

## ABSTRACT

### Relationship Quality and its Association with Job Satisfaction, Quality of Life, and Mental Health of First-Responders

Amber Adamson, M.A.

Mentor: Mark T. Morman, Ph.D.

First-responder firefighters deal with a number of stressors as a routine part of their careers. The current study examined the association between relationship quality and the effects of stress experienced by first responder firefighters. Through the survey responses of 75 current firefighters, this study sought to extend previous research on firefighter emotional health by assessing the relationship between marital and friendship quality and firefighters' reports of job satisfaction, quality of life, and mental health. Results indicate that both marital and friendship quality are significantly associated with a number of important issues related to the emotional health of first-responder firefighters.

Relationship Quality and its Association with Job Satisfaction, Quality of Life,  
and Mental Health of First-Responders

by

Amber Adamson, B.A.

A Thesis

Approved by the Department of Communication

---

David W. Schlueter, Ph.D., Chairperson

Submitted to the Graduate Faculty of  
Baylor University in Partial Fulfillment of the  
Requirements for the Degree  
of  
Master of Arts

Approved by the Thesis Committee

---

Mark T. Morman, Ph.D., Chairperson

---

David W. Schlueter, Ph.D.

---

Sara J. Stone, Ph.D.

Accepted by the Graduate School

May 2013

---

J. Larry Lyon, Ph.D., Dean

Copyright © 2013 by Amber Adamson

All rights reserved

## TABLE OF CONTENTS

Introduction.....	1
Theoretical Perspective.....	4
First Responder Stress.....	4
Firefighter Marriage.....	9
The Brotherhood.....	13
Method.....	17
Participants.....	17
Procedure.....	18
Measures.....	18
Results.....	22
Discussion.....	23
Implications.....	26
Limitations and Future Research.....	27
References.....	28

## CHAPTER ONE

### Introduction

Images of first-responders rushing to be of service in times of national tragedy are iconic to most Americans. Among the heroes of some of the worst of these events – including the terrorist attacks of September 11, 2001, and the Oklahoma City bombing in 1995 – are firefighters. However, the concept of “hero” can be a double-edged sword, rewarding and uplifting in one context, and yet dangerous, difficult, and burdensome in another. The expectation that a first responder is automatically called a “hero” can be overwhelming and stressful for some firefighters. As Tracy and Scott (2006) noted, “firefighting is framed as valorous work achieved by a select few; firefighters do what members of other occupations will not” (p. 19).

In addition to coping with the hero status of their positions, these public servants also experience real threats of constant hazard and peril (Tracy & Scott, 2006), which contributes to unique types of stress and mental strain (Lourel et al., 2008). Firefighters’ jobs are inherently dangerous. According to the National Fire Protection Association’s (NFPA) 2012 report, as a result of the work they perform on a daily basis, firefighters face increased risk for incidences of both fatal and nonfatal injuries and illnesses.

Firefighters work in varied and complex environments that increase their risk of on-the-job death and injury. According to the NFPA, during the period of 2005-2009, an annual average of 38,660 firefighter injuries was reported. Common minor injuries included strain or sprain, thermal burns, and cuts or lacerations. Activities related to

extinguishing a fire account for half of the minor and half of the moderate to severe injuries reported each year. The leading cause of most minor injuries was exposure to fumes, gas, smoke, asbestos, heat, or flames, and the cause of most moderate or severe injuries was falling, slipping, or tripping. In addition to the above injuries, instances of heart attacks account for a little less than half of the deaths that occur among U.S. firefighters (Kales, et. al, 2007). Despite the frequent misperception that most firefighters die of smoke inhalation or burns, 45 percent of firefighters on duty die as a result of cardiovascular events, the most frequent cause of death for fire service personnel.

In addition to persistent threats to their physical safety, firefighters are regularly introduced to others' emotions and suffering in a variety of perilous and life-threatening situations (Regehr et al., 2005). Firefighters are conditioned to anticipate exposure to traumatic events as the standard course of their job (Pfefferbaum et al., 2002); however, first-responder firefighters not only have to learn to deal with their own emotions but also of those they serve every time they leave the fire station. Despite their own personal feelings, first responders must remain calm and composed in order to render aid and provide comfort for individuals who are experiencing trauma, pain, shock, and/or suffering (Scott & Myers, 2005).

Clearly, first responder firefighters engage in uniquely demanding, dangerous, and stressful work. However, in addition to the physical, emotional, and mental stressors associated with performing their job, still other research reports a common "spill-over" effect occurring in the personal lives of many firefighters. Exposure to highly dangerous and stressful experiences on a regular basis has clear implications for the personal lives of these public servants who often have difficulty separating the stress of their work from

their personal relationships. And yet, there is reason to believe that the quality of the personal relationships of first responders could play a key role in helping to mediate the negative effects of occupational stress in their lives. For example, previous studies have reported the positive and health promoting benefits of marriage for men (Lunstad, Birmingham, & Jones, 2008; Monin & Clark, 2011), while other studies have provided evidence for the affirming emotional benefits of close friendships between men (Floyd, 1995; Inman, 1996; Swain, 1989). A common theme in most personal relationships research is that social and emotional support received from significant others plays an important role in coping with and managing difficult circumstances (Cunningham & Barbee, 2000). Furthermore, since the overwhelming majority of firefighters in service today in the United States are male (only 2% of the fire service is female) (International Association of Firefighters, 2011), these men split their time between two distinctly different relational contexts; one working with their “brothers” in a typically all-male environment while at the fire station, and second, for married firefighters, with their wives at home. In both contexts, these distinct relationships have been shown to provide significant, constructive physical and emotional benefits for men.

Therefore, the purpose of the current study is to examine the association between relationship quality and the effects of stress experienced by first responder firefighters. This study seeks to extend previous research on firefighter emotional health by assessing the relationship between occupational stress and firefighter’s reports of job satisfaction, quality of life, and mental health. Additionally, the study will assess the association between firefighter relationship quality with a same sex firefighter friend and/or with a spouse and firefighter emotional health.

## CHAPTER TWO

### Theoretical Perspective

#### *First Responder Stress*

Myers (2005) describes the fire service as a high-reliability organization. HROs, as defined by Myers, are “danger-ex+posed organizations in which members must be relied upon to perform their duties in consistent, typically organizationally prescribed ways to ensure safety for themselves and others” (p. 4). Firefighters are responsible in life or death situations, and their actions often dictate the outcome.

According to Lavee and Ben-Ari (2007), a firefighter’s “job attributes such as work conditions and physical demands, long working hours, work overload, role ambiguity, and relations with coworkers or supervisors are all potential sources of stress” (p. 1022). Such high-stress jobs cause an increase in not only physical, but also emotional, exhaustion (Levenson & Roberts, 2001). This stress inevitably has a harmful effect on firefighters and their interpersonal relationships.

For first-responders working a 24-hour (or more) shift, physical exhaustion can be a real problem. Firefighters must maintain a level of alertness at varying hours of the day and night; they are often woken in the middle of the night during a shift to respond to one or more emergency calls. These professionals must also complete a variety of physical tasks, depending on the day and the nature of the emergency calls. First-responders may be required to lift a patient onto a stretcher and into an ambulance, tear down a wall of a structure engulfed in flames, or carry taut hose up flights of stairs, just to give a few

examples. The nature of the work, combined with the extreme hours required, can cause exhaustion, which interferes with interpersonal relationships. (Levenson & Roberts, 2001).

Simply by the nature of their jobs, firefighters are exposed to stress, but not everyone handles it the same. Even for highly trained professionals, at times the pressure of the profession can get the best of firefighters. Although firefighters are required to undergo rigorous training to become certified and maintain continuing education, the effects of dealing with critical incidents can affect all areas of life. A critical incident, as defined by Cicognani et al. (2009), “may be any event that has a stressful impact sufficient enough to overwhelm an individual’s sense of control, connection and meaning in his/her life” (p. 450).

Although firefighters are highly trained and those who choose to enter into this profession likely have the personality to deal with the stressors, prolonged exposure to high-drama situations may indeed impact both physical and emotional well-being (Regehr et al., 2005). Stressors of their career can take a toll on a firefighter’s mental and physical health. Many men may turn to drugs or alcohol (Bacharach et al., 2008) to deal with periods of unusually high job-related stress or pressure. Others may overeat, become overweight or not maintain a healthy lifestyle (CDC, 2010) required for solid mental and physical health. Additional health risk factors are smoking or tobacco use (Regehr et al., 2005). These related health problems may prove detrimental for marital relationships (Bacharach et al., 2008). Furthermore, if firefighters do not learn effective coping mechanisms to deal with the stress associated with their jobs, such a skills deficit can be detrimental to their personal health and wellness.

One risk factor to firefighters who are overstressed is the possibility of resorting to alcoholism and/or drug abuse (Bacharach et al., 2008). Bacharach et al. (2008) explore negative coping strategies, most prominently drinking in excess, employed by firefighters to reduce job-related stressors. The authors used a qualitative method to analyze survey data from 1,481 New York City Fire Department employees. The study measured drinking to cope by asking firefighters how often they drank and for what reasons; furthermore, intensity of involvement in workplace critical incidents, distress, and resource adequacy and availability also was assessed. These researchers found a positive association between drinking to cope and firefighters' experience with intense, critical incidents, with the relationship mediated by distress.

Pfefferbaum et al. (2002) looked at reactions of partners of firefighters who responded to the 1995 bombing of the Oklahoma City federal building. In order to examine coping responses among the firefighters, the researchers interviewed 27 partners of Oklahoma City firefighters, 22 to 44 months after the bombing. Findings indicated that relying on the support of friends and relatives, followed by alcohol use, were the two most frequently reported ways of dealing with the stressors.

Brown, Mulhern, and Joseph (2002) studied the effects of traumatic stress among firefighters in Northern Ireland dealing with the aftermath of political violence. These researchers utilized a questionnaire to conduct a quantitative analysis of 300 members of the Northern Ireland Fire Brigade. The survey focused on four areas: quality of life, locus of control, coping strategies, and measures of incident-related stress. The study provided evidence that distress among firefighters was linked to emotion avoidance and

was moderated by the frequency of exposure to events that would cause psychological stress or distress.

Numerous studies point to the prevalence of posttraumatic stress disorder in military personnel, but PTSD is also common in fire service personnel. Events triggering PTSD cause the individual to experience fear, horror, and helplessness, related to an event witnessed or confronted involving death or threat of real injury, either their own or others' (Del Bin et al., 2006).

Chen et al. (2007) utilized quantitative methods in a two-stage study to observe the occurrence of PTSD among firefighters in Kaohsiung, Taiwan. In the first stage, the researchers used a health survey and psychological screening test to assess quality of life, probable PTSD and major depression, and the related risk factors for 410 firefighters. In the second stage, psychiatrists categorized the probable cases according to self-reported questionnaires into three groups: PTSD or major depression, subclinical, and health groups. The researchers concluded that firefighters have a high estimated rate of PTSD and suggested intervention from mental health professionals in order to deal with these occurrences.

Cicognani et al. (2009) looked at both negative (i.e., compassion fatigue and burnout) and positive (i.e., compassion satisfaction) outcomes of emergency work. They defined compassion fatigue as secondary traumatic stress from exposure to extremely stressful events and burnout as a "combination of an overwhelming exhaustion, feeling of cynicism and detachment from the job, and a sense of ineffectiveness and lack of accomplishment" (p. 450). The researchers considered coping strategies, self-efficacy, and collective efficacy in investigating emergency workers quality of life and related

psychosocial facets. They conducted a qualitative study of 764 emergency workers, including firefighters, Civil Protection volunteers, and different categories of emergency medical service personnel. Results indicated that burnout and compassion fatigue were linked to dysfunctional coping strategies such as distraction and self-criticism, and that sense of community and collective efficacy were slightly, while self-efficacy is strongly, linked to well-being outcomes like compassion satisfaction.

Lourel et al. (2008) also assessed psychological burnout among firefighters. These researchers used self-administered questionnaires to conduct a qualitative study of 101 male volunteer firefighters from France. The surveys measured psychological job demands, job control, and burnout. The study's findings indicated that job demands predicted depersonalization and emotional exhaustion.

Another outcome of stress is related to perceptions of job satisfaction. Regardless of stress, firefighters who feel a strong sense of calling to their work and fulfillment as a result of their profession will be more satisfied with their work (Cicognani, 2009). According to Alacron and Larson (2011), positive job satisfaction may be determined by one's engagement with work, and is defined as "a positive affective tone toward one's job may facilitate energy at work, a sense of pride in one's work, and an immersion in one's tasks" (p. 475). Firefighters clearly take pride in their work, perhaps reflecting a bit of the positive public image of these professionals (Regehr, 2005).

Although firefighters generally seem to have a sense of calling to this particular line of work and hold their duties in high honor, many may hide behind what Lourel et al. refer to as a "John Wayne syndrome" (p. 493). Thus, firefighters might hide their true emotions and feelings related to the tough situations they face. This strong culture of

masculinity and denial of intensity of feelings (Myers, 2005) may lead to a decreased job satisfaction as firefighters come to a realization they are unable to cope with the emotional pressures they face while on shift.

### *Firefighter marriage*

The almost certain job stress and days of work-related separation required of the firefighting profession can be detrimental to marriages (Levenson & Roberts, 2001); however, the close bonds of marriage may also be an important source of emotional and social support and lead to greater health benefits for firefighters.

Married men appreciate better overall health and greater longevity than do single men, with unmarried men facing a 250% greater risk for mortality than married men (Ross et al., 1990). The fact remains that married men live longer and healthier lives than their single counterparts.

Kiecolt-Glaser and Newton (2001) offer two hypotheses for why marriage provides significant health benefits. First, the protection hypothesis says that married people receive added benefits from a healthy relationship that safeguard them from many instances of negative health. Specifically, married individuals generally live a less risky lifestyle and they also benefit from companionship, social support, and practical support from their spouse. Second, social control theory is centered on the accountability and camaraderie experienced in a healthy marriage. Spouses in such a relationship generally steer one another away from risky or deviant behaviors, and instead encourage healthy and wholesome lifestyles.

According to Holt-Lunstad et al. (2008), marriage may provide some health benefits; however, it is important to note that the quality of the marriage makes a difference. In a sample of 303 adults, the authors found that married people “report being more satisfied with life” than single individuals and have indicators of better health like lower blood pressure. Within the study, marriages of high quality were most beneficial to overall emotional and physical health. Damaging or antagonistic relationships can have a negative effect on health.

A satisfying marital relationship can lead to overall global happiness for men, (Keicolt-Glaser & Newton 2001). Researchers presented a review of 64 articles related to marital interaction and found those in negative relationships to be at greater risk for issues with cardiovascular, endocrine, immune, neurosensory and other physiological problems, as well as incidences of depression.

Decades of research shows men seek out support from their wives through closeness in sharing and disclosure (Heffner 2004, Cunningham 2000). Monin and Clark (2011) explained that men benefit more from marriage than do women, deriving more “communal responsiveness” from the marital relationship. The authors “define communal responsiveness as the degree to which a person feels intrinsically responsible for the welfare of another and attends to other’s needs non-contingently” (p. 322).

The positive effect of the use of humor in stressful situations was explored by Horan et al. (2012). The authors considered how spouses of police officers effectively used humor to cope with the stressors of their jobs, caused by spillover of their nontraditional work schedule, threats of harm, and uncertainty. The study revealed that

those who use humorous communication often are more able to deal with the pressures and anxiety of their jobs, thus experiencing lower levels of both stress and conflict.

Lavee and Ben-Ari (2007) explored the short-term effects of work-related stress on couple's marital satisfaction and dyadic closeness. These researchers also looked at how the global perception of relationship quality affected the transmission of emotions between spouses. Using questionnaires and daily diary entries from dual-earner couples, the authors found that "work stress has no direct effect on dyadic closeness but rather is mediated by the spouses' negative mood" (p. 1021). The authors found couples that are emotionally close put distance between themselves on particularly stressful work days in an attempt, they claimed, to shield one another from the deleterious effects of work stress, similar to findings from military spouses separated by deployment.

Often when a firefighter gets off shift, he does not leave the stressors of his job at the fire station. If a shift has been particularly taxing – perhaps the firefighter had to respond to multiple high-risk incidents or experienced a medical call that had a negative outcome – he may need time to process his emotions and decompress. Even if there is a reluctance to discuss the specifics of their work, family members (especially wives) are still quite aware of the effects the job has on the firefighter's emotional state (Regeher et al., 2005). Often, a spill-over effect occurs when the first-responder takes the pressures of the job home (Regehr et al., 2005).

Career firefighters' jobs demand that they are away from their family often for 24 hours or more at a time. Husbands must cope with the fact that wives deal with household and family pressures alone while they are on shift. These married couples often spend holidays, birthdays, anniversaries, or other important occasions separated

because of work. In addition, the firefighter has long periods (up to 48 hours) of down time between shifts, which he often fills with a second job or other duties, but which also may be times of loneliness and isolation (Regeher et al., 2005).

Regeher et al. (2005) examined first-responders' wives' perspective and how she copes with the stressors associated with her husband's career. The researchers used qualitative methods with 14 wives of firefighters in the Greater Toronto area. The authors utilized a long-interview method to explore "the family constellation, wives' perceptions of the implications of shift work and the firefighter role, wives' perceptions of the impact of specific traumatic events on the family, social supports, family challenges that wives encountered, and their strategies for managing challenges" (p. 426).

According to the researchers, while strongly supportive and proud of their husband's work, wives do encounter some challenges. These issues included: separation due to shift work, dealing with their husband's responses to the more dangerous aspects of the job, and the social environment of the fire service. Wives reported that they felt that families in other circumstances often could not understand their issues or adapt to their schedule. According to the authors, wives often felt excluded because of the deep allegiance and solidarity their husbands experienced with fellow firefighters.

The research clearly indicates that firefighters experience stress in dealing with the demands of their careers (Cicognani 2009, Del-Bin et al. 2006, Lourel 2008), but the current study argues that the quality of a marital relationship may help these men deal with that job-related stress. The support provided by a solid marriage bond can be a strong determining factor in whether a firefighter copes well with the inevitable career-related stress. Therefore, the first hypothesis of this study will be:

H1: Firefighter marital quality will be positively associated with job satisfaction quality of life, and mental health.

### *The Brotherhood*

In addition to the positive outcomes associated with the marital relationship for men, male bonding and male friendship are important factors to consider in the profession of firefighting. These men, who often spend 24 hours at a time together working, cooking, sleeping, and performing other daily tasks at the fire station, often become close and develop an almost family-like brotherly bond with one another.

Research shows that quality friendships contribute to a person's global well-being and greater health, both mental and physical (Floyd 1995; Swain 1989). According to van der Horst and Coffe (2012), friends "bring more social trust, less stress, better health, and more social support" (p. 526) and contribute to a person's welfare and overall happiness.

According to Floyd (1995), male friendships are strengthened due to shared activities and interests like those performed by firefighters on shift together. Researchers have consistently shown the importance of this activity-based closeness that men share (Wood and Inman, 1993; Swain, 1989).

Men express closeness and intimacy different than do women, who more often rely on self-disclosure and emotional expressiveness to relay closeness. Men seek out social and emotional support from their male friends differently than they do their wives; thus, it can be argued that these important interpersonal relationships might also be associated with the inevitable stress that comes along with this profession (Floyd, 1995).

One aspect of social support available to these men is the “brotherhood” established among firefighters who spend extended periods of time together doing tasks that alternate between the mundane and the life-threatening. Trust and the ability to count on someone, important in a high-risk job like firefighting, are key factors for male friendship (Grief, 2009).

Essentially firefighters have two homes – their family’s house and the fire station. Working extended shifts requires firefighters to eat, sleep, and do all of their daily activities with other firefighters on their shift. Often, firefighters take on traditionally feminine roles (cooking, cleaning, and doing laundry) in the otherwise masculine environment of the fire house. They must acclimate themselves to their roles and responsibilities at each location – both at home and at the station – and with this can come role strain (Myers, 2005).

Firefighters must also reconcile the closeness they feel toward one another with the emotions they feel toward their spouse. In a sense, they have two families – “brothers” at the fire station and “wife” at home. Undoubtedly, firefighters are close because of the extended time spent together and “the camaraderie and male bonding” that naturally comes from attending to both the mundane and the traumatic experiences together (Regehr et al., 2005, p. 429).

Myers (2005) examined new firefighters’ assimilation into the culture of the service. His study used qualitative methods of semi-structured interviews and participant observation to examine assimilation (described as mutual acceptance) of new recruits into 14 different stations of a major U.S. city’s fire department. A total of 26 firefighters across all stages of career path (the majority were probationary, but the authors also

included the perspectives of some supervisors and trainers) were included in the study. Meyers found that subjects put extensive effort, through humility and a positive work ethic, into establishing a sense of trust and familiarity and a feeling of being recognized. This study also revealed the strong culture and network of firefighters, telling of the cliché “brotherhood” that is often used to describe men in the fire service.

Scott and Myers (2005) examined how firefighters are socialized to manage their emotions and those of their clients in order to provide sufficient service. Much like the above study, the authors utilized qualitative methods of participant observations and interviews to explore the processes by which members of a large, municipal fire department learn to manage their emotions in accord with organizational norms. The authors noted that the firefighters examined their colleagues’ reactions to job conditions and utilize that feedback to determine their own appropriate responses.

According to Scott and Myers, “employees who work in emotionally-charged human service occupations not only labor to manage their own emotions, but often the emotions of [the citizens they serve] in their efforts to comfort, seek cooperation and compliance, or provide advice and treatment, frequently in the context of life-threatening and tragic events” (2005, p. 68). The authors described how rookie firefighters learned by observation from more seasoned professionals the importance of the need to suppress one’s emotions and act in a calm, professional manner in an emergency situation in order to provide adequate service to and manage the emotions of one’s clients.

Tracy, Myers, and Scott (2006) conducted a study to explore the benefits of humor on managing identity and making sense of work for human service workers, including firefighters. The authors utilized observation, ethnographic field work, and in-

depth interviews in their qualitative study of humor in such workplaces. The authors found that employees facing difficult job duties use humor as a relief and a form of sensemaking. Specifically when studying firefighters, they noted that interviews revealed first responders coped by differentiating themselves and typifying their training and special personalities as conducive to dealing with the stressors of the job.

Colquitt et al. (2011) argued that trust was an important factor in the relationships among firefighters, stating most identified those within their fire department that they could trust with duties like planning, training, and fitness based on “the integrity of these co-workers, given the need for consistent performance of those tasks day in and day out” (p. 1011). Firefighters who are working side-by-side, successfully completing tasks such as these are more likely to trust one another and have good working relationships.

The research clearly indicates that men approach their male relationships differently than they do those with their wives, relying on closeness in doing and shared activities to express the quality of their relationships. Firefighters who spend large stretches of time together doing mundane chores like cleaning and cooking and intense activities like responding to fire alarms or medical calls will often develop close bonds. In addition, they are able to empathize with each other after experiencing the same taxing situations. Thus, it can be argued that these interpersonal relationships also should be associated with workplace stress.

Therefore, the second hypothesis of this study will be:

H2: Firefighter friendship quality will be positively associated with job satisfaction, quality of care, and mental health.

## CHAPTER THREE

### Method

#### *Participants*

Although women have made inroads into the profession of firefighting, the vast majority of firefighters are men. According to the International Association of Firefighters' website approximately 2 percent of firefighters in the U.S. are female. Therefore, this study focused solely on men who are married and who are employed as full-time firefighters requiring shift work. Shift work is defined as hours outside the traditional 8 a.m. to 5 p.m. work schedule, (e.g., 24 hours on the job and 48 hours off). All participants reported based on a close male friendship with another firefighter within his department while married participants reported on their own marital relationship.

For this study, 75 male respondents who were active/current members of a local fire department participated in this study. Ages ranged from 22 to 59 years old ( $M = 38.77$  years,  $SD = 10.19$ ). Eighty percent were married, 14.7 % were divorced, and 5.3% were single, never married. The majority of the men identified themselves as white (93.3%), and the remainder of the subjects identified themselves as Hispanic (2.7%), Black (1.3%), Native American (1.3%), and other (1.3%).

The respondents reported on their number of years of service in the fire profession, ranging from 4 months to 38 years ( $M = 14.55$  years,  $SD = 9.23$ ). They also reported on the number of years they have been married (a range of 1 to 40 years,  $M =$

14.79 years,  $SD = 11.16$ ) and how long they have been friends with their fellow firefighter (also a range of 1 to 40 years,  $M = 12.53$  years,  $SD = 10.07$ ).

### *Procedure*

The survey utilized pencil and paper questionnaires as a means of gathering data. All populations were informed and assured of their rights as volunteer participants in the survey. To protect the identity of participants, all questionnaires were treated as anonymous and ultimately destroyed at the completion of the study. No compensation of any kind was offered to participants for their involvement with the study.

The author of the current study met with the Fire Chief of a mid-size city in the South Central USA, explained the procedure and purpose of this study, and was given permission and access to fire personnel at 14 stations across the city. The Fire Chief agreed to send a memo to his employees explaining the study and encouraging them to participate if they wished to do so. Questionnaires, along with self addressed and stamped return envelopes, were distributed to each fire station in the city; after completion, study participants were asked to return their surveys in the mail.

Additionally, through the use of the snowball sampling technique, we gained access to additional fire stations and first-responders in other cities in the area. 170 surveys were distributed at fire stations and 75 were returned to us completed, resulting in an approximate 44% return rate.

### *Measures*

Relational closeness. This variable was measured using Aron, Aron, and Smollan's (1992) Inclusion of the Other in the Self (IOS) scale. The IOS scale asserts

that in a close relationship, an individual acts as if there is a degree of inclusion of the *other* within the self, i.e., close friends believe they are interconnected with each other. The IOS scale consists of a set of Venn-like diagrams, each representing varying levels of overlap. One circle in each pair is labeled “self” and the other circle is labeled “other.” The participants were instructed to select the pair of circles that best depicted the nature of perceived closeness in their same-sex friendship and then again, for perceived closeness with spouse. The IOS scale has been validated for use in both experimental and correlational research designs (Aron & Fraley, 1999; Johnson, et al., 2009).

Relational satisfaction. The current study operationalized relational satisfaction using Floyd and Morman’s (2000) relational satisfaction scale. The scale included six items measuring the extent of participants’ satisfaction with the nature of their relationships (e.g., “My relationship with my friend is just the way I want it to be”). Participants were asked to consider their relationship with both their wife (if married) and their closest firefighter friend. Responses were solicited using a seven-point Likert scale that ranged from (1) *Strongly disagree* to (7) *Strongly agree*. Alpha reliability for wife relationship satisfaction scale was .93. Alpha reliability for the friendship satisfaction scale was .83.

Relational commitment. The current study measured participants’ commitment to their friend and spouse using a modified version of Rusbult, Martz, and Agnew’s (1998) commitment subscale from the Investment Model Scale. The original measure included eight items assessing relational commitment in romantic relationships. In this study, five items were modified to measure participants’ commitment to their same-sex friends (e.g., “I am committed to maintaining my friendship with my male friend”) and commitment to

their spouse. Responses were solicited using a seven-point Likert scale that ranged from (1) *Strongly disagree* to (7) *Strongly agree*. Alpha reliability for the friendship commitment scale was .88. Alpha reliability for the wife commitment scale was .97.

Relational involvement. This variable was measured with a series of seven items developed by Floyd and Morman (2000). This scale included items that assessed how much time is devoted to each other (i.e., both friend and spouse), how involved participants felt in one another's lives, and how positive their interactions were as demonstrated with such comments as, "I am always spending time with my friend." Responses were solicited using a seven-point Likert scale that ranged from (1) Strongly disagree to (7) Strongly agree. Alpha reliability for the friendship involvement scale was .93. Alpha reliability for the wife involvement scale was .90.

Job satisfaction. To measure job satisfaction participants were asked to answer a series of questions developed by Zarcia Interactive (2012) about their experiences in the fire service. Question included ones such as "I feel like I am an important part of my fire department," "It is easy to get along with my colleagues," and "Overall, I am satisfied working in my fire department." Responses were solicited using a seven-point Likert scale that ranged from (1) Strongly disagree to (7) Strongly agree. Alpha reliability for the scale was .83.

Global Stress Scale. Stress was measured with 6-items from the Perceived Stress Scale (Cohen, Kamarck, Mermelstein, 1983). The PSS was designed to measure the degree to which situations in one's life are appraised as stressful. Since 1983, the PSS has served as a reliable measure of perceived stress in hundreds of studies from both clinical and nonclinical populations. Items from the PSS included, "I have felt unable to

control the important things in my life.” Responses were solicited using a seven-point Likert scale that ranged from (1) *Strongly disagree* to (7) *Strongly agree*. Alpha reliability for the scale was .80.

Quality of Work Life. Professional quality of life was measured using 20-items from the Professional Quality of Life Scale (ProQOL; Stamm, 2005). The ProQOL scale was designed to measure specific quality of life indicators commonly associated with service/helping occupations. The measure contains three subscales: satisfaction, compassion, and fatigue. In the present study, we combined the subscales into one aggregate measure for use as an assessment of overall professional quality of life for first responder fire fighters (e.g., “I get satisfaction from being able to help others”). Responses were solicited using a seven-point Likert scale that ranged from (1) *Strongly disagree* to (7) *Strongly agree*. Alpha reliability for the scale was .83.

Mental Health. Mental health was measured using the 12-item version of the General Health Questionnaire (GHQ-12; Goldberg, et al., 1997). The GHQ-12 has been used as a reliable indicator of overall mental health in hundreds of studies that assessed both clinical and nonclinical populations. Items from the GHQ-12 include, “Have you been able to enjoy normal day-to-day activities?” Responses were solicited using a seven-point Likert scale that ranged from (1) *Strongly disagree* to (7) *Strongly agree*. Alpha reliability for the scale was .87.

## CHAPTER FOUR

### Results

Hypothesis number one predicted that firefighter marital quality will be positively associated with job satisfaction, quality of life, and mental health. In order to assess the relationship between wife relationship quality and firefighter job satisfaction, quality of life, and mental health, a series of Pearson Product Moment correlations were run. Results indicated that two correlations were significant at the  $p < .05$  level. First, wife relationship commitment was positively correlated with firefighter mental health ( $r = .34$ ,  $p = .01$ ). This means that firefighters who are more committed to their wives have more positive mental health. Second, relational commitment to their wives was negatively correlated with firefighter job stress ( $r = -.26$ ,  $p = .05$ ). This means that firefighters who were more committed to their wives had less firefighter job stress.

Hypothesis number two predicted firefighter friendship quality will be positively associated with job satisfaction, quality of care, and mental health. In order to assess the relationship between friend relationship quality and firefighter job satisfaction, quality of life, and mental health, a series of Pearson Product Moment correlations were run. Results indicated that two correlations were significant at the  $p < .05$  level. First, firefighter friendship satisfaction was positively correlated with job satisfaction ( $r = .30$ ,  $p = .01$ ). This means that firefighters who have more friendship satisfaction with their close firefighter “brother” have more job satisfaction. Second, firefighter friendship closeness was positively correlated with quality of work life ( $r = .23$ ,  $p = .05$ ). This

means that firefighters who are closer to their firefighter friends have more quality of work life.

In order to test for any differences in firefighter job satisfaction, quality of work life, and mental health by relationship type, a series of one way ANOVAs were conducted. No significant differences emerged between firefighter friendship and marriage and the three outcomes variables of interest.

However, in order to test for any differences in firefighter relationship quality by relationship type, a series of paired samples t-tests were conducted. Results indicated significant differences for all four relationship quality variables, such that in all four cases, firefighters reported being closer to their wives ( $M = 6.23, SD = 1.06$ ) than their firefighter best friend ( $M = 3.43, SD = 1.62, t = -12.79, p = .000$ ), being more satisfied with his relationship with his wife ( $M = 5.51, SD = 1.27$ ) versus his firefighter friend ( $M = 5.04, SD = 1.03, t = -2.75, p = .008$ ), being more involved in the relationship with his wife ( $M = 5.65, SD = .99$ ) than that of his firefighter friend ( $M = 3.46, SD = 1.36, t = -10.93, p = .000$ ), and more committed to the wife relationship ( $M = 6.55, SD = .81$ ) than to the firefighter friendship ( $M = 5.58, SD = 1.01, t = -7.44, p = .000$ ).

## CHAPTER FIVE

### Discussion

First-responder firefighters deal with a number of stressors as a routine part of their career. Dealing with a difficult patient on a medical call, responding to a house fire, and potentially accepting the negative outcomes of these or many other scenarios can be physically and emotionally taxing on even the most seasoned firefighter.

The current study examined the association between relationship quality and the effects of stress experienced by first responder firefighters. This survey considered two significant interpersonal relationships in a firefighter's life – that with his wife and with his best firefighter friend or “brother.”

First, in considering a firefighter's relationship with his wife, findings indicated that a healthy marriage has great potential to aid a firefighter in dealing with the demands of his career. Firefighters who are more committed to their wives have more positive mental health; furthermore, those who were more committed to their wives had less firefighter job stress. This is concurrent with the research that shows a healthy, satisfying marriage leads to overall global happiness (Keicolt-Glaser & Newton 2001), and better physical and emotional health and well-being (Holt-Lunstad et al., 2008), a finding especially true for men.

Additionally, firefighters who have a solid relationship with a fellow firefighter can better cope with the stressors that naturally come with this line of work. Those who have more friendship satisfaction with their close firefighter “brother” have more job

satisfaction. Additionally firefighters who are closer to their firefighter friends have more quality of work life. These results support the argument for the importance of closeness experienced through side-by-side, shared activities commonplace in male/male friendships (Floyd 1995).

These two significant interpersonal relationships in a first-responder life clearly are key to global health. Positive relationships with both wife and their fellow firefighter make for increases in job satisfaction, quality of life, and mental health.

However, these findings indicate that while both relationship types help firefighters cope with stress, these men place more significance and importance on the relationship with their spouse over their friends. The survey showed the marital relationship is stronger than friendship for closeness, satisfaction, commitment, and involvement. These findings make intuitive sense based on past research indicating that overall men prefer receiving more emotional and social support from women, especially from their romantic partners (Hefner 2004, Cunningham 2000).

## CHAPTER SIX

### Implications

The findings of this study have important implications for the development of support programs aimed at firefighters. Potentially, these support programs should come from the management of fire service personnel, firefighter unions, and national firefighter professional associations. First, marriage enrichment programs designed specifically with the unique demands and exigencies of firefighter marriage in mind would benefit firefighters and their spouses, thus strengthening this important interpersonal relationship. Second, a mentor training program pairing rookie firefighters with seasoned veterans of the fire service would serve to encourage building these important “brother” relationships among those who work together. Firefighters live uniquely different work lives than the vast majority of the working public and thus, training or mentoring programs designed specifically for these unique occupational requirements might prove beneficial to first-responders.

## CHAPTER SEVEN

### Limitations and Future Research

Some limitations to the current study should be noted. First, due to the demographics of the fire stations included, the study participants were largely white. A more diverse sample of minority firefighters should be obtained. Moreover, since all these firefighters were based in the South-Central USA, more geographic diversity also would be helpful.

Finally, since the firefighters in the current study all came from mid-sized fire departments, sampling much smaller and much larger fire departments might help tease out more significant findings due to stronger or weaker firefighter friendship quality and the added stress associated with working in larger cities or the more mundane aspects associated with life in a small town.

Future research should continue to look at the relationships of firefighter emotional health, job stress, and relationship quality to assess the potential for mediation between these important variables. For example, does relationship quality (both marital and friendship) mediate the effects of stress on the emotional health of firefighters? And if so, which relationship type, marriage or friend, potentially has the most positive effect in mediating the job stress inherent in this line of work? These and other important questions remain to be answered.

## REFERENCES

- Alarcon, G. M., & Lyons, J. B. (2011). The relationship of engagement and job satisfaction in working samples. *Journal of Psychology: Interdisciplinary and Applied, 145*, 463–480. DOI:10.1080/00223980.2011.584083.
- Bacharach, S. B., Bamberger, P. A., & Doveh, E. (2008). Firefighters, critical incidents, and drinking to cope: The adequacy of unit-level performance resources as a source of vulnerability and protection. *Journal of Applied Psychology, 93*, 155-169. DOI:10.1037/0021-9010.93.1.155
- Brown, J., Mulhern, G., & Joseph, S. (2002). Incident-related stressors, locus of control, coping, and psychological distress among firefighters in Northern Ireland. *Journal of Traumatic Stress, 15*, 161-168. DOI: 10.1023/A:1014816309959.
- Chen, Y., Chen, M., Chou, F. H., Sun, F., Chen, P., Tsai, K., & Chao, S. (2007). The relationship between quality of life and posttraumatic stress disorder or major depression for firefighters in Kaohsiung, Taiwan. *Quality of Life Research, 16*, 1289-1297. DOI: 10.1007/s11136-007-9248-7.
- Cicognani, E., Pietrantonio, L., Palestini, L., & Prati, G. (2009). Emergency workers' quality of life: The protective role of sense of community, efficacy beliefs and coping strategies. *Social Indicators Research, 94*, 449-463. DOI: 10.1007/s11205-009-9441-x.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 385-396.
- Colquitt, J. A., Lepine, J. A., Zapata, C. P., & Wild, R. E. (2011). Trust in typical and high-reliability contexts: Building and reacting to trust among firefighters. *Academy of Management Journal, 54*, 999-1015. DOI:10.5465/amj.2006.0241.
- Cunningham, M. R., & Barbee, A. P. (2000). Social support. In C. Hendrick & S. S. Hendrick (Eds.), *Close relationships: A sourcebook* (pp. 273-285). Thousand Oaks, CA: Sage.
- Day, A. L., & Chamberlain, T. C. (2006). Committing to your work, spouse, and children: Implications for work-family conflict. *Journal of Vocational Behavior, 68*, 116-130. DOI:10.1016/j.jvb.2005.01.001.
- Del-Bin, K., Scotti, J. R., Chen, Y., & Fortson, B. L. (2006). Prevalence of posttraumatic stress disorder symptoms in firefighters. *Work & Stress, 20*, 37-48. DOI: 10.1080/02678370600679512.

- Floyd, K. (1995). Gender and closeness among friends and siblings. *Journal of Psychology, 129*, 193-202. DOI: 10.1080/00223980.1995.9914958.
- Goldberg, D. P., Gater, R., Sartorius, N., Ustun, T. B., Piccinelli, M., Gureje, O., & Rutter, C. (1997). The validity of two versions of the GHQ in the WHO study of mental illness in general health care. *Psychological Medicine, 27*, 191-197.
- Grief, G. L. (2009). Understanding older men and their male friendships: A comparison of African American and white men. *Journal of Gerontological Social Work, 52*, 618-632. DOI: 10.1080/01634370902914711.
- Heffner, K. L., Kiecolt-Glaser, J. K., Loving, T. J., Glaser, R., & Malarkey, W. B. (2004). Spousal support satisfaction as a modifier of physiological responses to marital conflict in younger and older couples. *Journal Of Behavioral Medicine, 27*, 233-254. doi:10.1023/B:JOBM.0000028497.79129.ad
- Holt-Lunstad, J., Birmingham, W., & Jones, B. Q. (2008). Is there something unique about marriage? The relative impact of marital status, relationship quality, and network social support on ambulatory blood pressure and mental health. *Annals of Behavioral Medicine, 35*, 239-244. DOI:10.1007/s1260-008-9018-y.
- Inman, C. (1996). Friendships between men: Closeness in the doing. In J. T. Wood (Ed.), *Gendered relationships* (pp. 95-110). Mountain View, CA: Mayfield Publishing Co.
- International Association of Firefighters. December 4, 2011. Retrieved from: [www.iaff.org](http://www.iaff.org).
- Kales, S. N., Soteriades, E. S., Christophi, C. A., & Christiani, D. C. (2007). Emergency duties and deaths from heart disease among firefighters in the United States. *The New England Journal of Medicine, 356*, 1207-1215.
- Kiecolt-Glaser, J. K., & Newton, T. L. (2001). Marriage and health: His and hers. *Psychological Bulletin, 127*, 472-503. doi:10.1037/0033-2909.127.4.472
- Lavee, Y., & Ben-Ari, A. (2007) Relationship of dyadic closeness with work-related stress: A daily diary study. *Journal of Marriage and Family, 69*, 1021-1035. DOI: 10.1111/j.1741-3737.2007.00428.x.
- Levenson, R.W., & Roberts, N.A. (2001). The remains of the workday: Impact of job stress and exhaustion on marital interaction in police couples. *Journal of Marriage & Family, 63*, 1052-1067. DOI: 10.1111/j.1741-3737.2001.01052.x.

- Lourel, M., Abdellaoui, S., Chevaleyre, S., Paltrier, M., & Gana, K. (2008). Relationships between psychological job demands, job control and burnout among firefighters. *North American Journal of Psychology, 10*, 489-495.
- Men's Health. Centers for Disease Control and Prevention. April 23, 2010. Retrieved from: <http://www.cdc.gov/men>.
- Monin, J. K., & Clark, M. S. (2011). Why do men benefit more from marriage than do women? Thinking more broadly about interpersonal processes that occur within and outside of marriage. *Sex Roles, 65*, 320-326. DOI: 10.1007/s11199-011-0008-3.
- Myers, K. K. (2005). A burning desire: Assimilation into a fire department. *Management Communication Quarterly, 18*, 344-384. DOI: 10.1177/0893318904270742.
- Patterns of Firefighter Fireground Injuries. National Fire Protection Association. 2012. Retrieved from: <http://www.nfpa.org>.
- Pfefferbaum, B., North, C., Bunch, K., Wilson, T., Tucker, P., & Schorr, J. (2002). The impact of the 1995 Oklahoma City bombing on the partners of firefighters. *Journal of Urban Health: Bulletin of the New York Academy of Medicine, 79*, 364-372.
- Regehr, C., Dimitropoulos, G., Bright, E., George, S., & Henderson, J. (2005). Behind the brotherhood: Rewards and challenges for wives of firefighters. *Family Relations, 54*, 423-435. DOI: 10.1111/j.1741-3729.2005.00328.x.
- Ross, C. E., Mirowsky, J., & Goldsteen, K. (1990). The impact of the family on health: The decade in review. *Journal of Marriage and the Family, 52*, 1059 – 1978.
- Scott, C., & Myers, K. K. (2005). The socialization of emotion: Learning emotion management at the fire station. *Journal of Applied Communication Research, 33*, 67-92. DOI: 10.1080/0090988042000318521.
- Stamm, B. H. (2005). *The professional quality of life scale: Compassion, satisfaction, burnout, and compassion fatigue/secondary trauma scales*. Latherville, MD: Sidran Press.
- Swain, S. (1989). Covert intimacy: Closeness in men's friendships. In B. J. Risman & P. Schwartz (Eds.), *Gender in intimate relationships* (pp. 71-86). Belmont, CA: Wadsworth Publishing.
- The National Marriage Project (2007). The state of our unions 2007: The social health of marriage in America. Retrieved from <http://stateofourunions.org/pdfs/SOOU2007.pdf>.

- Tracy, S., Myers, K., & Scott, C. (2006). Cracking jokes and crafting selves: Sensemaking and identity management among human service workers. *Communication Monographs*, 73, 283-308. DOI: 10.1080/03637750600889500.
- Tracy, S. J., & Scott, C. (2006). Sexuality, masculinity, and taint management among firefighters and correctional officers. *Management Communication Quarterly*, 20, 6-38. DOI: Article.
- van der Horst, M., & Coffé, H. (2012). How friendship network characteristics influence subjective well-being. *Social Indicators Research*, 107, 509-529. doi:10.1007/s11205-011-9861-2.
- Wood, J. T., & Inman, C. C. (1993). In a different mode: Masculine styles of communicating closeness. *Journal of Applied Communication Research*, 21, 279.