

WORK CONDITIONS, WORK-FAMILY CONFLICT,
AND MARITAL QUALITY AMONG MALE
FIREFIGHTERS

By

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WORK CONDITIONS, WORK-FAMILY CONFLICT,
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FIREFIGHTERS

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Abstract: Firefighters routinely deal with multiple stressors that can place considerable strain on their family lives, particularly their marriages (Regehr, Dimitropoulos, Bright, George, & Henderson, 2005). Yet firefighters also often experience strong social support from their colleagues and supervisors, which can buffer negative individual and familial outcomes (Regehr, 2009). Prior research has not investigated the associations between firefighters' work conditions (stressors and support), work-family conflict, and marital quality. This study applies Spillover and Role Theories and posits that firefighters' work conditions affect their perceptions of work-family conflict, which in turn is associated with marital quality. Linear regression models are used to show that firefighters' work conditions are associated with perceptions of work-family conflict; high work hours, perceiving one's life is frequently in danger, and poor sleep quality are associated with greater work-family conflict, while having supportive supervisors and co-workers is associated with lower work-family conflict. In turn, greater work-family conflict is associated with reduced marital quality. These results highlight the importance of work conditions and work-family conflict for marital quality research, particularly among couples where one or both individuals works in an occupation with multiple stressors.

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CHAPTER I

INTRODUCTION

Besides home, the place that most Americans spend their time is at work, so it should not be surprising that the different aspects of a job—timing of shift, workplace experiences, amount of stress, flexibility, supervisor support, co-worker cohesion, etc.—affect individuals and their families when they return home. That effect is often reciprocal—what happens at home also affects employees’ experiences at work (Bellavia & Frone, 2005). Yet all jobs are not equal in terms of work conditions. Having a job that is very demanding or encompasses multiple stressors—both traumatic and non-traumatic—can be particularly detrimental for relationships (Neff & Karney, 2004; Story & Repetti, 2006).

Though multiple stressors can lead to numerous deleterious effects for individuals, they can also “spillover” into other domains of life, particularly couple relationships (Greenhaus & Beutell, 1985). Prior studies have documented that people who work in occupations with certain characteristics (e.g., nonstandard hours, rotating shifts, high trauma) experience higher risk of divorce or relationship dissolution (Presser, 2000). Firefighting, in particular, has been identified as an occupation that poses increased risks for marital problems due to higher levels of occupational stress that firefighters encounter (Wagner & O’Neill, 2012). This thesis examines

how work conditions spillover to affect marital relationships among a sample of 572 currently married firefighters. Using linear regression analyses, I explore how different work conditions, both positive (support from supervisors and co-workers) and negative (high (over 60) number of hours worked, poor sleep quality, and feeling that one's life is in danger) are associated with firefighter reports of work-family conflict. I then examine how work-family conflict and family context variables (having young children and high perceived housework load) are associated with marital quality.

CHAPTER II

REVIEW OF LITERATURE

Theoretical Perspective

Occupational stressors can contribute to feeling over-burdened in the family domain. This thesis utilizes Role Theory and Spillover Theory to explain why firefighters' marital quality may be affected by their jobs. Although prior theory and research suggests that there is a bi-directional relationship between the work and family domains, I focus here on the work-to-family relationship, particularly regarding conflict between the domains (henceforth referred to as work-family conflict). I propose that the application of these theories in tandem is crucial in understanding the process by which work conditions carry over into the family domain and impact the marital relationship.

Role theory emerged from symbolic interaction theory and is based on the idea that in every social structure there are roles, and each role has certain behavioral expectations (Biddle, 1986). Role strain occurs when expectations about behavior go unmet, or the issues from one role seep into another (White & Klein, 2008). For firefighters it might be difficult to stop thinking about their roles as firefighter, or their experiences that took place in the work environment after they leave a work shift. For example, when firefighters return home, they may need to rest because they were up all night on a call, or they may have physical aches and pains or a build-up of work-

work-related psychological distress due to traumatic experiences that occurred while at work. Yet when firefighters return home, they also must meet the role expectations of the family domain (e.g., as spouse or parent). One aspect of this theory that is particularly relevant for firefighters is the premise that roles that are characterized by high commitment are given the highest priority by individuals (Stryker, 1968). While many people might view their jobs as “just a job,” many firefighters report that it is more than a job, and that it was something they were meant to do (Desmond, 2006; Regehr et al., 2005; Wright, 2008). Thus, many firefighters place high commitment on both their jobs and their families; expectations for one domain do not easily weigh out over another domain. When the expectations, time commitment, or energy needed for these roles collide, firefighters may be particularly susceptible to demands and stresses from work and family “spilling over” into the other domain.

The Spillover Theory was developed to explain the processes through which participation in one domain (e.g., work) impacts participation in another domain (e.g., family) (Pleck, 1995). The Spillover Model has been used extensively in work-family literature and is particularly well-suited for explaining how job demands (e.g., time, energy, and psychological demands) often carry over beyond the work hours to affect familial outcomes, including the marital relationship (Grzywacz & Marks, 2000). Of particular interest to this study is the relationship between work conditions and marital quality. Marital quality is a multi-faceted measure that includes how a couple resolves disagreements; marital satisfaction; and what they foresee their relationship being like in the future (Ren, 1997). Marital quality is an individual experience and can vary dramatically even between partners in a relationship (Snyder, Heyman, & Hayes, 2005). Previous research has found a relationship between work stressors, the characteristics of the job, and poor relationship quality. This relationship has been linked directly and indirectly, such that work stressors increase psychological distress, which then affects marital relationship quality (Hughes, Galinsky, & Morris, 1992)

The Firefighting Occupation and Marriage

The job of a firefighter is a unique one—it involves nonstandard hours, encountering stressful and traumatic situations, and sometimes extreme physical exertion. It is also a unique job because teamwork and camaraderie are essential parts of being able to perform the job successfully (Rawles, 2003). Particularly relevant for this thesis are the stressors and social supports that are part of the firefighting occupation. These work conditions have important implications not only for the individual well-being of the firefighters, but also because these work conditions have been previously documented to spillover into the family domain and affect the marital relationship (Franche et al., 2006; Regehr, Hill, Knott, & Sault, 2003).

Fire service in the United States was created in the late 1700s. Long, rotating, non-standard shifts have been a regular part of the fire service since its inception (IAFF, 2007). Firefighters worked 24-hour shifts and only left the fire stations during slow periods (Cooper, 1995). In the 1930s and 1940s, the local unions were instrumental in changing the working hours of firefighters from continuous shifts to rotating shifts, which still exist today (IAFF, 2007; Rule, 1999). Most fire departments in the United States utilize rotating shifts of 24 hours on-duty and 48 hours off (Rule, 1999). Presser (2000) has found that nonstandard work schedules are linked to greater marital instability because they affect temporal aspects of family life; the number of waking hours members of a couple spend outside of work could potentially be spent together in a variety of couple or family activities. If this social interaction is important to maintaining commitment, then couples who spend less time together due to differential or rotating schedules are at greater risk. Further, the stressful nature of the job may also reduce relationship commitment or cohesion. Working nonstandard hours decreases marital satisfaction (White & Keith, 1990), and increases risk of separation or divorce, particularly for men with children (Presser, 2000).

Working in the evenings has also been found to have negative consequences for work-to-family conflict, particularly among married individuals. Working nights is associated with an increase in work-family conflict and an increase in the reports of daily stress by an employee's

spouse (Davis, Goodman, Pirretti, & Almeida, 2008). The same study also found that individuals considered divorce more often when either they or their spouses worked nights. Researchers have speculated as to why work-to-family conflict increases and marital satisfaction decreases among those couples where at least one individual works nights. Maume and Sebastian (2012) found in their study that men experience decreased marital quality because working at night limited the number of hours that a couple was able to spend quality time together. Spending quality time together is an important part of any marriage, and many studies have found that quality time is positively correlated with marital satisfaction—particularly for females (Claxton & Perry-Jenkins, 2008; Johnson, Zabriskie & Hill, 2008). Firefighters’ schedules have been found to be hard on a marriage. A qualitative study of wives of firefighters reported that shift work, and the absence of their husband, particularly during important events, was stressful for the family (Regehr et al., 2005). In addition to the common physical absence of their husbands, firefighters’ spouses also reported that when their husbands were at home, they also had to deal with “psychological absences”—ruminating about something that occurred at work.

Thus, in addition to negative marital outcomes that may be experienced due to the scheduling of the firefighter occupation, the actual experiences that firefighters face at work can be another facet that affects their marriages. A study of job stressors by occupation revealed that firefighters score at or near the top of every aspect of job stress that was measured (physical health, psychological well-being, and job satisfaction) (Johnson et al., 2005). Psychological distress, in particular, has important implications for individual and family well-being.

Firefighters are regularly exposed to a wide-variety of human suffering, including death due to accidents, homicides, and suicides. Prior research has concluded that some level of post-traumatic stress disorder (PTSD) is synonymous with being a firefighter (Haslam & Mallon, 2003; Soo et al., 2011). Even though there is wide variation in the percentage of firefighters who suffer from PTSD (some studies estimate that PTSD is as high as 50% among firefighters), conservative estimates place the percentage around 13% (North et al., 2002), which is almost double the

estimate of PTSD in the general population of 6.8% (Kessler, Berglund, Demler, Jin, & Walters, 2005).

Few studies have examined how either mass casualty event or cumulative stress due to regular traumatic exposure for firefighters affects their marital relationships. One exception, a longitudinal study of NYPD firefighters after September 11th, found that elevated rates of PTSD were highly correlated with problems at home, such as marital conflict. Over the four year study, PTSD risk and problems at home, continued to increase in the sample (Beringer et al., 2010). Another study following the Oklahoma City bombing focused on a small sample of wives of firefighters. Findings revealed that 30% of the wives felt that the bombing had greatly affected their husbands and reported that they personally witnessed their husbands have instances of depression, sleep interruptions, flashbacks, and/or alcoholism. Some women (37%) also reported lasting changes in their marriage due to the bombing (Pfefferbaum, North, Bunch, Wilson, & Schorr, 2002). While most firefighters never experience a disaster on the same scale as the World Trade Center attacks, they do typically experience traumatic calls on a regular basis, contributing to cumulative work-related PTSD (Corneil, Beaton, Murphy, Johnson, & Pike, 1999).

In aforementioned qualitative study with the wives of firefighters, Regehr and colleagues (2005) reported that spouses reported being concerned about their husbands' safety while on duty—especially in the early years of their marriage. Concerns ranged from worrying about their deaths to worrying about them contracting AIDS from a patient. Other wives reported that while in the beginning they frequently worried about their husband while he was on duty, the concern had somewhat dissipated through the years. Some wives commented though that they felt like their husbands spared them by not sharing, or minimizing, the danger that they faced while on duty. Additionally, most wives discussed serious injuries or deaths of older firefighters that they knew or that their husbands worked with. This could be the indication of a marital coping mechanism. So as not to be consumed with fear every time their spouse goes in to work, the

spouse of a firefighter might learn to cope by not thinking about the danger at all. In turn, a firefighter might shield his spouse from the true danger they face everyday by not sharing their day-to-day stories of perilous situations.

Yet not all of the work conditions associated with firefighting are negative. Firefighters subsist in a tight-knit environment, not only working with other firefighters but also living and performing essential daily tasks—like eating, sleeping, and socializing with the members of their crew at least three days a week (Rawles, 2003). Because of the nature of the job, being a firefighter is more than an occupation—it is a lifestyle. Previous studies have found that social support is often a buffer between the stresses that firefighters experience on the job and negative individual and/or familial outcomes (Regehr, 2009). In particular, social support reduces firefighters' feelings of psychological distress, which in turn mediates many of the negative outcomes of interest, including marital conflict.

Work Stressors and Work-Family Conflict

Long work hours. Long working hours have been correlated with numerous problems for the individual working, and for the family. Working more than 12 hours a day, or 60 hours a week, has been associated with an increase chance for injuries on the job (Dembe, Erickson, Delbos, & Banks, 2005). Other risks for the worker include: sleep loss, less cognitive and executive functioning, and increased stress (Caruso, 2006). Long working hours also affect families. Prior studies have found that as work hours increase, work and family conflict increases as well (Carlson and Perrew, 1999). In a sample that specifically examined firefighters, Shreffler, Parrish, and Davis (2011) found that working over 60 hours a week resulted in increased work-to-family conflict. Work-to-family conflict can be described as conflict that arises when there is competition between the roles that are performed at home, and the roles that are performed at work (Voydanoff, 2004).

Poor sleep quality. Sleep is crucial for an individual's well-being. Sleeping less or having more frequent sleep disturbances in the middle of the night poorly effect an individual's health—specifically the immune system, the endocrine system, and metabolism (Akerstedt and Nilsson, 2003). Sleep and work hours have been extensively studied and it has been proposed that working more hours is correlated with less sleep for the simple fact that more hours at work mean less time available for sleeping.

In addition to working long hours, other work factors, such as high work demand, and an increase in the physical exertion at work are associated with higher accounts of disturbed sleep (Akerstedt, Knutsson, Westerholm, Theorell, Alfredsson, & Kecklund, 2002). Shiftwork has also been found to be destructive to healthy sleep. Morikawa et al. (1999) found that shift work throws off quality sleep patterns that then lead to an increase in injuries on the job.

Firefighters are at a greater risk for getting less sleep and having more sleep disturbances simply from the nature of the job—non-standard rotating shift work, and working a full 24 hours. Firefighters may also experience sleep disturbances based on stress from trauma experiences while on the job. Haslam and Mallson (2003) found in a sample of firefighters with PTSD that the most frequent symptom was disturbed sleep. Carey, Al-Zaiti, Dean, Sessanna, and Finnell, (2011) also found that sleep problems were the most frequently reported symptom among firefighters. In addition to having sleep problems, they were more likely to report more coping mechanisms, such as binge drinking.

Feeling that one's life is in danger. Johnson and colleagues (2005) found in their study of stressful occupations, such as police officers, social workers, and psychologists, that firefighters and paramedics scored toward the top in every aspect of job stress that was measured (physical health, psychological well-being, and job satisfaction). It is a normative experience for firefighters to report feeling that their lives in danger; nearly half (46%) of firefighters in Oklahoma report feeling that their lives are in danger at least some of the time (Shreffler et al., 2011). Similarly, in a study of 86 firefighter/paramedics, Regehr, Goldberg, and Hughes (2002)

found that the entire sample reported that they had experienced at least one of the seven events that the researchers labeled as “critical,” such as personal injury, seeing a fellow firefighter injured, or the death of a child. Close to 75% of the sample reported they had been physically attacked while at work, and slightly over 50% reported that they had felt their life was in danger. Respondents reported that they experienced the most distress following the death of a child, and the death of a coworker.

Firefighter’s Social Supports and Work-Family Conflict

Support from supervisors and co-workers. Strong social support has been found to be an especially important protective factor that helps to insulate firefighters from some of the risk factors associated with this demanding career (Regher, 2009). Thus when considering family outcomes associated with firefighters’ work conditions, it is important to examine how social support might buffer some of the more stressful aspects of the job.

Social support can come from different realms of the firefighter’s world such as supervisor support and coworker support. Both types of social support have been shown to be beneficial for a firefighter’s well-being. Varvel and colleagues (2007) found that a firefighter’s report of stronger supervisor support was associated with less stress. Co-worker support for firefighters is also critical. Firefighters work and live with their co-workers, eating, sleeping, and socializing with the co-workers on their crew at least three days per week (Rawles, 2003). In addition to living with them nearly half of the time each week, they also often depend on their co-workers for safety during a fire. Prior research indicates that co-worker cohesiveness or support is associated with positive outcomes for firefighters, reducing the nature and intensity of the effects of trauma exposure (Soloman, 1986) and recovering physically from demanding tasks more quickly (Roy, Kirschbaum, & Steptoe, 1998).

Family Circumstances and Marital Quality

Young children in the household. Prior research has identified both the transition to parenthood (Belsky & Pensky, 1988; White & Booth, 1985) and the subsequent few years following birth (Schulz, Cowan, & Cowan, 2006) as a particularly distressing time for marital quality. Further, there is a significant negative correlation between number of children and marital satisfaction (Twenge, Campbell, & Foster, 2004). The negative effects of young children on marital outcomes are due to a variety of factors, including increased household work, stress and strain; increased financial burden; interference with couple companionship; interference with the couple's sex life; an overload of social roles occupied by the new parents; exacerbated inequity between parents that typically disadvantages wives (see Twenge et al., 2004, for a review). We are specifically looking at children under the age of five because they require more active care and are not as likely to be in formal schooling like an older child would be.

Perceived equity of housework responsibilities. The amount of hours men spend doing housework has steadily increased since the 1960's, though men continue to spend fewer hours than women, on average (Bianchi, Milkie, Sayer, & Robinson, 2000). Theories abound about why, and the conditions under which, men spend more time doing housework—specifically “core housework” such as cooking a cleaning. The time availability perspective suggests that the division of labor in the home is rationally delegated to members of couple depending on their availability (England & Farkas, 1986). According to this perspective, women have historically spent more time on household chores due to having fewer work hours in the paid labor force. Though men who work more hours are generally less available to spend time on household labor (Coverman, 2005), this is not necessarily the case for men who engage in shiftwork; Presser (1994) found that the more hours that husbands are not employed during hours that their wives are employed, the more time they spend engaged in household chores, and vice versa for wives.

The firefighting occupation typically requires more hours than a traditional 40-hour/week job, but the shiftwork schedule allows the firefighters to be home during the day, several consecutive days during the week. Because of this time at home, they may perform an increased

amount of housework as compared to their spouses or the spouses of other men in occupations with long hours. Indeed, spouses of firefighters reported that their husbands do in fact perform a substantial amount of housework—including cooking and cleaning (Regehr et al., 2005). While the wives mentioned this as a positive aspect of their husbands' jobs, previous research has found when men have a more traditional view of masculinity and gender, they may limit their time spent in housework tasks (Brines, 1994). When men perceive have also found that when men perceive an unfair division of household labor, they are more likely to report lower levels of marital happiness (Friso & Williams, 2003). This has the potential to erode marital quality if men feel like they are constantly doing the majority of the housework.

Statement of the Problem

Firefighting is a unique occupation that includes both a high degree of work stressors as well as strong social support from co-workers and supervisors. Prior research has examined the relationships between these work conditions and individual and family outcomes, though not quantitatively with a large sample of firefighters. The objectives of the present study, therefore, are to examine the associations between firefighters' work conditions (stressors and supports) and perceived work-family conflict, followed by an examination of work-family conflict, family context, and marital quality. The findings from this study could help workplace policies, and also inform clinicians who are working with firefighters. The hypotheses are as follows:

Hypothesis 1. Work stressors (working over 60 hours, lack of sleep, and feeling like one's life is in danger) will be associated with higher work-family conflict.

Hypothesis 2. Social support from supervisors and coworkers will be associated with lower work-family conflict.

Hypothesis 3. Work-family conflict will be associated with lower marital quality.

Hypothesis 4. Home stressors (having children under 5 years of age and amount of perceived housework) will be associated with lower marital quality.

CHAPTER III

METHODOLOGY

Participants

The data for the current study used the 2010 Survey of Firefighters' Work and Family Lives. Data was collected in Spring 2010 over the course of six months; 698 firefighters in 12 different fire departments in a south-central region of the United States. The study research team emailed and called nearly 50 fire chiefs throughout the state, and many agreed to assist with recruitment at their station by allowing the research team time to explain the nature of the study, and time for firefighters to participate if interested and willing. Because of time and financial concerns, the research team was not able to go to every department that agreed to participate in the study. The researchers selected 10 fire departments throughout the southern region that were diverse in settings (9 rural vs. 1 urban), the type of shifts they worked, and the type of care they provided. Only one department did not provide ambulance care, or emergency medical services. Of the 10 departments surveyed, three were all volunteer departments, three were combination departments—utilizing a combination of career and volunteer staff—and the other six departments were all career/paid departments. Because of the rotating schedule, the research team attended every shift once to give all firefighters in each fire department the opportunity to

participate. If a call came in while the firefighters were taking the survey, participants turned the survey face down and the researchers remained at the fire station until they returned. In all cases, the firefighters returned in less than 30 minutes after their departure and finished the surveys. In the largest (urban) fire department, District Fire Chiefs were trained to assist in data collection and they passed out the surveys to the firefighters in the morning as they visited each one and picked up the sealed envelopes as they visited each department in the evening. At the end of the evening, the surveys were picked up from the District Fire Chiefs by the research team.

The survey took approximately 40 to 45 minutes to complete. Approximately 64% of the firefighters that were asked to participate completed the survey. The primary reason firefighters declined to participate was time constraints. For example, in one department preparing for a promotional exam, some firefighters declined participation in order to study. A few firefighters declined to participate because they were in the process of cooking or cleaning the firehouse. For this study, the original sample of 698 (689 males and 9 females) firefighters was restricted to 572 currently married male firefighters due to the low numbers of female participants and those in cohabiting relationships (fewer than 1% of the sample reported a current cohabiting relationship). Because the female sample was so small we did not include them in our analyses.

Measures: Dependent Variables.

Work-family conflict. In this survey, *work-family conflict* was assessed with four items asking firefighters to indicate their agreement to statements about how much they were affected by work-to-family conflicts. Statements for this measure included: 1) “Because of the requirements of my job, my family time is less enjoyable and more pressured;” 2) “Because of the requirements of my job, I miss out on home or family activities that I would prefer to participate in;” 3) “My job leaves me with too little energy to be the kind of parent I want to be;” and 4) “My job leaves me with too little energy to be the kind of spouse or partner I want to be.”

Firefighters rated their agreement with each statement on a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Responses were averaged to create a scale where higher responses indicated higher work-family conflict. The cronbach's alpha for the measure with the current sample is .76.

Marital quality. *Marital quality* was assessed with a six-item scale. Questions included: 1) "How well does your partner meet your needs;" 2) "To what extent has your relationship met your original expectations?" 3) "In general, how satisfied are you with your relationship;" 4) "How sexually intimate are you with your partner;" 5) "How much do you love your partner;" and 6) "How rewarding is your relationship with your partner." Firefighters were to indicate whether these statements were "Not at all" (1) to "Very much" (4) accurate for each question. Therefore, higher scores mean higher marital quality. The mean for this measure is 3.50. The cronbach's alpha for this measure was .91 for the current sample. Because the scale is highly skewed towards higher marital quality and not normally distributed, the mean marital quality scale was logged for the regression analyses.

Measures: Independent Variables

Work stressors. *Working more than 60 hours.* This item was assessed by asking, "How many hours a week do you work, in an average week, at all of your jobs?" Those who answered, "More than 60" were coded as 1; those who reported they worked less than 60 were coded as 0. *Lack of sleep* was assessed by asking, "During the last month, how often did you have a periods of 24 hours of more without any sleep?" Respondents who reported that it had "not occurred in the past month" or "less than once a week" were coded as 0. Those who reported that it had occurred "at least once a week" or more were coded as a 1. *Life in Danger* was derived from two items, "Have you ever felt like your life was in danger while on the job?" If a firefighter responded "yes", they were then asked how often they felt this way while on duty. Firefighters

who responded “no” were coded as 1 for “never” on a continuous scale where “all the time” was coded as 4.

Social support at work. *Supervisor support* was assessed with a question, “I have inadequate guidance and back up from superiors.” Firefighters were then asked to rate from 1 (*strongly disagree*) to 5 (*strongly agree*). This item was then reverse-coded so as to measure support from supervisors instead of inadequate support. Therefore, “5” indicates that a firefighter strong agreement that supervisors provide adequate guidance and back up. *Co-worker support* was assessed by a question asking, “How close do you feel to your colleagues in general?” Firefighters then were asked to rate co-worker closeness ranging from 1 (*I do not feel close to my colleagues*) to 5 (*I am closer to my colleagues than my family*).

Family context. *Amount of Housework* was assessed by asking “What proportion of the housework do you do?” Firefighters answers ranged from 1 (*I do much less than my fair share*) to 5 (*I do much more than my fair share*). *Children under five years of age* was measured by asking the firefighter if they had a child in their care who was under five. If they did not have a child under five in their care it was coded as 0. If they did have a child under five in their care it was coded as 1.

Background characteristics. Covariates included demographic characteristics of *age* (in years); *white* (1 = *white*; 0 = *nonwhite*); and *education* (continuous, ranging from 1 = *no formal education* to 6 = *completed graduate degree*).

Analytic Strategy

I first ran descriptive statistics on all the study variables, as well as on each item included in the dependent variables (work-family conflict and marital quality). I then examined the relative importance of work stressors (working more than 60 hours a week, lack of sleep, and feeling like one’s life is in danger on the job) and work support (supervisor support and co-worker support)

for explaining differences in work-family conflict among firefighters using OLS regression. Controls for background variables of age, race, and education were included in Model 2. In an additional OLS regression, I examined the association between work conditions, work-family conflict and marital quality. Model 1 included only the work conditions (stressors and support), and Model 2 added work-family conflict to assess for mediation. I added family context variables assessing perceived amount of housework and the presence of children in the home under 5 years of age in Model 3. The final model included controls for age, race, and education.

CHAPTER IV

FINDINGS

Descriptive Analyses

The means, standard deviations, and range among the study variables are presented in Table 1. The descriptive statistics provide insight about the work and home lives of male firefighters. The majority (82%) of the firefighters are white, and the average age of our sample was 40 with a range of 20 to 59 and a standard deviation of 8. The average education of most of the firefighters is graduation from high school.

The findings reveal that the majority (58%) of firefighters in the sample work more than 60 hours per week, and nearly 40% report a period of 24 hours or more without sleep at least once per week. Further, more than half of the sample report feeling that their lives are in danger at least occasionally. However, many firefighters also reported social support at work. The average response for supervisor support (3.61) is skewed towards a positive supervisor support, and the average response for co-worker support (3.10) represents an average response of “My co-workers are close friends”, with the range of answers from, “I am not close to my colleagues” and “My colleagues are like family”.

Table 1. *Descriptive statistics of study variables (N = 562).*

<i>Variables</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
<i>Work conditions</i>				
<i>Work stressors</i>				
Working over 60 hours	.58	1.03	0	1
Lack of sleep	.39	.49	0	1
Life in danger	2.37	.80	1	4
<i>Work support</i>				
Supervisor support	3.61	1.11	1	5
Co-worker support	3.10	.81	1	5
<i>Family context</i>				
Children under 5 years of age	.28	.45	0	1
Amount of Housework	2.93	1.03	1	5
<i>Background</i>				
Age	40.29	8.11	20	59
White	.82	.38	0	1
Education	3.94	.65	3	6
<i>Dependent variables</i>				
<i>Work-family conflict</i>				
Job requirements create pressure on family time	2.38	1.04	1	5
Job requirements conflict with family activities	4.04	.97	1	5
Job causes lack of time/energy to be parent I want to be	2.84	1.29	1	5
Job causes lack of time/energy to be spouse I want to be	2.75	1.12	1	5
Mean of WFC Scale	2.98	.84	1	5
<i>Marital quality</i>				
How well does partner meet your needs	3.42	.68	1	4
How well has relationship met original expectations	3.36	.68	1	4
Overall satisfaction with relationship	3.51	.70	1	4
How sexually intimate are you with partner	3.31	.79	1	4
How much do you love your partner	3.86	.38	1	4
How rewarding is your relationship	3.56	.67	1	4
Mean of MQ scale	3.50	.56	1	4

Approximately 28% of the firefighters reported having at least one child under age 5 in the home, and on a scale from 1 to 5, the average response of 2.93 to perceived level of housework indicates that on average, firefighters agreed with the statement, *“I do my fair share.”*

The dependent variables are also presented in Table 1. In addition to presenting the scales, descriptive statistics for the individual items comprising the dependent variables are presented. Focusing first on the work-family conflict dependent variable, the mean of the firefighter’s work and family conflict of 2.98 represents that the sample, on average, experiences a moderate level of work-family conflict. However, there is considerable variation in the individual items. For example, the item, *“Because of the requirements of my job, my family time is less enjoyable and more pressured,”* had the lowest average score for work-family conflict, at 2.38 on a 1 to 5 scale. On the other hand, the item, *“Because of the requirements of my job, I miss out on home or family activities that I would prefer to participate in,”* averaged much higher responses, at 4.04 on a 1 to 5 scale. It is possible that the large variance between items is because of the nature of the job. *“Because of the requirements of my job, my family time is less enjoyable and more pressured”* might have been scored low because once a firefighter is off duty there is nothing that is required of them to do outside of work like in some other professions (i.e. do paperwork from home or return emails). Also because their schedules are so rigid they do not have a flexible schedule where they could leave work, or makeup hours, and go to a family event, or a child’s extracurricular activity.

The dependent variable, marital quality, had much less variation within the individual items. The average response of the mean marital quality scale was skewed highly towards high marital quality ($M = 3.50$ on a 1 to 4 scale). The lowest scoring item, *“How sexually intimate are you with your partner,”* is still quite high, at 3.31. The highest scoring individual item, *“How rewarding is your relationship,”* is exceptionally high, at 3.56. Fincham and Bradbury (1987) found that often marital quality is erroneously ranked high in self-report measures.

Substantive Analyses

Work-to-family conflict. The first aim of this paper was to examine how work conditions (stressors and support) are linked to work-family conflict among firefighters. The OLS regression analysis of the work conditions and work-family conflict relationship is presented in Table 2. The results of Model 1 indicate that working more than 60 hours per week ($b = .22, p < .02$), feeling that one's life is in danger ($b = .12, p < .01$), and experiencing a period of at least 24 hours with no sleep in the past week ($b = .29, p < .001$) were positively associated with greater work-family conflict. However, greater support from supervisors and co-workers were associated with reduced work-family conflict ($b = -.18, p < .001$ and $b = -.13, p < .01$, respectively). Model 2 included demographic variables of interest, revealing a negative association with age. Thus, older participants reported lower work-family conflict.

Marital quality. Next, I examined how work conditions and work-family conflict were associated with marital quality presented in Table Family context (*number of children under 5* and *perceived amount of housework*) was also included in this analysis. Because the dependent variable, marital quality, was positively skewed and not normally distributed, it was transformed into the log of marital quality for this series of OLS regression models. Model 1 included only the work conditions variables (stressors and support) and found that firefighters working more than 60 hours per week ($b = -.04, p < .05$) and those experiencing a 24-hour period with no sleep in the past week ($b = -.04, p < .05$) reported significantly lower marital quality. Model 2 included work-family conflict to determine if the associations between work conditions and marital quality were mediated by work-family conflict. Results found a highly significant, negative relationship between work-family conflict and marital quality ($b = -.04, p < .001$). Lack of sleep was no longer significantly associated with marital quality, though working more than 60 hours ($b = -.03,$

Table 2. Results of OLS models predicting work-family conflict by work conditions and covariates (N=562).

<i>Variables</i>	<i>Model 1</i>		<i>Model 2</i>			
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>		
<i>Work conditions</i>						
<i>Work stressors</i>						
Working over 60 hours	.22	**	.07	.21	**	.07
Life in danger	.12	**	.04	.13	**	.04
Lack of sleep	.29	***	.07	.27	***	.07
<i>Work support</i>						
Supervisor support	-.18	***	.03	-.19	***	.03
Co-worker support	-.13	**	.04	-.13	**	.04
<i>Background</i>						
Age				-.01	*	.00
White				.10		.09
Education				-.06		.05
Constant	3.58	***	.22	4.12	***	.37
Adjusted R2	.16		.17			

*p<.05; **p<.01; ***p<.001.

Table 3. Results of OLS models predicting marital quality by work conditions, work-family conflict, family context, and covariates (N=562).

<i>Variables</i>	<u>Model 1</u>		<u>Model 2</u>		<u>Model 3</u>		<u>Model 4</u>	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
<i>Work conditions</i>								
<i>Work stressors</i>								
Working over 60 hours	-.04 *	.02	-.03 *	.02	-.03 *	.02	-.03 *	.02
Life in danger	.00	.01	.01	.01	.01	.01	.01	.01
Lack of sleep	-.04 *	.02	-.03	.02	-.04 *	.02	-.04 *	.02
<i>Work support</i>								
Supervisor support	.01	.01	.00	.01	.00	.01	.00	.01
Co-worker support	.00	.01	.00	.01	.00	.01	.00	.01
Work-family conflict			-.04 ***	.01	-.04 ***	.01	-.04 ***	.01
<i>Family context</i>								
Number of kids under 5					.01	.01	.01	.01
Amount of housework					-.05 ***	.01	-.04 ***	.01
<i>Background</i>								
Age							.00	.00
White							.00	.01
Education							.04	.02
Constant	1.24 ***	.05	1.37 ***	.06	1.50 ***	.07	1.49 ***	.10
Adjusted R2	.02		.04		.10		.13	

*p<.05; **p<.01; ***p<.001.

$p < .05$) was not mediated by work-family conflict. Model 3 included the family context variables, finding a negative association between perceived amount of housework and marital quality ($b = -.05, p < .001$) and no association between number of children under 5 in the home and marital quality. Finally, demographic variables were added in Model 4, but no significant associations were found. The addition of background variables as controls did not change the significant associations in the model between work conditions, work-family conflict, family context, and marital quality.

CHAPTER V

CONCLUSION

This thesis examined the relationships between work conditions, work-family conflict, and marital quality among a sample of male, married firefighters in the south central U.S. It extends prior research by examining how both work stressors and supports, as well as family context, spillover to affect marital quality among men who work in a highly stressful but also supportive occupation. Descriptive findings revealed that there is both considerable stressors as well as supports for the firefighters in the sample; the majority reported working more than 60 hours per week, nearly 40% reported going without sleep for a 24 hour period in the past week, and most firefighters reported feeling that their lives were in danger at least some of the time. Yet, the mean scores for supervisor and coworker support are also positively skewed.

The regression analyses findings supported the hypotheses. The first hypothesis—that work stressors would be associated with higher work-family conflict—was confirmed; working over 60 hours, lack of sleep and feeling like one’s life is in danger were positively and significantly associated with higher work-family conflict. The second hypothesis was also confirmed; feeling supported by your supervisor and colleagues were significantly associated

with lower work-family conflict. Considering that firefighters spend three, 24 hour shifts per week, with colleagues and supervisors, it is not surprising to find that a firefighter's feelings about work would be improved by having social support at work, but it is an interesting finding that these feelings carry over into the home environment. It is possible that having stronger social support means having a positive outlet, Perhaps having coworkers one can trust provides an outlet to discuss difficult work conditions or situations on the job which limits the spill over effect of these work-related into the home domain.

The third hypothesis, that work-family conflict would be associated with higher marital quality, was supported. While work-family conflict did not mediate the associations between work conditions and marital quality, it was significantly, negatively linked to marital quality. It is possible that had the cronbach's alpha been higher, we might have found a mediating relationship. Finally, the fourth hypothesis that home stressors would be associated with lower marital quality was partially supported; the lower the perceived equity in housework the firefighters felt (e.g., when they felt they were doing more than their fair share) was significantly associated with lower marital quality. The finding of lower marital quality when men reported doing more housework is consistent with previous findings that when men perceive that they are doing more housework, men report less marital happiness (Friso & Williams, 2003). However, there was no support for our hypothesis that having children in the home under 5 would be associated with lower marital quality was not supported. It is possible that being a father actually improves a father's well-being. Barnett, Marshall, and Pleck (1992) found men's participation with their children helped to protect against stressors at work. It is also possible, considering the structure of shiftwork, that firefighters spend more time caring for their children. Shreffler, Meadows, and Davis (2011) found that firefighters who spent more time caring for their children had less work and family conflict. While the current study did not incorporate the spouse's work schedule, future studies may benefit from additional measures of perceived household equity.

Recognizing that the question in the current study asked firefighters their perspective about their “fair share”, future studies should explore spouse’s perspectives and work schedules to better assess how child care responsibilities impact work stressors. In general, the background variables did not serve as protective or risk factors for work-family conflict or marital quality. Age was negatively associated with work-family conflict, indicating that older participants reported lower work-family conflict. It is possible that the background variables were not particularly significant because the sample is rather heterogeneous and lacks variability. Future studies should include greater diversity in the samples, including a greater number of females and minorities. This would allow researchers to further examine if these factors influence marital quality or work-family conflict.

Strengths and Implications

There are several contributions made by this study. The first strength lies with the methods; the sample includes a large number of participants from a variety of different fire departments throughout a south central state. The survey incorporated a wide variety of items regarding work and family topics, which enabled a rich inquiry into a wide range of issues including fatherhood, job variables, and marital quality. In addition, prior studies of firefighters typically include qualitative samples and analyses, or studies focusing on the firefighting occupation tend to focus on the work stressors. The advantage of this quantitative design is having a large sample, as well as the ability to address a wide range of topics that might affect a firefighter. This study incorporated both work stressors *and* supports, allowing the researchers to examine difficulties that are present in the occupation as well as the supports available to firefighter, thus enhancing resilience a work. Also the large sample size allowed for multiple

regression analyses, in which variables of interest as well as controls can be included simultaneously to determine associations between study variables.

Another strength lies in the theoretical framing; the analyses in this study are informed by the conceptual integration of two key theoretical frameworks in the work-family field: Role and Spillover Theories. While Spillover Theory has been utilized in prior studies to explain the association between work conditions and marital outcomes, Role Theory is an important addition in this study due to the commitment and responsibilities part and parcel to the firefighting occupation. Finally, results indicate that both work stressors and supports affect firefighters' perceptions of work-family conflict, and work-family conflict is significantly associated with marital quality. These findings have important implications that could improve the marriages of men in critical occupations, such as firefighting. For example, workplace policies and programs that enhance social support at work or decrease work-family conflict have the potential to spillover and improve marital quality. Recognizing that increasing marital quality decreases work and family conflict, workplace policies could encourage marital therapy or provide free marriage and family therapy services as part of firefighters' employee benefits. Also, supervisors may consider putting a shift together, or changing shift assignments, so that the firefighters who are the most compatible work with one another because the findings of this study were that feeling more supported by coworkers helps reduce work and family conflict.

Additionally, firefighters might benefit from having family-support worker on staff; a professional that could help counsel firefighters on duty, with their peers, or privately about a firefighter's individual needs. This person could also provide marital support, or recommend services in the community that might help benefit the family, such as day care services and health referrals.

Limitations and Future Direction

There are several limitations to this study. One limitation is the cross-sectional nature of the data. This allows for the examination of associations between study variables, but not causality. It is possible, therefore, that firefighters who have lower marital quality subsequently feel greater work-family conflict. However, I attempted to reduce the likelihood of this by using only variables indicating work-to-family conflict, not including variables indicating family-to-work conflict (for example, “Because of the requirements of my family, my time at work is less enjoyable and more pressured”). In addition, the sample is diverse and consists of a variety of different types of fire departments (urban/rural; volunteer/career; different types of rotating schedules; and provision of medical care/no EMT service). This study did not examine the possibility that these differences influence reports of work stressors or supports. Another limitation is the lack of partner data; the ability to include marital quality reports from both members of a couple would help determine an overall picture of the effects of firefighters’ work conditions on their marital outcomes. Finally, there are individual differences that may contribute to how firefighters process their work experiences and allow them to spillover into their marriages. Parrish Meadows, Shreffler, and Mullins-Sweatt (2011) suggest that individual differences in personality styles, for example, should be considered as they are associated with a variety of firefighters’ well-being outcomes. Despite these limitations, however, this study is the first to provide quantitative examinations of the negative (work stressors) and positive (work supports) factors associated with firefighters’ work-family conflict, as well as the association between firefighters’ work-family conflict and marital quality.

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