizing behavior to help them identify problematic and specific stressful areas where they need to intervene. Indeed, research conducted by Kazdin & Whitley (2003) also suggests the importance of introducing treatment of parental stress to traditional parent-training interventions for solving child behavior problems. Therefore, when we think about the impact of parental stress and parental involvement on child externalizing behavior, we may need to treat these families differently. Partner working mothers may benefit more from focusing on improving involvement, whereas single working mothers may benefit more from the combination of stress relief and involvement improving.
References


# Tables

Table 1. *Demographic Characteristics of the Study Sample*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Single working mothers $(n = 108)$</th>
<th>Partnered working mothers $(n = 263)$</th>
<th>Chi-Square value / $T$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child gender $(n, %)$</td>
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<td></td>
<td>0.01</td>
</tr>
<tr>
<td>Males</td>
<td>52</td>
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<td></td>
</tr>
<tr>
<td>Females</td>
<td>56</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td>Child age $(M, SD)$</td>
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<td>12.34</td>
<td>0.91</td>
</tr>
<tr>
<td>Child grade $(M, SD)$</td>
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<td>6.75</td>
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<td>Mother’s education level $(n, %)$</td>
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<td></td>
<td>20.68**</td>
</tr>
<tr>
<td>Less than High School</td>
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<td>4</td>
<td>1.5</td>
</tr>
<tr>
<td>High School</td>
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<td>12</td>
<td>4.6</td>
</tr>
<tr>
<td>Some College</td>
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</tr>
<tr>
<td>Associate’s</td>
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<td>Bachelor’s</td>
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<td>Master’s Degree</td>
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<tr>
<td>Advanced Degree</td>
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<td>8.0</td>
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<tr>
<td>Mother’s race $(n, %)$</td>
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<td>Mother’s working hours/week $(M, SD)$</td>
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<tr>
<td>Mother’s annual income $(M, SD)$</td>
<td>4.07</td>
<td>3.83</td>
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</table>

*Note. Chi-Square value for nominal variables, $T$ value for numeric variables. **$p < .01$; ***$p < .001$.***
Table 2. *Standardized Loadings of Manifest Variables on the Latent Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Single Working Mothers</th>
<th>Partnered Working Mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Parental Involvement</td>
<td>Child Externalizing Behavior</td>
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<td>Affective Involvement</td>
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<td>.57***</td>
</tr>
<tr>
<td>Behavioral Involvement</td>
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<td>.74***</td>
</tr>
<tr>
<td>Child Externalizing Behavior (M)</td>
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<td>.71***</td>
</tr>
<tr>
<td>Child Externalizing Behavior (C)</td>
<td>.79***</td>
<td>.74***</td>
</tr>
</tbody>
</table>

*Note. (M) = Mother report; (C) = Child report. **p < .01.***p < .001.*
Table 3. Correlations, Means and Standard Deviations for Observed Variables (single mothers n = 108; partnered mothers n = 263)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Negative Work-family Spillover</td>
<td>-*</td>
<td>.38**</td>
<td>-.13**</td>
<td>.09**</td>
<td>.05**</td>
<td>.05**</td>
<td>2.63*</td>
<td>0.74</td>
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<td>2. Parental Stress</td>
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<td>-</td>
<td>-.21**</td>
<td>-.17**</td>
<td>.28**</td>
<td>.12**</td>
<td>2.10*</td>
<td>0.81</td>
</tr>
<tr>
<td>3. Affective Involvement</td>
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<td>-.20**</td>
<td>-*</td>
<td>.35**</td>
<td>-.13**</td>
<td>-.19**</td>
<td>4.34*</td>
<td>0.51</td>
</tr>
<tr>
<td>4. Behavioral Involvement</td>
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<td>-.05**</td>
<td>.36**</td>
<td>-</td>
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<td>-.17**</td>
<td>3.80*</td>
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<td>5. Child Externalizing Behavior (M)</td>
<td>.04*</td>
<td>.10**</td>
<td>-.11**</td>
<td>-.03**</td>
<td>-*</td>
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<td>0.27</td>
</tr>
<tr>
<td>6. Child Externalizing Behavior (C)</td>
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<td>.05**</td>
<td>-.04**</td>
<td>-.11**</td>
<td>.48**</td>
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<td>0.29</td>
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<tr>
<td>M</td>
<td>2.54*</td>
<td>1.91*</td>
<td>4.19**</td>
<td>3.81*</td>
<td>0.11**</td>
<td>0.21*</td>
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<tr>
<td>SD</td>
<td>0.66</td>
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<td>0.58*</td>
<td>0.49*</td>
<td>0.19**</td>
<td>0.25*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. (M) = Mother report; (C) = Child report. *p < .05; **p < .01. Single mothers are above diagonal and partnered mothers are below the diagonal.
Figure 1: Theoretical Model for Single and Partnered Working Mothers

- **Wave 2**: Negative work-family spillover → Parental stress
- **Wave 3**: Parental stress → Parental involvement
- **Wave 4**: Parental involvement → Child externalizing behavior

Figure 1 illustrates the relationship between stress, involvement, and child behavior over time.
Figure 2. Results of final multiple group structural model by family structure (single working mothers n = 108; partnered working mothers n = 263). $\chi^2 (26) = 39.58$, $p = .04$; RMSEA = .05; CFI = .95. Standardized path coefficients are reported. *$p < .05$, **$p < .01$, ***$p < .001$. Child gender and mother’s annual income were controlled were controlled in the current model.
CHAPTER 3. EFFECT OF NEGATIVE WORK-TO-FAMILY SPILOVER ON ADOLESCENT EXTERNALIZING BEHAVIOR VIA PARENTAL STRESS AND PARENTAL INVOLVEMENT AMONG DUAL-EARNER COUPLES

Introduction

Balance between work and family has always been a hot topic ever since the increasing trend of dual-earner families in the 1950s when increasing number of women with children joining the workforce (Byron, 2005; Matthews & Rodin, 1989; Moen & Yu, 2000). With both members of the couple provide economic support for the household, parents, particularly those with children, have to adjust their behavior to balance paid work and family life while at the same time managing to fulfill demands from multiple roles inherent in their everyday lives (Moen & Sweet, 2002). However, a high proportion of contemporary dual-earner families are struggling to meet the demands from both work and family roles and experience heightened conflict, stress and strain because of the competing demands of multiple roles (Moen & Yu, 2000; Parasuraman & Greenhaus, 2002). Subsequently, issues surrounding whether and how parental work affects children’s development has become a focus area in the work-family literature.

Although researchers have paid increasing attention to the significant impact of parental work on children’s development, to date, most researchers have focused largely on the role of maternal employment. However, researchers have frequently ignored the fact that the change of family working structure also meant that father’s employment may also impinge on a family (Perry - Jenkins, Repetti, & Crouter, 2000). Therefore, a major limitation of most work-family research is that many researchers typically examine relationships between maternal variables and child outcomes and often neglect to
examine fathers’ beliefs, attitudes, and behaviors, although children reared in two-parent families clearly experience the influence of both parents (Baxter & Alexander, 2008; Campos, 2008; Ciabattari, 2007; Hertz, 2006; Hughes & Gray, 2005; Marsiglio et al., 2000; Martin et al., 2007; Son & Bauer, 2010). However, the negotiation of family and work involve both parents, thus examination of both fathers’ and mothers’ experiences is critical in examining the relationship between parental employment and child outcomes. In addition, the most conclusive findings in the past decades have shown that the effects of parental employment on children’s adjustment appear to be indirect (Harvey, 1999). Therefore, to better understand this relationship, researchers have begun to focus more attention on identifying the processes that may mediate the association between parents’ employment and children’s developmental outcomes (Galambos et al., 1995; Greenberger et al., 1994; Guelzow et al., 1991; Menaghan & Parcel, 1990). However, the processes through which negative work-to-family spillover impact children’s externalizing behavior have not been well explained.

Furthermore, Kenny et al. (2006) suggested that the mutual influence of individuals in close relationships should be further investigated, because people involved in a dyadic relationship often influence each other's thoughts, emotions, and behavior. Even with an increasing trend in the work-family literature focusing on the crossover of partners’ work-family lives, a critical gap in contemporary work-family studies is the limited examination focused on couples level and crossover effects from one partner to the other (Hammer et al., 2005; Parasuraman & Greenhaus, 2002). The term “crossover” has been used to describe the transmission of stress or strain from one person of a dyad to another (Westman, 2001). To the best of our knowledge, no empirical study has
examined the cross-partner influence of negative work-to-family spillover, parental stress, and parental involvement and investigated whether there are gender differences for these cross-partner effects.

To summarize, guided by role strain theory (Goode, 1960) and Abidin’s parenting stress model (Abidin, 2012), the current study conceptualizes parental stress and parental involvement as possible mediating variables, which link negative work-to-family spillover to children’s externalizing behaviors, to advance our understanding of the processes by which negative work-to-family spillover is associated with children’s externalizing behaviors. Specifically, we move beyond these limitations by analyzing data from dual-earner families in the Flourishing Family Project (FFP). In addition, the actor–partner interdependence model (APIM) provided guidelines for investigating the interdependence of dyad members and mutual influences between the two parents, (Kashy et al., 2000; Kenny et al., 2006). By using an APIM approach, we can examine the process between negative work-to-family spillover and child externalizing behavior for both parents within the same family and show how this process may differ between mothers and fathers. We can further explore whether mother’s/father’s experience of negative spillover from work to family influences the spouse’s parental stress, whether mother’s/father’s parental stress have an influence on the spouse’s level of parental involvement, and whether there are gender differences for these cross-partner effects. It is important to examine these association both within and between partners, because parenting behavior not only depends on individual factors, but also depends on interaction between partners (Kenny et al., 2006). The findings of the current study will
provide a better understanding of the underlying processes, and it will help researchers and policymakers effectively meet the special needs of families.

**Literature Review**

**Role Strain Theory**

In Goode’s (1960) classic statement on role strain theory, he proposes that engaging in multiple roles (e.g., employee, parent, and spouse) is seen as difficult, and it creates strain and conflicts within and between the obligations of work and family. Based on the assumption that members of society inherently perform expected roles that are necessary for a society to continue, Goode first presents the scarcity hypothesis, which emphasizes that individuals have only limited amounts of time and energy resources, and that participation in multiple roles is likely to deplete these scarce resources and thus increase the risk of negative spillover from one role domain to another. For example, when people expended these resources into the workplace, they cannot use these limited resources in the family domain; therefore, strain and negative affect may result from individuals’ inability to meet the competing demands of resources between work and personal life. The scarcity hypothesis supports the central assumption within the theory of role, that is, multiple role obligations can be a source of role strain. Goode introduced the term “role strain” and believed that an individual with many role demands cannot meet all of them; therefore, he originally defined role strain as the “difficulty in fulfilling role demands”, asserting that the resultant tendency toward role strain is therefore normal. As a result, to reduce role strain, individuals may have to re-distribute their limited resources over numerous roles, or try to reduce the number of roles they have to maintain. To better understand the concept of role strain, Goode identified four sources of it. First, role
demands are required at certain times and places, even if they are not difficult to fulfill, they are difficult to conform. Second, different roles result in different demands, it is difficult to deal with diverse obligations from multiple roles. Third, different roles demand certain activities or norms, it is difficult to deal with different or contradictory norms among different roles. Finally, individual engages in multiple roles with different individuals. It is difficult to meet all the demands to the satisfaction of all the persons who are part of the individual’s total role network.

Research findings supporting the role strain theory (Goode, 1960) suggested that multiple social roles usually generate burden on the individual. Theoretical and empirical results related to multiple roles supporting the role stress perspective on work-family relationship indicated that the combination of work and family often request more role obligations than one can potentially handle, leading to an overload. Consequently, there is a high risk of work-to-family role conflicts, that is, paid work outside the home may conflict with activities at home or negatively impact the worker’s ability to attend to personal and family needs. In the long term, the tension from the inability to meet family needs can bring about stress (Greenhaus & Beutell, 1985; Kazdin & Whitley, 2003; Kinnunen & Mauno, 1998; Lundberg et al., 1994; Reifman et al., 1991; Tausig & Fenwick, 2001). For example, some previous research has suggested that many working mothers struggle on a daily basis to meet the overload demands, experiencing time-related difficulties as well as psychological tensions fulfilling work and family roles (Goldberg et al., 1992) and feeling stressed by the overwhelming demands of multiple other roles at the same time (S. D. Friedman & J. H. Greenhaus, 2000; Perry-Jenkins et al., 1992).
Impact of Negative Work-to-Family Spillover on Parenting

The nature of work and its impact on family has been a growing area of interest during the past twenty to thirty years in industrialized countries as the proportion of women with children in the workforce has increased. It has long been noted by researchers that contemporary families often struggle in balancing work and family life. Specifically, employed mothers and fathers are increasingly concerned that participation in work negatively impacts their participation in family life, and vice versa (Hertz, 2006; Kinnunen et al., 2006), known as “negative work-to-family spillover”. This work-to-family spillover occurs when the experiences in work are transferred to family life (Jacobs & Gerson, 2001; J. H. Pleck, 1995). The spillover process may involve mood, beliefs, attitudes, skills, values, strain, and behavior patterns (Geurts & Demerouti, 2003). Spillover can be in a negative or positive direction, however, a substantial majority of spillover literature including the current study discusses negative spillover, the transfer of negative events, such as stressors (Kazdin & Whitley, 2003), as well as the transmission of bad moods or attitudes (L. Muthén & B. Muthén, 1998; Repetti, 1994; Repetti & Wood, 1997) resulting from the work environment and impacting family life.

Consistent with role strain theory, negative work-to-family spillover, which reflects the goodness of fit between work and family life, could be examined as another source of stress that may influence the experience of parenting. Therefore, we hypothesize that negative work-to-family spillover would be positively related to problems in parenting experience. The rational for this hypothesis is that if a person is frequently struggling to meet the demands of family because of interference from work, he or she is more likely to report a reduction in the quality of his or her family life. For
example, relative to individuals whose jobs do not have negative impact on their family life, individuals who experience high levels of negative work-to-family spillover may report a reduction in the quality of their parenting experience.

Previous studies lend strong support to this hypothesis. For example, a substantial body of evidence suggests that parents’ experience of negative spillover from the work domain to the family domain appears to have an adverse impact in the quality of parent-child relationship such as fewer interactions and involvement overall with children (Cummings et al., 2004; Jacobs & Gerson, 2001; Repetti, 1994; Repetti & Wood, 1997; Westman, 2002). MacEwen & Barling (1991) also argue that tension between multiple roles appears to have a negative impact in parenting behaviors. More recently, study findings from Crouter and Bumpus (2001) suggested that parents’ feelings of overload and strain predict higher parent-child conflict, which in turn would result in negative children adjustments. Among all the literature we reviewed, only Vieira and colleague (2012) found that higher levels of work-to-family conflict predicted higher levels of stress in the parental role.

In sum, these findings underscore one of the key aims of the current study: to analyze the negative impacts of work-to-family spillover on participants’ parenting experience. Given the limited research on the impacts of the work-to-family interface on parental stress, the current study would provide a contribution by examining this outcome.

Abidin’s Parenting Stress Model

Defined by Deater-Deckard (2009) as the aversive psychological reaction to the demands of being a parent, parenting stress has been identified as one of the most
common concerns by parents in everyday life. A popular conceptualization of parenting stress is provided by Abidin (1990) who proposes that parenting stress usually refers to the aversive feelings that parents experience when they perceive the demands associated with their role in parenting exceed the resources available for dealing with those demands from their children. The source of the aversive feelings can come from either the parent as they feel low competence being a good parent or from the child as they feel the child is problematic, or both in the parent-child relationships (Deater-Deckard, 2005; Abidin, 2009; Abidin, 2010). Parenting stress is common to every family, all parents experience it to some degree (McBride & Lutz, 2004), but they may vary in the ways of handling stress (Hays, 1998). In addition to its prevalence, because of its detrimental effects on the well-being of parents, children, and the family as a whole, a large number of studies have been dedicated to examine the correlates and consequences of parenting stress (Crnic et al., 2002).

The link between parenting stress and poor children’s functioning has been reasonably well studied (Crnic et al., 2002). Less well understood, however, is the underlying process through which children are affected. Thus, an increasing number of studies have examined the mediation factors between this relationship. Abidin’s (1990) model is one of the most influential models exploring the mediation effect. This parenting stress model integrated a number of sociological, environmental, and behavioral variables that were believed to be central to the role of parenting, and it used parenting stress as the main construct, with parenting stress leading to dysfunctional parenting. The model proposed that parenting stress can be affected by multiple factors associated with certain characteristics of parents and children, relationship with spouse, parent-child
relationships, and characteristics of the environment (Crnic & Acevedo, 1995; Abidin, 2012). Specifically, rather than assuming that parenting stress has a direct positive effect on children’s externalizing behavior, Abidin’s (1990) parenting stress model postulates that parenting stress has an indirect effect on children’s externalizing behavior through dysfunctional parenting. Therefore, according to this model, dysfunctional parenting behavior is likely a mediator of parenting stress effects on children’s development.

**Parental Stress, Parenting, and Child Externalizing Behavior**

The paths outlined in Abidin’s (1990) model have been supported by several studies. First, a substantial body of early research has shown the relationship between parenting stress and poor parenting behaviors, such as negligent parenting style and ineffective, harsh discipline techniques (Creasey & Reese, 1996; Abidin, 2009; McBride & Lutz, 2004; Abidin, 2012; Tausig & Fenwick, 2001; Webster-Stratton, 1988). More recently, research has shown that parents who reported elevated stress, describe their children as hard to deal with, exhibit inconsistent discipline, and tended to report high levels of irrational beliefs about parenting behavior (Anthony et al., 2005; Crawford & Manassiss, 2001; Karrass, VanDeventer, & Braungart-Rieker, 2003; Pinderhughes, Dodge, Bates, Pettit, & Zelli, 2000; Reitman et al., 2001). However, compared to the limited research that has separated data for fathers (Hays, 1998; Isacco, Garfield, & Rogers, 2010), more research on the associations between parenting stress and parenting behaviors was focused on mothers (Crnic et al., 2005; Crnic, Arbona, Baker, & Blacher, 2009; Huth-Bocks & Hughes, 2008; Rodgers, 1998). Specifically, with regard to parental involvement, for example, studies have suggested that parental involvement is central to both fathering and mothering (Lamb, Pleck, & Levine, 1985; Pleck & Masciadrelli,
2004). However, little research has examined the relationship between parenting stress and father involvement with children, and investigate the degree to which parenting stress affects the parental involvement of mothers and fathers in the same family (Crnic et al., 2005; Fagan et al., 2007; Nelson et al., 2009). With the change of family structure so that both parents work, we may expect a more equal co-parent duty for both mothers and fathers (Crnic et al., 2009; Pleck, 2010). Thus, it is important to examine how parenting stress affects parental involvement for both mothers and fathers, also, it is necessary to explore how their stress affects each other’s parenting behaviors.

Second, a large number of studies have documented the relationship between poor parenting behavior, such as harsh discipline or rejecting behavior and poorer outcomes for children, such as externalizing behavior (Conger et al., 1995; Dodge, Pettit, & Bates, 1994; Patterson et al., 1992; Qi & Kaiser, 2003). More recently, findings from the study by Reitz and his colleague (2006) supported relations between parenting and externalizing problem behavior during early adolescence. With a longitudinal design, they were able to address the developmental significance of parenting effects. Nievar and Luster (2006) found similar results by examining the linkages among family income, maternal psychological distress, parenting behavior, and children’s externalizing behavior problems in early and middle childhood. They found that mothers who have fewer positive interactions with their children and use more physical punishment tended to have negative impacts on their children’s externalizing behavior problems. However, research on parenting has typically paid much more attention to mothers than fathers in both early childhood research and intervention, probably because mothers have been considered as the primary caregivers while fathers have been considered as the breadwinners.
Therefore, although considerable research has investigated parenting and children’s 
externalizing behavior problems, comparatively less has specifically considered father 
involvement in relation to children’s externalizing behaviors. Even less research on 
parental involvement has incorporated both fathers’ and mothers’ involvement. So it is 
important and worthwhile to examine how fathers’ and mothers’ involvement work 
simultaneously on child externalizing behavior.

**The Role of Gender in Work-Family Dynamics**

Although gender differences seem to be an important issue in considering how 
work and family interfere with each other, it has often been treated as a control variable 
in most research, which provides limited information on the effects of gender for specific 
pathways (Korabik, McElwain, & Chappell, 2008). To date, most studies have focused 
solely on how mothers’ employments affects children’s development (Cummings et al., 
2004; Harvey, 1999; MacEwen & Barling, 1991), but few studies have examined how 
fathers’ work experiences affect children (Barling, 1986), with even fewer including data 
from both fathers and mothers within the same family to enhance our understanding of 
gender difference. Since evidence regarding gender differences has been relatively rare 
and mixed, it is worthwhile to further examine the possible role of gender in work–family 
dynamics. On the one hand, some studies showed that mothers’ family role was more 
likely affected by their work experience than that of fathers. For example, studies have 
suggested that mothers’ and fathers’ parental monitoring knowledge affected by their job 
demands differently (Bumpus et al., 1999). A negative relationship was found with 
parenting behaviors for mothers but not for fathers (Costigan et al., 2003; Mauno & 
Kinnunen, 1999). On the other hand, prior research (Gottman & Levenson, 1986) has
found that fathers are more susceptible than mothers to spillover of negative moods from one setting to another. However, despite the gender differences found in different studies, Geurts and Demerouti (2003) suggested that no differences exist between mothers’ and fathers’ experience of negative interaction between work and family. In addition, research on samples from Finland and Korea also showed no substantial differences regarding the negative effects of work-family conflict on family life (Hwang & Shin, 2009; Kinnunen & Mauno, 1998).

Meanwhile, Studies concerning gender differences in crossover effects in the work-family dynamics literature have been relatively limited, and findings about the directionality of crossover from mothers to fathers and vice versa are mixed (Westman, 2002, 2006). To the best of our knowledge, two studies that have examined both mother and father and investigated bi-directional crossover effect of fathers’/mothers’ different kind of work related strain on their partners’ well-being or family experience (i.e., Parasuraman et al., 1992; Jones and Fletcher, 1993). Parasuraman et al. (1992) investigated the effects of work and family stressors and work-family conflict on partners’ family satisfaction, and found that mothers’ family role stressors had a significant negative relationship with fathers’ family satisfaction, whereas fathers’ work and family stressors and work family did not affect their mothers’ family satisfaction. Similarly, using the data with dual-earner couples, Jones and Fletcher (1993) suggested that there is a significant crossover effect of fathers’ job demands on mothers’ psychological health but there is no significant effect of mothers’ job demands on fathers’ psychological health.
In sum, these limited and mixed findings regarding the role of gender in work-family dynamics draw more attention to the necessity of including both mothers and fathers in the current study. Given information from prior research, it is still difficult to make precise predictions regarding gender effects in the current model. Therefore, the present study will not posit any specific hypotheses regarding gender effects. Instead, similar pathways for mothers and fathers will be included, and we will examine the role of gender in an exploratory manner.

**Actor–Partner Interdependence Model (APIM)**

The Actor–Partner Interdependence Model (APIM) (Kenny et al., 2006) is a specific family-system approach that assumes non-independence of observations between members in a dyad (Fincham & Beach, 2010). The APIM approach can simultaneously estimate effects on an intrapersonal level (actor effects) and on an interpersonal level (partner effects). In the APIM, an actor effect indicates the impact of respondents’ characteristics or predictor variables on their own outcome variable (e.g., a mother who experiences high levels of parental stress is more likely to have a lower level of parental involvement with her child) whereas a partner effect, indicating the interdependence between members (Ledermann & Macho, 2009), occurs when respondents’ characteristics or predictor variables affects their partners’ outcome variable (e.g., increased levels of parental stress experienced by mother might be negatively associated with father’s parental involvement). Therefore, for the current study, the use of APIM allows us to test specific contributions of actor and partner effects and to compare the actor and partner effects for both mothers and fathers.
The Current Study

Based on Goode’s role strain theory, and Abidin’s parenting stress model (Abidin, 1990), as well as the above-mentioned literature, the proposed theoretical model to be tested is illustrated in Figure 1. As shown in Figure 1, we propose an APIM approach to understand how negative work-to-family spillover is related to children externalizing behaviors through the parental stress and parental involvement in both parents. More specifically, we address the following research questions and/or hypotheses.

First, the inclusion of mothers’ and fathers’ response respectively allows us to test for actor and partner effects. For the actor effects, we expect positive actor effects between negative work-to-family spillover and parental stress. Furthermore, we expect that parental stress has actor effects on parental involvement, with higher levels of parental stress associated with lower levels of parental involvement. With regard to partner effects, we expect that higher levels of negative work-to-family spillover experienced by one parent exasperate parental stress in the other parent. Furthermore, we expect negative partner effects from parental stress to parental involvement.

Second, with regard to the relationship between parental involvement of mothers and fathers and children externalizing behaviors, we expect that both mothers’ and fathers’ involvement in their children’s life are negatively associated with children’s externalizing behaviors.

Third, we test for gender differences in the actor and partner pathways, and in the pathways from parental involvement to children externalizing behavior. However, due to
the general lack of prior research and mixed findings regarding the specific associations
contains in our model, we make no specific hypotheses in gender differences, and we
examine the role of gender in an exploratory manner.

**Method**

**Participants and Procedure**

The participants for the current study were selected from the Flourishing Families
Project (FFP), which is an ongoing, longitudinal study of inner family life and covers
more than 120 content areas of family processes and adolescent behaviors. The FFP
involves families randomly selected with a child, between the ages of 10 and 14 at Wave
1 of the study in 2007, and subsequently, families were interviewed at yearly intervals.
Families were primarily recruited using a purchased national telephone survey database
(Polk Directories/InfoUSA). The database contains 82 million households across the
United States and had detailed information about each household. Families identified
using the Polk Directory were randomly selected from targeted census tracts that
mirrored the socio-economic and racial stratification of reports of local school districts.
All families with a child between the ages of 10 and 14 living within target census tracts
were deemed eligible to participate in the FFP. Eligible families were contacted directly
using a multi-stage recruitment protocol. First, a letter of introduction was sent to
potentially eligible families. Second, interviewers made home visits and phone calls to
confirm eligibility and willingness to participate in the study. Once eligibility and consent
were established, interviewers made an appointment to come to the family’s home to
conduct an assessment interview that included 1.5 hour self-administered questionnaire
completed by the child, mother, and father in the home. It is important to note that there
was very little missing data. As interviewers collected each segment of the in-home interview, questionnaires were screened for missing answers and double marking. At Wave 1 participants were 500 families, and the retention rate was 96% at Wave 2 ($n = 480$), 91.8% at Wave 3 ($n = 459$), 93.8% at Wave 4 ($n = 469$), and 92.6% at Wave 5 ($n = 463$). The retention rate for the FFP is unusually high and averages over 92% (with a net loss of about 45 families) for the full 5 years.

Data for the current study were derived from Wave 2 (2008), Wave 3 (2009), and Wave 4 (2010) of the FFP study. To examine the relationship between mothers’ and fathers’ negative work-to-family spillover and adolescent externalizing behavior, 248 parents with a child between the ages of 11 and 15 at Wave 2 were selected ($Mean$ age of child = 12.37, $SD = 1.02$, 51.5% girls). For the purposes of the current analysis, only married heterosexual parents who were both working for pay outside the home were eligible to participate, a requirement that necessitated the exclusion of 252 families and resulted in a sample of 248 families for this study. Participant mothers averaged 44.26 years of age ($SD = 6.72$), and fathers averaged 46.54 years of age ($SD = 6.41$). Regarding ethnicity, the majority of mothers (76%) and fathers (85.1) were European American, 12.1% of mothers and 6.5% of fathers were African American, 2.2% of mothers and 1.1% of fathers were Hispanics, 4.0% of mothers and 1.5% of fathers were Asian Americans, and 4% of mothers and 2.7% of fathers indicated that they were multi-ethnic. In terms of parental education, 62% of mothers and 68.7% of fathers had a bachelor’s degree or higher. For income categories, 46.4% of mothers and 13.6% of fathers made less than $40,000 per year, 48.7% of mothers and 70.5% of fathers made between $40,000 and $100,000 per year, and 4.9% of mothers and 15.9% of fathers made more
than $100,000 per year. On average mothers’ annual income level was 3.81 (SD = 2.13), and fathers’ annual income level was 5.66 (SD = 2.24). The average working hours for mothers was 30.35 (SD = 13.51) and 43.52 (SD = 10.17) for fathers.

Measures

Negative Work-to-Family Spillover

To assess mothers’ and fathers’ negative work-to-family spillover, mothers and fathers responded to 4-item measure of negative work-to-family spillover, based on a 5-point Likert scale ranging from 1 (never) to 5 (all the time) (Grzywacz & Marks, 2000) at Wave 2 (2008), with higher scores indicating greater levels of negative spillover from work to family. Sample questions include, “your job reduces the effort you can give to activities at home” and “job worries or problems distract you when you are at home.” Cronbach’s Alpha reliability coefficient for this measure was .817 for mothers and .770 for fathers (Grzywacz & Marks, 2000), and in the current study, reliability was adequate for both mothers (.809) and fathers (.763).

Parental Stress

The 5-item measure was adapted from a maternal stress measure (Osborne & McLanahan, 2007) to assess mothers’ and fathers’ parental stress at Wave 2 (2008). Example questions from the stress measure include “as a parent, I often feel that I cannot handle things well” and “I enjoy being a parent.” Mothers and fathers answered on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores representing higher levels of parental stress. Previously, the Cronbach’s Alpha reliability coefficient was reported as .89 (Osborne & McLanahan, 2007). The reliability coefficients for this research sample were .708 for mothers and .759 for fathers.
Parental Involvement

Parental involvement in their child’s life and their view of their partner’s level of involvement in the child’s life were measured using a modified 8-item from the Inventory of Father Involvement (Hawkins et al., 2002) at Wave 3 (2009). Participants responded on a 5-point Likert scale ranging from 1 (never) to 5 (very often). Eight questions were regarding the respondent, and the other eight were questions regarding the respondent’s partner. Sample questions include, “Attend your child’s activities (like a soccer game or something he/she is doing at school)?” and “Give encouragement to your child?” Higher scores indicate higher level of parental involvement. Previous the Cronbach’s Alpha reliability coefficients (Hawkins et al., 2002) have been found to range from .69 to .80 in terms of the 5 distinct subscales. For the modified version used in the current study, one item was dropped because it adversely affected the measures reliability. The reliability coefficient for this research sample were .615 (mother report on mothers parental involvement), .779 (mother report on fathers parental involvement), .716 (father report on fathers parental involvement), and .740 (father report on mothers parental involvement).

Adolescent Externalizing Behavior

The 9-item measure was adapted from the Child Behavior Checklist Youth Self-Report (Achenbach, 1991) to assess adolescent externalizing behaviors at Wave 4 (2010). Parents responded to sample items that include “My child lies or cheats.” and “My child steals things from places other than home.” And adolescents responded to sample items include “I lie or cheat.” and “I steal things from places other than home.” Responses ranged from 0 (not true) to 2 (very true or often true) with higher scores representing higher levels of externalizing behaviors. In the current study, the Cronbach’s Alpha
reliability coefficients were found to be .685 for mothers’ report, .663 for fathers’ report and .752 for adolescents’ report.

**Control Variable**

In the current study, the analyses included child gender and both mother’s and father’s annual income from Wave 2 of the data set as control variables. Child gender was a dummy variable coded 0 (*female*) or 1 (*male*). Mothers and fathers rated their annual income level using a 12-point Likert scale ranging from 1 (*Under $10,000 per year*) to 12 (*$200,000 or more per year*).

**Analysis Strategies**

**Manifest Variables and Latent Variables**

Considering the benefits of using latent variables (i.e. creating more representative constructs of the variables under study, free of random error; Markus, 2012) and the sample size, we used manifest predictors (mothers’ and fathers’ negative work-to-family spillover and mothers’ and fathers’ parental stress) and latent variables (mothers’ and fathers’ parental involvement and adolescent externalizing behavior) instead of a full latent model, as the latter would have generated a model with too many latent variables in relation to the size of the sample. Negative work-to-family spillover and parental stress were modeled as manifest variables with the average scores of the scale items being their indicators. The latent construct parental involvement was created using the average scores of the answers provided by the respondents regarding their own behaviors and their partner’s report regarding the respondents’ behaviors. For adolescent externalizing behavior, a latent variable was constructed using the average scores of the scale items from mothers’ responses, fathers’ responses and child’s responses.
Testing the Measurement and Conceptual Models

Structural equation modeling (SEM) using Mplus version 7 (L. K. Muthén & B. O. Muthén, 1998) with maximum likelihood estimation was performed to examine relationships between negative work-to-family spillover, parental stress, parental involvement and adolescent externalizing behavior (Figure 1). The first step in testing the conceptual model shown in Figure 1 was to evaluate the measurement model. Then, we evaluated the fit of the hypothesized structural equation model presented in Figure 1. In the current analysis, parent gender differences were tested to examine whether associations between negative work-to-family spillover and parental stress and parental involvement and adolescent externalizing behavior varied depending on parent gender (working mother vs. working father). Specifically, differences in beta weights across mother and father were examined by constraining certain individual pathways to be equal across mother and father and by comparing the models to unconstrained models. The change in the chi-square value between models with individual pathways constrained (e.g. the path from mother’s negative work-to-family spillover to mother’s parental stress was set equal to the path from father’s negative work-to-family spillover to father’s parental stress) and a baseline model in which all pathways were unconstrained was then examined to determine which, if any, paths differed significantly between mother and father. If a non-significant change in the chi-square value was found between models, the constrained model was preferable model. During this analysis process, loadings for the measured variables on the latent variables were constrained to equality for mother and father to ensure that the same latent variables were identified across mother and father. In addition, correlated error terms for the measures from both partners and correlated
residues terms for the corresponding latent constructs were included in the model to account for possible nonindependence in the data.

The overall fit indices used in assessing the fit of the measurement and the conceptual models included the chi-square test, the comparative fit index (CFI; values above .95 indicate good fit, and value above .90 indicate moderate fit), and the root mean-square error of approximation (RMSEA; values below .05 indicate good fit, and below .08 indicate moderate fit). Full information maximum likelihood (FIML) method for estimating missing data were used to handling missing variables in the current study (L. K. Muthén & B. O. Muthén, 1998). This method enables Mplus to make use of all cases, even cases with missing information on some of the variables, to provide a more complete picture of all participants in the study (Schafer & Graham, 2002).

**Results**

The correlations among the observed variables included in the model are presented in Table 2, which indicates the correlations among these variables were in the expected direction. For example, negative work-to-family spillover experienced by one parent correlated positively with both his/her own parental stress and parental stress in the other parent. In addition, for both mothers and fathers, parental stress correlated negatively with both their own report and their partners’ report on their parental involvement, which correlated negatively with both their report and child’s report on externalizing behavior. Furthermore, both mothers’ and fathers’ parental stress correlated negatively with both their own report and their partners’ report on their partners’ parental involvement.
As detailed in Table 2, for negative work-to-family spillover, the mean score for mothers was 2.57 ($SD = 0.64$) and 2.62 ($SD = 0.58$) for fathers. For parental stress, the mean score for mothers was 1.91 ($SD = 0.66$) and 1.85 ($SD = 0.67$) for fathers. The mean score for mother’s report on their own parental involvement was 3.98 ($SD = 0.43$) and 3.97 ($SD = 0.51$) for father’s report on their partners’ level of involvement. The mean score for father’s report on their own parental involvement was 3.73 ($SD = 0.51$) and 3.65 ($SD = 0.64$) for mother’s report on their partners’ level of involvement. The mean scores for child externalizing behavior were 0.10 ($SD = 0.16$) from mother’s report, 0.12 ($SD = 0.18$) from father’s report, and 0.22 ($SD = 0.26$) from child report.

Results indicated that the measurement model had a good fit to the data,

\[ \chi^2(26, N = 248) = 43.82 \text{ with } p = .02, \text{ CFI } = .97 \text{ and RMSEA } = .05. \]

In addition, as shown in Table 2, loadings of manifest variables on the latent variables were all highly significant. Given the results of the measurement model in the above analysis, the researcher next evaluated the fit of the hypothesized structural equation model to the data while controlling for child gender, mother’s annual income and father’s annual income. The results (Figure 2) indicate that the hypothesized model had a moderate fit to the data,

\[ \chi^2(52, N = 248) = 97.85 \text{ with } p < .001, \text{ CFI } = .92 \text{ and RMSEA } = .06. \]

Although the $\chi^2$-value was statistically significant, CFI and RMSEA indicated that the model has a satisfactory fit. The standardized paths coefficients are shown in Figure 2.
For the actor effect, as shown in Figure 2, the standardized path coefficient from father’s negative work-to-family spillover to their parental stress was positive and significant ($\beta = .29, p < .001$). However, there was no significant positive actor effect between mother’s negative work-to-family spillover and their parental stress. Furthermore, parental stress has significant negative actor effect on parental involvement for both mother ($\beta = -.28, p < .01$) and father ($\beta = -.37, p < .001$). With regard to partner effects, only mother’s parental stress had significant negative partner effect on father’s parental involvement ($\beta = -.18, p < .05$). For the relationship between parental involvement of mother and father and child externalizing behaviors, the results indicate that both mother’s ($\beta = -.20, p < .05$) and father’s ($\beta = -.27, p < .01$) involvement in their children’s life are significantly negatively associated with children’s externalizing behaviors.

For each actor and partner pathways and the pathways from parental involvement to child externalizing behavior gender differences were tested. One-by-one comparisons of the constrained model to the unconstrained model indicated some gender differences. First, there was a gender difference in the actor effects from negative work-to-family spillover to parental stress: $\Delta \chi^2 (1) = 3.87, p < .05$. This result indicated that negative work-to-family spillover in fathers has a significantly positive effect on parental stress, whereas there is no significant actor effect between negative work-to-family spillover in mothers and their parental stress. Furthermore, a gender difference in the actor effects from parental stress to parental involvement was found, $\Delta \chi^2 (1) = 6.32, p < .05$. This
finding indicated that the estimate of the pathways from parental stress to parental involvement is significantly higher for fathers than it is for mothers. In addition, a gender difference was found in the partner effects from parental stress to parental involvement, $\Delta \chi^2(1) = 4.40, p < .05$: mothers’ parental stresses are negatively associated with fathers’ parental involvement, whereas parental stresses for fathers are not.

**Discussion and Conclusion**

Because of the trend of more mothers getting into the labor force, a large body of work-family research has focused on the impact of maternal employment on child outcomes in the past few decades and often neglected to examine fathers’ beliefs, attitudes, and behaviors, though fathers are currently more involved in the lives of their children than was the case in the past (Baxter & Alexander, 2008; Campos, 2008; Lewis & Lamb, 2010). Therefore, guided by the theoretical framework of role strain theory (Goode, 1960) and Abidin’s parenting stress model (Abidin, 1990), the current study sought to examine the process between negative work-to-family spillover and child externalizing behavior problem for both working mothers and working fathers within the same family (i.e., dual-earner families). Using an actor–partner interdependence model (APIM) (Kashy et al., 2000; Kenny et al., 2006), this study investigated the interdependence of dyad members and mutual influences between the two parents, (Kashy et al., 2000; Kenny et al., 2006), and shed light on whether there are gender differences for those corresponding actor and partner effects.

Overall, findings of the current study underscore the importance of considering the role of parent gender when studying how work and family interfere with each other. Study results revealed both similarities and differences in this work-family process by
First, with regard to actor effects, our findings revealed that parent gender matters in shaping the relationship between negative work-to-family spillover and parental stress. In particular, we found that the link between negative work-to-family spillover and parental stress held up for fathers but not mothers. More specifically, fathers who experienced more negative work-to-family spillover reported significant higher levels of parental stress. This suggests that the greater parental stress reported by working fathers is associated with their experienced difficulty in negotiating work and family lives. While for working mothers the experienced negative work-to-family spillover is not associated with increased levels of parental stress. From a gender perspective, the differences in these actor effects may occur because of gender differences in work-family identities. As suggested by Thompson and Walker (1989), unlike working fathers, who dedicate more of themselves to work and likely define themselves based upon work-related matters, partnered working mothers are less likely to place a higher premium on work similar to the way fathers do. Thus, even though both mothers and fathers provide economic support for the households, fathers in these families have the stronger breadwinner role who are more committed to the work and have higher earning than mothers, and thus have work experience become more influential in shaping their family lives. In contrast, mothers in these dual-earner families may be somewhat less reliant on their earnings, they do work fewer hours, and likely share their key identities across both work and family roles. Therefore, their work experiences may not be so salient as husbands, and levels of stress from work are less influential, thus not significantly impacting their parenting. This significant gender difference is also in line with a previous study conducted by Gottman and Levenson (1986) indicating that fathers are more susceptible
than mothers to spillover of negative moods from one setting to another. In addition, our findings indicated that, regardless of gender, parental involvement could serve as the mechanism through which parental stress affected child externalizing behavior. Specifically, both mothers’ and fathers’ increased parental stress compromise their levels of involvement in their children’s lives and, in turn, such decreased parental involvement predict their children’s externalizing behavior problems. These results suggest that parenting behaviors is the indirect link between parental stress and child externalizing behavior problems and highlight how parenting behaviors may be an important intervention point for both mothers and fathers. This support of mediational pathways from parental stress to child externalizing behavior via parental involvement adds to the limited body of literature that has found support for Abidin’s (1990) model (Deater-Deckard & Scarr, 1996). Since the only cross-sectional study to date that has found this mediation effect was based on a sample of 12-60 months younger group of children, where they found authoritarian parenting style mediated the association between parental stress and child behavior problems (Deater-Deckard & Scarr, 1996), the current longitudinal study concerned the dynamic nature of these parent and child factors and offers new insights of how the effects of parental stress are mediated by parenting behavior in adolescence.

Another notable contribution of the current study was related to the partner effect, which examine the influence of mothers’ and fathers’ parental stress on their partners’ parental involvement. Our study revealed that fathers and mothers responded to the parental stress of their spouse differently. In particular, when mother’s parental stress was high, the other parent had a significant lower level of involvement in their children’s
lives, whereas mother’s parental involvement was not significantly affected by father’s parental stress level. One potential explanation for this finding would seem to revolve around the issue of gender-role expectations. Although fathers are currently taking on a larger share of family responsibilities and more involved in the lives of their children than previously (Campos, 2008; Lewis & Lamb, 2010), the underlying cultural expectation that mothers are primarily responsible for caretaking may still be present. As suggested by Hays (1998), mothers may still usually place a higher premium on family work and are more committed to parenting, which may be helpful in forming their underlying belief of higher responsibility to maintain family stability or cohesiveness when facing stress. Therefore, for this specific mutual influence of individuals in close relationships, it is possible that mothers may be better than fathers at preventing their own levels of parenting from being affected by stress from their partners. The fathering-vulnerability hypothesis (Cummings et al., 2004), which suggest that fathers’ parenting behavior might be more vulnerable to stress than mothers’ may also explain why mothers’ parental stress has more pronounced effect on fathers’ parental involvement. As explained by Coiro and Emery (1998), compare with the family role of mothers, it is possible that the less clearly defined family role of fathers by social conventions lead their parenting behaviors more sensitive to stress. Thus, consistent with Coiro and Emery (1998) and in line with the fathering-vulnerability hypothesis (Cummings et al., 2004), the parental stress experienced by mothers had a significant negative effect on their partners’ parental involvement, while this was not the case for fathers. Altogether, though a review of crossover studies conducted by Westman (2002) indicated that the stress or conflict experienced by on parent is highly associated with the stress or conflict experienced by
his/her partner, findings of the current study demonstrated that gender plays important roles for specific outcomes.

The findings of the current study need to be interpreted in light of several limitations. First, since the current study uses a regional U.S. sample, generalizations beyond the sampling frame was limited. Taken from a large city in the northwestern, the sample for the current study had moderately high levels of socioeconomic status and limited racial and ethnic diversity. Therefore, this limitation of the data set may limit our ability to generalize our findings to more diverse groups of dual-earner couples with lower socioeconomic status. However, findings of the present study provide an important empirical foundation for future studies with larger and more representative samples to enhance the generalizability of current findings. Second, although it was not the focus of the present study, several other kinds of parenting behaviors such as parenting styles and parental monitoring may also link parental stress and child externalizing behavior. Therefore, it will be important for future studies not only to examine how parental involvement mediates the relationship between parental stress and child outcomes, but also pay attention to other possible factors between parental stress and children’s well-being. Moreover, the current study only analyzed the direct effect from negative work-to-family spillover to parental stress. Future work should examine whether and how other processes account for the associations between negative work-to-family spillover and parental stress. For example, marital satisfaction and depressive symptoms are important variables that may associated with both work-family conflict and parental stress (Goodman & Crouter, 2009; Minnotte, Minnotte, Pedersen, Mannon, & Kiger, 2010). In addition, though our findings shed light on the different associations between negative
work-to-family spillover and child externalizing behavior for mothers and fathers, we did not concentrate on individual difference, such as personality or interpersonal skills, in determining success in balancing work-family conflict. Future studies should consider whether other individual variables are useful at explaining these differences. Lastly, many studies, including the present study, have been devoted to the strain and conflicts that may arise from participating in multiple roles (Wierda - Boer et al., 2008). However, research in other areas suggests that participation in multiple roles bring rewards, such as income and social relationships opportunities, which are useful in promoting better functioning in other life domains (Grzywacz & Marks, 2000; Rothbard, 2001). Therefore, to capture a better picture of the work-family interface, similar theoretical model should also be done in the context of positive spillover in the future.

Despite its limitations, the current study provided new insights into the interface between work and family by showing the gender differences and similarities in negative work-to-family spillover and family processes and attempt to provide empirical foundation for developing interventions that are aimed at reducing work-family conflict and preventing adolescent delinquency. First, given that parental stress was significantly associated with negative work-to-family spillover among working fathers, it appears that lower levels of parental stress for fathers are likely to be achieved through policies and programs that focus on reducing negative work-to-family spillover among working fathers. One possible strategy is to increase flexibility within the fathers’ workplaces, such as more flexible working hours, telecommuting job opportunities, high quality workplace child-care services and parental leave benefits for childcare. As Guelzow and his colleagues (1991) have suggested, fathers may desire greater participation in family
work, but they may not be able to participate because of the limitation in job flexibility, which could result in work-family conflict. Thus, having work schedules flexible enough to accommodate family needs may be an effective tool for working fathers with children to effectively balance their roles as workers and parents, thereby reducing negative work-to-family spillover (Jacobs & Gerson, 2001; Tausig & Fenwick, 2001). Altogether, a balance between work and family life, requiring a combination of efforts from fathers themselves, organizations they work for and policies, is needed for working fathers.

Second, since both mothers’ and fathers’ levels of parental involvement mediated the relationship between their parental stress and child externalizing behavior, it appears that continued focus on policies and programs, such as the Positive Parenting Program (Turner & Sanders, 2006), that aimed at improving parental involvement is an important approach for decreasing the levels of child externalizing behavior problems. However, given that fathers’ levels of parental involvement were impacted by not only their own level of parental stress but also their partners’ level of parental stress, and the fact that previous parenting education programs were mainly based on mothers’ perspectives (Bass, Butler, Grzywacz, & Linney, 2009), it appears that specific policies and programs tailored for the needs of fathers are especially necessary. As suggested by Bass and his colleagues (2009), it is especially important to focus on fathers’ involvement in positive parenting within dual-earner household since more fathers’ positive involvement might increase flexibility and balance within the family as mothers and fathers balance their work and family lives. Therefore, education programs or practices, acknowledging the differences between fathers and mothers parenting preferences, should be customized more for fathers’ needs to promote father positive involvement. One good example is the
program conducted by McBride and Lutz (2004). Targeted specifically on fathers, their program has concentrated on strengthening fathers’ roles and confirmed their contribution for the larger amounts of time they spent with their children. With all the positive information, the program helped fathers to be more involved in caregiving and everyday activities of their children. Lastly, the indication that decreases in mothers’ and fathers’ levels of parental involvement were associated with their increase in parental stress would suggest that it would be beneficial if practitioners or program developers could provide parents with more information and explanation about parental stress and its potential impact on their children’s externalizing behavior to help them identify problematic and specific stressful areas where they need to intervene. In addition, given that the accumulation of mothers’ parental stress can lead to both their own and their partners’ less involvement in children’s lives, and mothers who are often expected to take primary responsibility of parenting had higher levels of parental stress, it appears that interventions may be most effective by targeting mothers’ parental stress, in particular, as a way to increase both mothers’ and fathers’ parental involvement.

In conclusion, the current study documents an important link between negative work-to-family spillover and child externalizing behavior, and moves beyond the individual to consider the role played by both mothers and fathers. The current study also makes a unique contributed to the work-family literature by applying an APIM approach to Goode’s (1960) role strain theory and Abidin’s (1990) parenting stress model, and the results from the current study highlights the importance of gender, not just as a control variable in understanding work-family linkages. In particular, the present study showed significant gender differences for the influence of negative work-to-family spillover on
parental stress. More specifically, it was found that the increased levels of negative work-to-family spillover appear to matter more for working fathers than they do for working mothers in potentially increasing parental stress. Furthermore, the findings for both mothers and fathers were supportive of the Abidin’s parenting stress model in that increase parental stress predicted decreases in parental involvement, which in turn influence child externalizing behavior. In addition, study results provide evidence of the gender difference for the influence of mothers’/fathers’ parental stress on their spouses’ levels of parental involvement, indicating that higher levels of parental stress experienced by mothers decrease parental involvement in fathers, whereas mother’s parental involvement was not significantly affected by father’s parental stress level. Therefore, findings in the current study have important implications for how we conceptualize the work-family interface, and suggest that we should pay attention to the potential role of parent gender in prioritizing which specific areas to place more intervention. Altogether, this study adds to our limited understanding of the impact of negative work-to-family spillover on child externalizing behavior, and it is also an important first step in continuing to examine the impact of both mothers’ and fathers’ work on the lives of their adolescent children.
References


### Tables

**Table 1. Demographic Characteristics of the Study Sample**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Working mothers (N = 248)</th>
<th>Working fathers (N = 248)</th>
<th>Chi-Square value / T value</th>
</tr>
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<tbody>
<tr>
<td>Child gender (n, %)</td>
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<tr>
<td>Males</td>
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<td>Females</td>
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<tr>
<td>Mother’s race (n, %)</td>
<td></td>
<td></td>
<td>8.05</td>
</tr>
<tr>
<td>European American</td>
<td>196</td>
<td>79.0</td>
<td>206</td>
</tr>
<tr>
<td>African American</td>
<td>15</td>
<td>6.0</td>
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</tr>
<tr>
<td>Hispanic</td>
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<td>3.2</td>
<td>3</td>
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<tr>
<td>Asian American</td>
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<td>5.2</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>2.4</td>
<td>8</td>
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<tr>
<td>Multi-Ethnic</td>
<td>10</td>
<td>4.0</td>
<td>7</td>
</tr>
<tr>
<td>Mother’s age (M, SD)</td>
<td>44.41</td>
<td>5.51</td>
<td>46.39</td>
</tr>
<tr>
<td>Mother’s working hours/week (M, SD)</td>
<td>30.35</td>
<td>13.51</td>
<td>43.52</td>
</tr>
<tr>
<td>Mother’s annual income (M, SD)</td>
<td>3.81</td>
<td>2.13</td>
<td>5.66</td>
</tr>
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</table>

*Note. Chi-Square value for nominal variables, T value for numeric variables. **p < .01.*
Table 2. *Standardized Loadings of Manifest Variables on the Latent Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mothers Parental Involvement</th>
<th>Fathers Parental Involvement</th>
<th>Child Externalizing Behavior</th>
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</thead>
<tbody>
<tr>
<td>Parental Involvement (MM)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Parental Involvement (FM)</td>
<td>.50***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parental Involvement (FF)</td>
<td>.76***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parental Involvement (MF)</td>
<td>.59***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Externalizing Behavior (M)</td>
<td></td>
<td></td>
<td>.84***</td>
</tr>
<tr>
<td>Child Externalizing Behavior (F)</td>
<td></td>
<td></td>
<td>.83***</td>
</tr>
<tr>
<td>Child Externalizing Behavior (C)</td>
<td></td>
<td></td>
<td>.72***</td>
</tr>
</tbody>
</table>

*Note.* (MM) = mother report on mothers parental involvement; (FM) = father report on mothers parental involvement; (FF) = father report on fathers parental involvement; (MF) = mother report on fathers parental involvement; (M) = Mother report; (F) = father report; (C) = Child report.
Table 3. *Correlations, Means and Standard Deviations for Observed Variables (N =248)*

<table>
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<tr>
<th>Variable</th>
<th>1</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
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</thead>
<tbody>
<tr>
<td>1. Negative Work-family Spillover (M)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>2. Negative Work-family Spillover (F)</td>
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<tr>
<td>3. Parental Stress (M)</td>
<td>.07*</td>
<td>.12**</td>
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<tr>
<td>4. Parental Stress (F)</td>
<td>.05*</td>
<td>.24**</td>
<td>.38**</td>
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</tr>
<tr>
<td>5. Mothers Parental Involvement (M)</td>
<td>-.14*</td>
<td>-.03**</td>
<td>-.17**</td>
<td>-.14**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6. Mothers Parental Involvement (F)</td>
<td>-.18**</td>
<td>-.10**</td>
<td>-.17**</td>
<td>-.12**</td>
<td>.29**</td>
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<td></td>
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<td>7. Fathers Parental Involvement (F)</td>
<td>-.01*</td>
<td>-.19**</td>
<td>-.29**</td>
<td>-.33**</td>
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<td>.40**</td>
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<td>8. Fathers Parental Involvement (M)</td>
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<td>-.18**</td>
<td>-.15*</td>
<td>-.29**</td>
<td>.42**</td>
<td>.03**</td>
<td>.44**</td>
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<tr>
<td>9. Child Externalizing Behavior (M)</td>
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<td>.01*</td>
<td>.09*</td>
<td>.04*</td>
<td>-.13**</td>
<td>-.05**</td>
<td>-.15**</td>
<td>-.22**</td>
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<td>10. Child Externalizing Behavior (F)</td>
<td>.11*</td>
<td>.19**</td>
<td>.12*</td>
<td>.16*</td>
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<td>-.12**</td>
<td>-.20**</td>
<td>-.15**</td>
<td>.69**</td>
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<td>11. Child Externalizing Behavior (C)</td>
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<td>-.08**</td>
<td>.04*</td>
<td>-.01*</td>
<td>-.14**</td>
<td>-.10**</td>
<td>-.12**</td>
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<td>.54**</td>
<td>.54**</td>
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<tr>
<td><strong>M</strong></td>
<td>2.57*</td>
<td>2.62*</td>
<td>1.91*</td>
<td>1.85*</td>
<td>3.98*</td>
<td>3.97*</td>
<td>3.73*</td>
<td>3.65*</td>
<td>0.10*</td>
<td>0.12*</td>
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<tr>
<td><strong>SD</strong></td>
<td>0.64</td>
<td>0.58</td>
<td>0.66</td>
<td>0.67</td>
<td>0.43</td>
<td>0.51</td>
<td>0.51</td>
<td>0.64</td>
<td>0.16*</td>
<td>0.18*</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Note. (M) = Mother report; (F) = father report; (C) = Child report. *p < .05, **p < .01.
Figures
Figure 2. Results of structural model, $\chi^2(52, N = 248) = 97.83, p < .001; \text{RMSEA} = .06; \text{CFI} = .92$. Standardized path coefficients are reported. *$p < .05$, **$p < .01$, ***$p < .001$. Child gender, mothers' annual income and fathers' annual income were controlled in the current model.
CHAPTER 4. DISCUSSION

Overview

In the past decades, there has been a dramatic increase in the number of women with children joining the work force, thus also an increasing trend of dual-earner families has been observed (Hall & Richter, 1988; Matthews & Rodin, 1989; Moen & Yu, 2000; L. Muthén & B. Muthén, 1998). As more and more women have entered the paid labor force with the increasingly challenging task of balancing multiple roles in contemporary society, concerns with whether and how maternal employment affects children’s development has long been a focus area in the work-family related literature.

Despite a growing interest in the ways in which maternal employment influences children’s development, the processes through which negative work-to-family spillover make their mark on specific aspects of children’s development such as children’s externalizing behavior have not been well explained. Furthermore, although negative work-to-family spillover has been linked to many undesirable effects, little is known about the effects of negative work-to-family spillover on parental stress, which may play an important role in helping us understand the effects of negative work-to-family spillover on child outcomes. Additionally, although there have been great advances made using process-oriented approaches, not enough research has been done to explore the contextual factors that may moderate the already complicated processes. For example, more research is still needed to explore whether different family structures (e.g. single-parent families and two-parent families) affect the processes between negative work-to-family spillover and child externalizing behavior. Another major limitation in the current
work-family literature is that many researchers typically examined relationships between maternal variables and child outcomes and often neglected to examine fathers’ beliefs, attitudes, and behaviors, although children reared in two-parent families clearly experience the influence of both parents (Baxter & Alexander, 2008; Campos, 2008; Ciabattari, 2007; Hertz, 2006; Hughes & Gray, 2005; Marsiglio et al., 2000; Martin et al., 2007; Son & Bauer, 2010). Thus, little information is known about the process between fathers’ experience of negative work-to-family spillover and children’s externalizing behavior problems and how this process differs from that of mothers. Furthermore, because people involved in a dyadic relationship often influence each other's thoughts, emotions, and behavior, Kenny et al. (2006) suggested that the mutual influence of individuals in close relationships should be further investigated.

Guided by the theoretical framework of role strain theory (Goode, 1960) and Abidin’s parenting stress model (Abidin, 1990), this study was designed to enhance our understanding of the processes by which negative work-to-family spillover is associated with children’s externalizing problem behaviors. To this purpose, this study conceptualized parental stress and parental involvement as possible mediating variables, which links negative work-to-family spillover to children’s externalizing behaviors. By analyzing data from single working mothers, partnered working mothers, and dual-earner couples in the Flourishing Family Project (FFP), we want to make a contribution to the current body of research on the role of family structure and gender in association between negative work-to-family spillover and children’s externalizing behaviors, as well as explore the mediating pathways between these two constructs. I believe the findings of
the current study will provide us a better understanding of the underlying processes, and it will help researchers and policymakers effectively meet the special needs of families.

**Role Strain Theory**

Goode’s (1960) role strain theory suggests that engaging in multiple roles (e.g., employee, parent, and spouse) is seen as difficult, and inevitably creates strain and conflicts within and between the demands of work and family life. Goode introduced the term “role strain” and originally defined role strain as the “difficulty in fulfilling multiple role obligations”. He believed that specific obligations are attached to each of the multiple roles, individuals who struggles to fulfill all of them would experience role strain, therefore, he asserted that the resultant tendency toward role strain is normal. Based on this role strain perspective on work-family relationships, we hypothesized that both single and partnered mothers’ experience of negative work-to-family spillover will be positively associated with their parental stress. For the dual-earner families, we also hypothesized that fathers’ experience of negative work-to-family spillover will be positively associated with their parental stress. With regard to partner effects, we expect that higher levels of negative work-to-family spillover experienced by one parent exasperate parental stress in the other parent. By addressing these research questions, we contribute to the literature by providing a nuanced examination of the effect of family structure and gender on the work-family interface.

Overall, the results of current study provide support for the role strain theory (Goode, 1960). They highlight the potential impact of the incompatibility of multiple roles on parents’ family lives, as least for some people. For example, the present analysis found that the link between negative work-to-family spillover and parental stress held up
for single working mothers and partnered working fathers but not partnered working mothers, which revealed that family structure and parent gender matters in understanding the link between negative work-to-family spillover and parental stress. One potential explanation for this finding is that single working mothers does not have support, such as social support and financial support, from their partner as partnered working mothers do, which may help them to reduce the negative effect of work-to-family conflict on their parental stress. For this reason, single working mothers, who are frequently struggling with meeting the demands of family because of interference from work, may find parenting especially stressful because these conflicting pressures make the stressors of parenting a child even more salience. Furthermore, unlike partnered working fathers, who dedicate more of themselves to work and likely define themselves based upon work-related matters, partnered working mothers are less likely to place a higher premium on work similar to the way fathers do. Thus, even though both mothers and fathers provide economic support for the households, fathers in these families have the stronger breadwinner role who are more committed to the work and have higher earning than mothers, and thus have work experience become more influential in shaping their family lives. Although significant partner effects from negative work-to-family spillover to parental stress for parents within dual-earner families were not found in this study, I noticed that father’s experience of negative work-to-family spillover was marginally significant associated with mother’s parental stress ($p = .06$), which also provide support for the salient of fathers’ work experiences.

Altogether, it is reasonable for us to find the moderation effect of family structure and role of parent gender on the relationship between negative work-to-family spillover
and parental stress, such that negative work-to-family spillover related to greater increase in parental stress for single working mothers and partnered working fathers than for partnered working mothers.

**Parenting Stress Model**

A popular conceptualization of parenting stress is provided by Abidin (1990) who proposed that parenting stress usually refers to the aversive feelings that parents experienced when they perceive the demands associated with their role in parenting exceeding the resources available for dealing with those demands from their children. The source of the aversive feelings can come from either the parent as they feel not competent being a good parent or from the child as they feel the child is problematic or both in the parent-child relationships (Deater-Deckard, 2005; Abidin, 2009; Abidin, 2010). Abidin (1990) has proposed a mediation model of parenting stress to provide a better understanding of the mechanism through which children are affected by parenting stress. This model has shown that higher levels of parenting stress often generate increased dysfunctional parenting, which in turn has a negative impact on children’s externalizing behavior. Therefore, according to this model, dysfunctional parenting behavior is likely a mediator of parenting stress effects on children’s development.

Guided by the theoretical framework of Abidin’s parenting stress model (Abidin, 1990), this study conceptualized parental involvement as possible mediating variables, which links parental stress to children’s externalizing behaviors, and examined how two types of working-class families, single-mother families and partnered-mother families, and parent gender serve as distinct contexts within which the connections between parental stress and child externalizing behavior may differ.
The results for partnered working mothers and fathers do offer some support for the Abidin’s parenting stress model (Abidin, 1990). As suggested in present study, regardless of gender, parental involvement could serve as the mechanism through which parental stress affected child externalizing behavior. Specifically, both partnered working mothers’ and fathers’ increased parental stress compromise their levels of involvement in their children’s lives and, in turn, such decreased parental involvement predict their children’s externalizing behavior problems. However, findings also revealed that parental involvement did not link the relationship between parental stress and child externalizing behavior for single working mothers. Therefore, this effect for single working mothers did not support the Abidin’s mediation model (Abidin, 1990), which suggests negative parental behavior is a key variable mediating the relationship between parenting stress and adolescent outcomes. This lack of indirect effects from parental stress to parental involvement to child externalizing behavior adds to the body of literature that failed to found support for Abidin’s (1990) model (Anthony et al., 2005; Deater-Deckard, 2005; Crnic, Gaze, & Hoffman, 2000). One possible explanation for this difference process between single and partnered working mothers would be because partnered working mothers have another parent present in the household to share parenting responsibilities with. Therefore, partnered working mothers, if they are unable to involved in their children’s lives, can still potentially count on the other partner being involved, which allows them being less involved if they have higher parental stress. In contrast, parental involvement such as take care of children and help with homework, however, is far from optional activities for single working mothers. The level of parental stress does not matter for those single working mothers, since they still have to be involved as a parent even
though they may pretty stressed out. Hence, that is why no direct effect from parental stress to parental involvement was observed for single working mothers.

Another notable contribution of the current study was related to the partner effect, which examine the influence of mothers’ and fathers’ parental stress on their partners’ parental involvement. In particular, when mother’s parental stress was high, the other parent had a significant lower level of involvement in their children’s lives, whereas mother’s parental involvement was not significantly affected by father’s parental stress level. One potential explanation for this finding would seem to revolve around the issue of gender-role expectations. Unlike fathers, who dedicate more of themselves to work, mothers usually place a higher premium on family work and are more committed to taking care of their children, which may be helpful in forming their underlying belief of higher responsibility to maintain family stability or cohesiveness when facing stress. Therefore, it is possible that mothers may be better than fathers at preventing their own levels of parental involvement from being affected by parental stress from their partners. Additionally, this gender difference for the partner effect is consistent with the fathering-vulnerability hypothesis (Cummings et al., 2004), which suggest that fathers’ parenting behavior might be more vulnerable to stress than mothers’.

Altogether, findings of the current study demonstrated the importance of considering the potential role of family structure and parent gender on the relationships between parental stress, parental involvement and child externalizing behavior.

**Limitations and Future Directions**

There are several limitations that should be noted when interpreting the results of the current studies. First is the limitation of the data set. Participants in the current study
were from a large northwestern city and were predominantly well-educated and with moderately high socioeconomic status. Therefore, caution should be taken when generalizing our findings to other populations. However, findings of the current study provide an important empirical foundation for future research with a larger and more diverse sample to conduct the analyses for verifying the generalizability of current findings. Second, the current study only analyzed the direct effect from negative work-to-family spillover to parental stress. Future work is needed in examining the mechanisms by which negative work-to-family spillover affect parental stress. For example, marital satisfaction and depressive symptoms are important variables that may associated with both work-family conflict and parental stress (Goodman & Crouter, 2009; Minnotte et al., 2010). Also, the current study only examined negative spillover from work to family, to capture a more complete picture of the work-family interface, future research could consider including positive work-to-family spillover. Furthermore, although it was not the focus of the present study, several other kinds of parenting behaviors may also link parental stress and child externalizing behavior. The lack of findings for the mediation effect of single mothers’ parental involvement on the relationship between parental stress and child externalizing behavior may also be because of not assessing other key mediators, such as parenting styles and parental monitoring. Therefore, future studies also should pay attention to other possible factors between parental stress and children’s well-being. Finally, although findings of the current study shed lights on the different associations between negative work-to-family spillover and child externalizing behavior for single working mothers, partnered working mothers and partnered working fathers, this study did not concentrate on individual difference, such as personality or
interpersonal skills, in determining success in balancing work-family conflict. Future studies should consider whether other individual variables are useful at explaining these differences.

**Implications and Conclusion**

The current studies provided new insights into the interface between work and family by showing the family structure and gender differences and similarities in this work-family process and attempt to provide empirical foundation for developing interventions that are aimed at reducing work-family conflict and preventing adolescent delinquency. First, given that parental stress was significantly associated with negative work-to-family spillover among single working mothers and partnered working fathers, it appears that policies and programs that reduce negative work-to-family spillover among single working mothers and partnered working fathers may be more impactful on the reduction of their parental stress. Second, since both two types of working mothers’ and fathers’ parental involvement significantly associated with child externalizing behavior, it appears that continued focus on programs, which aimed at improving parental involvement is an important approach for decreasing child externalizing behavior. However, given that fathers’ levels of parental involvement were impacted by not only their own parental stress but also their partners’ parental stress, and the fact that previous parenting education programs were mainly based on mothers’ perspectives (Bass et al., 2009), it appears that specific programs tailored for the needs of fathers are especially necessary. Lastly, given that single working mothers’ parental stress significantly predicted their children’s externalizing behavior, and the accumulation of partnered working mothers’ parental stress can lead to both their own and their partners’ less
involvement in children’s lives, it appears that parental stress and parental involvement may simultaneously need to be targets of intervention for working mothers. Therefore, it would be beneficial if practitioners could provide working mothers with information and explanation about parental stress and its potential impact on their children’s externalizing behavior to help them identify problematic and specific stressful areas where they need to intervene.

In conclusion, the current study contributes to the work-family interface literature by demonstrating that instead of solely considering the association between negative work-to-family spillover, parental stress, parental involvement and child externalizing behavior problems, the examination of the potential impact of family structure and parent gender on these relationships would further increase our understanding of the parent work influences on parent and child functioning. The findings of the current study suggested that family structure and parent gender matters in understanding the processes that link mothers’ and fathers’ negative work-to-family spillover and children’s externalizing behaviors. In particular, it was found that negative work-to-family spillover appears to matter more for single working mothers and partnered working fathers than they do for partnered working mothers in potentially increasing levels of parental stress. Furthermore, given the conflicting support for the indirect effects in Abidin’s model, this study offers new insights of how family structure and parent gender affect these direct and indirect effects and suggests that the indirect effect of parental stress on child externalizing behavior held up for partnered working mothers and fathers but not single working mothers. In addition, study results provide evidence of the gender difference for the influence of mothers’/fathers’ parental stress on their spouses’ levels of parental
involvement, indicating that higher levels of parental stress experienced by mothers decrease parental involvement in fathers, whereas mother’s parental involvement was not significantly affected by father’s parental stress level. Therefore, findings in the current study have important implications for how we conceptualize the work-family interface, and suggest that when we think about the impact of these work-family processes on adolescent externalizing behavior we should pay attention to the potential role of family structure and parent gender in prioritizing which specific areas to place more intervention.
OVERALL REFERENCES


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externalizing and internalizing symptoms over 20 years. Developmental psychology, 41(5), 733.


### APPENDIX A. ADDITIONAL MATERIAL

#### Negative Work-to-family Spillover Scale

1. Your job reduces the effort you can give to activities at home.
2. Stress at work makes you feel irritable at home.
3. Your job makes you feel too tired to do things that need your attention at home.
4. Job worries or problems distract you when you are at home.

#### Parental Stress Scale

1. As a parent, I often feel that I cannot handle things well.
2. I find myself giving up more of my life to meet my children’s needs than I expected.
3. I feel trapped by my responsibilities as a parent.
4. I feel I am not able to do the things I like since having children.
5. I enjoy being a parent.

#### Parental Involvement Scale

1. Attend your child’s activities (like a soccer game or something he/she is doing at school)?
2. Read books or magazines with your child?
3. Give encouragement to your child?
4. Take care of your child (like fix him/her food or pick him/her up from school)?
5. Act as a friend to your child?
6. Work hard to pay for things your child needs?
7. Help your child with homework?
8. Make it easy for your child to talk to you?

#### Child Externalizing Behavior Scale

1. My child destroys things belonging to others.
2. My child disobeys at school.
3. My child hangs around with kids who get in trouble.
4. My child uses alcohol or drugs.
5. My child lies or cheats.
6. My child steals things from places other than home.
7. My child swears or uses dirty language.
8. My child cuts class or skips school.
9. My child smokes cigarettes or chews tobacco.
APPENDIX B. IRB EXEMPT STATUS

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Date: 3/4/2016

To: Cheng Peng
0074 discIPron

Office for Responsible Research

Project Title: Association between Family Stresses and Child Problem Behaviors

The Co-Chair of the ISU Institutional Review Board (IRB) has reviewed the project noted above and determined that the project:

☐ Does not meet the definition of research according to federal regulations.
☒ Is research that does not involve human subjects according to federal regulations.

Accordingly, this project does not need IRB approval and you may proceed at any time. We do, however, urge you to protect the rights of your participants in the same ways you would if IRB approval were required. For example, best practices include informing participants that involvement in the project is voluntary and maintaining confidentiality as appropriate.

If you modify the project, we recommend communicating with the IRB staff to ensure that the modifications do not change this determination such that IRB approval is required.