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Examining the Relationship Between Work-to-Family Conflict and Parenting Behavior

Eunae Cho
University of South Florida

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by

Eunae Cho

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Major Professor: Tammy D. Allen, Ph.D.
Vicky Phares, Ph.D.
Russell E. Johnson, Ph.D.

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Abstract

Although work-family conflict (WFC) has been of particular interest to work-family researchers, little attention has been paid to the consequences of WFC that reside in the family domain. Research on WFC and child outcomes is especially scant. The current study addresses the gap in the literature by investigating the relationship between work-interfere-with-family (WIF) and three forms of parent-child interaction behavior (PB): physical and recreational PB (PRPB), cognitive and academic-oriented PB (CAPB), and passive and maintenance-oriented PB (PMPB). The mechanism by which WIF relates to PB was further investigated by examining negative emotion as a mediator and trait guilt as a moderator of the relationship.

Employed parents of early school-aged children (n = 201) participated in the survey. Results indicated that both time- and strain-based WIF were negatively related to two types of active PB, PRPB and CAPB. However, negative emotion did not mediate the relationship between WIF and PB. With regard to the moderating role of trait guilt, support was found for PRPB. Theoretical and practical implications, as well as future directions, are discussed.

Chapter One

Introduction

One prevailing belief about employed parents is that it is difficult, if not impossible, for them to be as attentive parents as those who are not employed. Parental responsibility increases overall workload for individuals and creates more opportunities for work-family conflict (WFC), which occurs when demands from the work and the family domains are incompatible (Greenhaus & Beutell, 1985). Due to its pervasiveness and the negative impact on individuals, WFC has been of particular interest to work-family researchers.

Given the considerable amount of research conducted on WFC, it is surprising that only minimal attention has been paid to the consequences of WFC that reside in the family domain (Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005). Such research is vital in the sense that family is a basic building block of any given community. Furthermore, little research has focused on the relationship between WFC and child outcomes. This is important in that it has been suggested that children are hidden stakeholders within the workplace (Major, Allard, & Cardenas, 2004).

From both theoretical and practical perspectives, research examining how parents' work relates to children is imperative. Previous research has indicated that parents' work influences their children via its effects on parents' world views, opportunities and constraints, and daily experiences (Crouter & McHale, 2005). In

particular, parents' experiences of WFC perceived by the child as well as parental time and behavior have been associated with child outcomes (Sallinen, Ronka, Kinnunen, & Kokka, 2007; Nock & Kingston, 1988). Research regarding children has practical merit as well. Major et al. (2004) suggested children's health affects employees' work lives as well as the organization because child illnesses result in increased employee absenteeism and insurance claims. Thus, enhancing children's well-being will benefit not only employees' families, but also the organization. Collectively, the lack of research as well as theoretical and practical benefits highlight the necessity of investigating the impact of parents' work experience on their children.

With regard to the influence of parents' work on children, a close look at how parents spend their time with children within the family domain is needed. As a finite resource, time has been considered a main source of WFC (Greenhaus & Beutell, 1985). Also, time is a valuable resource in the family domain, as parental time is considered as a major form of investment in children (Gauthier, Smeeding, & Furstenberg, 2004). However, it is not just the raw amount of time that needs consideration because the type of parental behaviors and the quality of parental-child interaction are suggested to have strong influences on child outcomes (Grossman, Pollack, & Golding, 1988; Booth, Alison Clarke-Stewart, Vandell, McCartney, & Owen, 2002).With this in mind, the first objective of the present study is to examine the relationship between WFC and parent-child interaction behavior. In doing so, the study attempts to answer to the call for further research on family outcomes and actual behaviors related to work-family conflict (Eby et al., 2005; Kossek & Ozeki, 1998).

The second objective of the present study is to investigate the process by which WFC and parental behaviors relate. Specifically, the present study examines emotions as a linking mechanism. Given that previous research suggests that emotions play an important role in human decision making and subsequent behavior (Frijda, 1988), it is likely that emotions generated from WFC may explain variability in parents' behavior at home. As the lack of knowledge about affective experience has repeatedly been pointed out as a critical gap in the work-family literature (MacDermid, Seery, & Weiss, 2002), the current study addresses this missing link in the literature by examining the role of relevant emotions in the context of WFC.

Finally, the present study examines an individual difference variable that may alter the strength of the work-emotion-parental behavior link. Specifically, the moderating role of trait guilt is examined. This fills an important gap in the literature, as the importance of guilt is often discussed theoretically in work-family contexts (e.g., Judge, Ilies, & Scott, 2006; Allen, in press), but has rarely been a topic of empirical study.

In following sections, the relationship between key concepts of the study (i.e., work-family conflict, negative emotions, and parent-child interaction behaviors) will be discussed, followed by a discussion of trait guilt and its application to the current context.

Work-Family Conflict

Work-family conflict (WFC) occurs when an individual has simultaneous requirements in multiple roles that are mutually incompatible (Greenhaus & Beutell, 1985). WFC is bidirectional: work can interfere with family (WIF) and family can interfere with work (FIW). As Frone (2003) noted, the antecedents of the conflict tend to be found in the role in which the conflict originated, whereas the consequences tend to

reside in the role that is hindered. Given that parent-child interaction behavior is the outcome of current interest, WIF will be addressed in the present study.

There are three forms of WFC (Greenhaus & Beutell, 1985). *Time-based conflict* occurs when time devoted to one role hampers the fulfillment of responsibilities in another role. In *strain-based conflict*, stress generated in one role inhibits effective performance in another role. *Behavior-based conflict* occurs when an effective behavior in one role reduces effectiveness in another role. Among the three, time- and strain-based conflicts have drawn the most extensive attention (Allen, in press). The emphasis placed on these two forms aligns with the scarcity hypothesis (Marks, 1977), which states that it is inevitable to experience resource shortage as a result of participation in multiple roles because time and energy are limited resources. As WIF is defined as a goal conflict due to finite resource, the focus of the current study will be on time- and strain-based WIF.

Parental Time and Parent-Child Interaction Behavior

Parental time refers to the time that parents devote to their children, and it is thought to be a significant indicator of investment in children (Nock & Kingston, 1988). Previous research has established the positive influence of parental time on child development. For example, children in families that spend more time together and participate in more family activities have greater academic achievement and fewer behavior problems (Hofferth & Sandberg, 2001). Duncan, Duncan, and Strycker (2000) also reported a negative relationship between time adolescents spend with their families and adolescent problem behavior. Beyond time parents spend with children, previous research has also found beneficial effects of various activities that parents and children share, including eating meals, talking, and leisure activities (Gauthier et al., 2004;

Cooksey & Fondell, 1996). As the activities may differ in terms of the quality and importance, distinguishing the types of parental behaviors and activities seems pivotal in order to understand their differential impacts on the child outcome. With this in mind, the present study focuses on a specific type of parenting behavior: parent-child interaction behavior.

Parent-child interaction behavior (PB) is defined as an activity that requires a parent to engage in either a cognitive process or a physical interaction with direct attention to the child. It includes a variety of activities such as those that are academic (e.g., helping with homework) to those that are primarily recreational (e.g., playing games together). PB is known to be crucial in child development: academic activities enhance children's learning and school success because parental encouragement, activities, and interest at home positively influence achievement (Epstein, 1985); recreational activities and parent-child play serve emotional, communicative, social and cultural functions (Tamis-LeMonda, Uzgiris, & Bornstein, 2002).

WIF and Parent-Child Interaction Behavior

WIF describes a situation in which the demands in the work domain interfere with successful performance in the family domain (Greenhaus, Allen, & Spector, 2006). Therefore, the degree of WIF should be negatively associated with the PB. Time is a major resource for fulfilling goals and a common source of WFC (Greenhaus & Beutell, 1985). To the extent that parents' jobs require them to devote time to their work, there may be less frequent interaction between parents and children. The level of time-based WIF may prescribe the kind of activities in which parents are able to and willing to participate. For instance, there may be less frequent family outings if parents have to

work during the weekends. Experiencing time-based WIF may also determine the degree of engagement of a parent in the interaction behaviors such that a parent may only be able to supervise her child playing rather than actively interact with the child while she is working on some work assignments to be done by the next day. Therefore, negative relationship between time-based WIF and PB is likely.

Strain has also been recognized as major source of WFC (Greenhaus & Beutell, 1985). Studies have emphasized the unique contribution of strain-based conflict to individuals' behavior at home. Ilies, Schwind, Johnson, Wagner, DeRue, and Ilgen (2007) reported that individuals who experienced high levels of WIF tended to reduce social interaction with their families, even when the amount of time spent at home was controlled. As active participation in activities with children requires more energy, parents may withdraw from interaction behaviors with children to the extent that the work has drained their energy. For example, a parent may prefer taking some rest at home over playing soccer with his child. Therefore, strain-based WIF is likely to constrain parents' interaction with their child.

Hypothesis 1: Time-based WIF is negatively associated with PB.

Hypothesis 2: Strain-based WIF is negatively associated with PB.

Negative Emotions as a Mediator

The relationship between WIF and PB may be further explained through negative emotions. Viewing WIF as a form of goal conflict, the goal pursuit literature suggests that individuals are likely to feel negative emotions when they experience WIF (Emmons, 1986; Van Hook & Higgins, 1988).

Individuals hold representations of their ideal self, referred to as 'possible selves' (Markus & Nurius, 1986). These possible selves are associated with goals that the individual hopes to achieve. As the term possible 'selves' suggests, people pursue more than one goal at a time. For instance, a person may strive to be a caring parent, a loving spouse, and a capable employee. Possible selves are thought to direct people's goal-striving behaviors as they function as standards to evaluate the current self and frameworks to select future behaviors. Thus, someone who views "caring parent" as a part of their possible selves will be motivated to arrange prime time for family.

Despite people's motivation and effort for accomplishing possible selves, they cannot be attentive to all of their possible selves simultaneously. Possible selves compete over limited resources (e.g., time, energy, or cognitive resources) because each ideal self requires a substantive amount of resources for people to obtain it (Kahneman, 1973; Norman & Bobrow, 1975). Due to finite resources, the degree that people can spend time and energy on a particular goal is bounded. That is, the more resources that are allocated to one goal, the less resources that remain for other goals. This suggests that multiple goals are likely to be perceived as incompatible, and this incompatibility may lead individuals to commit to goal-oriented behaviors toward the most salient possible self at a time (George & Brief, 1996). Various environmental factors (e.g., organizational context) or personal preference (e.g., goal importance to the self) may determine the salience of possible selves, which may result in an unequal resource allocation. As a lower priority goal becomes difficult to obtain because of resource shortage, an individual would fail to attain the nonfocal goal and experience negative affect due to the failure. This idea can be applied to WIF, where work takes a priority over family goals. For instance, in the case

of a successful CEO who spends the majority of his time working, the work may hinder him from participating in important events for his children. Perceived discrepancy between the ideal and the actual self as a parent may render him to experience negative emotion for not being a devoted father. To the extent that being a caring parent is an equally important goal for the individual, the goal-actual discrepancy will induce negative emotion.

Empirical research supports the link between WFC and negative affect, with researchers examining two types of affective states: discrete emotions and moods. Although the two concepts share a common feature as a transient episode of feeling or affect, unique characteristics of each necessitate distinction between the two. Emotions are the result of specific events and represent intense affective experiences of relatively short duration (Weiss, 2002). Negative emotions such as anger or guilt have been positively associated with both directions of WFC (Greenhaus et al., 2006; Gilbert, Holahan, & Manning, 1981; Livingston & Judge, 2008; Allen, in press). On the other hand, moods refer to more diffuse and less intensive states of a longer duration. Unlike emotions, moods may not have a distinct cause. Examining the relationship between mood and WFC, Ilies et al. (2007) found that workload was positively associated with negative affect at work, which in turn related to WIF and to negative affect at home.

As the current study proposes affective experiences as a bridge between WIF and PB, investigating emotion seems appropriate. First, emotion fits well in that WIF is noted as a clear antecedent of negative affect. Frijda (1994) suggests that whether an affective phenomenon involves a particular event or object differentiates moods from emotions. Unlike moods, emotions refer to object-related affective states of mind. Also, the concept

of emotion is better in explaining the link between affective experience and a particular behavior given that "state of action readiness" is a central notion in emotion (Frijda, 1988). Furthermore, consideration of distinctive emotions may provide incremental value given their unique properties such as distinctive antecedents, subjective experience, and behavioral consequences (Berenbaum, Fujita, & Pfennig, 1995; Lazarus & Cohen-Charash, 2001).

Among a variety of discrete emotions, three emotions seem particularly relevant to WIF: distress, depression, and hostility. Individuals are *distressed* when they suffer from daily hassles, physical pain, and psychological exhaustion (Zarski, 1984). Feeling distressed is plausible when one experiences WIF, which has been conceptualized as a stressor (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). While striving for goals in the work and the family domain, it may be not unusual for parents to be exhausted and feel distressed. Previous research supported this idea in that WIF has been associated with life distress and psychological strain (Greenhaus et al., 2006).

The next emotion of interest is *depression*. A consistent finding is that the experience of WFC in both directions positively relates to higher levels of depression (Frone, Russell, & Barnes, 1996; Hammer, Cullen, Neal, Sinclair, & Shafiro, 2006). People tend to be depressed when they perceive lack of control over stressful events (Peterson, Maier, & Seligman, 1995). WIF may render people depressed in that it often appears to be something beyond one's control. For instance, parents who find themselves coming back home, too tired to play with children, may think that no matter how hard they try they cannot meet expectations in both domains.

Finally, *hostility* reflects the experience of anger (Lazarus & Cohen-Charash, 2001), which has been linked to obstructed efforts in goal-pursuit (Frijda, 1988). The experience of hostility is likely to be prevalent when WIF is perceived as an obstacle in achieving personal goals (Judge et al., 2006). For example, parents who strive to be available for their children may feel hostile if work prevents interacting with children by leaving an insufficient amount of time and energy at home. Or the very experience of WIF could be perceived as a goal failure if an individual desires a balanced state of work and family.

Previous research has recognized the general relationship between affect and social activities in which people engage. As a form of affective experience, emotion is characterized by an action tendency, which involves some changes in an individual's behavior (Frijda, 1988). A consistent finding from past research is that positive affect motivates individuals to engage in social activities whereas negative affect is linked to the tendency to withdraw from social activities (Watson, 1988; Cunningham, 1988; Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004). For instance, Ilies et al. (2007) reported that the extent that an employee engaged in social behavior at home (e.g., eating a meal together) was predicted by the employee's perceived WIF and their positive mood at home. This idea carries over to PB, as research suggests that the fluctuation of parents' emotions generates changes in parenting behavior (Crouter & McHale, 2005; Dix, 1991). Building on the discussion from the two streams of research, it is hypothesized that WIF induces negative emotions, which in turn may relate to PB.

Hypothesis 3: Time-based WIF is positively associated with negative emotions.

Hypothesis 4: Strain-based WIF is positively associated with negative emotions.

Hypothesis 5: The relationship between time-based WIF and PB is mediated by negative emotions.

Hypothesis 6: The relationship between strain-based WIF and PB is mediated by negative emotions.

Trait Guilt as a Moderator

Trait Guilt (i.e., guilt-proneness) is a dispositional tendency to experience guilt in response to one's failures or transgressions (Tangney & Dearing, 2002). As a stable personality trait, individuals are known to be different in terms of the capability to experience guilt. *Guilt* refers to an unpleasant emotion that people experience when they acknowledge responsibility for perceived failure to meet norms or fulfill personal goals (Tangney & Dearing). Trait and state guilt are closely related such that trait guilt has found to result in actual guilt feelings (Leith & Baumeister, 1998).

Researchers have suggested that guilt is highly applicable to WFC (Judge, Ilies, & Scott, 2006; Allen, in press). When demands from work and family are incompatible, individuals have to make decisions to prioritize duties such as choosing work over family or vice versa. In the case of work and family, the decision is challenging and complicated because both roles are of importance. When an individual perceives the goal-actual discrepancy in the less emphasized domain, the individual may feel guilty especially if he or she assumes responsibility for the choice between work and family. Considering guilt is especially pertinent to the context of WIF given the interpersonal characteristic of guilt (Baumeister, Stillwell, & Heatherton, 1994). Experiencing guilt has been considered as an interpersonal phenomenon that arises from reflections of a misdeed to a relationship partner. The intensity of guilt is thought to be stronger in close relationships than in weak

relationships. In this sense, guilt may exert a powerful influence in the family domain, where people have very intimate relationships.

With regard to the role of guilt, an adaptive function of guilt implies that guilt may moderate the relationship between negative emotions induced from WIF and PB. Specifically, the adverse impact of negative emotions on PB may be attenuated with the existence of guilt. Although guilt is an aversive emotional state based on the responsibility for perceived failure, it has been suggested to facilitate improvement by prompting individuals to monitor their own behavior, to shift their motivational focus to the underperforming domain, and to engage appropriate action (George & Brief, 1996). Tangney and Dearing (2002) explained that guilt allows people to keep positive regard for the self and to be able to repair what they have done wrong because guilt is generated from specific, controllable, and less stable attributions.

In an attempt to reduce the level of guilt, individuals may employ different strategies. In the context of interpersonal relationships, people apologize, put forth more effort, or spend more time with the partner to restore the relationship (Baumeister et al., 1994). Due to the nature of time as definite and valued resource, people can demonstrate the value that they place on the relationship via allocating more time on it. To engage in corrective behaviors may also reduce guilt as it is an attempt to make situations closer to the ideal. The core intention that lies in the behaviors is that individuals try to show their consideration about others and minimize the goal-actual discrepancy. Applying this idea to parent-child relationship, parents would try to increase the time with their children or to engage in certain behaviors to spend more “quality” time with them in order to compensate for perceived discrepancy and eventually to reduce feeling of guilt.

Insofar as individuals differ in terms of the degree that they experience guilt, investigating trait guilt seems essential to understand parents' behavior in the work and family interface. Past research showed that people who are predisposed to experience guilt tended to contemplate their role in the failure, feel responsibility, and get motivated to take corrective actions (Tangney, 1990). Also, Leith and Baumeister (1998) reported that guilt-prone people demonstrated the tendency to take the other person's perspective, which is associated with beneficial relationship outcomes. This suggests that parents who are higher on trait guilt may engage in PB as compensatory behaviors to remedy the relationship with children more so than parents who are lower on trait guilt. Perceiving poor performance as a parent (i.e., WIF) and feeling guilty about it, they will actively interact with children even if they experience negative emotions. Figure 1 demonstrates hypothesized model of the relationship between WIF and PB including proposed mediator and moderator.

Hypothesis 7: The relationship between the negative emotions and PB is moderated by trait guilt, such that the relationship is weaker for those with higher trait guilt than for those with lower trait guilt.

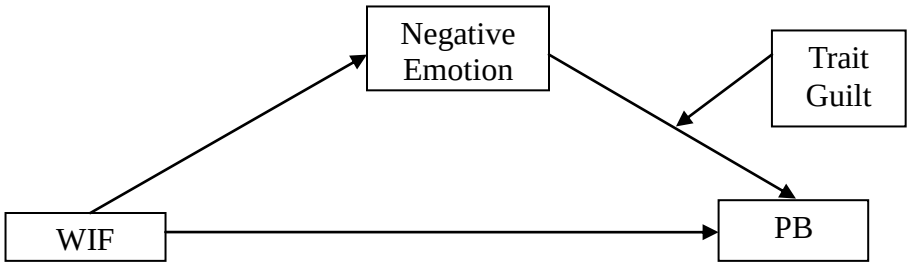


Figure 1. Hypothesized relationships

Chapter Two

Method

Participants and Procedure

The sample consisted of 201 employed parents who were recruited from 11 after-school programs located in a large metropolitan area within the southeastern region of the U.S. Among them, 12 couples (n = 24) were included. To be eligible for the study, participants had to work at least 20 hours a week and live with at least one child between seven and nine years old. The age of the child was restricted because parenting activities change along with the age of the child (Walters & Stinnett, 1971; Martin, 1975). Early school age is a critical developmental phase in the study of parent-child interaction because parents tend to give greater autonomy to children and spend less time with their children as the child moves from childhood to adolescence (Maccoby, 1980). Participation was entirely voluntary and no compensation was granted. Participants were requested to complete a hard copy survey at the after school but were allowed to complete it at home and bring it back to school on the next day.

Of the 201 participants, 35.3% were male and 64.7% were female. The average age of the sample was 38.07 years (SD = 6.72). The majority was White/Caucasian (54.2%), followed by Black/African American (24.4%), Hispanic (7.5%), Asian/Pacific Islander (10.9%), and Other (3.0%). In regards to marital status, 68.7% were married, 14.4% were living with a partner, and 16.9% were single. In terms of education, 10.4%

had a high school degree, 23.9% had attended some college, 45.8% had a college degree, 2.5% had attended some graduate school, and 17.4% had a graduate degree. On average, participants worked 41.04 hours per week (*SD* = 9.31). Descriptive statistics for all demographic variables are listed in Table 1.

Table 1. Descriptive Statistics of Study Variables

Variable	*n*	# of items	*α*	*M*	*SD*	Obs. Min.	Obs. Max.
Variables							
PRPB	201	5	.92	3.51	1.49	1	7
CAPB	201	4	.77	4.98	1.37	1.75	7
PMPB	201	4	.86	3.91	1.37	1.40	7
InteractionT[a]	197	1	--	14.66	7.82	3	53
WIFts	201	6	.91	5.77	2.16	2	10
WIFtime	201	3	.89	3.01	1.21	1	5
WIFstrain	201	3	.91	2.76	1.17	1	5
NE	107	18	.89	1.84	.59	1	3.83
Trait guilt	201	6	.85	.91	.72	0	3
NA	201	5	.74	1.49	.53	1	4.2
Demographics							
Gender	201	1	--	.65	.48	0	1
Age	197	1	--	38.07	6.72	21	65
Ethnicity	201	1	--	1.87	1.23	1	6
Marital status	201	1	--	1.48	.77	1	3
Work hour	201	1	--	41.04	9.31	20	87.5
Tenure[b]	182	1	--	69.19	53.81	1	242
Salary[c]	137	1	--	53471.53	40523.49	6000	400000

Note. PRPB = Physical and recreational parent-child interaction behavior; CAPB = Cognitive and academic-oriented parent-child interaction behavior; PMPB = Passive and maintenance-oriented parent-child interaction behavior; InteractionT = Number of hours of direct interaction with child per week; WIFts = A composite variable of WIFtime and WIFstrain; WIFtime = Time-based work-interfere-with-family; WIFstrain = Strain-based work-interfere-with-family; NE = Negative emotion; NA = Negative affectivity; Work hour = Number of hours of working per week.
[a]Interaction time was reported in hours. [b]Tenure was reported in months. [c]Salary was reported in dollars.

Measures

All measures are included in the appendix. Scores on each scale were obtained by averaging the score on each item. Higher scores indicate a greater prevalence of the construct.

Work-to-family conflict (WIF). Two subscales from Carlson, Kacmar, and Williams's (2000) WIF scale were used to assess time- and strain-based WIF. Each subscale consists of three items. The response to each item was rated on a 5-point Likert-type scale that ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items include "The time I must devote to my job keeps me from participating equally in household responsibilities and activities" and "When I get home from work I am often too frazzled to participate in family activities/responsibilities." The time and strain scales were also examined together as an overall index of WIF.

Negative emotion. Negative emotions were measured with adjectives from the positive and negative affect schedule-Expanded form (the PANAS-X; Watson & Clark, 1994) and the circumplex model of affect (Russell, 1980). The response to each item was rated on a 5-point Likert-type scale that ranged from 1 (*very slightly or not at all*) to 5 (*extremely*). Items for distress were 'distressed, afraid, frustrated, and annoyed.' Hostility was measured with the words of 'angry, hostile, irritable, scornful, disgusted, and, loathing.' Finally, 'sad, blue, downhearted, alone, lonely, depressed, gloomy, and miserable' were averaged for depression. Only participants who reported that they had experienced WIF during the past four weeks were asked to respond to these items.

Trait guilt. The Personal Feelings Questionnaire—2 (the PFQ-2; Harder & Zalma, 1990) was used to assess trait guilt. The scale showed construct validity and a two-factor

structure that distinguishes shame and guilt. It assesses how common the emotions are for the rater and the response for each item is rated on a 5-point Likert-type scale that ranges from 0 (*never experience the feeling*) to 4 (*experience the feeling continuously or almost continuously*). Only the six items that pertain to guilt (i.e., mild guilt, worry about hurting or injuring someone, intense guilt, regret, remorse, and feeling you deserve criticism for what you did) were included in the present study.

Parent-child interaction behavior (PB). PB was measured with a scale that was developed for the current study. Based on results from the pilot study (shown below), 16 items were used to measure both active and passive parenting behaviors. However, factor analysis (shown below) suggested that a three-factor solution fit better for the data and that three items had either low or crossed factor loadings. Accordingly, the hypotheses were tested separately for each of the three types of PB. The first PB, physical and recreational parent-child interaction behavior (PRPB), was measured with five items. An example item is "I play outside with my child." The second PB, cognitive and academic-oriented parent-child interaction behavior (CAPB), was measured with four items. A sample item is "I help my child with his/her homework." The final PB is passive and maintenance-oriented parent-child interaction behavior (PMPB) and was measured with four items. A sample item is "My child and I do housework together." The scale assessed the frequency of each behavior during the past four weeks using a 7-point Likert-type scale (1 = *never*, 2 = *1-5 times*, 3 = *6-10 times*, 4 = *11-15 times*, 5 = *16-20 times*, 6 = *21-25 times*, and 7 = *25 times or more*). Additionally, a single item was used to ask the number of hours per week that parents directly interact with child. While responding to the items, participants were asked to choose one child based on his/her age and focus on

that child. When there are multiple children whose age fall between seven and nine, the older child was chosen.

Control variables. Due to their potential relationships with the criterion variables, gender, ethnicity, age, marital status, number of children living at home, education, organizational tenure, salary, and age of the focal child were considered as control variables. The highest level of education was asked (1 = some high school, 2 = high school diploma, 3= some college, 4 = 2-year college degree, 5 = 4-year college degree, 6 = some graduate school, or 7 = graduate degree). With regard to ethnicity, participants identified themselves as White/Caucasian, Black/African American, Hispanic, Asian/Pacific Islander, Native American, or Other. Marital status was reported as married, living with a partner/significant other, or single. In analyses, gender, ethnicity, and marital status were dummy coded (male = 0, female = 1; White/Caucacian = 0, all others = 1; single = 0, married or living with a partner/significant other = 1, respectively). Additionally, trait negative affectivity was assessed using five items from the PANAS-X (Watson & Clark, 1994).

Chapter Three

Results

Pilot Study

As no measure for parent-child interaction behavior exists, a scale was created for the present study. Hinkin (1995) suggested that a new scale must demonstrate the basic and essential psychometric properties of reliability and validity. The purpose of the pilot study was to assess internal reliability of the parent-child interaction behavior measure and to find evidence for construct validity. The internal reliability of the scale was measured with coefficient alpha (Cronbach, 1951). Construct validity of the scale was measured by testing hypotheses that involve relationships between the focal construct and other theoretically related variables (Cronbach & Meehl, 1955). In the current study, it was hypothesized that parent-child interaction behaviors are negatively associated with time- and strain-based WIF.

Scale development. A new scale for parent-child interaction behavior was intended to capture a wide range of activities that parents do with a preschooler or an early school-aged child (e.g., the ages between seven and nine). After reviewing past research on parental time and behavior (Nock & Kingston, 1988; Gauthier et al., 2004; Sayer, Bianchi, & Robinson, 2004), a list of 18 items that illustrate various interaction behaviors was constructed. All items are listed in Table 2. The behaviors varied in terms of the level of cognitive or physical involvement required by parents. Activities that are

presumed to require a gross engagement were considered as active behaviors whereas activities that can be handled with less involvement were regarded passive.

Table 2. Parent-child Interaction Behavior Measure Used in Pilot Study

No.	Items
1.	I help my child with his/her homework.
2.	I read to my child.
3.	My child and I have discussions about my child's achievements or concern.
4.	My child and I play together (e.g., bike riding, playing sports).
5.	I play outside with my child.
6.	My child and I exercise together.
7.	I go on outings with my child (e.g., museum, zoo, sporting event).
8.	I play indoor games with my child (e.g., board games, video games).
9.	My child and I discuss TV shows/movies.
10.	My child and I talk while we are driving together.
11.	I do creative activities with my child such as dancing, singing, and making crafts.
12.	My child and I have meals together.*
13.	My child and I visit the child's friends and extended family.
14.	My child and I do housework together.
15.	My child and I go shopping together.
16.	My child and I watch TV together.
17.	My child and I do grocery shopping together.
18.	My child and I do not interact with each other when we are together.*

Note. * indicates removed item based on the pilot study results. Items 1-11 address active parent-child interaction behavior; Items 12-17 address passive parent-child interaction behavior; Item 18 indicates no interaction behavior.

Participants and procedure. The sample consisted of 33 employed parents who live with at least one child whose age is between seven and nine. The parents were required to work at least 20 hours a week in order to participate. Participant recruitment

took place through multiple routes. First, individuals who enrolled in a large southern university participated in the study in order to fulfill course requirement. Also, an advertisement for recruitment was posted on several websites that parents frequently visit. Finally, snowball sampling was used such that individuals who had already participated in the study were asked to introduce the study to others eligible and willing to participate.

The average age of participants was 38.59 years old (*SD* = 7.17). Of the 33 participants, 57.6% were female and 42.4% were male. In regards to the ethnicity, 48.5% were White/Caucasian, 36.4% were Asian/Pacific islander, 9.1% were Hispanic, and 6.1% were Black/African American. Approximately 85% participants were either married or living with a partner while 15% reported self as single. In terms of education, 3.0% had a high school degree, 18.2% had attended some college, 48.5% had a college degree, 6.1% had attended some graduate school, and 24.2% had a graduate degree. On average, they worked 40.85 hours per week (*SD* = 10.66). Descriptive statistics for all demographic variables are listed in Table 3.

Measures. With the exception of parent-child interaction behavior, all measures included in the pilot study were identical to those used in the primary study. Parent-child interaction behavior was measured with an 18-item scale that was developed for the study. Among the 18 items, there were 11 active behaviors, six passive behaviors, and one item that indicated no interaction between parent and child. The response to each item was rated on a 7-point scale with frequency anchors (1 = *never*, 2 = *rarely*, 3 = *1-2 times a month*, 4 = *once a week*, 5 = *2-3 times a week*, 6 = *4-5 times a week*, and 7 = *most days of the week*). While responding to the items, participants were asked to choose one child

based on his/her age and focus on the child. When there are multiple children whose age falls between seven and nine, the older one was chosen.

Table 3. Descriptive Statistics in Pilot Study

Variable	*n*	# of items	*M*	*SD*	*α*
Variables					
PB[a]	33	18	9.02	1.27	.72
Active PB	33	11	4.54	.70	.73
Passive PB	33	7	4.48	.76	.67
WIFtime	32	3	3.18	.80	.74
WIFstrain	32	3	2.63	.72	.65
NE	13	18	1.88	.53	.86
Trait guilt	31	6	1.27	.68	.79
NA	31	5	1.66	.68	.83
Demographics					
Gender	33	1	.58	.50	--
Age	32	1	38.59	7.17	--
Ethnicity	33	1	.52	.51	--
Marital status	33	1	.85	.36	--
Work hour	33	1	40.85	10.68	--
Tenure[b]	33	1	73.56	93.20	--
Salary[c]	24	1	61308.33	36044.77	--

Note. PB = Parent-child interaction behavior; Active PB = Active parent-child interaction behavior; Passive PB = Passive parent-child interaction behavior; WIFtime = Time-based work-interfere-with-family; WIFstrain = Strain-based work-interfere-with-family; NE = Negative emotions; NA = Negative affectivity; Work hour = Number of hours of working per week.
[a]PB = A composite variable of Active PB and Passive PB. [b]Tenure was reported in months. [c]Salary was reported in dollars.

Results and discussion. Descriptive statistics for all study variables are listed in Table 3. Intercorrelations among the variables are demonstrated in Table 4. Internal consistency reliability of the parent-child interaction behavior measure was assessed with coefficient alpha (Cronbach, 1951). Alpha of .70 or higher indicates that the scale is reliable (Nunnally, 1973). The scale demonstrated an adequate level of reliability (α = .72). With regard to construct validity, correlations between parent-child interaction behavior and WIF were examined. Given low statistical power due to small sample size (n = 33), results were interpreted in terms of the trend, rather than significance of the relationship. Active PB was not correlated with time-based WIF (r = -.00, p = .99). Contrary to hypothesis, time-based WIF was positively correlated with passive PB (r = .38, p < .05). This suggests that parents do more passive PB when they experience time-based WIF. This unexpected finding could be explained by the nature of passive PB. Most activities considered as passive PB were maintenance behaviors that are essential for everyday life. Experiencing time-based WIF, parents might have substituted passive PB for active PB because passive PB must be carried out in any circumstances. On the other hand, relationships between strain-based WIF and both active and passive PB were negative as hypothesized (r = -.22, p = .23; r = -.03, p = .86, respectively). It is important to note that the effect size was larger for active PB. This suggests that active PB may be more adversely impacted by strain-based WIF than was passive PB because active PB requires more energy. Taken together, correlations among WIF and PB variables provided preliminary evidence for construct validity of the new measure.

Two items were removed based on qualitative feedback from participants and the analyses results. Specifically, participants commented on items that were difficult to

Table 4. Intercorrelations among Variables in Pilot Study

	Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1.	PB	--														
2.	Active PB	.86**	--													
3.	Passive PB	.88**	.50**	--												
4.	WIFtime	.23	-.00	.38*	--											
5.	WIFstrain	-.14	-.22	-.03	.16	--										
6.	NE[a]	.59*	.43	.60*	.22	.57	--									
7.	Trait Guilt	.01	-.03	.05	.28	.47**	.41	--								
8.	NA	.13	-.10	.31	.26	.46*	.55	.52**	--							
9.	Gender	.40*	.26	.42*	.07	.10	.22	-.07	.05	--						
10.	Age	-.29	-.19	-.31	-.15	-.27	-.28	-.01	-.02	-.34	--					
11.	Ethnicity	-.19	-.20	-.13	-.07	.18	-.09	.04	.16	-.10	-.03	--				
12.	Marital status	.01	-.04	.05	-.20	-.07	.01	.03	.07	-.19	.24	.10	--			
13.	Work hour	-.39*	-.27	-.40*	.03	-.13	-.22	-.37*	-.18	-.47**	.30	.14	.02	--		
14.	Tenure	-.32	-.16	-.38*	-.23	-.31	-.60	.02	-.27	.08	.46**	.15	-.29	-.01	--	
15.	Salary	-.53**	-.37	-.55**	-.16	-.35	-.23	-.03	.05	-.60**	.80**	.16	-.43*	.50*	.40	--

Note. Results based on $n = 33$. Gender: Male = 0, Female = 1; Ethnicity: White/Caucasian = 0, All others = 1; Marital status: Single = 0, Married or Living with a partner/significant other = 1.

[a] $n = 13$

* $p < .05$, ** $p < .01$.

understand. In addition, participants pointed out that some behaviors on the list were everyday activities whereas others occur less frequently. Accordingly, frequency anchors were changed so that all behaviors are rated on a monthly time frame. In the primary study, the final measure that consists of 16 items was used with the new anchors.

Factor Analysis – Primary Study

Factor analyses for PB were conducted to examine the structure of the new scale. Exploratory factor analysis (EFA) was conducted with principal axis factoring method and oblimin rotation. Although the scale was designed to address active and passive PB, results suggested a three factor model that explains approximately 65% of the variance. Due to low factor loadings, three items were eliminated (i.e., "My child and I discuss TV shows/movies", "I do creative activities with my child such as dancing, singing, and making crafts", and "My child and I visit the child's friends and extended family"). Table 5 shows standardized factor loadings for each item. Next, confirmatory factor analysis (CFA) was conducted on the shortened, 13-item measure. Specifically, 2-factor model and 3-factor models were compared. Fit indices for the two models are found in Table 6. Although the χ^2 was significant for both models (χ^2 (64) = 266.96, $p < .01$ and χ^2 (62) = 176.96, $p <. 01$ for 2-factor and 3-factor model, respectively), the 3-factor model fit the data better than 2-factor model. Further examination revealed that two factors emerged from nine items that were originally considered active PB. The first factor was named 'physical and recreational parent-child interaction behavior (PRPB)' whereas the second factor is 'cognitive and academic-oriented parent-child interaction behavior (CAPB).' The third factor is 'passive and maintenance-oriented parent-child interaction behavior (PMPB).'

Table 5. Standardized Factor Loadings from Exploratory Factor Analysis

No.	Items	Factors		
		1	2	3
5.	I play outside with my child.	**.996**	-.069	-.063
4.	My child and I play together (e.g., bike riding, playing sports).	**.910**	-.162	.050
6.	My child and I exercise together.	**.814**	.027	.008
7.	I go on outings with my child (e.g., museum, zoo, sporting event).	**.679**	.229	.019
8.	I play indoor games with my child (e.g., board games, video games).	**.644**	.136	.101
2.	I read to my child.	-.056	**.788**	-.096
1.	I help my child with his/her homework.	.036	**.678**	.020
3.	My child and I have discussions about my child's achievements or concern.	.102	**.655**	.048
10.	My child and I talk while we are driving together.	-.003	**.547**	.077
14.	My child and I go shopping together.	.024	.047	**.881**
16.	My child and I do grocery shopping together.	-.089	.048	**.861**
13.	My child and I do housework together.	.099	.030	**.676**
15.	My child and I watch TV together.	-.040	-.071	**.643**
9.	My child and I discuss TV shows/movies.*	.215	.239	.269
11.	I do creative activities with my child such as dancing, singing, and making crafts.*	.333	.262	.184
12.	My child and I visit the child's friends and extended family.*	.176	.139	.393
	Eigen value	6.10	1.93	1.11
	Percent of variance explained	46.91	14.84	8.55

Note. * indicates removed item based on the factor analysis results. Bold indicates items that were used for confirmatory factor analysis. Items for Factor 1 and Factor 2 were initially proposed as 'Active parent-child interaction behavior'; Items for Factor 3 were initially proposed as 'Passive parent-child interaction behavior'.

Table 6. Results of Confirmatory Factor Analysis

Model	χ^2	*df*	CFI	GFI	NFI	RMSEA	SRMR
2-Factor	267.36	64	.87	.81	.83	.13	.09
3-Factor	176.29	62	.93	.87	.89	.10	.07

Note. CFI = Comparative fit index; GFI = The goodness-of-fit index; NFI = Normed fit index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root-mean-square residual.

Descriptive Statistics

Descriptive statistics for all study variables are listed in Table 1. Internal reliability analyses for study variables indicated that all measures, including the new parent-child interaction behavior measure, had an acceptable level of coefficient alpha (Nunnally, 1973). Intercorrelations among study variables are reported in Table 7. With few exceptions, WIF and PB variables were all significantly correlated. Sample size for negative emotion is 107 because only participants who had experienced WIF during past four weeks were asked to respond to the items of negative emotion.

Control Variables

Gender, ethnicity, age, marital status, number of children living at home, education, organizational tenure, salary, negative affectivity (NA), and age of the focal child were measured as potential control variables. Correlation analysis was conducted to examine relationships among the variables and criterion variables. Results showed that gender and age were significantly associated with CAPB ($r = .31$, $p < .01$; $r = -.17$, $p < .05$, respectively). Gender, age, education, and salary were all significantly associated with PMPB ($r = .16$, $p < .05$; $r = -.26$, $p < .01$; $r = -.19$, $p < .01$; $r = -.23$, $p < .01$, respectively). Finally, NA was significantly correlated with PRPB ($r = -.15$, $p < .05$). The rest of demographic variables (ethnicity, marital status, number of children living at home, organizational tenure, and age of the focal child) were not significantly related to any PB. In order to preserve power, only variables that were significantly associated with the criterion variable in question were included as controls in analyses.

Table 7. Intercorrelations among Study Variables

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18
1. PRPB	--																	
2. CAPB	.62**	--																
3. PMPB	.47**	.46**	--															
4. InterT	.28**	.31**	.32**	--														
5. WIFts [a]	-.43**	-.19**	-.01	-.27**	--													
6. WIFtime	-.36**	-.17*	-.03	-.21**	.91**	--												
7. WIFstrain	-.43**	-.17*	.00	-.28**	.91**	.66**	--											
8. NE [b]	-.11	.06	.18	-.02	.44**	.43**	.35**	--										
9. Trait guilt	-.13	-.04	-.14	-.22**	.11	.08	.13	.20*	--									
10. NA	-.15*	-.01	-.06	-.16*	.10	.03	.15*	.33**	.52**	--								
11. Gender	-.04	.31**	.16*	.21**	-.06	-.11	.00	.05	.08	-.01	--							
12. Age	-.13	-.17*	-.26**	-.20**	.08	.11	.04	-.21*	-.01	-.05	-.32**	--						
13. Ethnicity	-.00	-.01	-.09	.15*	.07	.22	.11	.13	-.16*	-.03	.09	-.25**	--					
14. Education	-.10	.06	-.19	-.18*	.08	.04	.10	.01	.24**	.18**	-.01	.27**	.02	--				
15. Marital	-.04	-.07	.01	-.16*	.13	.19**	.05	.08	.05	-.09	-.08	.10	-.07	-.02	--			
16. Work hr	-.18*	-.23**	-.09	-.15*	.29**	.32**	.21**	-.01	.04	-.04	-.19**	-.02	.02	.04	-.06	--		
17. Tenure	.05	.05	.05	-.07	-.01	-.03	.00	.03	-.04	-.05	-.18*	.19*	-.14	.08	-.05	.10	--	
18. Salary	.01	-.12	-.23**	-.19*	.01	.07	-.06	-.09	.07	-.04	-.31**	.30**	-.12	.23**	.17*	.30**	.22*	--

Note. Results based on n = 201. PRPB = Physical and recreational parent-child interaction behavior; CAPB = Cognitive and academic-oriented parent-child interaction behavior; PMPB = Passive and maintenance-oriented parent-child interaction behavior; InterT = Number of hours of direct interaction with child per week; WIFtime = Time-based work-interfere-with-family; WIFstrain = strain-based work-interfere-with-family; NE = Negative emotions; NA = Negative affectivity; Work hr = Number of hours of working per week.

[a] WIFts = A composite variable of WIFtime and WIFstrain. [b] n = 107.

* $p < .05$, ** $p < .01$.

Preliminary Analysis

Prior to hypotheses testing, data were inspected to identify outliers and violations of assumptions. Data points that fall three standard deviations above or below the mean were considered as potential outliers. Initially one outlier was identified for negative emotion but it was not removed as further examination revealed that its value was still plausible for the negative emotion measure. Assumption of normality was examined with the values of skewness and kurtosis. Values of two standard errors of skewness/kurtosis or more were considered to signal nonnormality. Negative emotions and trait guilt were positively skewed, which suggested that majority participants reported low level of the constructs. Also, distribution of negative emotions appeared to be a platykurtic. However, given that the product moment correlation is robust with respect to the normality assumption (Cohen, 1988), analyses were conducted without transformation of the data.

Additionally, assumptions of regression were examined. Given the design of the study, independence of observation was assumed to be met. Normality of residual was examined with q-q plots. The plots for all variables indicated normality of residuals. Next, scatterplots of the study variable were inspected to test the linearity and homoscedasticity. The plots appeared linear. Also, the variance of the predictor variables appeared to be constant across levels of the criterion variable, providing evidence for the assumption of homoscedasticity.

Hypotheses Testing

An alpha level of .05 was used for all analyses. Separate analyses were conducted for three types of PB. All hypotheses were tested using a composite variable of time- and strain-based WIF (WIFts) as well as each WIF variable.

Hypotheses 1 and 2 were tested by examining zero-order correlations between WIF and parenting behaviors. Furthermore, hierarchical regression was used to test whether the relationships remain significant after taking control variables into account. Hypotheses 3 and 4 were also examined using zero-order correlations between WIF and negative emotion. Hierarchical regression was conducted in order to further investigate robustness of the relationships after controlling for the effect of trait negative affectivity. For each regression, control variables were entered in step one, followed by predictor variables in step two.

Hypothesis 1 stated that time-based WIF would be negatively related to PB. The hypothesis was supported for PRPB (r = -.36, p < .01; β = -.36, p < .01). This hypothesis was also supported for CAPB using correlation (r = -.17, p < .01); however, the relationship was no longer significant when the effects of age and gender were controlled in regression (β = -.13, p = .06). No support was found for the negative relationship between time-based WIF and PMPB (r = -.03, p=.71; β = .05, p=.54). Regression results are shown in Table 8. Hypothesis 2 predicted that strain-based WIF would be negatively related to PB. Again, the prediction was supported for PRPB (r = -.43, p < .01; β = -.41, p < .01). For CAPB, support for the hypothesis was found from both correlation and regression analyses (r = -.17, p < .01; β = -.17, p < .05). However, the hypothesis was not supported for PMPB (r = .00, p = .95; β = -.06, p = .46). Results are shown in Table 9. Hypothesis 3 addressed positive relationship between time-based WIF and negative emotion. This hypothesis was supported using correlation analysis (r = .43, p < .01). The relationship was still significant after the effect of negative affectivity was controlled for (β = .43, p < .01). Regression results are shown in Table 10.

Table 8. Regression of Time-based WIF on Parent-child Interaction Behavior

Variable	PRPB		CAPB		PMPB	
	Step 1 (β)	Step 2 (β)	Step 1 (β)	Step 2 (β)	Step 1 (β)	Step 2 (β)
Control Variables						
Gender			.30**	.29**	.07	.07
Age			-.07	-.06	-.12	-.12
Education					-.09	-.09
Salary					-.16	-.16
NA	-.15*	-.14*				
Predictor						
WIFtime		-.36**		-.13		.05
F	4.49*	17.69**	11.85**	9.19**	3.00*	2.47*
df	1, 199	2, 198	2, 194	3, 193	4, 130	5, 129
Overall R^2	.02	.15	.11	.13	.09	.09
Δ in R^2		.13**		.02		.00

Note. NA = Negative affectivity.
*$p < .05$, **$p < .01$.

Table 9. Regression of Strain-based WIF on Parent-child Interaction Behavior

Variable	PRPB		CAPB		PMPB	
	Step 1 (β)	Step 2 (β)	Step 1 (β)	Step 2 (β)	Step 1 (β)	Step 2 (β)
Control Variables						
Age			.30**	.30**	.07	.07
Gender			-.07	-.06	-.12	-.12
Education					-.09	-.09
Salary					-.16	-.16
NA	-.15*	.09				
Predictor						
WIFstrain		-.41**		-.17*		-.06
F	4.49*	22.96**	11.85**	10.28**	3.00*	2.50*
df	1, 199	2, 198	2, 194	3, 193	4, 130	5, 129
Overall R^2	.02	.19	.11	.14	.09	.09
Δ in R^2		.17**		.03*		.00

Note. NA = Negative affectivity.
*$p < .05$, **$p < .01$.

Table 10. Regression of Time-based WIF on Negative Emotion

Variable	Negative emotion	
	Step 1 (β)	Step 2 (β)
Control Variable		
Negative affectivity	.33**	.32**
Predictor		
WIFtime		.43**
F	12.46**	21.29**
df	1, 105	2, 104
Overall R^2	.11	.29
Δ in R^2		.18**

*$p < .05$, **$p < .01$.

Hypothesis 4 proposed that strain-based WIF would be positively related to negative emotion. This proposition was also supported by both correlation and regression analyses ($r = .35$, $p < .01$; $\beta = .30$, $p < .01$). Regression results are shown in Table 11.

In general, analyses using WIFts demonstrated identical results with the findings from the original analyses. In terms of relationships with parenting behaviors (Hypotheses 1 and 2), WIFts was negatively associated with PRPB ($r = -.43$, $p < .01$; $\beta = -.42$, $p < .01$). CAPB was also negatively related to WIFts ($r = -.19$, $p < .01$); the relationship remained significant after controlling age and gender ($\beta = -.16$, $p < .05$). Consistent with the original finding, there was no significant relationship between WIF and PMPB ($r = -.01$, $p = .86$; $\beta = -.00$, $p = .97$). Next, relationship between WIFts and

negative emotion was investigated (Hypotheses 3 and 4). As hypothesized, WIFts was positively related to negative emotion (r = .44, p < .01). The relationship was still significant after the effect of negative affectivity was controlled (β = .41, p < .01). Regression results are shown in Table 12 and 13.

Table 11. Regression of Strain-based WIF on Negative Emotion

Variable	Negative emotion	
	Step 1 (β)	Step 2 (β)
Control Variable		
Negative affectivity	.33**	.27**
Predictor		
WIFstrain		.30**
F	12.46**	12.48**
df	1, 105	2, 104
Overall R^2	.11	.19
Δ in R^2		.08**

*p < .05, **p < .01.

Table 12. Regression of WIFts on Parent-child Interaction Behavior

Variable	PRPB		CAPB		PMPB	
	Step 1 (β)	Step 2 (β)	Step 1 (β)	Step 2 (β)	Step 1 (β)	Step 2 (β)
Control Variables						
Age			-.07	-.06	-.12	-.12
Gender			.30**	.29**	.07	.07
Education					-.09	-.09
Salary					-.16	-.16
NA	-.15*	-.11				
Predictor						
WIFts		-.42**		-.16*		-.00
F	4.49*	24.63**	11.85**	10.08**	3.00*	2.38*
df	1, 199	2, 198	2, 194	3, 193	4, 130	5, 129
Overall R^2	.02	.20	.11	.14	.09	.09
Δ in R^2		.18**		.03*		.00

Note. NA = Negative affectivity.
*$p < .05$, **$p < .01$.

Table 13. Regression of WIFts on Negative Emotion

Variable	Negative emotion	
	Step 1 (β)	Step 2 (β)
Control Variable		
Negative affectivity	.33**	.28**
Predictor		
WIFts		.41**
F	12.46**	19.20**
Df	1, 105	2, 104
Overall R^2	.11	.27
Δ in R^2		.16**

*$p < .05$, **$p < .01$.

Mediator Hypothesis

In order to test Hypotheses 5 and 6, a series of regression analyses were conducted with mean-centered predictors (Aiken & West, 1991). Specifically, PB was regressed onto WIF. Then, negative emotion was regressed onto WIF. Lastly, PB was regressed onto both WIF and negative emotion. To support the hypotheses, significant relationship in the first two steps as well as a nonsignificant relationship between the WIF and PB in the last step is necessary (Baron & Kenny, 1986). In addition to the test of the simple mediation model, indirect effect of negative emotions was examined using the Sobel test (Sobel, 1982), as recommended by Preacher and Hayes (2004).

Hypotheses 5 and 6 proposed mediation effect of negative emotions in the relationship between time-based WIF and PB. The results are summarized in Table 14

and 15. Although both WIF variables were significant predictors of PRPB and CAPB as well as negative emotions, negative emotions, the mediator, did not significantly predict all three types of PB. That is, one of the criteria for the test of simple mediation model, significant relationship between the mediator and outcome variable, was not met (Baron & Kenny, 1986). Therefore, hypotheses could not be tested with simple mediation test method. Results from the Sobel test suggested that the mediation effect of negative emotions is significant only in the relationship between time-based WIF and PMPB. In sum, Hypotheses 5 and 6 were not supported.

Hypotheses 5 and 6 were also tested using WIFts as a predictor. Again, the test of simple mediation model could not be conducted due to nonsignificant relationships between the proposed mediator and outcome variables. The Sobel test indicated that negative emotion does not have significant indirect effect in the relationship between WIFts and all types of PB. Results are summarized in Table 16.

Moderator Hypothesis

Hypothesis 7 was tested using moderated hierarchical regression (James & Brett, 1984) with the cross-product of negative emotion and trait guilt as the interaction term. All predictor variables were mean-centered and the interaction term was created based on the centered variables (Aiken & West, 1991). In order to test moderating effect, incremental variance of the interaction term (i.e., the significance of the ΔR^2) was examined. That is, control variables and predictors were entered in step one and two, respectively, followed by the interaction term in step three. The results are displayed in Table 17.

Table 14. Regression Results for Mediation with Time-based WIF as Predictor

	PRPB					CAPB					PMPB				
Model	B	SE	B	*t*	*p*	B	SE	β	*t*	*p*	B	SE	β	*t*	*p*
WIFtime→NE	.23	.05	.43	4.93	.00	.23	.05	.43	4.93	.00	.23	.05	.43	4.93	.00
NE→PB	-.27	.24	-.11	-1.10	.27	.14	.23	.06	.60	.55	.41	.21	.18	1.92	.06
WIFtime→PB	-.45	.08	-.36	-5.51	.00	-.19	.08	-.17	-2.40	.02	-.03	.08	-.03	-.37	.71
WIFtime→PB adding NE[a]	-.45	.14	-.34	-3.19	.00	-.16	.13	-.13	-1.25	.21	.26	.16	.22	1.64	.11
Model summary	R^2 = .10, *p* = .01					R^2 = .12, *p* = .01					R^2 = .20, *p* = .02				
Sobel test	z = -1.09, *p* > .05					z = .60, *p* > .05					z = 1.80, *p* < .05				

Note. WIFtime = Time-based WIF; PB = Parent-child interaction behavior; NE = Negative emotion; PRPB = Physical and recreational parent-child interaction behavior; CAPB = Cognitive and academic-oriented parent-child interaction behavior; PMPB = Passive and maintenance-oriented parent-child interaction behavior. [a]Model includes control variables.

Table 15. Regression Results for Mediation with Strain-based WIF as Predictor

	PRPB					CAPB					PMPB				
Model	B	SE	β	*t*	*p*	B	SE	β	*t*	*p*	B	SE	β	*t*	*p*
WIFstrain→NE	.17	.04	.35	3.82	.00	.17	.04	.35	3.82	.00	.17	.04	.35	3.82	.00
NE→PB	-.27	.24	-.11	-1.10	.27	.14	.23	.06	.60	.55	.41	.21	.18	1.92	.06
WIFstrain→PB	-.54	.08	-.43	-6.63	.00	-.20	.08	-.17	-2.45	.02	.01	.08	.00	.06	.95
WIFstrain→PB adding NE[a]	-.58	.11	-.49	-5.23	.00	-.21	.11	-.20	-1.94	.06	.02	.14	.02	.15	.88
Model summary	R^2 = .22, *p* = .00					R^2 = .14, *p* = .00					R^2 = .17, *p* = .05				
Sobel test	z = -1.09, *p* > .05					z = .60, *p* > .05					z = 1.77, *p* > .05				

Note. WIFstrain = Strain-based WIF; PB = Parent-child interaction behavior; NE = Negative emotion; PRPB = Physical and recreational parent-child interaction behavior; CAPB = Cognitive and academic-oriented parent-child interaction behavior; PMPB = Passive and maintenance-oriented parent-child interaction behavior. [a]Model includes control variables.

Table 16. Regression Results for Mediation with WIFts as Predictor

	PRPB					CAPB					PMPB				
Model	B	SE	β	*t*	*p*	B	SE	β	*t*	*p*	B	SE	β	*t*	*p*
WIFts→NE	.13	.03	.44	5.00	.00	.13	.03	.44	5.00	.00	.13	.03	.44	5.00	.00
NE→PB	-.27	.24	-.11	-1.10	.27	.14	.23	.06	.60	.55	.41	.21	.18	1.92	.06
WIFts→PB	-.30	.04	-.43	-6.78	.00	-.12	.04	-.19	-2.67	.01	-.01	.05	-.01	-.18	.86
WIFts→PB adding NE[a]	-.35	.07	-.49	-5.01	.00	-.13	.07	-.20	-1.88	.06	.08	.09	.13	.96	.34
Model summary	R^2 = .21, *p* = .00					R^2 = .14, *p* = .00					R^2 = .18, *p* = .04				
Sobel test	z = -1.09, *p* > .05					z = .60, *p* > .05					z = 1.78, *p* > .05				

Note. WIFts = A composite variable of time- and strain-based WIF; PB = Parent-child interaction behavior; NE = Negative emotion; PRPB = Physical and recreational parent-child interaction behavior; CAPB = Cognitive and academic-oriented parent-child interaction behavior; PMPB = Passive and maintenance-oriented parent-child interaction behavior. [a]Model includes control variables.

Table 17. Moderated Regression Results of Trait Guilt and Negative Emotion on PB

Variable	PRPB			CAPB			PMPB		
	Step 1 (β)	Step 2 (β)	Step 3 (β)	Step 1 (β)	Step 2 (β)	Step 3 (β)	Step 1 (β)	Step 2 (β)	Step 3 (β)
Control Variables									
Age				-.20*	-.20	-.20	-.16	-.08	-.07
Gender				.20	.19	.19	-.20	-.18	-.17
Education							-.11	.01	.02
Salary							-.25	-.25*	-.24*
NA	-.05	-.01	-.01						
Predictors									
Trait guilt		-.02	.02		.03	.04		-.33*	-.34*
Negative emotion		-.10	-.17		.00	-.01		.28*	.27*
Interaction Term									
Trait guilt X NE			.29**			.06			.07
F	.25	.41	2.56*	6.33**	3.13*	2.57*	2.62*	3.53**	3.06**
df	1, 105	3, 103	4, 102	2, 104	4, 102	5, 101	4, 67	6, 65	7, 64
Overall R^2	.00	.01	.09	.11	.11	.11	.14	.25	.26
Δ in R^2		.01	.08**		.00	.00		.11*	.01

*$p < .05$, ** $p < .01$.

Hypothesis 7 predicted that trait guilt would moderate the relationship between negative emotion and PB. Support was found for PRPB ($\Delta R^2 = .08$, $p < .01$) but not for CAPB ($\Delta R^2 = .00$, $p = .53$) and PMPB ($\Delta R^2 = .01$, $p = .53$). As hypothesized, parents who are low on trait guilt reduced the amount of PRPB as the level of negative emotion increased. On the other hand, parents who are high on trait guilt maintained the level of PRPB despite negative emotion. Therefore, Hypothesis 7 was partially supported. This significant interaction is plotted in Figure 2.

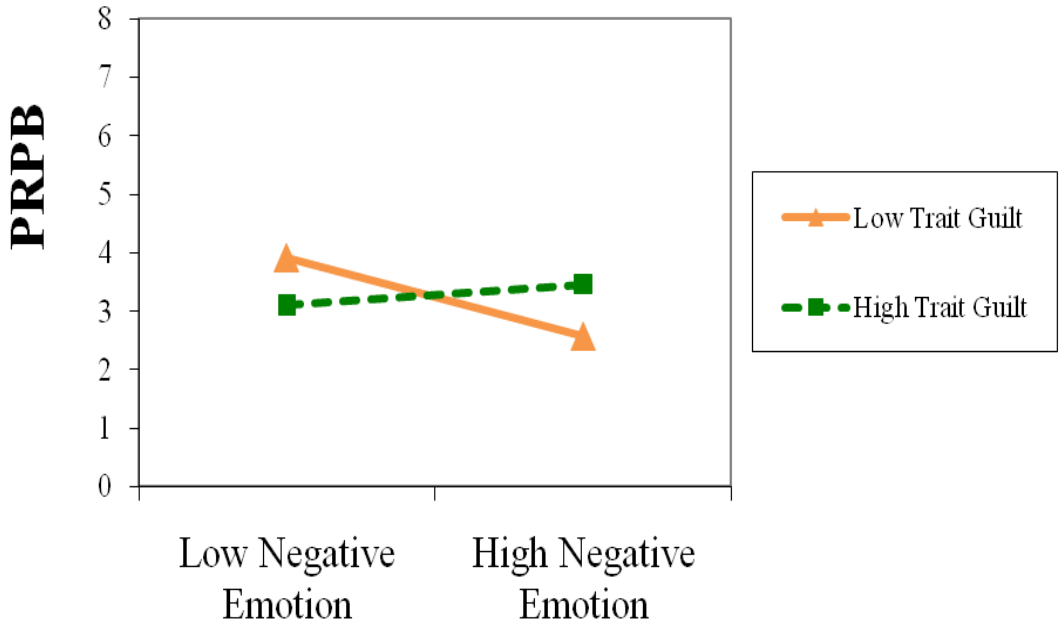


Figure 2. Interaction of Negative Emotion on PRPB as a Function of Trait Guilt

Exploratory Analyses

In order to gain greater insight into the data, additional analyses were conducted for exploratory purposes. First, the moderating role of trait guilt was tested in the relationship between WIF and PBs. The cross-product of WIFts and trait guilt was used as the interaction term in moderated hierarchical regression (James & Brett, 1984). As was in the main analysis, control variables and predictor variables were entered in step one and two, respectively, followed by the interaction term in step three. Results revealed that trait guilt moderate relationships of WIFts with PRPB ($\Delta R^2 = .06$, $p < .01$) and CAPB ($\Delta R^2 = .03$, $p < .05$). As expected, guilt-prone parents did not decrease the level of participation in PRPB and CAPB whereas parents who are lower on trail guilt reduced the amount of participation in those PBs. The results of moderated regression are shown in Table 18, and significant interactions are plotted in Figure 3 and 4.

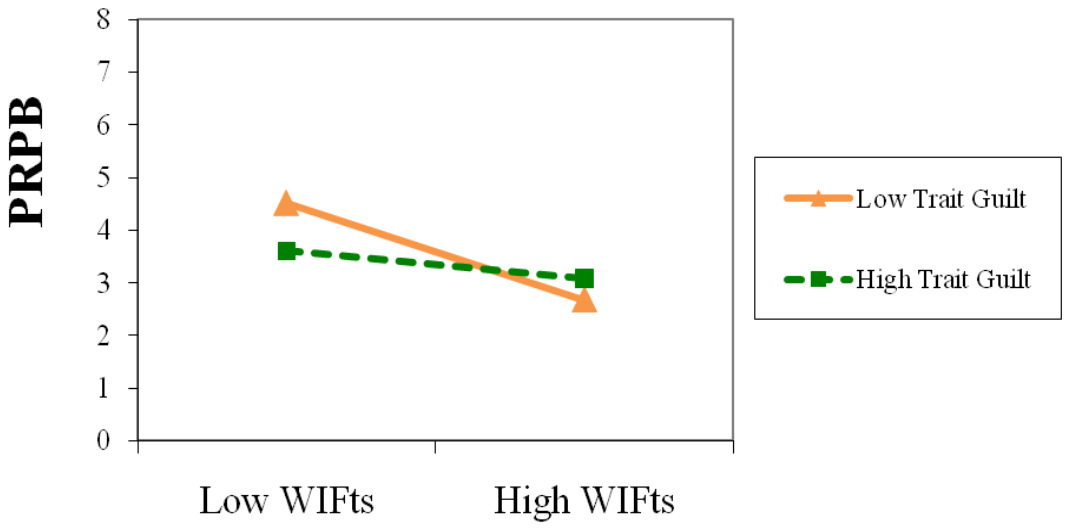


Figure 3. Interaction of WIFts on PRPB as a Function of Trait Guilt

Table 18. Moderated Regression Results of Trait Guilt and WIFts on PB

Variable	PRPB			CAPB			PMPB		
	Step 1 (β)	Step 2 (β)	Step 3 (β)	Step 1 (β)	Step 2 (β)	Step 3 (β)	Step 1 (β)	Step 2 (β)	Step 3 (β)
Control Variables									
Age				-.07	-.06	-.04	-.12	-.12	-.11
Gender				.30**	.30**	.27**	.07	.06	.06
Education							-.09	-.03	-.03
Salary							-.16	-.16	-.16
NA	-.15*	-.09	-.03						
Predictors									
Trait guilt		-.03	-.07		-.05	-.06		-.21*	-.21*
WIFts		- .42**	- .40**		-.16*	-.14*		.02	.02
Interaction Term									
Trait guilt X WIFts			.22**			.17*			.01
F	4.49*	16.42**	15.99**	11.85**	7.69**	7.52**	3.00*	3.02**	2.58*
df	1, 199	3, 197	4, 196	2, 194	4, 192	5, 191	4, 130	6, 128	7, 127
Overall R^2	.02	.20	.25	.11	.14	.17	.09	.12	.12
Δ in R^2		.18**	.05**		.03*	.03*		.03	.00

*p < .05, **p < .01

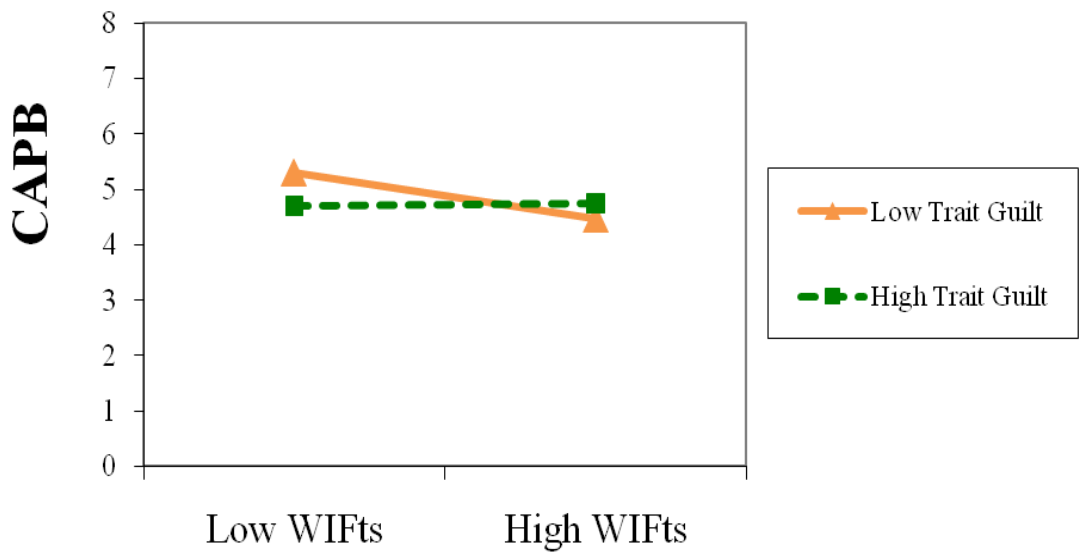
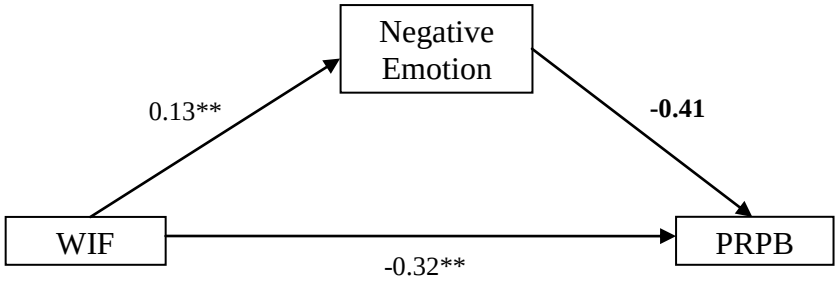


Figure 4. Interaction of WIFts on CAPB as a Function of Trait Guilt

Next, the entire hypothesized model was tested using a general path analytic framework for combining moderation and mediation. This framework has recently been proposed to address drawbacks of conventional methodology (Edwards & Lambert, 2007). First, regression analyses with mean-centered variables were conducted separately for the three types of PB. In the first regression, negative emotion (mediator) was regressed onto WIF (predictor) followed by the second analysis, which predicted PB from WIF, negative emotion, trait guilt, and the interaction term. The interaction term was the cross-product of negative emotion and trait guilt. Next, regression coefficients from the two regression analyses were utilized for the bootstrap (Efron & Tibshirani, 1993). The bootstrap generates a sampling distribution by repeatedly estimating the coefficients with bootstrap samples, which are created by random sampling with replacement from the

original sample. Analysis of simple effects for moderated mediation was conducted based on the coefficient estimates from the bootstrap method in order to test the model. The results are listed in Table 19. In support of the hypotheses and the findings from the main analyses, paths between WIF and PRPB and between WIF and negative emotion were significant. Furthermore, differences were found with regard to participation in PRPB between parents who were higher and lower on trait guilt. The opposite direction of path coefficients in Figure 8 displays sharp contrast between the two groups of parents.

A. Simple effects for low trait guilt



B. Simple effects for high trait guilt

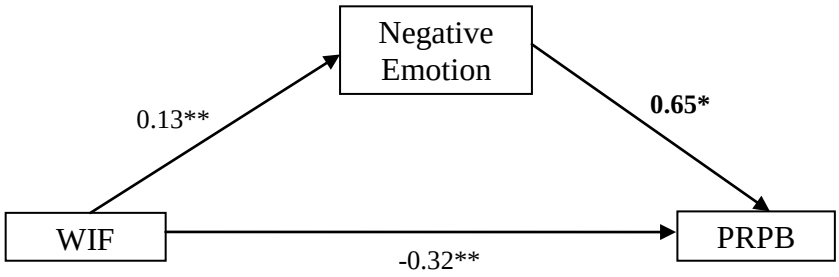


Figure 5. Mediated Moderation Models for Low and High Trait Guilt.
Note. Coefficient in boldface shows significant difference ($p < .05$) across levels of the moderator variable

Table 19. Analysis of Simple Effects in Moderated Mediation Model

	PRPB					CAPB					PMPB				
Moderator variable	Stage		Effect			Stage		Effect			Stage		Effect		
	1st	2nd	Direct	Indirect	Total	1st	2nd	Direct	Indirect	Total	1st	2nd	Direct	Indirect	Total
Trait guilt															
Low	.13**	-.41	-.32**	-.05	-.37**	.13**	.15	-.12	.02	-.10	.13**	.04	.11	.01	.12*
High	.13**	.65*	-.32**	.08*	-.24**	.13**	.40	-.12	.05	-.07	.13**	.54	.11	.07	.18*
Differences	0	1.06*	0	.13*	.13*	0	.25	0	.03	.03	0	.50	0	.06	.06
Model summary	R^2 = .25, p = .00					R^2 = .04, p = .40					R^2 = .12, p = .01				

Note. Z = -0.72 and 0.72 for low and high trait guilt, respectively (i.e., one standard deviation above and below the mean of the centered trait guilt variable). Differences in simple effect were computed by subtracting the effects for high trait guilt from the effects for low trait guilt. Tests of differences for the indirect and total effect were based on confidence intervals derived from bootstrap estimates. 1st Stage: Path from WIF to negative emotion; 2nd Stage: Path from negative emotion to PB.
*p < .05. **p < .01

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Chapter Four

Discussion

The purpose of the current study was to examine the relationship between parents' work experience and parental behaviors. Lack of research on the consequences of WFC that reside in the family domain has been considered as a gap in the work-family literature (Eby et al., 2005). Investigating the relationship between WIF and different types of PB, this study adds meaningful contribution to the literature. Additionally, the mediating role of negative emotion in the relationship between WIF and the PBs as well as the moderating role of trait guilt were examined to further understand the mechanism by which parents' work experience permeates into the family.

Some general findings deserve attention before discussing results of hypotheses testing. First, there was a significant negative relationship between the number of work hours and the number of hours of direct interaction with the child. Thus, the longer parents worked the less time they spent to interact with the child. Interestingly, the impact of hours of work on PB seemed to be different depending on the type of behavior in that only the two types of active parenting behavior were negatively associated with the working hours. Even when parents have to devote more time for their work, they may still need to carry out PMPB. Results suggest that this may not be the case for PRPB and CAPB as parents do not necessarily go beyond PMPB.

Second, parents tended to engage in more CAPB than PRPB. Data suggested that parents do CAPB 2-3 times a week on average while doing PRPB once or less than once a week. This highlights two key differences between PRPB and CAPB. Although the both require active involvement of parents, physical activity (e.g., to exercise together) might be perceived more demanding and taxing than cognitive activity (e.g., to have discussions about achievements or concern). Moreover, recreational activities (e.g., playing indoor games together) are more likely to be thought as optional whereas academic-oriented activities (e.g., helping the child to do homework) may be regarded as essential.

Lastly, gender was significantly associated with PB. Consistent with previous research on time usage in the parenting literature (e.g., Bianchi, Milkie, Sayer, & Robinson, 2000), women did more CAPB and PMPB than did men. Also, women tended to spend longer time in interacting with their children than men. Interestingly, there was no gender difference with regard to PRPB. No gender difference in PRPB may be due to differentiated parental roles; women tend to be the primary caregiver whereas men primarily serve a playmate role (Lamb, 1996). Accordingly, relatively equal participation across men and women is expected in PRPB compared to other PBs.

As hypothesized, both time- and strain-based WIF were negatively associated with active parenting behaviors (i.e., PRPB and CAPB). The relationship between WIF and CAPB, however, was no longer significant when control variables were taken into consideration. Contrary to expectation, PMPB was not significantly correlated with WIF. Support was also found for the hypotheses that maintain positive relationships between time- and strain-based WIF and negative emotion.

No evidence was found for the mediating role of negative emotion in the relationship between WIF and PB, with an exception; the Sobel test indicated that the indirect effect of negative emotion was significant in the relationship between time-based WIF and PMPB. It is notable that nonsignificant relationships were found between negative emotion and parenting behaviors. That is, negative emotions that parents experience did not seem to be determinants of PBs.

Support for hypothesis that concerns the moderating role of trait guilt in the relationship between negative emotion and PB was found only for PRPB. Specifically, when negative emotion due to WIF was experienced, parents who are high on trait guilt engaged in more PRPB whereas parents who are low on trait guilt did less PRPB. Interestingly, exploratory analysis found that trait guilt moderates relationships between WIFts and both types of active PB. With regard to PRPB, all parents reported reduced amount of PRPB when experiencing high WIFts. However, the decrease was larger for parents who are low on trait guilt compared to those who are high on trait guilt. In terms of CAPB, only parents who are low on trait guilt engaged in less CAPB when they experience high WIFts; parents who are high on trait guilt reported approximately the same amount of CAPB regardless of the level of WIFts.

Main Findings

WIF and parent-child interaction behavior. A negative relationship was hypothesized between time- and strain-based WIF and PB. As WIF describes a situation where work demands inhibits effective functioning in family domain, parents who report high level of WIF were expected to engage in less PB. Results indicate that work indeed hampered successful performance of the parent role by bringing strain and leaving no

sufficient time and energy for interaction with the child. This was particularly true for PB that requires gross involvement of parents.

Previous research has emphasized the importance of parents' work on children (Crouter & McHale, 2005). Findings from the current study shed light on the mechanism by which the work influences child development; the work may place a barrier for parents in carrying out certain PB. When WIF occurs, activities that parents are able to or willing to engage in with their child seems to be limited. Especially, the results showed that such negative relationship is strongest between PRPB and strain-WIF. Fatigue and strain from work may preclude participation in physical and recreational activities for parents. Interestingly, PMPB showed no relationship with both time- and strain-based WIF. This indicates that the impact of work is not necessarily identical across different types of PB. Therefore, future researchers should consider unique characteristics of each PB when examining the relationship between parents' work and parenting.

Negative emotion. It was hypothesized that WIF and negative emotion are positively correlated because WIF signals that individuals failed to meet the goal of being a good parent. The hypothesis was supported. Both time- and strain-based WIF demonstrated positive relationship with negative emotion. WIF predicted negative emotion even after taking negative affectivity, individual's tendency to experience negative emotions, into consideration. Highlighting affective aspect of WIF, the finding echoes the call for more research on affective experience in the work-family literature (MacDermid, Seery, & Weiss, 2002).

Also hypothesized was the mediating role of negative emotion in the relationship between WIF and PB. Based on prior research on emotion and parenting, negative

emotion that is elicited from WIF was expected to explain variability in PB. No evidence was found for this hypothesis. Nonsignificant relationship between negative emotion and PB seemed to be one of possible reasons for the null results. Contrary to the past research that has established the link between emotion and behavior (Frijda, 1988), the current study revealed no relationship between parents' affective state and PB. There are several reasons to explain the results. Emotion may affect PB under certain circumstances only. For example, negative emotion might need to be caused by children to make parents act in a certain way towards them. Dix, Gershoff, Meunier, and Miller (2004) argued that it is important to consider not only type of specific emotion but also reason and motivation that underlie the emotion in studying emotion and parents' behavior; for instance, a parent who is angry "at" child and a parent who is angry "for" child will engage in different PB even though they are experiencing the same emotion. In the case of the current study, negative emotion might have not exerted a strong influence on PB because it occurred due to work. As an alternative explanation, it is perhaps the target of the behavior that matters. Granted concerns of parents for their children, parents may not act solely based on their emotion when they interact with their children. In sum, the results underscore that the origin of emotion and the target of behavior should be considered in understanding the association between emotion and behavior.

Trait guilt. The moderating role of trait guilt was hypothesized in the relationship between negative emotion and PB. In support of previous research (Tangney, 1990), the hypothesis was supported such that the relationship between negative emotion and PRPB is weaker for parents who are higher on trait guilt than for those who are lower on trait guilt. Parents who are predisposed to experience guilt might have not decreased the level

of PB when experiencing negative emotions because they felt responsibility for WIF and had higher motivation to take corrective actions. The very choice of PRPB may be explained by the tendency of guilt-prone people to take other person's perspective (Leith & Baumeister, 1998). When parents who are predisposed to feel guilt experience negative emotion that elicited from WIF, they might tried to correct the situation by doing something that children like most, such as playing a fun game together or going to the zoo together. Considering demands and difficulty to engage in PRPB, the results suggest that trait guilt is a powerful driver for PB.

Theoretical Implications

The current study expands the literature by examining PB as a consequence of parents' work experience. One theoretical implication concerns the domain specificity hypothesis, which posits that factors associated with a given domain relate to conflict originating from that domain and that the consequences of the conflict tend to be found in the domain that is interfered (Frone, 2003). Supporting the hypothesis, a negative relationship was found between WIF and active PBs. That is, WIF that is originated from the work domain related to PB in the family domain. Identifying a relationship between WIF and child outcomes is especially meaningful in that it addresses an understudied topic in the work-family literature (Eby et al., 2005).

The current study also expanded the work-family literature by investigating emotions associated with WIF. A number of scholars have called for more research on affective experience of the work-family interface (MacDermid, Seery, & Weiss, 2002). The present study answers this call and underscores the affective nature of the work-family interface by demonstrating a significant relationship between WIF and negative

emotion. This finding has an implication for the goal pursuit literature as well. WIF was expected to elicit negative emotion because people experience negative emotion when they fail to achieve their goals (Emmons, 1986). WIF represents a form of goal conflict, which occurs due to the fact that people pursue more than one goal at a time (Markus & Nurius, 1986) and that they need to spend substantive resources in terms of time and energy in order to obtain the goals (Kahneman, 1973). The positive relationship between WIF and negative emotion is consistent with this literature.

The present study further provides important contributions to the literature by gaining insights into the process by which WIF relates to PB. Although limited support was found for both mediation and moderation hypotheses, the results are still theoretically meaningful. Generally speaking, findings from the current study raise an important issue that specific types of PB need to be considered in the future research that investigates the determinants of PB.

With regard to the mediating hypothesis, this study provides preliminary evidence that negative emotion mediates the relationship between WIF and PMPB. Given that very little research has examined the underlying mechanisms linking the work domain and child outcomes, the current study expands the literature and shows a fruitful area for future research. In terms of the moderating hypothesis, results showed that trait guilt is a significant moderator in the relationship between negative emotion and PRPB. The examination of guilt contributes to the literature because little empirical research has been done despite the fact that several scholars have discussed theoretical relevance of the construct in the context of work and family (Allen, in press; Judge, Ilies, & Scott, 2006). Especially, the current study is theoretically meaningful as it expands the literature

by investigating guilt as a stable individual difference. Although empirical evidence has been found for the relationship between negative affect and behavior at home (Ilies et al., 2007), dispositional variables that may attenuate the relationship have rarely been a topic of research. With support for the idea that trait guilt may serve a boundary condition in the relationship between emotion and behavior in the family domain, the present study calls for more research that takes individual differences into account.

Practical Implications

In addition to the abovementioned implications for the literature, the current study has practical implications as well. Results indicated that behavior in the family domain, including parenting, can be explained by parents' work experience. Time- and strain-based WIF, which was positively associated with the duration of work, appeared to be a significant predictor of active PB. Considering fundamental role of the active PB in child development (Epstein, 1985; Tamis-LeMonda, Uzgiris, & Bornstein, 2002) and the repercussion of children's health on employees' work (Major, Allard, & Cardenas, 2004), work that deprives parents of the active interaction with their children is expected to bring negative consequences to the organization in the long run. Therefore, it is imperative for organizations to consider multiple roles that their employees serve outside the work. For instance, organizations may want to offer family-friendly policies such as flextime that enable employees to participate in a variety of activities with their children.

The results also highlighted the potential benefit of trait guilt. In current study, guilt-proneness appeared to attenuate negative relationship between WIF and PRPB. This suggests that an adequate level of guilt may contribute to parent-child relationship and child development as it ensures a necessary developmental interaction for children.

Limitations

There are several limitations that should be mentioned. First, the research design used in the current study is cross-sectional. Although it is theoretically sound to consider WIF as an antecedent of PB, the nature of the study precludes any inferences about causality. For instance, it is possible that parents who participated in less PB perceive more WIF. The cross-sectional design is especially limiting because one-time survey may not be an adequate method to study emotion that is a transient affective state. Future researchers should use the experience sampling method (ESM) to capture more dynamic relationships among the study variables.

Second, the present study collected data via self-report only, which raises an issue of common method bias. However, correlation analysis revealed that the hours of work had similar relationships with other study variables (PB, negative emotion, and trait guilt) as time- and strain-based WIF did. Taking the hours of work as an objective indicator of work, this suggests that WIF was a subjective report but reflected objective reality as well. With regard to emotion, self-report was necessary as individual was assumed to be most knowledgeable about their own feeling. On the other hand, PB could be collected from multiple sources, including the focal child or the spouse, in order to minimize potential memory bias in the self-report. Future study should also consider using objective data to gain an accurate and comprehensive picture of PB. For instance, different indicators of child health or school achievement can be incorporated into the future research to further examine the relationship between parents' work and child outcomes.

A final limitation involves the scale for parent-child interaction behavior that was developed for the present study. Although effort had been put throughout the scale development to ensure validity of the measurement, further research endeavor is warranted to find further evidence for validity of the scale. Also, the current scale measures the frequency of each behavior, with an assumption that certain behaviors are always active and others are passive. However, some activities could be either active or passive depending on the level of engagement that actually occurs while parents are participating. For example, some parents may not actually interact with their children while they are exercising together. Or, some parents could have a good conversation with their children while they are doing housework together. Therefore, future research should try to examine qualitative differences in each PB.

Future Directions

The current study is one of few attempts to examine links between work and parenting behavior. Key findings of the study provide many ideas for future research. First, future study should further investigate unique characteristics of parents' occupation. Such information will enable us to pinpoint specific feature of each occupation that affects PB more adversely than others. By utilizing other data sources such as O*Net, future research may gain insight into whether there are particular groups of parents who are obstructed to do PB due to their work.

Second, future research is necessary to explicate the process by which parents' work affects PB. The current study did not find evidence for the mediating role of emotion between WIF and PB. Therefore, future research will benefit from delving into the reason for no significant relationship between negative emotion and PB. For instance,

future research may investigate if PB is not an emotion-driven behavior at all or if the majority of parents successfully employ coping strategies to regulate their emotion.

Third, the impact of trait guilt on parents themselves is another fruitful area for the future research. Although trait guilt turned out to be beneficial for children in that guilt-prone parents maintained the level of active PB despite WIF and negative emotion, constant contemplation over the failure and taking responsibility may not be healthy for parents themselves. Especially, if the fundamental cause for WIF is something that employees cannot easily change, engaging in PB is could take a toll on parents in the long run.

Finally, the positive influence of work on the family domain should also be further studied. The work-family literature has paid much more attention to negative interface of work and family (Eby et al., 2005). Along with recent movement in the work-family literature that attempts to address facilitation between work and family (WFF), future study will contribute to the literature by investigating the relationship between WFF, positive emotion, and PB.

Conclusion

The present study addressed the consequence of WFC in family domain, an important but understudied topic in the work-family literature. Specifically, the link between WIF and parental behavior was examined. Results demonstrated that parents' work was significantly related to parenting behavior and that a dispositional tendency to experience guilt attenuates the negative relationship between the two. Reiterating findings from prior research on the impact of parents' work on children, this study suggests that further investigation may be worthwhile for work-family research.

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Appendices

Appendix A

WIF Scale Items

Time-based Work-to-family Conflict

1. My work keeps me from my family activities more than I would like.
2. The time I must devote to my job keeps me from participating equally in household responsibilities and activities.
3. I have to miss family activities due to the amount of time I must spend on work responsibilities.

Strain-based Work-to-family Conflict

1. When I get home from work I am often too frazzled to participate in family activities/responsibilities.
2. I am often so emotionally drained when I get home from work that it prevents me from contributing to my family.
3. Due to all the pressures at work, sometimes when I come home I am too stressed to do the things I enjoy.

* Carlson, Kacmar, & Williams (2000).

Appendix B

Negative Emotion Scale Items

Please read each item and then write the appropriate answer in the space next to that word. Indicate to what extent you have felt this way ***when your work interfered with family within the past 4 weeks.*** Use the following scale to record your answers:

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely

1. Sad
2. Disgusted
3. Afraid
4. Downhearted
5. Lonely
6. Distressed
7. Hostile
8. Scornful
9. Alone
10. Irritable
11. Loathing
12. Angry
13. Blue
14. Depressed
15. Miserable
16. Gloomy
17. Frustrated
18. Annoyed

* Watson & Clark (1994); Russell (1980).

Appendix C

Trait Negative Affectivity Scale Items

This scale consists of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way ***in general, that is, on the average***. Use the following scale to record your answers:

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely

1. Scared
2. Nervous
3. Jittery
4. Upset
5. Ashamed

* Watson & Clark (1994).

Appendix D

Trait Guilt Scale Items

Read each item and then write appropriate answer in the space next to that word. Please indicate ***how common the feeling is for you in general***.

0	1	2	3	4
Never	Rarely	Some of the time	Frequently but not continuously	Continuously or almost continuously

1. Mild guilt
2. Worry about hurting or injuring someone
3. Intense guilt
4. Regret
5. Remorse
6. Feeling you deserve criticism for what you did

* Harder & Zalma (1990).

Appendix E

Time with Children

We are interested in the types of activities that you and your child do together. While completing this survey, please think about ***THE PAST 4 WEEKS*** and focus on ***ONE CHILD*** **whose age is between 7 and 9**. If you have more than one child within the age range, focus on the older child.

A list of child activities is provided below. Some activities may occur more often than others. Please indicate how many times you participated in each activity with this child during **the past 4 weeks.** Use the following scale to record your answers:

1	2	3	4	5	6	7
Never	1-5 times	6-10 times	11-15 times	16-20 times	21-25 times	25 times or more

1. I help my child with his/her homework.

2. I read to my child.

3. My child and I have discussions about my child's achievements or concern.

4. My child and I play together (e.g., bike riding, playing sports).

5. I play outside with my child.

6. My child and I exercise together.

7. I go on outings with my child (e.g., museum, zoo, sporting event).

8. I play indoor games with my child (e.g., board games, video games).

9. My child and I talk while we are driving together.

10. My child and I do housework together.

11. My child and I go shopping together.

12. My child and I watch TV together.

13. My child and I do grocery shopping together.

Direct interaction with the child:

Average weekday time spent together:_____

Average weekend day time spent together:_____

About the Author

Eunae Cho received a Bachelor's Degree in Psychology from Yonsei University in 2007. She is a Ph.D. student at the University of South Florida since 2007. Her research interests are work and family issues with a focus on its health implication and emotion at the workplace. She has been coauthored articles in top-tier industrial and organizational psychology journals, including Personnel Psychology and Human Performance. She has also presented at several professional conferences, including the Society for Industrial and Organizational Psychology and Academy of Management.