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The provision of spousal support: Antecedents, consequences, and crossover effects

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The Provision of Spousal Support: Antecedents, Consequences, and Crossover Effects

by

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Dedication

To Erika and Lily: I can never say thank you enough. I love you.

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On this journey there have been many who have helped me by either standing on the sidelines and cheering enthusiastically (especially on the uphill stretches), by running behind me and kicking me in the butt when needed, or by running along with me on the way. Without you, this process would have likely been harder, longer, and nowhere near as much fun. Thank you to all of you.

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ABSTRACT

The present study had four main objectives. First, the relationship between the provision of spousal support and its theoretical antecedents and consequences was assessed as informed by the conservation of resources theory (Hobfoll, 1989). Second, the crossover of physicians' work interference with family conflict on their spouses' family demands (perceived family demands and family hours) was investigated. Next, the mediating role of social support as an explanation for the crossover process was examined using two distinct pathways. Lastly, the fourth objective of the present study was to investigate the relationships described above across multiple time points and using dual-source data (from physicians and their spouses).

The final sample included matched responses from 126 couples across two time points. Results were generally supportive of the relationship between the provision of spousal support and the receipt of spousal support, perceived family demands, family hours, and work interference with family conflict (WIF) and were consistent with expected relationships according to COR theory. Results also provided support for the synchronous crossover of WIF on perceived family demands; however, results were

generally unsupportive of the mediating role of the provision of spousal support in the crossover process.

The present study makes several important contributions to the social support, work-family conflict, and crossover literatures by adding to the knowledge of the antecedents and consequences of the provision of spousal support, the growing body of research examining the crossover of WIF, and the understanding of the mediating role of the provision of spousal support in the crossover process. Major findings and areas of opportunity for future research are discussed.

Chapter One

Introduction

"When I come home…I just want to pour myself into bed. A lot of times I'm not even hungry…I know it's not fair…but I don't want to talk to her. I don't have the energy to talk to anyone…"

(Gerber, 1983, p. 104)

Physicians, who must deal with the ever increasing complexity of medical care, administrative time demands, and pressure inherent in their jobs, are faced with what many consider excessive amounts of stress on a daily basis (Fabri, McDaniel, Gaskill, Garrison, Hanks, Maier, et al., 1989). According to the resource drain model, that posits that individuals have a limited amount of resources to devote to various roles, if one domain (e.g., work) requires a large expenditure of resources, performance in an alternate domain (e.g., home) is likely to suffer (Rothbard, 2001; Staines, 1980). Therefore, after dealing with a high level of stressors inherent in his/her work role, a physician may be "left with little emotional reserve with which to face new challenges as he changes hats from physician to Daddy, or from physician to husband" (Taubman, 1974, p. 502).

Furthermore, although the physician may directly bear the brunt of the stressors he/she encounters, empirical evidence and theoretical arguments suggest that stressors he/she experiences can crossover and impact stressors and strains experienced by his/her partner (Westman & Etzion, 1995; Westman & Vinokur, 1998). Westman (2001) suggests that crossover effects are more likely to occur when a member of the dyad

occupies a high-stress occupation (e.g., a physician) and encourages the investigation of such effects within these populations.

When additional demands (i.e., requests for support from his/her partner, assistance with household tasks, or help with child-care activities) are placed upon the already highly stressed physician, he/she may withdrawal from the situation (Gerber, 1983), may limit the amount of support he/she provides (Westman & Vinokur, 1998), or may become so inundated by the demands that he/she may be unable to contribute to the relationship in an effective manner (Luk & Shaffer, 2005). Therefore, physicians, who often see their primary responsibility as caring for their patients (Gerber, 1983), may expend less energy caring for themselves, their partners, or their families, and may find balancing work and family roles increasingly difficult.

Within the work-family literature few studies have investigated the provision of support. Instead, previous studies have focused primarily on the recipient of support, eschewing the provider of support and the relationship between the two (Hobfoll, Dunahoo, Ben-Porat, & Monnier, 1994; Pearlin & McCall, 1990). Thus, the present study had four main objectives. The first objective was to investigate the provision of spousal support over time, as well as its theoretical antecedents and consequences (e.g., family demands and work interference with family conflict). The second objective was to determine if stressors crossover from a physician to his/her partner, thereby increasing his/her partner's stressors. Next, although researchers frequently cite the mediating role of social support as an explanation for the crossover process (Westman, Etzion, & Danon, 2001; Westman, Vinokur, Hamilton, & Roziner, 2004), this proposition had yet to be directly tested. Therefore, the third objective of the present study was to test this

hypothesized mechanism and examine the mediating role spousal support plays in the crossover process. Finally, the fourth objective of the present study was to investigate the relationships described above across multiple time points and using dual-source data (from physicians and their partners). Therefore, by examining the provision of spousal support, its antecedents and consequences, crossover effects, and the mediating potential of spousal support across multiple time points and employing dual source data, the present study contributes to a largely neglected area within the social support and crossover literatures.

Social Support

Social support has been defined as "social interactions or relationships that provide individuals with actual assistance or with a feeling of attachment to a person or group that is perceived as caring or loving" (Hobfoll & Stokes, 1988, p. 499). Social support is considered an interpersonal resource, in that individuals who use support systems are likely to receive assistance meeting demands, whether directly or through the reduction in demands placed on them from other roles (House, 1981).

Dimensions of Social Support. Early conceptualizations of social support included work by Pinneau (1975) who described tangible, appraisal/informational, and emotional support, and Cobb (1976) who described esteem, network, and emotional support. A more recent and widely employed conceptualization of social support was proposed by House (1981) and involved the dimensions of emotional concern, instrumental support, informational support, and appraisal support. Similar to the description proposed by Cobb (1976), House proposed that emotional concern "involves providing empathy, caring, love, and trust" (1981, p. 24) and includes behaviors such as demonstrating affective

concern. House's dimension of instrumental support, like Pinneau's tangible support, reflects behaviors that are provided that directly assist the person in need (e.g., helping one's spouse with chores around the house). Consistent with Pinneau's description of appraisal/informational support, House's informational support involves providing useful information to another individual, such as suggestions or advice about a problem to a spouse. House further distinguished appraisal support as information provided to an individual that is useful in social comparisons (i.e. self-evaluation), somewhat similar to Cobb's conceptualization of esteem support. However, while esteem support emphasizes that the individual is valued by others, appraisal support does not connote only positive evaluations. Appraisal support would be evident when a spouse thanks his/her partner for doing a good job at home, but also when a spouse criticizes his/her partner for doing something wrong.

Although social support has been conceptualized using a diverse range of dimensions (e.g., esteem, network, tangible, affectionate, positive social interaction), researchers have most often examined emotional and instrumental support (Beehr, Jex, Stacy, & Murray, 2000). Furthermore, researchers have typically focused on one type of support at a time (Erdwins, Buffardi, & Casper, 2001) with greater attention focused on emotional support (e.g., Bernas & Major, 2000; Grzywacz & Marks, 2000) to the exclusion of instrumental support (Lapierre & Allen, 2006). Additionally, while some researchers have included multiple dimensions within their studies, most combine items across dimensions to create a composite measure of support (e.g., Aycan & Eskin, 2005; Erdwins et al., 2001; Parasuraman, Greenhaus, & Granrose, 1992). With a composite approach, valuable information on the differences across dimensions may be lost. Despite

this loss of information, few researchers have examined the individual contributions of each dimension of social support within the same study (see Lapierre & Allen, 2006). Thus, the present study employed House's (1981) conceptualization of social support and investigated emotional concern, instrumental, informational, and appraisal support. Although hypotheses were proposed using a composite of the four types of social support described above, exploratory analyses were conducted that investigated each facet of support individually.

Sources of Social Support. Researchers have investigated a wide range of sources of social support, including work-related (e.g., supervisor, co-worker, organizational) and non-work-related sources (e.g., spouse, family, friend). The domain specificity hypothesis suggests that support originating in one domain is more likely to be related to other variables within the same domain than to variables in an alternate domain (Frone, 2003; Frone, Russell, & Cooper, 1992). Consistent with this hypothesis, research supports that work-related social support has been negatively associated with work-related variables such as work role conflict, role ambiguity (Beehr & Drexler, 1986; Beehr, King, & King, 1990) and turnover intentions (Batt & Valcour, 2003), and positively associated with job satisfaction (Beehr & Drexler, 1986; Frye & Breaugh, 2004) and satisfaction with one's supervisor (Beehr et al., 1990). Similarly, non-work related support has been negatively associated with non-work related variables such as family role conflict (Carlson & Perrewé, 1999), family stressors (Bernas & Major, 2000), depression (Beatty, 1996; Rosenbaum & Cohen, 1999; Schwarzer & Gutiérrez-Doña, 2005), and anxiety (Rosenbaum & Cohen, 1999; Westman, Etzion, & Horovitz, 2004),

and positively associated with family satisfaction (Carlson & Perrewé, 1999; Hill, 2005) and marital satisfaction (Beatty, 1996; Hill, 2005).

With the recognition that the marital partner is the principal source of social support for most adults, and that spousal support is one of the most reliable sources of social support available (Beach, Martin, Blum, & Roman, 1993), the role that a supportive spouse plays has been recognized as critical to understand. Accordingly, spousal support has received the most empirical investigation of all non-work-related sources of social support (Aycan & Eskin, 2005; Cinamon & Rich, 2005) and was the focus of the present study.

Receiving Spousal Support. In addition to the various dimensions and sources of social support studied, several mechanisms have been proposed and investigated to explain the relationship between receiving social support, stressors (e.g., job demands), and strains (e.g., depression). Figure 1 illustrates the three mechanisms discussed below.

The direct effects model of social support (Figure 1A) has received the most support in the current literature, and hypothesizes that an individual's strain is directly impacted by the support received, regardless of the current level of stressors (Cohen & Wills, 1985). In this model, social support serves as an antecedent to the strain variable and can serve a protective function for the individual (Brown & Bifulco, 1985; Brown & Harris, 1978). Empirical evidence supports a negative relationship between spousal support and a variety of strains including depression (Beatty, 1996; Schwarzer & Gutiérrez-Doña, 2005) and anxiety (Ross, Mirowsky, & Huber, 1983). Viswesvaran, Sanchez, and Fisher's (1999) meta-analysis supports these findings and reported a sample size-weighted average corrected correlation of -.21 between strains and all categories of

support. Further supporting the direct effects model, the receipt of spousal support has been positively related to a variety of constructs as well, including marital satisfaction (Beatty, 1996; Hill, 2005; Purdom, Lucas, & Miller, 2006), family satisfaction (Burke & Greenglass, 1999; Hill, 2005; Parasuraman et al., 1992) and job satisfaction (Beatty, 1996; Parasuraman et al., 1992; Rosin, 1990; Rudd & McKenry, 1986).

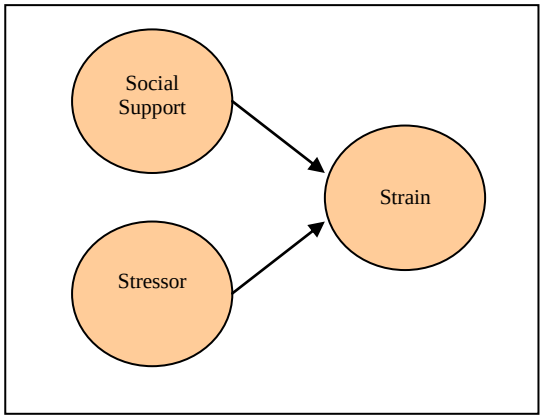
Figure 1B illustrates the moderating or buffering hypothesis, that has been referred to as the dominant hypothesis employed in occupational stress research (Ganster, Fusilier, & Mayes, 1986). It hypothesizes that the relationship between stressors and strains is stronger for individuals receiving lower levels of social support, as compared to individuals receiving higher levels of social support (Beehr et al., 1990; Carlson & Perrewé, 1999). Evidence in support of the buffering hypothesis was found in Viswesvaran et al.'s (1999) meta-analysis, although limited research has tested the buffering capabilities of spousal support (e.g., Suchet & Barling, 1986). Conversely, a reverse-buffering hypothesis has also been supported in the social support literature. In this model, the relationship between stressors and strains is stronger for individuals receiving greater social support than those receiving less (Glaser, Tatum, Nebeker, Sorenson, & Aiello, 1999; Viswesvaran et al., 1999).

Finally, much less research has investigated social support as an intervening or mediating variable (Figure 1C), in which social support is hypothesized to mediate the stressor-strain relationship (Wheaton, 1985). In this model, social support is mobilized in response to a stressor, thereby reducing the effects of the stressor (Carlson & Perrewé, 1999). Although Viswesvaran et al. (1999) did not find support for the mediating effect of social support in their meta-analysis; some limited empirical evidence does exist.

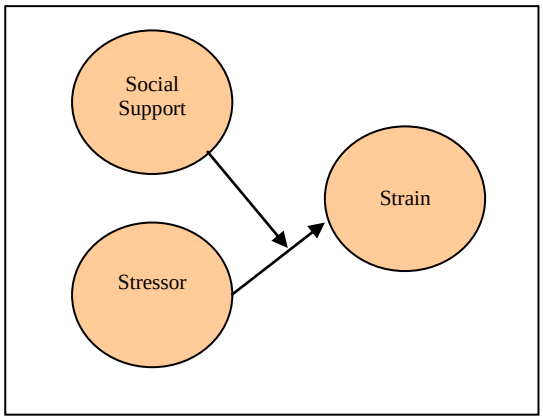
Carlson and Perrewé (1999) reported that a structural equation model depicting social support as a mediator of the relationship between stressors (role conflict, time demands, and role ambiguity) and work-family conflict fit the data moderately well. Additionally, Burley (1995) found evidence that emotional spousal support mediated the relationship between work-family conflict and marital adjustment.

Although the direct effects model of social support has received the majority of research attention and support, several authors have suggested that researchers should move beyond the study of direct effects and examine variables that may influence or explain the relationship between variables of interest (Allen, Herst, Bruck, & Sutton, 2000; Dorio, Bryant, & Allen, 2008). Despite this recommendation, few studies have examined the mediating potential of social support. Therefore, although the beneficial effects associated with social support are well known, little is known about the processes that explain these effects. This lack of research attention may be attributable to the bias in the current literature of using only self-report studies (Greenhaus, Allen, & Spector, 2006; Hammer, Cullen, Neal, Sinclair, & Shafiro, 2005) that are cross-sectional in nature (Kahn & Byosiere, 1991; Zedeck & Mosier, 1990).

Model A:
Direct Effect



Model B:
Moderating Effect



Model C:
Mediating Effect

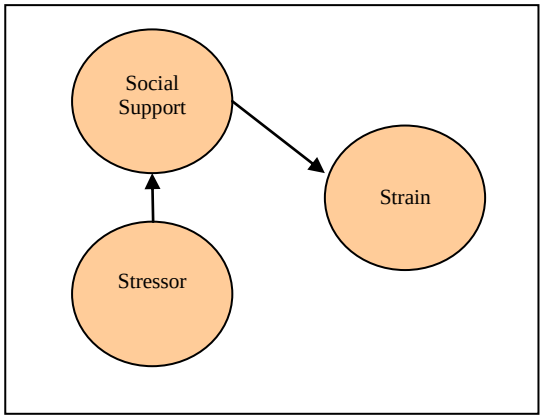


Figure 1. Models of Social Support

Receiving Spousal Support versus Providing Spousal Support. It is important to note that while the receipt of support is not synonymous with the provision of support, a relationship exists between the two constructs providing useful insight. In the only study found that assessed both the receipt and provision of spousal support, Bruck (2002) found that a spouse's receipt of spousal support was moderately related (r=.43) to his/her partner's provision of spousal support. Other researchers have employed measures of the provision of spousal support as a proxy for the receipt of spousal support (e.g., Repetti, 1989); further supporting that the two constructs should be reasonably related.

For example, it is likely that if one spouse provides support (e.g., helping with housework, listening empathically to his/her spouse), his/her partner will report receiving support. However, it is also possible that while one spouse may report he/she is providing as much support as possible (e.g., picking up the children from school, doing work around the house), his/her partner may report receiving little support. This disparity may be exacerbated if the type of support considered differs between individuals (e.g., if one spouse focuses on providing instrumental support, while his/her partner focuses on the receipt of emotional support). Thus, while useful insight can be gained from the examination of previous research investigating the receipt of social support, differences in the constructs warrant the consideration of the provision of social support.

Providing Social Support. Clearly, a wealth of research exists demonstrating a beneficial relationship between the receipt of social support and a variety of outcomes. However, the impact of providing social support is virtually unknown, as nearly all previous research has focused solely on the recipient of social support, neglecting the provider of support and the relationship between the two (Hobfoll et al., 1994; Pearlin &

McCall, 1990). Despite this lack of empirical investigation, several authors have offered theories regarding the provision of social support.

Dunkel-Schetter and Skokan (1990) described stress, relationship, recipient, and provider factors that are hypothesized to influence the provision of support. According to these authors, support is likely to be provided when the situation is stressful (stress factors), the recipient is distressed (recipient factors), there is intimacy or satisfaction with the relationship (relationship factors), or the provider of support is high in empathy (provider factors; Caldwell & Reinhart, 1988; Hobfoll & Lerman, 1988).

Consistent with this theory, several researchers have investigated the characteristics of individuals who provide support (i.e., provider factors), and have found that women (Fischer, 1982; Griffith, 1985; Kessler, McLeod, & Wethington, 1985) and individuals high in empathy (Trobst, Collins, & Embree, 1994) are slightly more likely to provide social support than are men or those low in empathy. Similarly, Allen (2003) found that individuals high in other-oriented empathy were more willing to mentor others (a form of social support). Haines, Hurlbert, and Beggs (1996) found that age and income also impacted the provision of social support.

The occasions when individuals are likely to provide support has also been investigated. Tyler (2006) found that individuals who had received support following a natural disaster were likely to provide support at a later time. Additionally, Bozionelos (2004) found that individuals who had received support in the form of mentoring were more likely to provide mentoring later in their careers than those who had not.

Other authors have theorized about the process of providing social support (e.g., Hobfoll, 1989; Hobfoll, Freedy, Lane, & Geller, 1990; Westman & Vinokur, 1998).

Hobfoll's (1989) Conservation of Resources (COR) theory states that individuals seek to maintain and accumulate resources and that the loss or potential loss of these resources produces stress. Resources, such as objects (e.g., a home), personal characteristics (e.g., stress resistance), conditions (e.g., marriage), energies (e.g., knowledge), or social support can be useful in buffering an individual from stress; however, it is important to note that these resources are not inexhaustible commodities (Hobfoll, 1989).

According to COR theory, the receipt of social support is classified as a resource, however, Hobfoll (1989) discusses the provision of social support as well. Although seemingly contrary to the basic tenet of his theory, Hobfoll points out that individuals take a longitudinal approach to conserving resources and that providing social support can be seen as making an investment in future resources. According to Hobfoll, an individual in a supportive relationship would provide social support when needed, and would receive social support at a later time. However, the provision of social support can also become a drain on an individual's resources. An individual who regularly provides social support may become overwhelmed by the demands inherent in providing support and may have insufficient resources to continue in the same manner (Luk & Shaffer, 2005). In an attempt to regain some valued resources, this individual may limit or cease his/her provision of social support.

Similarly, the resource drain model posits that individuals have a limited amount of resources to devote to various roles; thus, if one domain requires a large amount of resources, performance in the other domain will suffer (Rothbard, 2001; Staines, 1980). Resources can be physical, psychological, or social features that aid in goal completion and/or demand reduction, including dispositions or internal cognitions (Demerouti,

Bakker, Nachreiner, & Schaufeli, 2001). Frone (2003) suggests that certain dispositional variables (e.g., positive affectivity, mastery, hardiness, extraversion) may function as individual resources that allow individuals to cope with stressors. Family-friendly benefits, a supportive culture, and sources of social support would be considered external resources (Voydanoff, 2005).

Despite these compelling theoretical arguments, few studies have investigated effects associated with providing social support for the providers themselves, with the majority of these studies focusing on older adults. Results of these investigations have been equivocal, with some studies finding positive effects associated with providing support, some finding negative effects, and some finding no effects at all. Brown, Nesse, Vinokur, and Smith (2003) found that mortality was lower for individuals who provided emotional support to their spouse among a sample of older adults. Krause and Shaw (2000) found that providing social support was related to increased self-esteem using a similar sample. Conversely, Liang, Krause, and Bennett (2001) found that providing social support was related to increased negative interactions among a sample of older adults. Finally, Ross et al. (1983) found that a husband's level of depression was not impacted by providing instrumental support (assistance with household chores) to his wife.

Thus, although little research has examined the provision of spousal support, limited evidence and several theoretical rationales exist suggesting that the provision of support may have both beneficial and detrimental outcomes (Kessler & McLeod, 1984). Therefore, to add to the body of research examining the provision of social support, the present study investigated the consistency of the provision of spousal support over time.

Although no previous research had examined the provision of spousal support over time, several investigations have assessed the receipt of social support longitudinally. Westman, Etzion, et al. (2004) assessed the receipt of social support using a two month interval and found a moderate correlation (r=.56). Thompson, Jahn, Kopelman, and Prottas, (2004) found a similar relationship between perceived organizational family support assessed at two times, 18 months apart. Building on these examples, it is expected that the provision of support will follow the pattern of results found regarding the receipt of support. Thus the following hypothesis was proposed:

> Hypothesis 1: There will be a positive relationship between the provision of spousal support at Time 1 and Time 2.

Family Demands

Family demands have been defined as "physical, social, or organizational aspects" that "require sustained physical or mental effort and are therefore associated with certain physiological and psychological costs" (Demerouti et al., 2001, p. 501). Family demands have been conceptualized and measured in a variety of ways including: time spent doing chores or the number of children living at home (Keene & Reynolds, 2005; Roehling, Moen, & Batt, 2003). Other researchers simply use measures of time spent in the family domain when conceptualizing family demands.

The relationship between demands originating in the family domain and work-family conflict has received a great deal of empirical investigation (Frone, 2003). For example, Keene and Reynolds (2005) found a positive relationship between family demands and family interfering with work conflict. Gutek, Searle, and Klepa (1991) found a positive relationship between hours at home and family interfering with work

conflict. Consistent with the rational model of work-family conflict that states that conflict can be expected to increase as the amount of time spent in a domain increases (Staines, Pleck, Shepard, & O'Connor, 1987), Byron's (2005) meta-analysis found a positive relationship between hours engaged in non-work activities and family interfering with work conflict (r=.21).

Providing Spousal Support and Family Demands. Despite a well documented relationship between family demands and work-family conflict, no research could be found investigating the relationship between providing spousal support and family demands. As mentioned previously, spousal support is considered an interpersonal resource, in that individuals who use support systems are likely to receive assistance meeting demands, whether directly or through a reduction in demands placed on them (House, 1981). By definition, an individual who provides spousal support demonstrates interpersonal skills such as listening and understanding, as well as supportive behaviors such as alleviating stressors and satisfying some of his/her partner's family demands, thereby allowing the individual more time to devote to other tasks (Bruck & Allen, 2005). However, consistent with COR theory described above (Hobfoll, 1989), a physician who reports a high level of family demands initially, may attempt to conserve his/her resources and may be less likely or able to provide spousal support at a later time. Thus the following hypothesis was proposed:

> Hypothesis 2: There will be a negative relationship between physicians' family demands at Time 1 and their provision of spousal support at Time 2.

Work-Family Conflict

Greenhaus and Beutell (1985) described work-family conflict (WFC) as a form of inter-role conflict that occurs when expectations and demands of work and family roles are incompatible. WFC is considered bi-directional in that conflict can arise in the work domain and interfere with family (WIF) or can arise in the family domain and interfere with work (FIW).

Greenhaus and Beutell (1985) identified three types of work-family conflict: time-based, strain-based, and behavior-based conflict. Time-based conflict occurs when the time required by one role interferes with the effective functioning of the other role, or prevents participation in the other role (e.g., a physician has to miss dinner with his/her spouse due to a late meeting at work). Strain-based conflict occurs when stressors associated with one role are carried over and negatively affect the other role (e.g., a physician who loses a patient at work is too upset to have a conversation with his/her spouse at home). Behavior-based conflict occurs when the behaviors exhibited in one role are incompatible with the other role (e.g., a physician who is authoritative at work attempts to use the same behaviors at home). More recently, Carlson and Frone (2003) described internally-generated work-family conflict. Internally-generated conflict occurs when an individual is psychologically preoccupied with one role while physically present in the other role (e.g., a physician who cannot stop worrying about his/her patient while at home).

A limitation of previous work-family conflict research is that WFC has been operationalized and measured in a variety of ways, making comparisons across studies difficult (Allen et al., 2000). For example, WFC has been assessed using single item measures or composite measures that confound the directionality of conflict (WIF/FIW; Carlson, Kacmar, & Williams, 2000). Other studies have employed measures that exclude behavior-based conflict, or have different foci (e.g., work interference with leisure, work interference with home life). Thus, the present study employed Greenhaus and Beutell's (1985) conceptualization of WFC and investigated a specific direction of conflict (WIF) and all three types of conflict (time-based, strain-based, and behavior-based conflict). Additionally, it was expected that Carlson and Frone's (2003) dimension of internally-generated conflict would be especially pertinent for the sample of interest (physicians), who may often be preoccupied with their jobs. Therefore, internally-generated conflict was also included in the present study. Although hypotheses were proposed using a composite of the four types of WIF described above, exploratory analyses were conducted that investigated each facet of conflict individually.

WFC and the Receipt of Spousal Support. The receipt of social support has garnered a wealth of investigation and has consistently been negatively associated with WFC. That is, the receipt of social support has been associated with lower levels of WFC. Consistent with the domain specificity hypothesis (Frone, 2003; Frone et al., 1992), the majority of empirical research has found support for a relationship between spousal support and FIW conflict (Aycan & Eskin, 2005; Burke & Greenglass, 1999; Frone, Yardley, & Markel, 1997; Fu & Shaffer, 2000; Grzywacz & Marks, 2000). In Byron's

(2005) meta-analysis, a weighted average corrected correlation of -.17 was reported between family support (family and spouse) and FIW.

A relationship has also been found between receiving spousal support and WIF (Cinamon & Rich, 2005; Matsui, Ohsawa, & Onglatco, 1995), as well as composite measures of WFC (Aryee, 1992; Erdwins et al., 2001; Kim & Ling, 2001; Parasuraman et al., 1992). Byron (2005) found a weighted average corrected correlation of -.11 between family support (family and spouse) and WIF. Furthermore, researchers have found support for the buffering effect of spousal support on the relationship between WFC and a variety of stressors, including parental role overload (Aryee, Luk, Leung, and Lo, 1999), parental demands (Matsui et al., 1995), family demands, and job stressors such as role overload, role ambiguity, and a lack of autonomy (Westman & Etzion, 2005).

While the relationship between WFC and the receipt of spousal support has been consistently demonstrated, no research could be found investigating the relationship between WFC and the provision of spousal support. Despite the lack of empirical studies directly examining this relationship, a wealth of research exists linking WFC to a variety of constructs that provide the rationale for the proposed hypotheses.

WIF and the Provision of Spousal Support. A large body of research has investigated the relationship between WIF and its consequences. Consistent with the domain specificity hypothesis (Frone, 2003; Frone et al., 1992) high levels of WIF have been associated with negative consequences in the family domain. In Allen et al.'s (2000) meta-analysis, WIF was positively associated with family-related distress (e.g., Frone et al., 1997; Williams & Alliger, 1994) and burnout (e.g., Bacharach, Bamberger, & Conley, 1991; Kinnunen & Mauno, 1998). Additionally, Frone et al. (1997) found a

strong negative relationship between WIF and family performance, indicating that higher levels of WIF were associated with decreased family performance.

Allen et al. (2000) also found that WIF was negatively related to satisfaction in the family domain. A negative relationship was found between WIF and marital satisfaction and between WIF and life satisfaction, suggesting that individuals reporting high levels of WIF were less satisfied with their marriages (e.g., Greenglass, Pantony, & Burke, 1988; Suchet & Barling, 1986) and their lives (e.g., Judge, Boudreau, & Bretz, 1994; Rice, Frone, & McFarlin, 1992).

Therefore, consistent with previous research that illustrates that WIF has been related to decreased functioning in the family domain (e.g., decreased performance and satisfaction, and increased distress and burnout) it is expected that a physician reporting a high level of WIF will provide less spousal support. For example, a physician who experiences a high level of WIF may be unable to participate in family-related activities due to experiencing a high level of work-related stressors (e.g., work demands, role-overload), or may be too anxious, burned-out, or preoccupied with work-related issues to perform effectively in the family domain. As a result of this conflict, it is expected that the physician will be less likely to provide spousal support. Thus the following hypothesis was proposed:

Hypothesis 3: There will be a negative relationship between physicians' WIF at Time 1 and their provision of spousal support at Time 2.

Crossover Effects

Although a physician may directly bear the brunt of the stressors he/she encounters, empirical evidence and theoretical arguments suggest that the stressors he/she experiences can crossover and impact the stressors and strains experienced by his/her partner (Westman & Etzion, 1995; Westman & Vinokur, 1998). Crossover effects are described as the effect of stressors/strains experienced by one member of a dyad impacting the stressors/strains of the other member of a dyad (Westman, 2001; Westman & Etzion, 1995; Westman & Vinokur, 1998). Crossover effects are considered inter-individual stressors, in that the source of stress originates from the interaction between partners' roles (Gupta & Jenkins, 1985).

According to Westman (2001), crossover effects can occur uni-directionally (transferred from only one member of the dyad to the other) or bi-directionally (transferred simultaneously between both members of the dyad). For example, unidirectional crossover would occur if a wife's life satisfaction is predicted by her husband's burnout, but a husband's life satisfaction is not predicted by his wife's burnout. On the other hand, bi-directional crossover would be evident if a wife's job demands are predicted by her husband's FIW and a husband's job demands are predicted by his wife's FIW. Although some research has investigated uni-directional crossover (e.g., Jones & Fletcher, 1993; Westman et al., 2001), the majority of research has focused on bi-directional crossover (e.g., Hammer, Allen, & Grigsby, 1997; Hammer, Bauer, & Grandey, 2003; Westman & Etzion, 1995).

Research Examining Crossover Effects. Westman (2001) suggested four ways that crossover can occur. First, crossover can occur when stressors transmitted from one member of the dyad impact the strain of the other member. The majority of crossover research has focused on this pathway, with the preponderance focusing on job stressors. Specifically, husbands' job stressors (e.g., job demands, role ambiguity, role conflict) have been shown to crossover and predict a variety of their wives' strains including increased anxiety (Jones & Fletcher, 1993), psychological distress (Rook, Dooley, & Catalano, 1991), psychosomatic symptoms (Burke, Weir, & DuWors, 1980), and burnout (Pavett, 1986); as well as decreased mental health (Morrison & Clements, 1997), and general well-being (Long & Voges, 1987). Despite the abundance of research examining the crossover of husbands' job stressors; little research has examined the crossover of wives' job stressors. Jones and Fletcher (1993) found that wives' job stressors (job demands and involvement) crossed over and were positively related to their husbands' depression.

Second, crossover can occur when strain from one member of the dyad impacts the strain of the other member. Several studies have demonstrated bi-directional crossover of strains, including anxiety (Westman, Etzion, et al., 2004) and burnout (Westman & Etzion, 1995). Other researchers have demonstrated uni-directional crossover of strains, with some finding crossover from husbands to wives (Westman et al., 2001; Westman & Vinokur, 1998; Westman, Vinokur, et al., 2004), and others finding crossover from wives to husbands (Chan & Margolin, 1994; Demerouti, Bakker, & Schaufeli, 2005).

Third, Westman (2001) suggested that crossover can occur when the strain of one member of the dyad impacts the stressors of the other member. Although no studies could be found assessing this combination of variables, this pathway would be evident if the anxiety of one member of the dyad crossed over and impacted the work overload of the other member.

Finally, crossover can occur when stressors transmitted from one member of the dyad impact the stressors of the other member. Although limited research has been conducted examining stressor to stressor crossover, several studies have found support for this pathway. Bolger, Delongis, Kessler, and Wethington (1989) found that husbands' work overload crossed over and impacted wives' home overload. Similarly, Karambayya and Reilly (1992) found wives' work involvement was positively related to a general measure of their husbands' stress.

Crossover and Work-Family Conflict. Despite the growing body of research examining crossover effects, few researchers have examined crossover effects associated with work-family conflict. Using a composite measure of WFC, Hammer et al. (1997) found bi-directional crossover of WFC. Specifically, husbands' and wives' WFC explained unique variance in their partners' WFC beyond their partners' work salience, perceived flexibility, and family involvement. Westman and Etzion (2005) found that husbands' and wives' WIF explained unique variance in their partners' WIF beyond their partners' job stressors (overload, role ambiguity, and a lack of autonomy) and family demands. Similarly, husbands' and wives' FIW explained unique variance in their partners' FIW beyond the same within-individual variables.

Consistent with the domain specificity hypothesis (Frone, 2003; Frone et al., 1992), crossover research has demonstrated that the WIF of one partner can crossover and has been associated with family-related consequences of the other partner, and that the FIW of one partner can crossover and has been associated with work-related consequences of the other partner. For example, Hammer et al. (2005) found support for the crossover of a husband's WIF on his wife's depression. Matthews, Del Priore, Acitelli, and Barnes-Farrell (2006) found support for the crossover of WIF on relationship tension. However, while wives' WIF crossed over and was associated with *increased* relationship tension for their husbands, husbands' WIF crossed over and was associated with *decreased* relationship tension for their wives. Finally, Parasuraman et al. (1992) failed to find support for the crossover of WFC on family satisfaction; although a composite measure of conflict was used obfuscating the direction of conflict.

On the other hand, Hammer et al. (2003) found support for the crossover of FIW on withdrawal behaviors at work. In their study, a husband's FIW was a significant predictor of his wife's lateness at work, and a wife's FIW was a significant predictor of her husband's interruptions at work and absences. Greenhaus, Parasuraman, Granrose, Rabinowitz, and Beutell (1989) investigated and found support for the crossover of job involvement and career priority on time-based and strain-based WFC.

Therefore, despite the paucity of research examining crossover effects associated with WFC, a trend is evident in that domain specific crossover effects occur. While the impact of a spouse's WIF on his/her partner's family related variables is intuitively logical (because these effects occur within the same domain), the impact of a spouse's FIW on his/her partner's work related variables is harder to explain due to the disparate

environments in which these events occur (although a common stressors explanation is plausible and is discussed below).

Thus, the present study adds to the growing body of research examining the crossover of WFC, and focused specifically on WIF. Consistent with domain specific findings cited above, it is expected that a physician's WIF will crossover and be predictive of the family demands of his/her partner. For example, a physician who experiences a high level of WIF may be frequently absent from family-related activities due to work responsibilities, or may be too anxious, burned-out, or preoccupied with work-related issues to perform effectively in the family domain. As a result of this conflict, the partner of the physician is likely to be faced with additional responsibilities, pressures, and demands. Thus the following two hypotheses were proposed:

Hypothesis 4a: There will be a positive relationship between physicians' WIF at Time 1 and their partners' family demands at Time 2.

Hypothesis 4b: There will be a positive relationship between physicians' WIF at Time 2 and their partners' family demands at Time 2.

Mechanisms of Crossover. Three mechanisms have been posited to explain the crossover process: direct crossover, common stressors, and indirect crossover (Westman & Vinokur, 1998). The direct crossover of stressors/strains is typically explained via empathy (Westman, Vinokur, et al., 2004). Crossover is hypothesized to occur when stressors/strains experienced by one partner cause an empathic reaction in the other partner, thereby increasing the partner's level of stressors/strains (Westman, 2001; Westman & Vinokur, 1998). Although the mechanism of direct empathic crossover is frequently cited in the crossover literature, support for this pathway is generally assumed

rather than directly tested (Westman, 2001; Westman et al., 2001; Westman, Etzion, et al., 2004).

The second mechanism, the common stressors explanation of crossover, hypothesizes that crossover effects are spurious, and that increased stressors/strains are caused by common stressors simultaneously affecting both members of the dyad (Westman & Vinokur, 1998). Westman and Etzion (1995) suggested that aspects of a shared environment could lead to increased stressors/strains for both partners giving the appearance of crossover effects. Although researchers have investigated a variety of stressors (e.g., unemployment, financial hardship), mixed results have been found (Westman, Etzion, et al., 2004; Westman, Vinokur, et al., 2004).

Finally, the third mechanism, an indirect process, hypothesizes that a couple's interaction style plays a key role in the crossover process (Westman & Vinokur, 1998). Westman (2001) suggested that various aspects of the dyad's interaction style may be responsible for crossover effects including social undermining and social support. According to the indirect crossover hypothesis, stressors/strains experienced by one partner are hypothesized to impact the interaction he/she has with his/her partner. This negative interaction is hypothesized to result in increased stressors/strains for the individual's partner. Although Westman (2001) hypothesized that social support could serve in this mediating capacity, research has focused exclusively on social undermining. For example, Westman, Vinokur, et al. (2004) found that social undermining mediated the relationship between distress and marital dissatisfaction. However, Westman and Vinokur (1998) and Westman et al. (2001) failed to find mediating effects of social

undermining in their investigations of the crossover of burnout and depression respectively.

Although researchers frequently discuss the mediating role of social support in the crossover process (Westman et al., 2001; Westman & Vinokur, 1998; Westman, Vinokur, et al., 2004), no research could be found testing this hypothesis. Thus, by examining the mediating potential of spousal support, the present study focuses on a largely neglected area within the social support and crossover literatures. First, it was proposed that a physician who experiences a high level of WIF may be less likely to provide spousal support for his/her partner. In turn, this decreased provision of support may be associated with increased family demands for his/her partner. Thus the following hypothesis was proposed:

> Hypothesis 5: The relationship between physicians' WIF at Time 1 and their partners' family demands at Time 2 will be partially mediated by the physicians' provision of spousal support at Time 2.

Second, it was expected that a high level of WIF reported by a physician may be associated with a high level of support provided by his/her partner. In turn, this increased provision of spousal support may be associated with an increased level of family demands for the partner. Thus the following hypothesis was proposed:

> Hypothesis 6: The relationship between physicians' WIF at Time 1 and their partners' family demands at Time 2 will be partially mediated by the partners' provision of spousal support at Time 2.

The relationships described above for the proposed hypotheses are depicted in Figure 2.

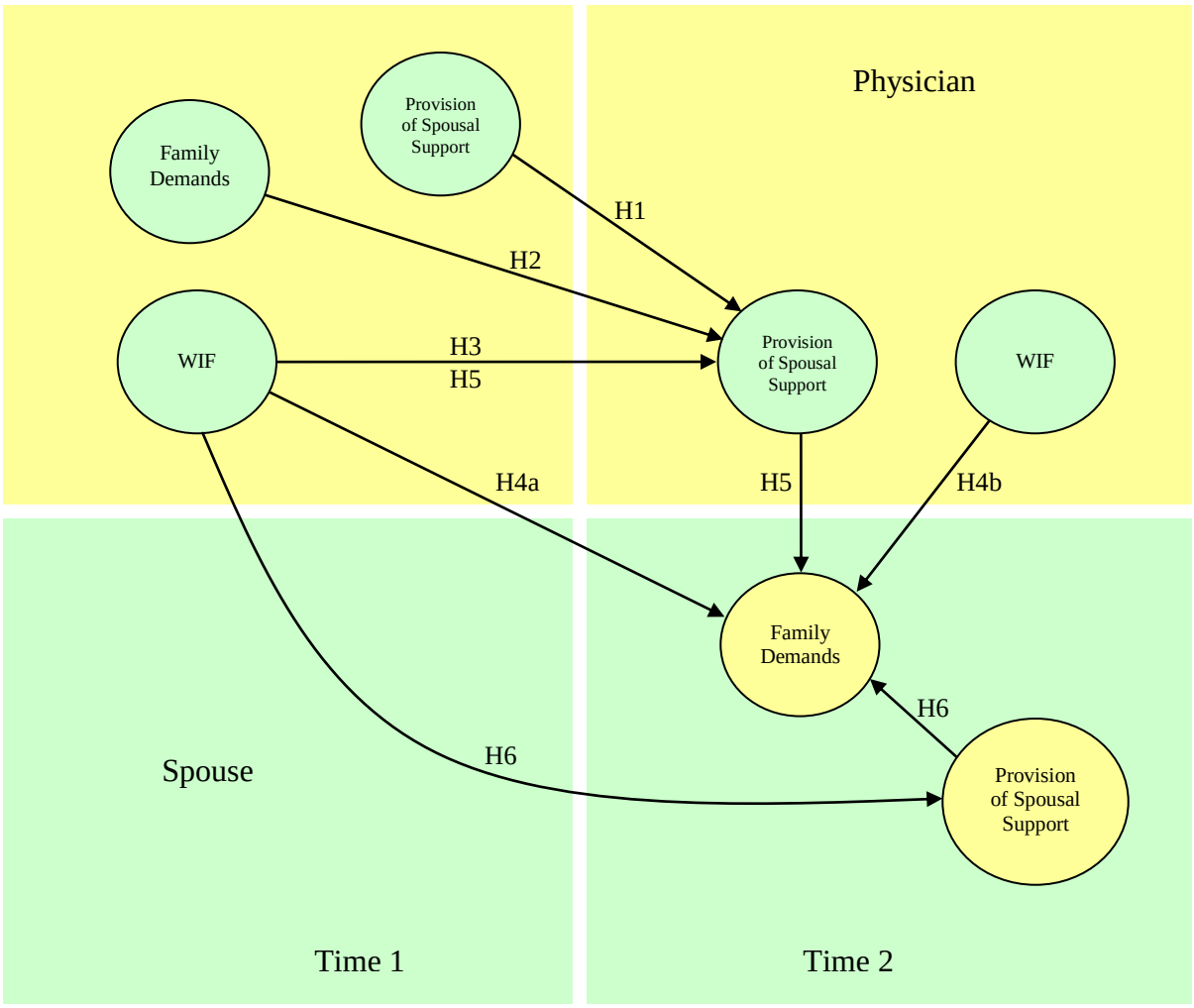


Figure 2. Model Depicting the Relationships for the Proposed Hypotheses

Note. The numbers inset on the paths represent the hypotheses discussed above.

Summary. While the beneficial effects associated with the receipt of spousal support are well known, little is known about the impact of providing spousal support. Therefore, the present study investigated the provision of spousal support, its theoretical antecedents, and consequences using COR theory as an organizing structure. Next, despite the growing body of research examining crossover effects, few researchers have examined crossover effects associated with WFC. Heeding Westman's (2001) suggestion that crossover effects are more likely to occur when a member of the dyad occupies a high-stress occupation, the present study investigated the crossover of WIF from physicians to their partners. Next, the present study tested a frequently cited yet untested mechanism of the crossover process, and investigated the mediating role spousal support plays in the crossover process. Finally, the present study investigated the relationships described above across multiple time points and using dual-source data.

Chapter Two

Method

Participants

To establish the desired sample size, two a priori power analyses were conducted. First, for hypotheses employing multiple hierarchical regression, an a priori power analysis was conducted following procedures outlined by Cohen (1992). Based on an analysis involving a candidate set of five independent variables, a desired alpha of .05, and a medium effect size (f^2=.15), a minimum of 91 couples were required to achieve a power of .80.

Next, for hypotheses involving mediation, an a priori power analysis was conducted following procedures outlined by Fritz and MacKinnon (2007). For this analysis, three effect sizes were required; the relationship between the independent variable and the dependent variable (tau), the relationship between the independent variable and the mediator (alpha), and the relationship between the dependent variable and the mediator (beta). Based on an analysis using the Sobel test (Sobel, 1982), a large tau effect size (τ=.59), a large alpha effect size (α=.59), and a moderate beta effect size (β=.26) a minimum of 129 couples were required.

The final sample included matched responses from 126 couples across two time points. At Time 1, matched responses were obtained from 148 couples (180 physicians and 148 spouses) and at Time 2, matched responses were obtained from 137 couples (156

physicians and 145 spouses). However, because spouses' responses at Time 1 were only used in analyses investigating Hypotheses 4a and 4b, most analyses were conducted using 137 pairs of participants. Demographic characteristics for the total sample, physician sample, and spouse sample (collected at Time 1) are provided in Table 1.

The majority of participants (78.7%) were married and had been married an average of 13.0 years (*SD*=10.5). Two-thirds (66.5%) of participants had children (*M*=1.66, *SD*=1.36), with 22.0% having at least one child two years of age or younger. Participants were primarily born between 1966 and 1981 (47.9%) and between 1954 and 1965 (22.6%).

The majority of physicians were male (59.4%) and identified themselves as Caucasian (74.4%). Physicians were employed in private practice (43.3%), as medical residents (26.7%), and as faculty physicians (22.2%); and reported a variety of areas of practice including: Pediatrics (8.9%), Internal Medicine (6.7%), Surgery (6.7%), Obstetrics and Gynecology (5.6%), Psychiatry (5.0%), and Family Medicine (4.4%) among others. The average length of practice for physicians was 12.8 years (*SD*=10.8).

The majority of spouses were female (48.6%) and identified themselves as Caucasian (65.5%). Nearly one-third (31.8%) of spouses were employed in a medical profession, with more than half of those employed as physicians (59.6%). Thirty-nine percent of spouses reported holding a Bachelor's degree, with nearly half (48.6%) holding an advanced degree.

Table 1

Demographic Characteristics of Participants (Time 1)

	Total sample N=328		Physician sample N=180		Spouse sample N=148	
Variable	N	%	N	%	N	%
Gender						
Male	154	47.0%	107	59.4%	47	31.8%
Female	134	40.9%	62	34.4%	72	48.6%
Ethnicity						
Caucasian, Non Hispanic	231	70.4%	134	74.4%	97	65.5%
Hispanic	20	6.1%	10	5.6%	10	6.8%
Asian	16	4.9%	9	5.0%	7	4.7%
Black or African American	9	2.7%	6	3.3%	3	2.0%
Other	9	2.7%	6	3.3%	3	2.0%
American Indian	1	0.3%	1	0.6%	0	0.0%
Pacific Islander	1	0.3%	1	0.6%	0	0.0%
Year of Birth						
1982-1995	9	2.7%	5	2.8%	4	2.7%
1966-1981	157	47.9%	91	50.6%	66	44.6%
1954-1965	74	22.6%	40	22.2%	34	23.0%
1942-1953	41	12.5%	27	15.0%	14	9.5%
1925-1941	8	2.4%	6	3.3%	2	1.4%
Marital Status						
Married	258	78.7%	151	83.9%	107	72.3%
Living with partner	31	9.5%	18	10.0%	13	8.8%
Single	0	0.0%	0	0.0%	0	0.0%
Participants with Children						
No children	77	23.5%	51	28.3%	26	17.6%
Children (any age)	218	66.5%	129	71.7%	89	60.1%
Children (2 years or younger)	72	22.0%	42	23.3%	30	20.3%

Note. Numbers/percentages may not sum to total sample size due to missing data.

Table 1 (Continued)

	Total sample N=328		Physician sample N=180		Spouse sample N=148	
Variable	N	%	N	%	N	%
Job type						
Private practice	-	-	78	43.3%	-	-
Medical resident	-	-	48	26.7%	-	-
Faculty physician	-	-	40	22.2%	-	-
Other	-	-	10	5.6%	-	-
In a medical profession	-	-	-	-	47	31.8%
Employed as a physician	-	-	-	-	28	18.9%
Education						
High school diploma/GED	-	-	-	-	4	2.7%
Vocational school	-	-	-	-	1	0.7%
Bachelor degree	-	-	-	-	58	39.2%
Master's degree	-	-	-	-	32	21.6%
Professional degree	-	-	-	-	38	25.7%
Ph.D.	-	-	-	-	2	1.4%
Other	-	-	-	-	3	2.0%
	Mean	SD	Mean	SD	Mean	SD
Length of marriage (in years)	13.0	10.5	13.0	10.6	13.0	10.3
Job tenure (in years)	-	-	12.8	10.8	-	-

Note. Numbers/percentages may not sum to total sample size due to missing data.

Response rate. Consistent with previous work-family research (e.g., Bedeian, Burke, & Moffett, 1988; Beutell & Greenhaus, 1982), physicians, faculty physicians, and medical residents were required to be employed at least 20 hours per week and married or living permanently with their partner. Because approximately half (50.7%) of the individuals residing in Florida are married (U.S. Bureau of the Census, 2006), and with the recognition that the divorce rate among physicians is 10% to 20% higher than that of the general population (Sotile & Sotile, 1996), it is likely that a portion of the physicians invited to participate in the present study were ineligible.

Across the recruitment sources described below, approximately 2,200 physicians were invited to participate in the present study. Additionally, individuals were asked to forward the email invitation to other physicians. Due to this sampling strategy, calculating an exact response rate is difficult. First, physicians may have received an email invitation who were not eligible to participate in the study (i.e., not married or living permanently with their partner). Second, physicians may have received the email invitation from multiple sources, artificially inflating the number of invited physicians. Third, individuals may have forwarded the email invitation to many physicians or to none at all. In an attempt to address these issues, a survey link was created that individuals could use to opt-out of the study. However, at Time 1 only 79 physicians accessed the opt-out page, with 62.0% indicating that they did not have the time or did not wish to participate. Thirty-eight percent of these physicians indicated they were not eligible to participate ("No thank you, I do not have a spouse/partner."). Therefore, while an exact number of eligible physicians invited to participate is not known, a reasonable estimate was determined and is provided in Table 2.

Table 2

Estimated Number of Eligible Physicians Invited to Participate

Recruitment source	Invited	Self-reported ineligible	Invalid emails	Likely† ineligible	Approx. # eligible
USF medical residents	607	0	0	*238	369
USF faculty	275	0	0	110	165
HCMA	**700	0	0	280	420
North collier hospital	394	16	25	117	236
Online	187	11	1	63	112
Snowball sample	40	-	-	-	40
Total	2203	27	26	808	1342
Opted out / ineligible					79 / 30
Grand total					1312

Note. HCMA=Hillsborough County Medical Association.

† Estimates of likely ineligible physicians were calculated assuming approximately 40% of invited participants were ineligible to participate (unless noted).

* According to records obtained from the University of South Florida, 52.5% of medical residents invited to participate in the present study were not married and therefore not likely to be eligible to participate. If approximately 25% of these individuals were permanently living with their partners, an additional 80 medical residents were likely eligible.

**Approximately 1,300 members of the Hillsborough County Medical Association (HCMA) were invited to participate. However, because the HCMA is composed of physicians and medical residents located within Hillsborough County (Florida), it is likely that a significant overlap occurred between the individuals invited to participate from HCMA and other recruitment sources (i.e., USF faculty and USF medical residents). If a large percentage (e.g., 70%) of USF medical residents and faculty were members of HCMA (and thus already invited to participate), the total number of HCMA members who had not previously received an email invitation could be approximately 700 individuals.

Thus, the number of eligible physicians invited to participate was estimated at 1,312. Based on this estimate, the response rate for physicians at Time 1 was 13.7% (180 out of 1,312); while at Time 2, 86.7% of physicians participated. For spouses, 83.1% participated at Time 1 and 81.5% participated at Time 2. Response rates and the number of physicians and spouses participating at Times 1 and 2 are provided in Table 3. The number of physicians participating from each recruitment source is provided in Table 4.

Although a response rate of approximately 38% was anticipated for physicians at Time 1 (Beebe, Locke, Barnes, Davern, & Anderson, 2007), several factors likely led to the decreased participation rate obtained. Contrary to the investigation conducted by Beebe et al., that employed a cross-sectional, self-report methodology, the present study required physicians to participate at multiple time points. Additionally, physicians were asked to recruit the participation of their spouses/partners at multiple time points as well. Thus, while a higher response rate may have been obtained if the current study was cross-sectional, or self-report only; the design of the present study may have played a role in detracting participants.

However, while the initial response rate at Time 1 may have been lower than expected, response rates for physicians at Time 2 and for spouses at Times 1 and 2 were quite high. For example, while 83.1% of spouses participated at Time 1, nearly the same percentage (81.5%) participated at Time 2. These response rates suggest that although physicians may have initially been reluctant to participate at Time 1, those that did participate were willing to do so at multiple time points, as were their spouses/partners.

Table 3

Physician and Spouse Response Rates (Times 1 and 2)

Participant type	Time	Invited	Opted out / ineligible	Participants	Response rate
Physician	1	1342	79/ 30	180	13.7%
Physician	2	180	2 / 0	156	86.7%
Spouse	1	178	0	148	83.1%
Spouse	2	178	3	145	81.5%

Table 4

Physician Response Rates by Recruitment Source (Time 1)

Recruitment source	Approx. # eligible	Participants	Response rate
USF medical residents	369	35	9.5%
USF faculty	165	28	17.0%
HCMA	420	†67	16.0%
North Collier hospital	236	41	17.4%
Online	112	3	2.7%
Snowball sample	40	†6	15.0%
Total	1342		
Opted out / ineligible	79 / 30		
Grand total	1312	180	13.7%

Note. HCMA=Hillsborough County Medical Association
† The recruitment source for 69 participants could not be verified. Therefore, these individuals were assigned to HCMA and snowball sampling in proportion to the total response rate.

Study Design

Data were collected at two time points separated by approximately three months. A three month time lag, although relatively short, was utilized to attempt to examine specific demands (family demands and work demands) that may have been present in the lives of the participants during the course of the study. Because a large portion of the participants were expected to have school-aged children, a three month time interval ensured that participants' children would likely be attending school at Time 1, but not at Time 2. In other words, participants' family demands would likely be different across time points. Additionally, to examine if target respondents' work demands fluctuated over time, a measure of work demands was included in the present study as a statistical control, and was assessed at both time points.

Previous crossover studies have employed time delays that have ranged from 2 to 18 months, although limited justification for the length of time chosen has been provided. For example, while Hammer et al. (2005) examined depressive symptoms, WFC, and work family enrichment using a time lag of 12 months, they provided no justification for the length of time selected. On the other hand, Westman, Etzion, et al. (2004) employed a two month time lag in their investigation of the anxiety of unemployed individuals that was necessitated by the frequency of the individuals' visits to the unemployment office. Westman, Vinokur, et al. (2004) employed a time lag of 18 months in their investigation of marital dissatisfaction in the Russian Army, and suggested that the time lag was appropriate due to a pending downsizing of the Army.

Measures

Provision of Spousal Support. The provision of spousal support was measured using 20 items designed to assess emotional concern, instrumental support, informational support, and appraisal support. Few, if any, instruments exist that assess all four dimensions of House's (1981) conceptualization of social support. Therefore, the instrument developed for use in the present study included a combination of pre-existing items assessing each dimension of support adapted from Greenhaus, Parasuraman, and Wormley (1990), Hill (2005), and King, Mattimore, King, and Adams (1995), and items developed for the study based on House's definitions of social support.

Six items for each dimension were employed to assess emotional concern and instrumental support that were adapted from the Family Support Inventory for Workers (FSIW, King et al., 1995). Four items were employed to assess informational support including two items adapted from the FSIW (King et al., 1995) that originally assessed emotional concern but were modified to assess informational support, one item adapted from Hill (2005), and one item that was developed based on House's (1981) definition of informational support. Similarly, four items were employed to assess appraisal support including two items adapted from Greenhaus et al. (1990), one item adapted from Hill (2005), and one item that was developed based on House's (1981) definition of appraisal support. All items were rated using a five-point Likert scale from (1) "strongly disagree" to (5) "strongly agree," with higher scores on the measure indicating higher levels of social support. To assess the provision of spousal support, items were reworded to focus on the act of providing support as opposed to receiving support. Provision of spousal support items are provided in Appendix A.

Because the provision of spousal support measure was developed for the present study using a combination of pre-existing and newly developed items, the psychometric soundness of the measure was assessed. First, the internal consistency reliability of the scale was assessed using Cronbach's coefficient alpha. Coefficient alphas for the overall provision of spousal support scale were acceptable across both samples (Physicians Time 1: α=.78; Physicians Time 2: α=.80; Spouses Time 2: α=.74). However, the coefficient alphas for two subscales were unacceptably low (e.g., informational support α=.47, appraisal support α=.23).

To investigate if the exclusion of individual items would increase the reliability of these subscales, item analyses were conducted. For example, while the exclusion of item 18 ("I tend to criticize my spouse/partner when he/she does something wrong.") increased the reliability of the appraisal support subscale from .23 to .48, the reliability was still well below acceptable levels. Additionally, when item analyses were conducted to investigate the impact of removing the entire informational and appraisal support subscales from the provision of spousal support scale, the reliability of the total scale actually decreased from .78 to .74. Thus, based on these results, item analyses did not suggest that removing any items or subscales would substantially increase the reliability of the overall provision of spousal support scale.

To test the factor structure of the provision of spousal support scale, physician and spouse responses were subjected to exploratory principle factor analyses using promax rotation. For both samples, six factors were extracted with eigenvalues greater than one. These factors accounted for approximately 60% of the total variance for both physician and spouse responses. Although six factors were identified, an examination of the factor

loadings greater than .40, as suggested by Ford, MacCallum, and Tait (1986), did not reveal an interpretable factor structure.

Additionally, in an attempt to replicate the four-factor structure as discussed by House (1981), confirmatory factor analyses were conducted using maximum likelihood estimation. Specifically, physicians' and spouses' responses were entered into MPlus (Muthen & Muthen, 1998) and a four factor model was specified with each item serving as an indicator of its intended latent construct. Across both samples, when a four factor solution was specified the model estimation did not converge, indicating severe problems with the specified model. Despite repeated attempts to remove individual items that did not fit the intended model; these data did not fit a four factor solution.

To examine if the data supported a unitary construct as opposed to the four factor model, a one factor model was specified. Fit statistics indicated the fit of the data to a one factor solution was "mediocre" although within acceptable parameters. For example, across both samples, RMSEA values as well as standard root mean square residual values (SRMSR) were approximately .10 indicating a "mediocre" level of fit. Fit statistics for the one factor solution for each sample are provided in Table 5. Thus, results of the confirmatory factor analyses supported keeping the scale as a unitary construct. Therefore, a composite measure of provision of spousal support that included all four subscales was used in the main analyses.

Table 5

Fit Statistics from the Confirmatory Factor Analyses for the Provision of Support Scale

Sample (Time)	N	X^2	df	p<	CFI	TLI	RMSEA	SRMSR
Physician (1)	175	428.29	170	.001	.65	.61	.09	.09
Physician (2)	150	459.49	170	.001	.62	.58	.11	.10
Spouse (2)	139	404.84	170	.001	.60	.55	.10	.10

Receipt of Spousal Support. As mentioned earlier, a limitation of previous social support research is that the receipt and provision of social support have seldom been simultaneously assessed; therefore, the strength of the relationship between these two constructs is relatively unknown. Thus, for exploratory purposes the receipt of spousal support was assessed using a modified version of the provision of spousal support scale described above. Receipt of spousal support items are provided in Appendix B.

Because the receipt of spousal support measure was developed for the present study, the psychometric soundness of this measure was also assessed. Consistent with the results of the provision of spousal support scale, the coefficient alpha for the receipt of spousal support scale was high (α=.92) while the reliability of the appraisal support subscale (α=.44) was below acceptable levels.

To test the factor structure of the receipt of spousal support scale, spouses' responses were subjected to an exploratory principle factor analysis using promax rotation. In this analysis, four factors were extracted with eigenvalues greater than one, accounting for 65% of the variance in spouse responses. However, upon examination, factor loadings for the four-factor solution identified did not match the four factors identified by House (1981). Factor loadings for the four factors are provided in Table 6.

Table 6

Factor Loadings from the Exploratory Factor Analysis on the Receipt of Support Scale

Item (Type)	I	II	III	IV
My spouse/partner asks me regularly about my day. (E)	**0.68**	0.36	0.36	0.06
My spouse/partner occasionally doesn't want to listen to my problems. (E)*R	**0.65**	0.37	0.41	-0.05
My spouse/partner makes time for me if I need to discuss something. (E)	**0.76**	0.39	0.48	0.12
When I talk about my day, my spouse/partner doesn't really listen. (E) *R	**0.68**	0.37	0.48	0.04
When something is bothering me, my spouse/partner shows that he/she understands how I am feeling. (E)	**0.79**	0.57	0.53	0.10
I have difficulty discussing things with my spouse/partner. (E) *R	**0.71**	0.37	0.64	-0.03
My spouse/partner burdens me with things that he/she could handle on his/her own. (Inst) *R	0.54	0.44	**0.72**	0.10
My spouse/partner cooperates with me to get things done around the house. (Inst)	**0.80**	0.41	0.64	0.41
It seems as if my spouse/partner is always asking me to do something for him/her. (Inst) *R	0.40	0.30	**0.73**	-0.02
I can depend on my spouse/partner to help out when I am running late. (Inst)	**0.68**	0.28	0.58	0.31
If I had to go out of town, my spouse/partner would have a hard time managing household responsibilities. (Inst) *R	0.63	-0.04	**0.65**	0.28
When I am having a difficult week, my spouse/partner tries to do more of the work around the house. (Inst)	**0.77**	0.48	0.58	0.29
My spouse/partner often provides a different way at looking at problems for me. (Inf)	0.49	**0.65**	0.35	0.27
I regularly ask my spouse/partner for advice about a problem. (Inf)	0.37	**0.66**	0.33	0.09
My spouse/partner sometimes forgets to keep me informed of things I need to know. (Inf) *R	**0.60**	0.45	0.51	0.19
My spouse/partner keeps me informed about news or events that are occurring. (Inf)	**0.56**	**0.56**	0.39	0.28
My spouse/partner recognizes when I do a good job. (A)	**0.75**	0.46	0.40	0.14
My spouse/partner tends to criticize me when I do something wrong. (A) *R	0.44	0.20	**0.52**	-0.43
My spouse/partner gives me helpful feedback. (A)	0.71	**0.75**	0.47	0.26
My spouse/partner gives me advice about improving my performance at home when needed. (A)	0.16	0.22	0.08	**0.71**
Eigenvalue	8.78	1.73	1.26	1.16
Percent of Total Variance	43.88	8.66	6.30	5.79

Note. Factor loadings in bold represent the largest factor loading for each item.

E = Emotional Support, Inst = Instrumental Support, Inf = Informational Support, A = Appraisal Support.

*R indicates a reverse coded item.

Consistent with the analysis described for the provision of support scale, confirmatory factor analyses were also conducted on the receipt of spousal support scale. In these analyses spouses' responses were entered into MPlus and a four factor and a one factor model were specified. Results of confirmatory factor analyses suggested that although a four factor model converged, the data fit a unitary model slightly better than the four factor model. Fit statistics for the one factor and the four factor solutions are provided in Table 7. Thus, results of confirmatory factor analyses supported keeping the receipt of spousal support scale as a unitary construct.

Table 7

Fit Statistics from the Confirmatory Factor Analyses for the Receipt of Support Scale

Sample (Factor)	N	X^2	df	p<	CFI	TLI	RMSEA	SRMSR
Spouse (1)	137	426.61	170	.001	.82	.80	.11	.08
Spouse (4)	137	492.85	166	.001	.78	.75	.12	.08

Perceived Family Demands. Perceived family demands were assessed using three items based on Aryee et al. (1999). These items assess the extent that individuals perceive their family makes demands of them and were rated using a five-point Likert scale from (1) "never" to (5) "always." The coefficient alphas for this scale obtained in the present study were .84 (Time 1 and Time 2) for physicians and .90 (Time 1) and .88 (Time 2) for spouses. Perceived family demands items are provided in Appendix C.

Amount of Time Engaged in Family-Related Activities. The amount of time engaged in family-related activities was assessed with one open-ended item developed for this study, which is provided in Appendix C.

Work Interference with Family Conflict. WIF was assessed using the nine item Carlson et al. (2000) scale. Carlson et al. reported acceptable coefficient alphas for the subscales (from .78 to .87). Additionally, three items from the Carlson and Frone (2003) scale were employed to assess internally-generated WIF. Carlson and Frone reported an acceptable coefficient alpha for the subscale (α=.79). A seven-point Likert scale from (1) "never" to (7) "always" was used for all items, with higher scores indicating higher levels of conflict. The coefficient alpha for the total 12-item scale obtained in the present study was .91 at Time 1 and .92 at Time 2. The time-based, strain-based, and behavior-based conflict subscales demonstrated high internal consistency reliability (from .88 to .91, Time 1; from .87 to .92, Time 2). Similarly, the coefficient alpha for the internally-generated conflict subscale obtained in the present study was .88 at Time 1 and .89 at Time 2. WIF items are provided in Appendix D.

Work Interference with Family Conflict: Spouse-Report. A limitation of previous work-family conflict research is that typically only self-report data have been collected (Greenhaus et al., 2006; Hammer et al., 2005). Therefore, to supplement the information provided by the target respondents and to address this limitation, physicians' spouses were asked to provide ratings of the WIF they felt their partner (the physician) experienced. Spouse-report WIF was assessed using a modified version of the nine item Carlson et al. (2000) scale and employed the same Likert rating scale. The three Carlson and Frone (2003) items were excluded from the spouse-report scale due their internal focus (e.g., "When I am at home, I often think about work related problems"). Although hypotheses proposed above employed self-report measures of WIF, analyses were also conducted using spouse-report measures of WIF. The coefficient alpha for the spouse-

report WIF scale obtained in the present study was .91 at Time 1 and .88 at Time 2. The time-based, strain-based, and behavior-based conflict subscales also demonstrated high internal consistency reliability (from .84 to .89, Time 1; from .81 to .89, Time 2). Spouse-report WIF items are provided in Appendix E.

Perceived Work Demands. Perceived work demands were assessed using three items based on Aryee et al. (1999). These items assess the extent that individuals perceive their jobs make demands of them and were rated using a five-point Likert scale from (1) "never" to (5) "always." The coefficient alpha for this scale obtained in the present study was .90 at Time 1 and .87 at Time 2. Perceived work demands items are provided in Appendix F.

Amount of Time Engaged in Work-Related Activities. The amount of time spent engaged in work-related activities was assessed with one open-ended item developed for this study which is provided in Appendix F.

Demographic Variables. Demographic variables assessed included gender, ethnicity, generation, marital status, length of relationship/marriage, number/age of children; job type, area of practice, and length of practice in years (physicians only); highest level of education obtained, employed in a medical profession, and employed as a physician (spouses/partners only). Demographic items are provided in Appendix G.

Procedure

Target respondents (i.e. physicians, faculty physicians, and medical residents) were recruited from the University of South Florida medical system, Hillsborough County Medical Association (FL), and North Collier Hospital (FL) using a non-probability convenience sampling strategy. Additionally, a non-probability snowball sampling strategy was used to recruit physicians from various other sources. Due to the current study's focus on crossover effects occurring within the couple, spouses/partners of the target respondents were recruited to participate in the study with the assistance of the target respondents.

An email invitation was sent to physicians (Appendices H and I) from all recruitment sources, inviting them to participate in the present study. The physician email invitation included (1) a brief description of the study, (2) eligibility criteria, (3) a statement explaining the importance of gathering information from their spouse/partner, (4) a link participants could use to access the survey, (5) a link individuals could use to decline participation in the study, (6) and contact information for the author.

The physician survey included measures of the amount of time engaged in work-related activities, perceived work demands, work interference with family conflict, the amount of time engaged in family-related activities, perceived family demands, provision of spousal support, and demographic information (Time 1 only).

Physicians were asked to enter four pieces of information that allowed their responses to be linked across both survey administrations and with their spouses' responses. First, physicians were asked to provide their spouses' primary email address. Second, physicians were asked to provide their own primary email address. Finally,

physicians were asked to provide their own birthday (month and day only, e.g., 05/14) as well as their spouses' birthday (month and day only, e.g., 08/08). The survey was designed so that individuals could not advance to subsequent sections of the survey without providing these four pieces of information. Upon completion of the survey, physicians submitted the survey electronically and an email invitation was sent to their spouse/partner inviting them to participate (Appendix J).

The spouse/partner email invitation included (1) a brief description of the study, (2) a statement explaining the importance of their participation, (3) a link participants could use to access the survey, (4) a link individuals could use to decline participation in the study, (5) and contact information for the author. Approximately one week after each spouse/partner email invitation was sent, reminder emails were sent (Appendix K).

The spouse/partner survey included measures of the amount of time engaged in family-related activities, perceived family demands, their spouse's (physician's) work interference with family conflict, receipt of spousal support (Time 1 only), provision of spousal support (Time 2 only), and demographic information (Time 1 only). Spouses were asked to answer the same four linking questions as physicians (email addresses and birthdates). The spouse/partner survey was also designed so that individuals could not advance to subsequent sections of the survey without providing these four pieces of information.

To promote participation at Time 2 of the present study, a method commonly employed in clinical psychology research was used, in which monetary donations are made on behalf of the participants to a charity of their choosing. After submitting their surveys at Time 1 of the study, participants selected a charity from a list provided (All

Children's Hospital, St. Jude Children's Research Hospital, or Moffitt Cancer Center). Participants were informed that the charity they chose would receive a donation, as a way to thank them for their own and their spouse's participation in the study at Time 2. Additionally, to promote participation, individuals were offered a summary of the results.

Approximately three months after participants completed the survey at Time 1, individual email invitations were sent inviting their participation at Time 2 (Appendix L). Approximately one week after each email invitation was sent, reminder emails were sent (Appendix M). Participation in the current study was voluntary, there were no negative consequences associated with failing to complete the study for participants, and all individual responses were kept confidential.

Chapter Three

Analyses and Results

Preliminary Data Steps

Before analyses were conducted, physicians' and spouses' responses across both time points were linked using responses from the four matching questions described earlier (birthdates and email addresses). When inconsistencies in one of the matching questions occurred (e.g., an email address differed between physician and spouse reports) the remaining three matching questions were used. Once matched, physicians' and spouses' responses were merged to create a final database, with each couple's responses across both time points representing one case in the dataset. This final database was used for all subsequent analyses. Personally identifying information (e.g., email addresses and birthdates) was purged from the final database.

First, outliers were investigated. For the variables that assessed the number of hours participants spent engaged in family-related activities, responses ranged from 0 to 168 hours per week. However, because the intent of this item was to capture the amount of time individuals spent engaged in family-related activities (e.g., chores, child care), a response of 168 hours per week (24 hours per day for 7 days) was unrealistic. Therefore, these responses (N=2) were modified to 130 hours per week to equal the maximum amount of time participants spent engaged in work-related activities. No other outliers were detected in the dataset.

After reverse scoring items where appropriate, scale scores were created for each study variable by taking the average of all responses for each measure. Preliminary analyses were conducted to investigate assumptions required of the data when conducting multiple regression analyses. First, the relationship between each predictor and criterion was assessed for linearity. For example, the relationship between physicians' WIF and spouses' family demands was graphed, and the resulting distribution examined. Next, the normality of the data was investigated by examining the skew and kurtosis of the data. With the exception of family hours which demonstrated a positive skew, all other variables exhibited only minor skew and kurtosis. Finally, the homoscedasticity of errors was investigated by examining a scatter plot of standardized residuals. In general, residuals were evenly distributed throughout the distribution; thus, no modifications or transformations were made to the data.

Next, to ensure that there were no differences across sampling sources or demographic characteristics among target respondents; Box's M test was used to investigate the homogeneity of covariance matrices. Specifically, there were no differences found in covariance matrices across physician job type (*Box's M*=80.5, n.s.), gender (*Box's M*=16.4, n.s.), or generation (*Box's M*=50.2, n.s.), indicating no demonstrable differences across sampling sources. Although no differences were found, slight differences were observed on variables assessing hours spent engaged in family-related activities across physicians' gender. Specifically, while male physicians and female physicians spent nearly equal numbers of hours engaged in paid employment (male: *M*=62.3, *SD*=18.8, female: *M*=61.4, *SD*=16.8), female physicians spent almost ten hours more per week engaged in family related activities (*M*=30.1, *SD*=21.6) than their

male colleagues (*M*=20.8, *SD*-15.4). Therefore, to account for these differences, physicians' gender was used as a control variable in analyses where applicable.

Although not the main focus of the present study, differences across demographic characteristics of the spouse sample were also investigated. As opposed to the physician sample, differences were observed in covariance matrices across spouses' gender (Box's M=71.2, p<.01) and if the spouse was employed as a physician (Box's M=70.5, p<.01). However, upon further examination, hours spent engaged in family-related activities was the only variable found to differ across categories. For example, while male spouses reported spending an average of 21.8 hours engaged in family-related activities (*SD*=16.6); female spouses reported an average of 49.7 hours (*SD*=29.3). Furthermore, spouses who were employed as physicians reported spending an average of 26.1 hours engaged in family-related activities (*SD*=17.3) as compared to 43.6 hours (*SD*=31.8) for spouses not employed as physicians. Therefore, to account for these differences spouses' gender was used as a control variable in analyses where applicable.

Descriptive statistics for study variables for physicians and spouses are provided in Table 8. As expected, spouses reported spending more hours engaged in family-related activities (Time 1: *M*=39.6 *SD*=29.9) than physicians (Time 1: *M*=23.9 *SD*=18.1); while physicians reported spending more hours engaged in paid employment (Time 1: *M*=61.8 *SD*=17.9; Time 2: *M*=61.2 *SD*=17.6) than spouses (Time 2: *M*=31.2, *SD*=25.7). Despite the high number of work hours reported by physicians, their reports (and their spouses' reports) of the WIF they experienced constituted an average level of WIF.

Table 8

Descriptive Statistics for Study Variables

	Physicians								Spouses							
Variable	Items	Min	Max	Mean	SD	Skew	Kurt	α	Items	Min	Max	Mean	SD	Skew	Kurt	α
Time 1																
Work hours	1	20.0	130.0	61.8	17.9	0.5	1.2	--								
Work demands	3	1.0	5.0	3.2	0.8	0.1	-0.2	0.90								
WIF†	12	1.0	7.0	4.0	1.0	0.3	0.7	0.91	9	1.0	7.0	4.0	1.2	0.0	-0.4	0.91
Family hours	1	0.0	118.0	23.9	18.1	1.7	4.5	--	1	1.0	130.0	39.6	29.9	0.9	-0.1	--
Family demands	3	1.0	4.7	2.2	0.8	0.6	0.3	0.84	3	1.0	5.0	2.7	0.9	0.1	0.1	0.90
Spousal support*	20	2.6	4.6	3.6	0.4	-0.1	-0.2	0.78	20	1.7	5.0	3.5	0.6	-0.4	0.3	0.92
Time 2																
Work hours	1	20.0	120.0	61.2	17.6	0.5	0.8	--	1	0.0	105.0	31.2	25.7	0.3	-0.7	--
Work demands	3	1.3	5.0	3.2	0.8	0.3	-0.5	0.87								
WIF†	12	2.0	7.0	4.0	1.0	0.3	-0.2	0.92	9	1.0	7.0	3.9	1.0	0.2	-0.2	0.88
Family hours	1	0.0	110.0	24.4	16.0	1.9	7.1	--	1	3.0	130.0	41.9	31.7	0.8	-0.2	--
Family demands	3	1.0	4.7	2.2	0.7	0.4	0.4	0.84	3	1.0	5.0	2.7	0.8	0.1	0.1	0.88
Spousal support*	20	2.3	4.5	3.5	0.4	-0.4	-0.1	0.80	20	2.6	4.7	3.9	0.4	-0.4	0.4	0.74

Note. Physicians: Time 1 N =180, Time 2 N =156; Spouses: Time 1 N=148, Time 2 N=145.

† Physicians reported their own WIF at both time points. Spouses provided ratings of the WIF they felt physicians experienced at both time points.

* Physicians reported their own provision of spousal support at both time points. Spouses reported their receipt of spousal support at Time1 and their own provision of spousal support at Time 2.

Inter-Correlations Among Variables

Inter-correlations among physician variables at Times 1 and 2 are provided in Table 9. Consistent with previous work-family conflict research (Frone, 2003), there was no relationship between gender and WIF (Time 1: r=.00, n.s.; Time 2: r=-.02, n.s.). There were also no gender differences in the amount of support provided (Time 1: r=.08, n.s.; Time 2: r=.01, n.s.). Physicians' family hours were unrelated to their perceived family demands (Time 1: r=-.04, n.s.; Time 2: r=-.07, n.s.), suggesting that perceived family demands and family hours may operate differentially and were therefore considered separately. Inter-correlations among spouse variables at Times 1 and 2 are provided in Table 10. Consistent with previous research that found that individuals who received support were more likely to provide support at a later time (Bozionelos, 2004; Tyler, 2006), spouses who received spousal support at Time 1 reported providing higher levels of spousal support at Time 2 (r=.31, p<.01). Spouses' reports of physicians' WIF at Time 1 and Time 2 were strongly related (r=.74, p<.01), and did not differ by gender (Time 1: r=.05, n.s.; Time 2: r=.10, n.s.) or generation (Time 1: r=-.05, n.s.; Time 2: r=-.09, n.s.). Contrary to the relationship observed in the physician sample, spouses' family hours were moderately related to their perceived family demands (Time 1: r=.32, p<.01; Time 2: r=.38, p<.01). Inter-correlations among physician and spouse variables at Times 1 and 2 are provided in Table 11. Physicians' reports of the extent that their work interfered with their family life was only modestly related to the extent that their spouses reported it did (Time 1: r=.48, p<.01; Time 2: r=.57). These findings suggest that different results may be found when using physician or spouse responses.

Table 9

Inter-Correlations among Physician Variables

Time 1		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Gender	-													
2	Generation	-.24**	-												
3	# of children	-.36**	.49**	-											
4	Work hours	-.02	-.19*	-.18*	-										
5	Work demands	.07	-.15	-.00	.43**	-									
6	Family hours	.25**	.01	.13	-.28**	-.19*	-								
7	Family demands	.08	-.10	.03	-.07	.32**	-.04	-							
8	WIF	.00	-.13	-.07	.37**	.71**	-.29**	.44**	-						
9	Support provided	.08	.01	-.08	-.07	-.38**	.24**	-.34**	-.53**	-					
Time 2															
10	Work hours	-.02	-.17**	-.13	.67**	.41**	-.20**	-.06	.39**	-.10	-				
11	Work demands	.07	-.11	-.06	.39**	.78**	-.22**	.28**	.69**	-.39**	.56**	-			
12	Family hours	.15	-.12	.10	-.19**	-.20**	.69**	-.11	-.24**	.19**	-.18**	-.23**	-		
13	Family demands	.05	-.02	.07	.01	.36**	-.05	.66**	.41**	-.35**	.12	.40**	-.07	-	
14	WIF	-.02	-.11	.01	.34**	.59**	-.28**	.37**	.80**	-.56**	.52**	.74**	-.23**	.47**	-
15	Support provided	.01	-.01	-.13	-.13	-.31**	.22**	-.35**	-.48**	.82**	-.20**	-.40**	.16	-.38**	-.56**

Note. N ranges from 145 to 180.
Gender: 1=Male, 2=Female.
* p<.05; ** p<.01.

Table 10

Inter-Correlations among Spouse Variables

Time 1		1	2	3	4	5	6	7	8	9	10	11
1	Gender	-										
2	Generation	.12	-									
3	# of children	.36**	.56**	-								
4	Family hours	.48**	-.15	.29**	-							
5	Family demands	.12	-.13	.02	.32**	-						
6	Spouse-report WIF	.05	-.05	-.11	.11	.47**	-					
7	Support received	-.01	.03	.04	-.08	-.48**	-.66**	-				
Time 2												
8	Work hours	-.50**	-.10	-.29**	-.59**	-.23**	-.10	.14	-			
9	Family hours	.48**	-.24*	.26**	.75**	.29**	.15	-.14	-.65**	-		
10	Family demands	.17	-.20*	.10	.23**	.76**	.47**	-.49**	-.17*	.38**	-	
11	Spouse-report WIF	.10	-.09	.05	.05	.40**	.74**	-.63**	-.15	.17*	.50**	-
12	Support provided	.16	-.04	-.16	.10	-.12	-.19*	.31**	-.14	.25**	-.14	-.20*

Note. N ranges from 100 to 148.
Gender: 1=Male, 2=Female.
* p<.05; ** p<.01.

Table 11

Inter-Correlations among Physician and Spouse Variables

Time 1		1	2	3	4	5	6	7	8	9	10
1	Work hours (P)	-									
2	Work demands (P)	.43**	-								
3	Family hours (P)	-.28**	-.19*	-							
4	Family hours (S)	.01	.01	.20*	-						
5	Family demands (P)	-.07	.32**	-.04	-.10	-					
6	Family demands (S)	.08	.13	.01	.32**	.18*	-				
7	WIF (P)	.37**	.71**	-.29**	-.01	.44**	.18*	-			
8	Spouse-report WIF (S)	.27**	.41**	-.20*	.11	.17*	.47**	.48**	-		
9	Support provided (P)	-.07	-.38**	.24**	-.06	-.34**	-.19*	-.53**	-.45**	-	
10	Support received (S)	-.04	-.26**	.21*	-.08	-.27**	-.48**	-.39**	-.66**	.54**	-
Time 2											
11	Work hours (P)	.67**	.41**	-.20*	.00	-.06	.19*	.39**	.35**	-.10	-.16
12	Work demands (P)	.39**	.78**	-.22**	-.09	.28**	.15	.69**	.43**	-.39**	-.33**
13	Work hours (S)	-.03	-.06	.01	-.59**	.13	-.23**	-.11	-.10	.05	.14
14	Family hours (P)	-.19*	-.20**	.69**	.16	-.11	.05	-.24**	-.16	.19*	.12
15	Family hours (S)	.09	.09	.03	.75**	-.06	.29**	.07	.15	-.02	-.14
16	Family demands (P)	.01	.36**	-.05	.02	.66**	.14	.41**	.25**	-.35**	-.27**
17	Family demands (S)	.13	.24**	-.09	.23*	.21*	.76**	.26**	.47**	-.17*	-.49**
18	WIF (P)	.34**	.59**	-.28**	-.03	.37**	.19*	.80**	.45**	-.56**	-.40**
19	Spouse-report WIF (S)	.30**	.40**	-.24**	.05	.23*	.40**	.52**	.74**	-.43**	-.63**
20	Support provided (P)	-.13	-.31**	.22**	-.03	-.35**	-.22*	-.48**	-.47**	.82**	.61**
21	Support provided (S)	-.01	.00	-.12	.10	-.09	-.12	-.09	-.19*	.17*	.31**

Note. N ranges from 126 to 180.
(P)=Physician variable, (S)=Spouse variable.
* p<.05, ** p<.01.

Table 11 (Continued)

Time 2		11	12	13	14	15	16	17	18	19	20
11	Work hours (P)	-									
12	Work demands (P)	.56**	-								
13	Work hours (S)	-.11	-.00	-							
14	Family hours (P)	-.18*	-.23*	.03	-						
15	Family hours (S)	.15	.07	-.65**	.07	-					
16	Family demands (P)	.12	.40**	.04	-.07	-.01	-				
17	Family demands (S)	.21*	.20*	-.17*	-.04	.38**	.18*	-			
18	WIF (P)	.52**	.74**	-.08	-.23**	.10	.47**	.28**	-		
19	Spouse-report WIF (S)	.38**	.42**	-.15	-.26**	.17*	.25*	.50**	.57**	-	
20	Support provided (P)	-.20*	-.40**	.10	.16*	-.06	-.38**	-.18*	-.56**	-.55**	-
21	Support provided (S)	.03	.04	-.14	-.04	.25**	-.08	-.14	-.08	-.20*	.18*

Note. N ranges from 126 to 180.
(P)=Physician variable, (S)=Spouse variable.
* p<.05, ** p<.01.

Hypotheses 1, 2, and 3

Hypotheses 1, 2, and 3 investigated four proposed theoretical antecedents of the provision of spousal support. These hypotheses were examined simultaneously using one regression analysis. In this analysis, physicians' provision of spousal support at Time 2 served as the dependent variable. Physician variables assessed at Time 1 (provision of spousal support, perceived family demands, amount of time spent engaged in family-related activities and WIF) were entered first. Physician variables assessed at Time 2 (perceived family demands, amount of time spent engaged in family-related activities and WIF) were entered in the next step. Physicians' gender was entered last as a control variable. Results of the multiple regression analysis conducted to test these hypotheses are provided in Table 12. Results of an additional analysis conducted using spouse-report data are provided in Table 13.

First, Hypothesis 1 predicted that physicians who reported providing higher levels of spousal support at Time 1 would report providing higher levels of spousal support at Time 2. Results indicated that physicians' provision of spousal support at Time 1 was predictive of their provision of spousal support three months later, at Time 2 (β=.78, p <.001). Thus, Hypothesis 1 was supported.

Next, Hypothesis 2 proposed that physicians' family demands at Time 1 would be predictive of their provision of spousal support at Time 2. Despite a significant relationship at the correlational level (r=-.35, p<.01), regression analyses suggested that physicians' perceived family demands at Time 1 were not predictive of their provision of spousal support at Time 2 (β=.10, n.s.). However, synchronous relationships were found (Time 1: β=-.19, p < .05; Time 2: β=-.14, p < .05). These findings suggested that

physicians who reported higher levels of perceived family demands also reported providing lower levels of spousal support at the same point in time. Additionally, the relationship between physicians' family hours at Time 1 and their provision of spousal support at Time 2 was investigated (Hypothesis 2). Findings indicated that physicians' family hours were not related to the support they reported providing in lagged (β=.04, n.s.) or synchronous relationships (Time 1: β=.09, n.s.; Time 2: β=-.03, n.s.). In sum, Hypothesis 2 received partial support.

Finally, the relationship between physicians' WIF at Time 1 and their provision of spousal support at Time 2 was examined (Hypothesis 3). Although correlation analyses supported a negative relationship (r=-.48, p<.01), regression analyses failed to find support for the relationship between these two variables (β=.13, n.s.). However, synchronous relationships were found (Time 1: β=-.43, p < .001; Time 2: β=-.19, p < .05). These findings suggested that physicians who reported higher levels of WIF also reported providing less spousal support at that time. Thus, Hypothesis 3 received partial support. Results of additional analyses conducted using spouse-report data were consistent with results using physician-report data.

Hypotheses 4a and 4b

Hypotheses 4a and 4b investigated the crossover of physicians' WIF on their spouses' family demands. These hypotheses proposed that higher levels of physicians' WIF would be predictive of higher levels of perceived family demands and family hours for their spouses. This relationship was expected to exist over time (Hypothesis 4a) as well as synchronously (Hypothesis 4b).

These hypotheses were examined using two sets of regression analyses. In the first set of analyses, spouses' perceived family demands at Time 2 served as the dependent variable. Spouses' perceived family demands and spouses' family hours at Time 1 were entered first. Physicians' WIF was entered in the next step. Physicians' gender was entered last as a control variable. In the second set of regression analyses, spouses' amount of time spent engaged in family-related activities was used as the dependent variable. Results of multiple regression analyses conducted to test these hypotheses are provided in Tables 14 and 15.

First, the lagged relationship between physicians' WIF at Time 1 and spouses' perceived family demands at Time 2 was examined (Hypothesis 4a). Results indicated that physicians' WIF at Time 1 was not related to their spouses' perceived family demands at Time 2 (β=.10, n.s.). Additionally, the lagged relationship between physicians' WIF at Time 1 and their spouses' family hours at Time 2 was examined (Hypothesis 4a). Results also suggested that there was no lagged relationship between physicians' WIF and their spouses family hours (β=.03, n.s.). However, results supported a main effect for gender (β=-.18, $p < .01$) in which spouses of male physicians reported spending more hours engaged in family-related activities than spouses of female physicians. In sum, Hypothesis 4a received no support.

Next, the synchronous relationship between physicians' WIF and their spouses' perceived family demands was examined (Hypothesis 4b). Findings indicated that physicians' WIF at Time 2 was related to their spouses' perceived family demands at Time 2 (β=.13, $p < .05$) and explained additional variance beyond the spouses' variables (ΔR^2=.02, $p<.05$). The synchronous relationship between physicians' WIF and their

spouses' family hours at Time 2 was also examined (Hypothesis 4b); however, no synchronous relationship was found (β=.09, n.s.). Consistent with results reported above, a gender effect was found (β=-.18, p <.05) in which spouses of male physicians reported spending more hours engaged in family-related activities than spouses of female physicians. Thus, Hypothesis 4b received partial support.

Results of regression analyses conducted using spouse-report WIF were generally consistent with analyses using physician-report WIF and are provided in Tables 16 and 17. While a significant relationship was found between physicians' gender and their spouses' family hours, no gender effects were found when spouse-reported WIF and spouses' gender was used. However, this result may be due to the lower number of spouses who reported their gender, making the analysis less powerful to detect significant effects.

Hypotheses 5 and 6

Hypotheses 5 and 6 proposed that the relationship between physicians' WIF at Time 1 and their spouses' family demands at Time 2 would be mediated by the provision of spousal support at Time 2. To examine these hypotheses, the Aroian version of the Sobel test of indirect effects was employed (Sobel, 1982). Contrary to the method described by Baron and Kenny (1986) in which a series of regression analyses are conducted to determine evidence of mediation, the Sobel test provides a significance test of the indirect effect. Specifically, the Sobel test examines if the indirect effect of the independent variable on the dependent variable is significantly different from zero, once the mediator is considered (Preacher & Hayes, 2004).

To calculate the Sobel test, four data elements are required: the regression coefficient for the relationship between the independent variable and the mediator, the regression coefficient for the relationship between the mediator and the dependent variable (with the IV included in the analysis), and the standard errors of both. The regression coefficients are multiplied together and divided by the standard error. The result is then compared to the unit normal distribution (Baron & Kenny, 1986; Preacher & Hayes, 2004; Preacher & Leonardelli, 2006).

Although the Sobel test has been described as superior to Baron and Kenny's (1986) method in terms of power and usability (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002), it is not without its limitations. First, the Sobel test is computed based on the assumption that the product of the two regression coefficients approximates a normal distribution. However, according to Bollen and Stine (1990), this is not always the case, especially when small samples are employed. Furthermore, the Sobel test has been described as very conservative (MacKinnon, Warsi, & Dwyer, 1995), requiring a large sample (e.g., N>500) to detect small effect sizes (Cohen, 1992). To deal with these limitations a bootstrapping methodology as described by Preacher and Hayes (2004), that has become a popular alternative to the Sobel test (Shrout & Bolger, 2002) was also employed.

An SPSS macro supplied by Preacher and Hayes (2004) was used to conduct bootstrapping analyses to examine the relationships described in Hypotheses 5 and 6. In this approach, numerous random samples are taken (with replacement) from the original sample. The indirect effect for each sample is calculated forming a bootstrap distribution

that is used to calculate a confidence interval. The confidence interval is examined and if it does not include 0, the indirect effect is significantly different from zero ($p < .05$).

Hypothesis 5 predicted that the relationship between physicians' WIF at Time 1 and their spouses' perceived family demands at Time 2 would be mediated by physicians' provision of spousal support at Time 2. To examine Hypothesis 5, two sets of regression analyses were conducted. Results of these analyses are provided in Tables 18 and 19.

First, physicians' provision of spousal support at Time 2 (the mediator) was regressed onto physicians' WIF at Time 1 (the independent variable). Results demonstrated that this relationship was significant (β=-.48, $p<.001$) indicating that physicians who reported higher levels of WIF at Time 1 reported providing lower levels of spousal support at Time 2. Next, spouses' family demands (the dependent variable) were regressed onto physicians' provision of spousal support at Time 2 and physicians' WIF at Time 1. Results indicated that the relationship between physicians' provision of spousal support at Time 2 and their spouses' perceived family demands at Time 2 was not significant (β=-.08, n.s.); however, the direct effect of physicians' WIF at Time 1 on spouses' perceived family demands at Time 2 was significant (β=.23, $p<.05$).

Regression coefficients and standard errors were obtained from these two regression analyses and were used in the Aroian version of the Sobel test of indirect effects (Preacher & Leonardelli, 2006). Results of the Sobel test suggested that the indirect effect of the independent variable on the dependent variable was not significantly different from zero (z=.85, n.s.).

To provide an additional examination of the relationship proposed in Hypothesis 5, the bootstrapping methodology described earlier was employed. Utilizing the SPSS macro supplied by Preacher and Hayes (2004), the relationship proposed in Hypothesis 5 was tested using 5000 bootstrapped samples. Consistent with results of the Sobel test, the 95% confidence interval that resulted from the bootstrapping analysis (-.03, .12) contained 0. Thus, findings of the bootstrapping method were consistent with the results of the Sobel test and indicated that physicians' provision of spousal support at Time 2 did not mediate the relationship between their WIF at Time 1 and their spouses' family demands at Time 2.

Hypothesis 5 also predicted that the relationship between physicians' WIF at Time 1 and their spouses' family hours at Time 2 would be mediated by physicians' provision of spousal support at Time 2. Utilizing the process described above this relationship was tested. Results of the Sobel test (z=.22, n.s.) and the bootstrapping method (-2.64, 3.67) suggested that this indirect effect was not significantly different from zero. In sum, Hypothesis 5 received no support.

Because the number of hours spouses' spent engaged in family related activities differed by gender, analyses were conducted to test if the relationships examined in Hypothesis 5 differed according to spouses' gender. Utilizing an SPSS macro provided by Preacher, Rucker, and Hayes (2007), moderated mediation was tested. Although Preacher et al. describe moderated mediation using five distinct models, model three, that tests for moderation of the relationship between the mediator and the dependent variable was the focus of this analysis. Through the utilization of the SPSS macro, the moderating effect of spouses' gender on the relationship between physicians' provision of spousal

support and spouses' family hours was tested. Results of this analysis provided an estimate of the indirect effect specified as well as the conditional indirect effect at each level of the moderator. Because the moderator was dichotomous, results of the test for moderated mediation provided an estimate of the indirect effect for each gender. Findings indicated that gender did not moderate the relationship between the mediator and the dependent variable, as the conditional indirect effect was not significant for male (z=.01, n.s.) or female spouses (z=-1.43, n.s.).

Hypothesis 6 predicted that the relationship between physicians' WIF at Time 1 and spouses' family demands at Time 2 would be mediated by spouses' provision of support at Time 2. To examine Hypothesis 6, two sets of regression analyses, like those described for Hypothesis 5, were conducted with spouses' provision of spousal support serving as the mediator. Results of these analyses are provided in Tables 20 and 21.

First, the relationship between physicians' WIF at Time 1 and their spouses' provision of spousal support at Time 2 was examined. This relationship was not significant (β=-.09, n.s.). However, when spouses' reports of physicians' WIF were employed in the analysis, a significant relationship was found (β=-.19, $p<.05$). Therefore, spouses' reports of physicians' WIF were employed in subsequent analyses. Next, the relationship between spouses' provision of spousal support at Time 2 and their perceived family demands at Time 2 was examined. This relationship was not significant (β=-.09, n.s.).

Regression coefficients and standard errors were obtained from these regression analyses and were used in the Sobel test and the bootstrapping method. Results of the Sobel test (z=.91, n.s.) and the bootstrapping method (-.01, .04) suggested that the indirect effect was not significantly different from zero.

Hypothesis 6 also predicted that the relationship between physicians' WIF at Time 1 and spouses' family hours at Time 2 would be mediated by spouses' provision of spousal support at Time 2. Utilizing the process described above this relationship was also tested.

First, the relationship between spouses' provision of spousal support at Time 2 and their own family hours at Time 2 was examined. This relationship was significant (β=.25, $p<.01$) indicating that spouses who reported providing higher levels of spousal support at Time 2 reported higher family hours at the same point in time. As the relationship between spouses' reports of physicians' WIF at Time 1 and spouses' provision of spousal support at Time 2 had already been examined, regression coefficients and standard errors were obtained from these two regression analyses and were used in the Sobel test and the bootstrapping method.

Despite significant relationships obtained using regression analyses, results of the Sobel test suggested that the indirect effect of the independent variable on the dependent variable was not significantly different from zero (z=1.64, $p<.10$) once the mediator was considered. Additionally, the confidence interval provided through the utilization of the bootstrapping method contained 0 (-3.2, .01) suggesting there was not an indirect effect. Thus Hypothesis 6 was not supported.

Utilizing the moderated mediation analysis described above, analyses were conducted to test if the relationships examined in Hypothesis 6 differed according to spouses' gender. First, the moderating effect of spouses' gender was tested on the relationship between the IV (physicians' WIF) and the mediator (spouses' provision of spousal support). Results did not support a conditional indirect effect for male (z=-.89, n.s.) or female spouses (z=-.85, n.s.). Next, the relationship between spouses' provision of spousal support and spouses' family hours (the DV) was tested for conditional indirect effects. Consistent with results described above, no moderating effects were found (male: z=-.21, n.s; female: z=-1.05, n.s.).

Table 12

Predicting Physicians' Provision of Spousal Support with Physician-Report WIF

	Provision of spousal support (P2)
Step and variable	β
Step 1	
Family hours (P1)	.04
Perceived family demands (P1)	.10
WIF (P1)	.13
Support provided (P1)	.78***
ΔR^2	.68***
Step 2	
Family hours (P2)	-.03
Perceived family demands (P2)	-.14*
WIF (P2)	-.19*
ΔR^2	.03**
Step 3	
Gender (P)	-.06
ΔR^2	.00
Total R^2	.71
Total F	80.25
N	147.00

Note. βs are standardized regression weights from the final step of the equation.
Gender: 1=Male, 2=Female.
(P) = Physician variable, (1) = Time 1, (2) = Time 2.
* p < .05, ** p < .01, *** p < .001.

Table 13

Predicting Physicians' Provision of Spousal Support with Spouse-report WIF

	Provision of spousal support (P2)
Step and variable	β
Step 1	
Family hours (P1)	.09
Perceived family demands (P1)	.13
Spouse-report WIF (S1)	-.02
Support provided (P1)	.73***
ΔR^2	.71***
Step 2	
Family hours (P2)	-.07
Perceived family demands (P2)	-.18*
Spouse-report WIF (S2)	-.18*
ΔR^2	.03*
Step 3	
Gender (P)	-.07
ΔR^2	.01
Total R^2	.74
Total F	74.31
N	116.00

Note. βs are standardized regression weights from the final step of the equation.
Gender: 1=Male, 2=Female.
(P) = Physician variable, (S) = Spouse variable, (1) = Time 1, (2) = Time 2.
* $p < .05$, *** $p < .001$.

Table 14

Predicting Spouses' Family Demands with Physician-Report WIF (Time 1)

Step and variable	Perceived family demands (S2) β	Family hours (S2) β
Step 1		
Family hours (S1)	-.06	.65***
Perceived family demands (S1)	.74***	.03
ΔR^2	.58***	.55***
Step 2		
WIF (P1)	.10	.03
ΔR^2	.01	.00
Step 3		
Gender (P)	-.09	-.18*
ΔR^2	.01	.03*
Overall R^2	.60	.57
Overall F	90.81	80.79
N	125.00	125.00

Note. βs are standardized regression weights from the final step of the equation.
Gender: 1=Male, 2=Female.
(P) = Physician variable, (S) = Spouse variable, (1) = Time 1, (2) = Time 2.
* $p < .05$, *** $p < .001$.

Table 15

Predicting Spouses' Family Demands with Physician-Report WIF (Time 2)

Step and variable	Perceived family demands (S2) β	Family hours (S2) β
Step 1		
Family hours (S1)	-.06	.66***
Perceived family demands (S1)	.74***	.07
ΔR^2	.58***	.58***
Step 2		
WIF (P2)	.13*	.08
ΔR^2	.02*	.01
Step 3		
Gender (P)	-.10	-.18**
ΔR^2	.01	.03**
Overall R^2	.61	.61
Overall F	88.20	89.82
N	120.00	120.00

Note. βs are standardized regression weights from the final step of the equation.
Gender: 1=Male, 2=Female.
(P) = Physician variable, (S) = Spouse variable, (1) = Time 1, (2) = Time 2.
* p < .05, ** p < .01, *** p < .001.

Table 16

Predicting Spouses' Family Demands with Spouse-Report WIF (Time 1)

Step and variable	Perceived family demands (S2) β	Family hours (S2) β
Step 1		
Family hours (S1)	-.02	.67***
Perceived family demands (S1)	.70***	.11
ΔR^2	.60***	.59***
Step 2		
Spouse-report WIF (S1)	.13	.01
ΔR^2	.01	.00
Step 3		
Gender (S)	.06	.11
ΔR^2	.00	.01
Overall R^2	.60	.60
Overall F	80.15	76.87
N	106.00	106.00

Note. βs are standardized regression weights from the final step of the equation
Gender: 1=Male, 2=Female.
(S) = Spouse variable, (1) = Time 1, (2) = Time 2.
*** $p < .001$.

Table 17

Predicting Spouses' Family Demands with Spouse-Report WIF (Time 2)

Step and variable	Perceived family demands (S2) β	Family hours (S2) β
Step 1		
Family hours (S1)	-.01	.67***
Perceived family demands (S1)	.65***	.07
ΔR^2	.60***	.59***
Step 2		
Spouse-report WIF (S2)	.25***	.09
ΔR^2	.05***	.01
Step 3		
Gender (S)	.05	.11
ΔR^2	.00	.01
Overall R^2	.65	.57
Overall F	90.37	81.51
N	105.00	105.00

Note. βs are standardized regression weights from the final step of the equation.
Gender: 1=Male, 2=Female.
(S) = Spouse variable, (1) = Time 1, (2) = Time 2.
*** $p < .001$.

Table 18

Regression Analyses for Mediation: Hypothesis 5 (Physician-Report WIF)

Step and variable	Provision of spousal support (P2) β	
Step 1		
WIF (P1)	-.48***	
Overall R^2	.23***	
Overall F	46.52	
N	156.00	
Step and variable	Perceived family demands (S2) β	Family hours (S2) β
Step 1		
WIF (P1)	.23*	.07
Provision of spousal support (P2)	-.08	-.02
Overall R^2	.07**	.01
Overall F	5.38	.50
N	137.00	137.00

Note. βs are standardized regression weights from the final step of the equation.
(P) = Physician variable, (S) = Spouse variable, (1) = Time 1, (2) = Time 2.
* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 19

Regression Analyses for Mediation: Hypothesis 5 (Spouse-report WIF)

Step and variable	Provision of spousal support (P2) β
Step 1	
Spouse-report WIF (S1)	-.47***
Overall R^2	.22***
Overall F	36.72
N	129.00

Step and variable	Perceived family demands (S2) β	Family hours (S2) β
Step 1		
Spouse-report WIF (S1)	.52***	.17
Provision of spousal support (P2)	.09	.03
Overall R^2	.23***	.02
Overall F	18.33	1.51
N	124.00	124.00

Note. βs are standardized regression weights from the final step of the equation.
(P) = Physician variable, (S) = Spouse variable, (1) = Time 1, (2) = Time 2.
*** $p < .001$.

Table 20

Regression Analyses for Mediation: Hypothesis 6 (Physician-Report WIF)

Step and variable	Provision of spousal support (S2) β
Step 1	
WIF (P1)	-.09
Overall R^2	.01
Overall F	1.24
N	143.00

Step and variable	Perceived family demands (S2) β	Family hours (S2) β
Step 1		
WIF (P1)	.24**	.09
Provision of spousal support (S2)	-.12	.26**
Overall R^2	.08**	.07**
Overall F	6.05	5.21
N	143.00	143.00

Note. βs are standardized regression weights from the final step of the equation.
(P) = Physician variable, (S) = Spouse variable, (1) = Time 1, (2) = Time 2.
** $p < .01$.

Table 21

Regression Analyses for Mediation: Hypothesis 6 (Spouse-Report WIF)

Step and variable	Provision of spousal support (S2) β
Step 1	
Spouse-report WIF (S1)	-.19*
Overall R^2	.04*
Overall F	4.53
N	126.00

Step and variable	Perceived family demands (S2) β	Family hours (S2) β
Step 1		
Spouse-report WIF (S1)	.45***	.19*
Provision of spousal support (S2)	-.09	.25**
Overall R^2	.23***	.08**
Overall F	17.96	5.41
N	126.00	126.00

Note. βs are standardized regression weights from the final step of the equation.
(S) = Spouse variable, (1) = Time 1, (2) = Time 2.
* p < .05, ** p < .01, *** p < .001.

Chapter Four

Supplemental Analyses and Results

Despite a growing body of research examining the receipt of social support and the crossover of work-family conflict, previous research has been hampered by several issues. First, although the receipt and provision of spousal support are presumed to be related, this relationship is rarely assessed (e.g., Bruck, 2002). Next, despite requests for researchers to supplement self-report data with information provided from other sources, few researchers have heeded this advice and collected data from dual sources (Greenhaus et al., 2006; Hammer et al., 2005). Finally, although researchers often use measures of WFC and social support that assess multiple dimensions of each construct, most combine items across dimensions to create composite measures (e.g., Aycan & Eskin, 2005; Erdwins et al., 2001; Parasuraman et al., 1992), thereby losing valuable information on the differences across dimensions.

Therefore, supplemental analyses were conducted to satisfy three main objectives. First, to augment the limited evidence describing the relationship between the receipt and the provision of spousal support, this relationship was assessed. Second, to determine the strength of the relationship between data provided by different sources, the relationship between physician-report and spouse-report WIF was investigated. Finally, to assess differences across dimensions of WIF and spousal support, the roles that individual types of WIF and spousal support play in the hypothesized relationships were examined.

Providing and Receiving Spousal Support

Although the receipt of support is not synonymous with the provision of support, the two constructs are presumed to be related. To investigate this relationship, the correlation between physicians' provision of spousal support and spouses' receipt of spousal support was examined. Consistent with previous research that found a modest relationship between the two variables (r=.43; Bruck, 2002), physicians' reports of the support they provided at Time 1 were moderately related to their spouses' reports of the support they received at Time 1 (r=.54, p<.01).

To investigate the provision and receipt of spousal support in greater detail, means, standard deviations, and correlations between emotional and instrumental support provided and received were examined and are provided in Table 22. Across both samples, mean levels of emotional support provided and received were high (physicians: M=3.79, SD=.59; spouses: M=3.75, SD=.70), while mean levels of instrumental support were lower (physicians: M=3.41, SD=.61; spouses: M=3.38, SD=.81). To investigate if mean level differences existed between physicians' reports of support provided and spouses' reports of support received, paired samples t-tests were conducted. Across both types of support and spousal support overall, there were no significant differences found; suggesting that at a mean level, physicians and their spouses agreed on the amount of support provided and received.

Next, correlations between types of spousal support were examined. Consistent with the relationship at the overall level, the relationship between physicians' reports of the emotional support they provided and spouses' reports of the emotional support they received were strong (r=.61, p<.01). Reports of instrumental support provided and

received were also moderately related (r=.45, p<.01). Thus, these results illustrated a relatively strong relationship between the provision and receipt of spousal support at the overall level as well as when individual types of support were examined. These results suggest that future research utilizing different types of spousal support may be fruitful.

Due to the unacceptable alpha reliabilities obtained for the informational and appraisal support subscales, supplemental analyses were not conducted using these subscales. The unreliability of these subscales may have been due, in part, to the nature of the constructs assessed. For example, the items that composed these subscales tended to be somewhat ambiguous and subject to different interpretations (e.g., My spouse/partner often provides a different way of looking at problems for me.). Additionally, the behaviors that were identified in these items may have been difficult to identify for participants. Thus, despite the inclusion of items adapted from preexisting measures, the content of these subscales may have been a contributing factor in the unacceptable reliabilities obtained.

Self-Report and Spouse-Report: Physicians' WIF

As discussed earlier, the relationship between physicians' reports of the extent that their work interfered with their family and spouses' reports of the same construct were moderately related (Time 1: r=.48, p<.01; Time 2: r=.57). To investigate this relationship at a more fine-grained level, differences across types of WIF reported were investigated. Consistent with the investigation described above, means, standard deviations, and correlations between of each type of WIF were examined and are provided in Table 23.

At a mean level, physicians reported experiencing moderate levels of internally-generated WIF (*M*=4.52, *SD*=1.13) and time-based WIF (*M*=4.25, *SD*=1.22). Although spouses did not report physicians' internally-generated WIF, spouses' reports of physicians' time-based WIF (*M*=4.52, *SD*=1.35) were consistent with physicians' reports. To determine if mean level differences existed between physicians' reports and spouses' reports, paired samples t-tests were conducted. Results indicated that there were no significant differences across types of WIF reported. At a correlational level, the strongest relationship was found between physicians' reports and spouses' reports of time-based WIF (*r*=.56, p<.01). The relationship between physicians' reports and spouses' reports of strain-based WIF (*r*=.43, p<.01) was consistent with the relationship reported at the overall level. Finally, a relatively modest relationship was observed between physicians' reports and spouses' reports of behavior-based WIF (*r*=.25, p<.01). These findings illustrate that physicians and their spouses may have different perspectives on certain variables included in the present study, and suggest that differential results are possible when using data from different sources.

Supplemental Analyses: Hypotheses 1, 2, and 3

Next, supplemental analyses were conducted to investigate the proposed antecedents of emotional and instrumental support. Two regression analyses were used with each predicting a different type of spousal support. Physician variables assessed at Time 1 were entered first (individual type of spousal support, perceived family demands, amount of time spent engaged in family-related activities and types of WIF). Physician variables assessed at Time 2 were entered in the next step (perceived family demands, amount of time spent engaged in family-related activities and types of WIF). Physician

gender was entered last as a control variable. Results of the multiple regression analyses are provided in Table 24.

Consistent with results of Hypothesis 1, across both analyses, the individual type of spousal support examined at Time 1 was a significant predictor of that type of spousal support at Time 2. For example, the provision of emotional support at Time 1 was predictive of the provision of emotional support at Time 2 (β=.69, p <.001). In other words, physicians who provided higher levels of emotional support at Time 1 reported providing higher levels of emotional support at Time 2.

Next, similar to the results obtained at the overall level for Hypothesis 2, there were no lagged relationships found between physicians' perceived family demands at Time 1 and emotional or instrumental support provided at Time 2. However, a synchronous relationship was found. Specifically, the relationship between physicians' perceived family demands and their provision of emotional support at Time 2 was significant (β=-.20, p < .05 at Time 2). These findings suggest that physicians who reported higher levels of perceived family demands reported providing lower levels of emotional spousal support at the same point in time.

Lastly, supplemental analyses were conducted to examine Hypothesis 3, which investigated the relationship between physicians' WIF and their provision of spousal support. Contrary to results obtained at the overall level, lagged and synchronous relationships were found between strain-based WIF and emotional support. However, while a negative synchronous relationship was expected, in which higher levels of WIF were expected to be associated with lower provision of spousal support, a positive lagged relationship was also found. Strain-based WIF at Time 1was a predictor of emotional

support at Time 2 (β=.23, $p < .05$), suggesting that physicians who reported higher levels of strain-based conflict at Time 1 reported providing higher levels of emotional support at Time 2. Conversely, consistent with results obtained for Hypothesis 3, physicians' strain-based WIF at Time 2 was predictive of the provision of emotional support at the same point in time (β=-.29, $p < .05$). Contrary to the lagged results described above, these results suggested that physicians reporting higher levels of strain-based conflict at Time 2 reported providing lower levels of emotional spousal support at Time 2. These findings suggest that the relationship between WIF and the provision of spousal support may operate differentially over time and depending on the type of support considered. Thus, results supported both lagged and synchronous relationships between strain-based WIF and the provision of emotional spousal support.

Supplemental Analyses: Hypotheses 4a and 4b

Supplemental analyses were also conducted to investigate crossover effects associated with different types of physicians' WIF and their spouses' family demands. Two sets of regression analyses were conducted with spouses' perceived family demands and family hours at Time 2 serving as the dependent variables. Spouses' family demands at Time 1 (perceived family demands and family hours) were entered first. Physicians' WIF was entered in the next step. Physicians' gender was entered last as a control variable. Results of the multiple regression analyses are provided in Tables 25 and 26.

Contrary to results at the overall level, there were no lagged or synchronous relationships observed between types of physicians' WIF and their spouses' family demands. However, consistent with results at the overall level, a main effect for gender

was found (β=-.20, p <.01) in which spouses of male physicians reported spending more hours engaged in family-related activities than spouses of female physicians.

Next, to investigate if the source of information (physician or spouse) impacted the crossover relationship, supplemental analyses were conducted to investigate the crossover of spouses' reports of physicians' WIF and spouses' own family demands. Consistent with the analyses described above, two sets of regression analyses were conducted. Results of these analyses are presented in Tables 27 and 28. Consistent with results of Hypothesis 4a, there were no lagged relationships found between any of the types of physicians' WIF (spouse-report) and spouses' family demands. However, synchronous relationships were observed between physicians' strain-based WIF (spouse-report) and spouses' perceived family demands (β=.23, p <.01), and physicians' behavior-based WIF (spouse-report) and spouses' perceived family demands (β=.24, p <.001). These results suggested that spouses who reported high levels of physicians' strain-based and behavior-based WIF also reported high levels of perceived family demands at the same point in time.

Supplemental Analyses: Hypotheses 5 and 6

Despite results of Hypotheses 5 and 6 that did not support a mediated relationship between physicians' WIF and spouses' family demands at the overall level, supplemental analyses were conducted investigating these relationships using different types of WIF and different types of spousal support. Utilizing the methodology described previously, several relationships were tested using the Sobel test and the bootstrapping method.

Although a thorough investigation involving the different types of spousal support and WIF was conducted, supplemental analyses examining Hypothesis 5 were consistent with null results described earlier and suggested that physicians' provision of spousal support did not mediate the relationship between their own WIF and their spouses' family demands. For example, while there was a strong relationship between physicians' time-based conflict (Time 1) and physicians' reports of the instrumental support they provided (Time 2; β=-.48, $p<.001$); the relationship between physicians' instrumental support provided (Time 2) and spouses' perceived family demands (Time 2) was not significant (β=-.04,n.s.). Results of the Sobel test and the bootstrapping method confirmed these null results. However, the direct relationship between physicians' time-based WIF (Time 1) and spouses' perceived family demands (Time 2) was significant (β=.32, $p<.01$), supporting the direct crossover of physicians' WIF on their spouses' family demands. Thus, although no support could be found for the mediating role of physicians' provision of spousal support, supplemental analyses provided additional evidence of the direct crossover of physicians' WIF on their spouses' perceived family demands.

Finally, despite results of Hypothesis 6 at the overall level that failed to find mediating effects associated with spouses' provision of spousal support, supplemental analyses were conducted. Contrary to results at the overall level, several mediated relationships were found. Results of regression analyses used to calculate the Sobel test are provided in Table 29.

First, the relationship between physicians' WIF (spouse-report) at Time 1 and spouses' family hours at Time 2 was mediated by spouses' provision of emotional spousal support at Time 2. Results of the Sobel test suggested that the indirect effect of the independent variable on the dependent variable was significantly different from zero ($z=2.06$, $p<.05$). Additionally, the 99% confidence interval provided through the utilization of the bootstrapping methodology did not contain 0 (-4.92, -.03) suggesting there is an indirect effect. Similarly, results of the Sobel test ($z=-2.15$, $p<.05$) and the 99% confidence interval provided by the bootstrapping method (-4.22, -.09) suggested that the relationship between physicians' behavior-based WIF (spouse-report) at Time 1 and spouses' family hours at Time 2 was mediated by spouses' provision of spousal support at Time 2. Finally, the relationship between physicians' behavior-based WIF (spouse-report) at Time 1 and spouses' family hours at Time 2 was mediated by spouses' provision of emotional spousal support at Time 2. Results of the Sobel test ($Z=-2.34$, $p<.05$) and the bootstrapping method (-4.68, -.03) support this mediated relationship. Thus, across all three analyses, high levels of physicians' WIF at Time 1 were associated with lower levels of support provided by their spouses at Time 2. This decreased provision of support was associated with decreased family hours for spouses.

In summary, through the utilization of the Aroian version of the Sobel test of indirect effects as well as a bootstrapping methodology, evidence of indirect effects was found. Providing partial support for Hypothesis 6, results demonstrated that spouses' provision of spousal support at Time 2 mediated the relationship between physicians' WIF at Time 1 (spouse-report) and their own family hours at Time 2.

Table 22

Means, Standard Deviations, and Correlations: Types of Spousal Support (Time 1)

	Physician support provided			Spouse support received	
	Mean	SD	Correlation	Mean	SD
Spousal support	3.56	0.41	.54**	3.51	0.62
Emotional support	3.79	0.59	.61**	3.75	0.70
Instrumental support	3.41	0.61	.45**	3.38	0.81

Note. Physician: N=180, Spouse: N=141.
** p < .01.

Table 23

Means, Standard Deviations, and Correlations: Types of Physicians' WIF (Time 1)

	Physician-report WIF			Spouse-report WIF	
	Mean	SD	Correlation	Mean	SD
WIF	3.99	0.96	.48**	3.96	1.18
Time-based WIF	4.25	1.22	.56**	4.52	1.35
Strain-based WIF	3.59	1.22	.43**	3.80	1.34
Behavior-based WIF	3.62	1.32	.25**	3.57	1.47
Internally-generated WIF	4.52	1.13	--	--	--

Note. Physician: N=180, Spouse: N=141.
** p < .01.

Table 24

Predicting Types of Physicians' Provision of Spousal Support

Step and variable	Emotional support (P2) β	Instrumental support (P2) β
Step 1		
Family hours (P1)	.08	-.03
Perceived family demands (P1)	.07	-.00
Time-based WIF (P1)	.02	-.02
Strain-based WIF (P1)	.23*	.03
Behavior-based WIF (P1)	-.15	.16
Internally-generated WIF (P1)	-.05	-.02
Emotional support (P1)	.69***	--
Instrumental support (P1)	--	.64***
ΔR^2	.58***	.60***
Step 2		
Family hours (P2)	-.10	.08
Perceived family demands (P2)	-.20*	.01
Time-based WIF (P2)	.03	-.19
Strain-based WIF (P2)	-.29*	-.06
Behavior-based WIF (P2)	.08	-.09
Internally-generated WIF (P2)	.12	-.03
ΔR^2	.06**	.03
Step 3		
Gender (P)	-.08	.03
ΔR^2	.01	.00
R^2 Total	.64	.63
Overall F	31.96	31.01
N	144.00	144.00

Note. βs are standardized regression weights from the final step of the equation.
Gender: 1=Male, 2=Female.(P) = Physician variable, (1) = Time 1, (2) = Time 2.
* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 25

Predicting Spouses' Family Demands with Types of Physician-Report WIF (Time 1)

Step and variable	Perceived family demands (S2) β	Family hours (S2) β
Step 1		
Family hours (S1)	-.06	.64***
Perceived family demands (S1)	.73***	.01
ΔR^2	.58***	.55***
Step 2		
Time-based WIF (P1)	.03	.07
Strain-based WIF (P1)	.12	.06
Behavior-based WIF (P1)	-.09	-.09
Internally-generated WIF (P1)	.07	.01
ΔR^2	.02	.01
Step 2		
Gender (P1)	-.12	-.20**
ΔR^2	.01	.03**
R^2 Total	.61	.58
Overall F	85.33	81.61
N	125.00	125.00

Note. βs are standardized regression weights from the final step of the equation.
Gender: 1=Male, 2=Female.
(P) = Physician variable, (S) = Spouse variable, (1) = Time 1, (2) = Time 2.
** p < .01, *** p < .001.

Table 26

Predicting Spouses' Family Demands with Types of Physician-Report WIF (Time 2)

Step and variable	Perceived family demands (S2) β	Family hours (S2) β
Step 1		
Family hours (S1)	-.07	.67***
Perceived family demands (S1)	.73***	.01
ΔR^2	.57***	.58***
Step 2		
Time-based WIF (P2)	.11	.14
Strain-based WIF (P2)	-.03	-.03
Behavior-based WIF (P2)	.04	-.14
Internally-generated WIF (P2)	.03	.05
ΔR^2	.02	.03
Step 2		
Gender (P1)	-.09	-.20**
ΔR^2	.01	.03**
R^2 Total	.59	.64
Overall F	77.88	90.01
N	118.00	118.00

Note. βs are standardized regression weights from the final step of the equation.
Gender: 1=Male, 2=Female.
(P) = Physician variable, (S) = Spouse variable, (1) = Time 1, (2) = Time 2.
** $p < .01$, *** $p < .001$.

Table 27

Predicting Spouses' Family Demands with Types of Spouse-Report WIF (Time 1)

Step and variable	Perceived family demands (S2) β	Family hours (S2) β
Step 1		
Family hours (S1)	-.01	.67***
Perceived Family Demands (S1)	.70***	.11
ΔR^2	.60***	.59***
Step 2		
Time-based WIF (S1)	.01	.01
Strain-based WIF (S1)	.17	-.04
Behavior-based WIF (S1)	-.04	.04
ΔR^2	.02	.00
Step 2		
Gender (S1)	.07	.11
ΔR^2	.00	.01
R^2 Total	.62	.60
Overall F	78.53	76.80
N	106.00	106.00

Note. βs are standardized regression weights from the final step of the equation.
Gender: 1=Male, 2=Female.
(S) = Spouse variable, (1) = Time 1, (2) = Time 2.
*** $p < .001$.

Table 28

Predicting Spouses' Family Demands with Types of Spouse-Report WIF (Time 2)

Step and variable	Perceived family demands (S2) β	Family hours (S2) β
Step 1		
Family hours (S1)	.03	.69***
Perceived family demands (S1)	.62***	.06
ΔR^2	.60***	.59***
Step 2		
Time-based WIF (S2)	-.13	-.04
Strain-based WIF (S2)	.23**	.12
Behavior-based WIF (S2)	.24***	.03
ΔR^2	.09***	.01
Step 2		
Gender (S1)	.08	.13
ΔR^2	.01	.01
R^2 Total	.69	.61
Overall F	85.27	78.12
N	105.00	105.00

Note. βs are standardized regression weights from the final step of the equation.
Gender: 1=Male, 2=Female.
(S) = Spouse variable, (1) = Time 1, (2) = Time 2.
** $p < .01$, *** $p < .001$.

Table 29

Regression Analyses for Mediation: Supplemental Analyses (Hypothesis 6)

Step and variable	Provision of emotional support (S2) β	Perceived family demands (S2) β	Family hours (S2) β
Step 1			
WIF (S1)	-.26**	.44***	.21*
Provision of emotional support (S2)	--	-.12	.26**
Overall R^2	.07**	.23***	.09**
Overall F	9.24	18.58	5.72

Step and variable	Provision of spousal support (S2) β	Perceived family demands (S2) β	Family hours (S2) β
Step 1			
Behavior-based WIF (S1)	-.30**	.31**	.16
Provision of support (S2)	--	-.08	.26**
Overall R^2	.09**	.12**	.07*
Overall F	11.82	8.19	4.59

Step and variable	Provision of emotional support (S2) β	Perceived family demands (S2) β	Family hours (S2) β
Step 1			
Behavior-based WIF (S1)	-.35***	.29**	.18
Provision of emotional support (S2)	--	-.14	.27**
Overall R^2	.12***	.13***	.07*
Overall F	17.31	8.99	4.67

Note. βs are standardized regression weights from the final step of the equation.
(S) = Spouse variable, (1) = Time 1, (2) = Time 2.
N=126.
* $p < .05$, ** $p < .01$, *** $p < .001$.

Chapter Five

Discussion

The present study had four main objectives. First, the relationship between the provision of spousal support assessed at two time points as well as its theoretical antecedents and consequences was assessed as informed by the conservation of resources theory (Hobfoll, 1989). Results provided support for the relationship between the provision of spousal support across two time points separated by approximately three months, as well as the relationship between the provision and receipt of spousal support. Additionally, synchronous and lagged relationships were found between the provision of spousal support, perceived family demands, family hours, and WIF.

Second, the crossover of physicians' work interference with family conflict on their spouses' perceived family demands and family hours was investigated. Findings supported the synchronous crossover of physicians' WIF on their spouses' perceived family demands. Findings were not supportive of the crossover of physicians' WIF on their spouses' family hours.

Next, the mediating role of social support as an explanation for the crossover process was examined. Specifically, the role that spousal support plays in mediating the crossover relationship between physicians' WIF and their spouses' family demands was investigated. Although hypothesis testing was unsupportive of the mediating role the provision of spousal support plays in the crossover process at the overall level, results did

provide limited support for the mediating role of individual types of spousal support. Additionally, results provided further evidence of the direct effects associated with physicians' WIF in the crossover process.

Lastly, the fourth objective of the present study was to investigate the relationships described above across multiple time points and using dual-source data (from physicians and their spouses). Therefore, in addition to main analyses described above, additional analyses were conducted to investigate if relationships differed according to the source of data. Results of supplemental analyses were supportive of results of the main analyses but also illustrated differential relationships depending on the source of the data. Major findings across all four objectives are discussed in detail below.

Major Findings: Antecedents and Consequences of Spousal Support

According to COR theory (Hobfoll, 1989), an individual in a supportive relationship is expected to take a longitudinal approach to conserving resources, and would likely provide social support as a way to make an investment in future resources. Although no previous research had examined the provision of spousal support across two different time points, consistent with COR theory, it was predicted that physicians who provided higher levels of spousal support initially would continue to do so over time. As expected, physicians who reported providing higher levels of spousal support at Time 1 also reported providing higher levels of spousal support three months later at Time 2. These findings were consistent with previous research that found a similar relationship between the receipt of social support assessed over time (Thompson et al., 2004; Westman, Etzion, et al., 2004); and suggested that the provision of social support is likely to be relatively stable across time. Supplemental analyses examining emotional and

instrumental support were consistent with results of the main analysis. In these analyses, physicians' provision of support at Time 1 was predictive of their provision of the same type of support at Time 2. For example, physicians who reported providing higher levels of instrumental support at Time 1 (e.g., helping their spouse with chores around the house) reported that they continued to provide that type of support at Time 2. Thus, supplemental analyses provided additional support for the stability of the provision of spousal support over time.

Next, consistent with COR theory (Hobfoll, 1989), it was expected that physicians who reported higher levels of perceived family demands at Time 1 would attempt to conserve their resources and would be less likely to provide spousal support at a later time. Contrary to expectations, there was no relationship found between physicians' perceived family demands at Time 1 and their subsequent provision of spousal support. However, synchronous relationships were found. In this case, physicians who reported higher levels of perceived family demands reported providing lower levels of spousal support. Supplemental analyses examining each type of spousal support provided additional support for synchronous relationships. Specifically, higher levels of physicians' perceived family demands related to lower levels of their provision of emotional support at the same point in time. Thus, physicians who experienced higher levels of perceived family demands reported providing less support, and specifically emotional support, to their spouses. This relationship may intuitively make sense, in that a physician who is mentally preoccupied with family demands, may have less cognitive resources available to provide emotional support to his/her spouse.

Although a lagged relationship was expected, the timeframe (three months) employed in the present study may be a possible explanation for the lack of significant lagged findings. Although the timeframe was prudent in terms of examining demands in the lives of the participants, a three-month window between the occurrence of family demands and the provision of spousal support may have simply been too long. It seems more likely that increased family demands may have a much more immediate relationship with the provision of spousal support, as evidenced by the significant synchronous relationships. It may be that physicians, who experience a high level of family demands, respond to those demands relatively quickly and attempt to conserve some of their own resources by reducing the amount of support they provide their spouses for a brief period of time. As opposed to the reduction of spousal support three months later, an increase in family demands may momentarily be associated with a drop in physicians' provision of spousal support. Therefore, to more precisely capture this process a different approach to the measurement of the provision of support might be prudent (e.g., a diary study, or several additional observations).

Next, it was expected that physicians who reported high levels of family hours at Time 1, would attempt to conserve their resources and would report providing lower levels of spousal support at a later time. Contrary to findings reported above, there were no lagged or synchronous relationships found between the numbers of hours physicians' spent engaged in family-related activities and the amount of support they provided. This finding may partially be due to the limited amount of time physicians spent engaged in family-related activities. Due to the very high number of hours physicians reported spending engaged in work-related activities, the range of responses concerning family

hours may have been restricted; thereby attenuating the relationship between physicians' family hours and their provision of spousal support. These results may also be explained due to the type of support considered. Specifically, as opposed to instrumental support (e.g., assistance with household chores) that would clearly involve additional family hours; emotional support may be provided with little change in the hours spent engaged in family-related activities.

Finally, building on research that has demonstrated that increased WIF has been related to decreased functioning in the family domain (e.g., decreased performance and satisfaction, and increased distress and burnout; e.g., Bacharach et al., 1991; Frone et al., 1997; Kinnunen & Mauno, 1998; Williams & Alliger, 1994), it was expected that a physician reporting greater WIF would provide less spousal support over time. Contrary to expectations, there was no lagged relationship found between physicians' WIF and their provision of spousal support at the overall level. However, when supplemental analyses were conducted examining each type of WIF individually, a lagged relationship was found. Specifically, physicians who reported higher levels of strain-based conflict at Time 1 reported providing higher levels of emotional spousal support at Time 2, as opposed to lower levels as predicted.

Although these results were not expected, it is possible that physicians who reported higher levels of strain-based conflict, a more emotionally focused element of WIF, may have been more emotionally connected with their spouses. Therefore, these physicians may have been more likely to react to higher levels of WIF at Time 1 by providing more emotional support (that is obviously more emotionally focused than other forms of social support). Thus, although these results are contrary to initial expectations,

if physicians experiencing high levels of emotionally draining conflict recognized the impact of that emotional drain on their spouses, they may have responded over time by providing increased emotionally-focused support to their spouses.

Synchronous relationships between physicians' WIF and their provision of spousal support were found at the overall level as well as in supplemental analyses examining each type of WIF individually. Consistent with expectations, and contrary to lagged findings, higher levels of physicians' WIF were associated with lower levels of their provision of spousal support at the same point in time. Additionally, higher levels of strain-based WIF were associated with lower levels of emotional support provided. As compared to the findings discussed above in which physicians provided higher levels of support after experiencing higher levels of WIF three months earlier, physicians faced with higher levels of WIF reported providing lower levels of spousal support at the same point in time. Thus it appears that that the relationship between WIF and the provision of spousal support may function differentially over time.

In summary, several important findings were illustrated by examining Hypotheses 1-3. Specifically, results support that the provision of spousal support is likely to be relatively stable across time; however, the provision of support was also related to various antecedents with differential results found across time.

Major Findings: Crossover Relationships

Adding to the limited research that has examined crossover effects associated with work-family conflict, it was expected that physicians' WIF would crossover and be related to the perceived family demands and family hours of their spouses. Additionally, to investigate if the source of information (physician or spouse) impacted the crossover relationship, additional analyses were conducted that investigated the crossover of spouses' reports of physicians' WIF on their own family demands.

Contrary to previous research (Westman & Etzion, 2005), no lagged relationships were found between physicians' WIF (physician-report or spouse-report) and spouses' perceived family demands. However, synchronous crossover effects were found. Consistent with expectations, physicians' WIF at Time 2 explained unique variance in spouses' perceived family demands at Time 2, beyond spouses' perceived family demands and family hours at Time 1. In other words, higher levels of physicians' WIF at Time 2 were associated with higher levels of spouses' perceived family demands at Time 2, regardless of the level of perceived family demands or family hours reported by spouses' at Time 1. These findings are consistent with the domain specificity hypothesis (Frone, 2003; Frone et al., 1992) that suggests that conflict impacting one domain is more likely to be related to other variables within the same domain than to variables in an alternate domain. Additionally, these findings add support to previous research that has found the crossover of the WIF of one spouse on the family-related consequences of the other spouse (Hammer et al., 2005; Matthews et al., 2006).

Supplemental analyses, that investigated each type of WIF individually, were also supportive of synchronous crossover relationships. Specifically, both physicians' strain-

based WIF (spouse-report) and physicians' behavior-based WIF (spouse-report) at Time 2 were predictive of spouses' perceived family demands at Time 2, beyond spouses' perceived family demands and family hours at Time 1. Thus, it appears that a relatively robust crossover relationship between physicians' WIF and their spouses' perceived family demands was found that was consistent across source of information (physician or spouse).

There were no lagged or synchronous relationships found between physicians' WIF and their spouses' family hours. Although physicians' WIF crossed over and was associated with higher levels of perceived family demands for their spouses, there was no relationship with the number of hours spouses spent engaged in family-related activities. Thus, it appears that physicians' WIF may have a stronger relationship with spouses' perceptions of their family demands as opposed to the time they spend dealing with those demands. However, results did demonstrate gender differences in family hours, in which spouses of male physicians reported spending more hours engaged in family-related activities than spouses of female physicians. Despite this difference, results were not supportive of differential relationships between physicians' WIF and their spouses family hours based on gender.

In summary, these findings added support to the growing body of research examining the crossover of individuals' WIF on their spouses' family-related outcomes, and illustrated the crossover of physicians' WIF on their spouses' perceived family demands. These findings are consistent with previous research that has demonstrated domain specific crossover effects, and illustrated the importance of utilizing information provided from more than one source.

Major Findings: Mediating Role of Physicians' Spousal Support

Although researchers have frequently hypothesized about the mediating role social support plays in the crossover process (Westman et al., 2001; Westman & Vinokur, 1998; Westman, Vinokur, et al., 2004), no research could be found testing this hypothesis. Thus, the current study investigated this mechanism of the crossover process using two distinct pathways.

First it was expected that the relationship between physicians' WIF and their spouses' family demands would be mediated by physicians' provision of spousal support. Contrary to expectations, there was no support for the mediating role of spousal support in this relationship; however, results of this analysis do lend additional support to earlier hypotheses.

To establish the existence of the relationships indicative of mediation, the relationship between physicians' WIF and their provision of support was examined. While results of previous hypotheses provided partial support for this pathway that differed in direction according to time, results of this analysis were supportive of a lagged negative relationship. In other words, physicians at Time 1 who reported high levels of WIF reported providing less spousal support at Time 2. Contrary to previous analyses, that included spouses' perceived family demands and family hours, and physicians' provision of spousal support assessed at Time 1, these analyses examined the relationship between physicians' WIF at Time 1 and their provision of support at Time 2 in isolation. Thus it appears that when examined separately, physicians experiencing high levels of WIF at Time 1 were less likely to provide spousal support at Time 2. However, when other factors are included in the analysis, results were different.

The relationship between physicians' provision of spousal support at Time 2 and their spouses' family demands at Time 2 was also examined. Contrary to expectations, this relationship was not supported, indicating that spouses' family demands were not related to the amount of spousal support physicians' provided. As previous analyses demonstrated a relatively strong relationship between physicians' reports of the support they provided and spouses' reports of the support they received, it appears that spouses were receiving support. However, it appears that this support was not related to the family demands they experienced. This result, although unexpected, may be due to the nature of the relationships between physicians and their spouses. As physicians are typically faced with excessive amounts of stressors on a daily basis (Fabri et al., 1989) and reported moderate levels of work interference with family conflict and high work hours, they may be left with little time or energy to provide spousal support on a regular basis. As a result, their spouses may be asked to regularly deal with family demands with little assistance. Thus, spouses may become accustomed to dealing with family demands regardless of the level of spousal support they receive. In other words, spouses may accumulate the needed resources to effectively deal with the level of family demands they experience regardless of the level of support they receive. Thus, whether physicians provide additional resources (in the form of spousal support) or not, spouses may simply deal with family demands as they occur without relying on spousal support to alleviate some of these demands.

Results were also supportive of a direct relationship between physicians' WIF and spouses' perceived family demands. These results are consistent with results obtained for Hypothesis 4 and add additional support to the crossover of physicians' WIF on the family-related variables of their spouses.

In summary, results do not support the mediating role of physicians' provision of spousal support in the relationship between physicians' WIF and their spouses' family demands. However, results do lend additional support to the direct crossover of physicians' WIF.

Major Findings: Mediating Role of Spouses' Spousal Support

Next, it was expected that the relationship between physicians' WIF and their spouses' family demands would be mediated by spouses' provision of spousal support. In other words, it was expected that higher levels of physicians' WIF would be associated with higher levels of support provided by their spouses. In turn, this increased provision of spousal support would likely be associated with increased levels of family demands for their spouses. Contrary to expectations, there was no support for the mediating role of spousal support in this relationship at the overall level; however, direct effects were found.

Results supported a direct relationship between physicians' WIF at Time 1 (spouse-report) and spouses' provision of spousal support at Time 2. However, contrary to expectations, spouses who perceived higher levels of physicians' WIF at Time 1 reported providing lower levels of spousal support at Time 2 (as opposed to higher). However, this relationship may be explained when the results of the next analysis are considered.

As described earlier, results supported a direct relationship between physicians' WIF at Time 1 and spouses' perceived family demands at Time 2. Thus, higher levels of physicians' WIF at Time 1 were related to higher levels of perceived family demands for their spouses at Time 2. Therefore, it appears that instead of providing more support to physicians who experience higher levels of WIF, spouses take on, or at least perceive that they take on additional family demands.

Finally, support was also found for a direct relationship between spouses' provision of spousal support and their own family hours. As expected, spouses who provided higher levels of support at Time 2 also reported spending more hours engaged in family related activities. Interestingly, there was no relationship found between spouses' provision of spousal support and their perceived family demands. In this case, it appears that spouses who provided higher levels of support spent more time engaged in family-related activities but did not perceive this time to be an increased demand.

In summary, these results illustrated differential findings when perceived family demands and family hours were used in the analyses. While a direct relationship was demonstrated between physicians' WIF and their spouses' perceived family demands, no relationship was found between physicians' WIF and spouses' family hours. However, when the relationship between spouses' provision of spousal support and their own family demands was considered, the relationship was reversed. Specifically, a relationship was found between spouses' provision of spousal support and their own family hours, but not their perceived family demands. Thus, although no support was found for the mediating potential of spousal support at the overall level, several noteworthy direct effects were found.

As compared to other methods commonly employed to test for evidence of mediation that are subject to high levels of Type I errors (e.g., Baron and Kenny's procedure), the methods employed in the present study are recommended as they provide a direct significance test of the indirect effects (MacKinnon et al., 2002; Preacher & Hayes, 2004). Therefore, although mediation was not supported at the overall level, the use of these methods provides a high level of confidence in the results obtained.

Contrary to results at the overall level, several mediated relationships were found when supplemental analyses were conducted examining different types of WIF and spousal support. Consistent with expectations, the relationship between physicians' WIF (spouse-report) at Time 1 and spouses' family hours at Time 2 was mediated by spouses' provision of emotional spousal support at Time 2. Additionally, the relationship between physicians' behavior-based WIF (spouse-report) at Time 1 and spouses' family hours at Time 2 was mediated by spouses' provision of spousal support as well as spouses' provision of emotional spousal support at Time 2. Thus, across all three relationships, high levels of physicians' WIF at Time 1 were associated with lower levels of support provided by their spouses at Time 2. This decreased provision of support was associated with decreased family hours for spouses.

In summary, these results provide support for the role that the provision of spousal support plays in the crossover process and suggests that the provision of support can help explain the relationship between physicians' WIF and their spouses' family hours. These findings make an important contribution to the crossover literature by investigating this hypothesized mechanism of the crossover process.

Implications and Future Research

Findings of the present study suggest several important implications and areas of opportunity for research involving social support, work-family conflict, and crossover. First, results of the present study provided initial evidence for several antecedents and consequences of the provision of spousal support. Findings suggested that individuals who experienced higher levels of work interference with family conflict and perceived family demands reported providing lower levels of spousal support. Additionally, results suggested that individuals who reported providing higher levels of spousal support reported spending more time engaged in family-related activities. Thus, while a wealth of evidence exists demonstrating the relationship between the receipt of spousal support and its outcomes (Beatty, 1996; Burke & Greenglass, 1999; Hill, 2005; Purdom et al., 2006), the present study is one of the first to address the provision of spousal support directly. Therefore, rather than focusing on the recipient of social support as previous research has (Hobfoll et al., 1994; Pearlin & McCall, 1990), future research should be conducted focusing on the provision of support, its antecedents and consequences. Similar to the work-family conflict literature, in which multiple studies have been conducted in an attempt to build a nomological network surrounding the construct, the same approach could be used to further investigate the provision of social support. Building on the preliminary evidence offered in the present study, a wealth of other variables should be examined (e.g., negative affectivity, emotional competence, guilt). Personal characteristics (e.g., dispositional characteristics), which are considered resources according to COR theory (Hobfoll, 1989) and can be helpful in buffering an individual from stressors, would be useful to examine. Additionally, future research should examine

positive outcomes associated with the provision of support, such as self-esteem (Krause & Staw, 2000) or positive social interactions.

Although a moderate relationship was found between the provision and receipt of spousal support, differential relationships were observed based on the type of spousal support investigated. Thus, these results suggest that future research should be conducted to examine the relationship between the provision and receipt of social support and other variables of interest at the overall level as well as at the facet level. This research could further help illustrate if certain types of social support have advantages over others.

Next, results of the present study have important implications for work-family conflict researchers. While findings of the present study were generally consistent with previous work-family conflict research, findings also illustrated that differential results are likely when different types of work-family conflict are examined. Therefore, as previously suggested, future research should consider the type of conflict in relationship to the research question.

Additionally, organizations may be prudent to focus on issues raised in the present study. For example, while the direct relationship between high levels of WIF and detrimental outcomes is well known (e.g., general psychological strain, somatic symptoms, depression, substance abuse, burnout, work-related stress, family-related stress; Allen et al., 2000); results of the present study suggested that additional consequences may be likely. Specifically, results of the present study demonstrated that physicians' WIF crossed over and was related to their spouses' decreased provision of spousal support. Thus, not only does a physician's WIF affect the physician directly, but it also affects the amount of support the physician likely receives from his/her spouse.

This decreased provision of support may have additional detrimental consequences for the physician. Therefore, organizations are encouraged to implement programs designed to alleviate WIF for the benefit of their employees as well as their employees' spouses. Family-supportive policies, such as telecommuting (e.g., reading patient x-rays from a home computer, or working on administrative paperwork at home), child care, elder care, or information and referral services (Thomas & Ganster, 1995) may be viable options for organizations to help reduce the WIF of their employees.

Results of the present study also have important implications for crossover research. Although researchers have frequently discussed the mediating role of social support in the crossover process (Westman et al., 2001; Westman & Vinokur, 1998; Westman, Vinokur, et al., 2004), the present study is one of the first to directly test this mechanism. Despite a very thorough investigation of the mediating role of spousal support, only limited evidence was found. These findings are consistent with previous crossover research that has failed to find evidence of the mediating effects of social undermining (Westman & Vinokur, 1998; Westman et al., 2001), and suggest that the direct crossover of stressors and strains may be a more fruitful avenue of investigation as compared to the indirect pathway. However, it is recommended that future research investigate the mediating role of spousal support using other variables of interest.

Study Strengths

The present study had several strengths that differentiate it from typical studies conducted in the work-family conflict, social support, and crossover literatures. First, contrary to most studies that collect data at a single time point, in the present study data were collected at two time points separated by approximately three months. Although

examining variables of interest at multiple time points is beneficial in allowing an investigation of lagged and synchronous relationships, such designs do not automatically permit the discussion of causality (Zapf, Dormann, & Frese, 1996). Because all plausible explanations were not controlled for in the current study, it is possible that other factors may be found to explain these results.

Next, the present study utilized data collected from both members of a couple across both points in time. Additionally, as opposed to simply collecting self-report data from both members of the couple, spouses in the present study were asked to provide reports of certain physician variables. Thus, not only were physician and spouse self-report variables used in the analyses described, but also spouses' reports of physicians' variables were employed. Furthermore, the present study assessed all of the main variables of interest at both time points, and utilized the same measurement method for each variable as suggested by Zapf et al. (1996).

Third, contrary to previous social support research that has seldom examined the individual contributions of different dimensions of social support within the same study; the present study employed House's (1981) conceptualization of social support and investigated emotional concern and instrumental support as well as spousal support at the composite level.

Next, the present study investigated a previously untested mechanism of the crossover process, in which social support was hypothesized to mediate the crossover process (Westman & Vinokur, 1998). Additionally, as compared to other methods commonly employed to test for evidence of mediation that are subject to high levels of Type I errors (e.g., Baron and Kenny's procedure), the methods employed in the present

study were recommended as they provide a direct significance test of the indirect effects (MacKinnon et al., 2002; Preacher & Hayes, 2004).

Finally, the sample used in the present study is noteworthy. Consistent with recommendations to investigate crossover effects occurring within couples in which one member of the dyad occupies a high-stress occupation (Westman, 2001), the present study investigated crossover effects occurring between physicians and their spouses. Additionally, the physicians who participated in the present study represented a wide range of positions (faculty physicians, private practice, medical residents, hospital based physicians, etc.) and were employed in a variety of areas of practice (e.g., Pediatrics, Internal Medicine, Surgery, Obstetrics and Gynecology, Psychiatry). Therefore, while the sampling methodology employed did not ensure a representative sample, a fairly diverse group of physicians participated. Additionally, although the majority of physicians identified themselves as Caucasian, a fairly equal number of male and female physicians participated increasing the generalizability of the results.

Study Limitations

The present study also had several limitations that should be considered. First, physicians who were asked to participate in the current study were recruited from a limited number of organizations. Because a relatively large percentage of participants were recruited from within the University of South Florida medical system, idiosyncratic characteristics of this organization may limit the generalizability of study results.

Next, the response rate obtained in the present study at Time 1 for physicians was well below the expected response rate. As mentioned earlier, the unique requirements of the present study may be a plausible explanation. However, it should be mentioned that

the characteristics of those physicians who were willing to participate in a study involving two data collections, that also involved the recruitment of their spouses, may be different in some way from those who did not. For example, physicians who did not respond may have simply been too busy and therefore did not have the time required to complete the surveys. Although this explanation is plausible, participating physicians reported spending between 20 and 130 hours engaged in work-related activities; therefore this explanation does not seem likely.

Third, although the sample of physicians who participated was relatively diverse in terms of age, gender, tenure, position, and area of practice, these individuals were obviously all highly educated and were employed in high income but also highly stressful jobs. Therefore, the generalizability of these results to any other group is severely limited.

Next, as mentioned previously, problems with the reliability of certain social support subscales limited their effectiveness in the present study. Specifically, although the composite social support scales demonstrated acceptable internal consistency, the appraisal and informational subscales did not, and were therefore not included in supplemental analyses.

Finally, although several significant relationships were found, the consistency of the variables assessed in the present study may have served as a limitation. According to Hammer et al. (2005) highly stable outcome measures may limit the ability to detect significant lagged relationships.

Conclusion

The present study examined several theoretical antecedents and consequences of the provision of spousal support, as well as the mediating role spousal support plays in the crossover of WIF, across multiple time points and using dual-source data. Prior to the present study, limited research had examined the provision of support, and no previous research had examined the mediating role spousal support plays in the crossover process. Results provided preliminary evidence for the relationship between the provision of spousal support and several antecedents and consequences; as well as evidence of the crossover of WIF on perceived family demands. However, results were not generally supportive of the mediating role of spousal support in the crossover process. Future research should be conducted to examine additional antecedents and consequences of the provision of spousal support as well as the mediating potential of spousal support in the crossover of other stressors and strains. In summary, the present study makes several important contributions to the social support, work-family conflict, and crossover literatures by adding to the knowledge of the antecedents and consequences of the provision of spousal support, the growing body of research examining the crossover of WIF, and the understanding of the mediating role of the provision of spousal support in the crossover process.

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Appendices

Appendix A: Provision of Spousal Support Items

All items will be rated using a five-point Likert scale: (1) "Strongly Disagree," (2) "Disagree," (3) "Neither Agree nor Disagree," (4) "Agree," and (5) "Strongly Agree." All items are adapted from the Family Support Inventory for Workers (King et al., 1995) unless otherwise noted.

Emotional Concern Items

1. I ask my spouse/partner regularly about his/her day.
2. I occasionally don't want to listen to my spouse/partner's problems. (R)
3. I make time for my spouse/partner if he/she needs to discuss something.
4. When my spouse/partner talks about his/her day, I don't really listen. (R)
5. When something is bothering my spouse/partner, I show that I understand how he/she is feeling.
6. My spouse/partner has difficulty discussing things with me. (R)

Instrumental Assistance Items

7. I ask my spouse/partner to help me with things that I could handle on my own. (R)
8. I cooperate with my spouse/partner to get things done around the house.
9. It seems as if I am always asking my spouse/partner to do something for me. (R)
10. My spouse/partner can depend on me to help out when he/she is running late.
11. If my spouse/partner had to go out of town, I would have a hard time managing household responsibilities. (R)
12. When my spouse/partner is having a difficult week, I try to do more of the work around the house.

Informational Support Items

13. I often provide a different way of looking at problems for my spouse/partner.
14. My spouse/partner regularly asks me for advice about a problem.
15. I sometimes forget to keep my spouse/partner informed of things he/she needs to know. (R)*H
16. I keep my spouse/partner informed about news or events that are occurring.*D

Appraisal Support Items

17. I recognize when my spouse/partner does a good job. *H
18. I tend to criticize my spouse/partner when he/she does something wrong. (R)*D
19. I give my spouse/partner helpful feedback. *G
20. I give my spouse/partner advice about improving his/her performance at home when needed.*G

Note. ^{*H} *– item adapted from Hill (2005);* ^{*G} *– item adapted from Greenhaus et al. (1990);* ^{*D} *– item developed based on House's (1981) definition of social support.*

Appendix B: Receipt of Spousal Support Items

All items will be rated using a five-point Likert scale: (1) "Strongly Disagree," (2) "Disagree," (3) "Neither Agree nor Disagree," (4) "Agree," and (5) "Strongly Agree." All items are adapted from the Family Support Inventory for Workers (King et al., 1995) unless otherwise noted.

Emotional Concern Items

1. My spouse/partner asks me regularly about my day.
2. My spouse/partner occasionally doesn't want to listen to my problems. (R)
3. My spouse/partner makes time for me if I need to discuss something.
4. When I talk about my day, my spouse/partner doesn't really listen. (R)
5. When something is bothering me, my spouse/partner shows that he/she understands how I am feeling.
6. I have difficulty discussing things with my spouse/partner. (R)

Instrumental Assistance Items

7. My spouse/partner burdens me with things that he/she could handle on his/her own. (R)
8. My spouse/partner cooperates with me to get things done around the house.
9. It seems as if my spouse/partner is always asking me to do something for him/her. (R)
10. I can depend on my spouse/partner to help me out when I'm running late.
11. If I had to go out of town, my spouse/partner would have a hard time managing household responsibilities. (R)
12. When I'm having a difficult week, my spouse/partner tries to do more of the work around the house.

Informational Support Items

13. My spouse/partner often provides a different way of looking at problems for me.
14. I regularly ask my spouse/partner for advice about a problem.
15. My spouse/partner sometimes forgets to keep me informed of things I need to know. (R)*H
16. My spouse/partner keeps me informed about news or events that are occurring.*D

Appraisal Support Items

17. My spouse/partner recognizes when I do a good job.*H
18. My spouse/partner tends to criticize me when I do something wrong. (R)*D
19. My spouse/partner gives me helpful feedback.*G
20. My spouse/partner gives me advice about improving my performance at home when needed.*G

Note. ^{*H} *– item adapted from Hill (2005);* ^{*G} *– item adapted from Greenhaus et al. (1990);* ^{*D} *– item developed based on House's (1981) definition of social support.*

Appendix C: Family Demands Items

Perceived Family Demands

Based on Aryee et al., 1999.

These items will be rated using a five-point Likert scale: (1) "Never," (2) "Seldom," (3) "Sometimes," (4) "Usually," and (5) "Always."

1. How often do you feel your family makes too many demands of you?
2. How often do you feel you have too much family-related work to do?
3. In general, how often do you feel overwhelmed by the demands of your family?

Amount of Time Engaged in Family-Related Activities Items

1. In an average week, how many hours do you spend engaged in family-related activities (e.g., chores, child care)?

Appendix D: Work Interference with Family Conflict Items

Items 1-9 are taken from Carlson et al., 2000; items 10-12 are modified from Carlson and Frone (2003). All items will be rated using a seven-point Likert scale: (1) "Never," (2) "Almost Never," (3) "Seldom," (4) "Sometimes," (5) "Usually," (6) "Almost Always," and (7) "Always."

Time-based work interference with family

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 interference with family

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

Behavior-based work interference with family

7. The problem-solving behaviors I use in my job are not effective in resolving problems at home.
8. Behavior that is effective and necessary for me at work would be counterproductive at home
9. The behaviors I perform that make me effective at work do not help me to be a better spouse and/or parent.

Internally-generated work interference with family

10. When I am at home, I think about work related problems.
11. When I am at home, I think about things I need to accomplish at work.
12. When I am at home, I try to arrange, schedule, or perform job-related activities outside of my normal work hours.

Appendix E: Spouse-Report Work Interference with Family Conflict Items

Items are modified from Carlson et al., 2000, and will be rated using a seven-point Likert scale: (1) "Never," (2) "Almost Never," (3) "Seldom," (4) "Sometimes," (5) "Usually," (6) "Almost Always," and (7) "Always."

Time-based work interference with family

1. My spouse/partner's work keeps him/her from engaging in family activities more than he/she would like.
2. The time my spouse/partner must devote to his/her job keeps him/her from participating equally in household responsibilities and activities.
3. My spouse/partner has to miss family activities due to the amount of time he/she must spend on work responsibilities.

Strain-based work interference with family

4. When my spouse/partner gets home from work he/she is too frazzled to participate in family activities/responsibilities.
5. My spouse/partner is so emotionally drained when he/she gets home from work that it prevents him/her from contributing to the family.
6. Due to all the pressures at work, when my spouse/partner comes home he/she is too stressed to do the things he/she enjoys.

Behavior-based work interference with family

7. The problem-solving behaviors my spouse/partner uses in his/her job are not effective in resolving problems at home.
8. Behavior that is effective and necessary for my spouse/partner at work would be counterproductive at home
9. The behaviors my spouse/partner performs that make him/her effective at work do not help him/her to be a better spouse and/or parent.

Appendix F: Work Demands Items

Perceived Work Demands

Based on Aryee et al., 1999.

These items will be rated using a five-point Likert scale: (1) "Never," (2) "Seldom," (3) "Sometimes," (4) "Usually," and (5) "Always."

1. How often do you feel your work makes too many demands on you?
2. How often do you feel you have too much job-related work to do?
3. In general, how often do you feel overwhelmed by the demands of your work?

Amount of Time Engaged in Work-Related Activities Items

1. In an average week, how many hours do you spend engaged in paid job or job-related work? Please include time spent engaged in paid job or job-related work at home.

Appendix G: Demographic Variables

What is you gender?

Male
Female

What is your ethnicity?

Alaskan Native
American Indian
Asian
Black or African American
Caucasian, Non Hispanic
Hispanic, Latino, or of Spanish Ancestry
Native Hawaiian or Other Pacific Islander
Other _____

What year were you born in?

1982-1995
1966-1981
1954-1965
1942-1953
1925-1941
1924 or earlier

What is your marital status?

*M*arried
Living with partner
Single

How long have you been married/in your current relationship (in years)?

Are you employed in a medical profession (spouse/partners only)?

Yes
No

Are you a Physician (spouse/partners only)?

Yes
No

If you have children, please enter the number of children you have in each age group (e.g., if you have a 7 year old child, enter 1 in the box next to the 6-9 years old category.

Under 1 year of age
1-2 years old
3-5 years old
6-9 years old
10-14 years old
15-18 years old
Over 18 years old

What is your highest level of education obtained (spouse/partners only)?

Did not graduate high school
High school diploma/GED
Vocational school
Bachelor degree
Master's degree
Professional degree (e.g., MD, JD)
Ph.D.

What is your job type (medical personnel only)?

Private practice
Faculty physician
Medical resident
Other: _____

What is your area of practice (e.g., Interventional Radiology) (medical personnel only?

How long have you been in practice (in years)? (medical personnel only):

Appendix H: Medical Resident Invitation Email (Time 1)

Hello,

With the recognition that the divorce rate among physicians is 10% to 20% higher than that of the general population, and considering the significant stress experienced by physicians and their families, a collaborative investigation between the University of South Florida's College of Medicine and Department of Psychology has been initiated. This investigation involves an online research study focusing on the role that stress and social support play in the lives of physicians and their spouses/partners. Your participation in this study would be greatly appreciated!

To be eligible to participate you must be married or living permanently with your partner. You and your spouse/partner will be asked to complete two very brief surveys (approximately 7 minutes each) one now and one in several months. By participating, you will help make an extremely valuable contribution to the understanding of these issues.

- If you are willing to participate, please click on the link below:
  LINK

- If you are NOT willing to participate, please click on the link below:
  LINK

Please note that you are fully free to not participate in this study and may withdraw from this study at any time. No personally identifying information will be used in this study, and only aggregated information will be used in publications. Medical residents who do not participate in this study will not be adversely affected in their training program.

To thank you for participating in this study, we would like to make a monetary donation to a charity of your choosing, and we would like to offer you a summary of the results from this study (You will be able to select a charity and indicate that you are interested in receiving this summary on the survey itself)!

If you have any questions or concerns about this study please contact Jay M. Dorio at jdorio@mail.usf.edu. Your contribution to our research effort is greatly appreciated!

Thank you in advance for your time and consideration!

Sincerely,

Jay M. Dorio, M.Ed., M.A.
Tammy D. Allen, Ph.D.
Peter J. Fabri, M.D., Ph.D.

Appendix I: Physician Invitation Email (Time 1)

Hello,

With the recognition that the divorce rate among physicians is 10% to 20% higher than that of the general population, and considering the significant stress experienced by physicians and their families, a collaborative investigation between the University of South Florida's College of Medicine and Department of Psychology has been initiated. This investigation involves an online research study focusing on the role that stress and social support play in the lives of physicians and their spouses/partners. Your participation in this study would be greatly appreciated!

To be eligible to participate you must be married or living permanently with your partner. You and your spouse/partner will be asked to complete two very brief surveys (approximately 7 minutes each) one now and one in several months. By participating, you will help make an extremely valuable contribution to the understanding of these issues.

- If you are willing to participate, please click on the link below:
  LINK

- If you are NOT willing to participate, please click on the link below:
  LINK

To thank you for participating in this study, we would like to make a monetary donation to a charity of your choosing, and we would like to offer you a summary of the results from this study (You will be able to select a charity and indicate that you are interested in receiving this summary on the survey itself)!

If you have any questions or concerns about this study please contact Jay M. Dorio at jdorio@mail.usf.edu. Your contribution to our research effort is greatly appreciated!

Thank you in advance for your time and consideration!

Sincerely,

Jay M. Dorio, M.Ed., M.A.
Tammy D. Allen, Ph.D.
Peter J. Fabri, M.D., Ph.D.

Appendix J: Spouse/Partner Invitation Email (Time 1)

Hello,

Recently your spouse/partner (at physician e-mail address) participated in an online research study and supplied us with your e-mail address. This study was initiated by the University of South Florida's College of Medicine and Department of Psychology, and is designed to investigate the role that stress and social support play in the lives of physicians and their spouses/partners.

A major limitation of previous research examining stressors within medical families is a lack of information provided from the spouse/partners of the physicians. Therefore, because your spouse/partner has already participated, your participation is critical to the success of this project!

To participate, you will be asked to complete two very brief surveys (approximately 7 minutes each) - one now and one in several months. By participating, you will help make an extremely valuable contribution to the understanding of these issues.

- If you are willing to participate, please click on the link below:
  LINK

- If you are NOT willing to participate, please click on the link below:
  LINK

To thank you for participating in this study, we would like to make a monetary donation to a charity of your choosing, and we would like to offer you a summary of the results from this study (You will be able to select a charity and indicate that you are interested in receiving this summary on the survey itself)!

If you have any questions or concerns about this study please contact Jay M. Dorio at jdorio@mail.usf.edu. Your contribution to our research effort is greatly appreciated!

Thank you in advance for your time and consideration!

Sincerely,

Jay M. Dorio, M.Ed., M.A.
Tammy D. Allen, Ph.D.
Peter J. Fabri, M.D., Ph.D.

Appendix K: Spouse/Partner Reminder Email (Time 1)

Hello,

Recently I contacted you regarding participating in a brief survey designed to investigate the role that stress and social support play in the lives of physicians and their spouses/partners. It is critical to the success of the project to obtain information from both spouses/partners, therefore, because your spouse/partner has already participated, your participation is essential!

- If you are willing to participate, please click on the link below:
  LINK

- If you are NOT willing to participate, please click on the link below:
  LINK

If you have any questions or concerns about this study please contact me at jdorio@mail.usf.edu.

Thank you in advance for your time and consideration!

Sincerely,

Jay M. Dorio, M.Ed., M.A.
Tammy D. Allen, Ph.D.
Peter J. Fabri, M.D., Ph.D.

Appendix L: Physician and Spouse/Partner Invitation Email (Time 2)

Hello,

Approximately three months ago, you and your spouse/partner participated in Part 1 of a two part online research study initiated by the University of South Florida's College of Medicine and Department of Psychology, designed to investigate the role that stress and social support play in the lives of physicians and their spouses/partners. We would now greatly appreciate your participation in Part 2 of this study.

A major limitation of previous research examining stressors within medical families is a lack of information provided over time. Therefore, your participation at this time is critical to the success of this project!

To participate in Part 2 of the study, you will be asked to complete a very brief survey (approximately 5 minutes) that is very similar to the survey you completed in Part 1.

- If you are willing to participate, please click on the link below:
  LINK

- If you are NOT willing to participate, please click on the link below:
  LINK

If you have any questions or concerns about this study please contact me at jdorio@mail.usf.edu. Your contribution to our research effort is greatly appreciated!

Thank you for your time and participation!

Sincerely,

Jay M. Dorio, M.Ed., M.A.
Tammy D. Allen, Ph.D.
Peter J. Fabri, M.D., Ph.D.

Appendix M: Physician and Spouse/Partner Reminder Email (Time 2)

Hello,

Last week I contacted you regarding participating in a Part 2 of a study designed to investigate the role that stress and social support play in the lives of physicians and their spouses/partners. It is critical to the success of the project to obtain information at both time periods of the study; therefore, because both you and your spouse/partner have already participated at Time 1, your participation at Time 2 is essential!

- If you are willing to participate, please click on the link below:
  LINK

- If you are NOT willing to participate, please click on the link below:
  LINK

If you have any questions or concerns about this study please contact me at jdorio@mail.usf.edu. Thank you in advance for your time and consideration!

Sincerely,

Jay M. Dorio, M.Ed., M.A.
Tammy D. Allen, Ph.D.
Peter J. Fabri, M.D., Ph.D.

About the Author

Jay M. Dorio serves as a consultant for Kenexa's Global Survey Practice specializing in survey-based organizational development and change. Jay plays an active role in the execution of global survey projects to help organizations drive employee engagement to achieve tangible business outcomes. Prior to Kenexa, Jay gained extensive experience in both internal and external consulting and has worked in a variety of industry segments. Jay has published work on the work-family interface and task performance and is a frequent presenter at professional conferences. Jay currently holds a Master of Arts in Industrial and Organizational Psychology from the University of South Florida and a Master of Education in Counselor Training from the University of Massachusetts, Boston. Jay is a member of the Society for Industrial and Organizational Psychology, Society for Human Resource Management and Academy of Management.