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Proactive Stress Management for Firefighters

by

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B.A., University of New Hampshire, 2013  
M.S., Antioch University New England, 2016

DISSERTATION

Submitted in partial fulfillment for the degree of  
Doctor of Psychology in the Department of Clinical Psychology  
at Antioch University New England, 2018

Keene, New Hampshire



Department of Clinical Psychology

**DISSERTATION COMMITTEE PAGE**

The undersigned have examined the dissertation entitled:

**PROACTIVE STRESS MANAGEMENT FOR FIREFIGHTERS**

presented on November 19, 2018

by

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### Abstract

Firefighters in the United States face significant risks as they serve their communities. Despite research that has thus far demonstrated the benefits of proactive coping strategies, and a previously suggested need for a proactive stress management program for firefighters, no such program has yet been implemented or evaluated specifically for firefighters. The purpose of this dissertation was to research stress and stress management using qualitative interviews with New Hampshire and Arizona firefighters to inform the development of a future primary prevention program (proactive stress management) to this at-risk population. Results yielded themes of sleep deprivation, stigma, protectiveness, mental health, lack of engagement, self-care, fatigue, and compassion fatigue. The study concludes with considerations for future program development and delivery, including qualitative themes, differences between states, common stressors, difficult stressors, strategies, and what participants thought were important elements for inclusion in a primary prevention program.

*Keywords:* proactive, stress management, firefighters

This dissertation is available in open access at AURA, <http://aura.antioch.edu/> and Ohio Link ETD Center, <https://etd.ohiolink.edu/edt>.

## Proactive Stress Management for Firefighters

### **Acknowledging Stress of First Responders**

In the event of an emergency, first responders are the first to be called upon to arrive and take action. Whenever first responders are attending to the needs of others, they face risks of being exposed to physical harm and psychological trauma. First responders can be susceptible to injury and death and may be exposed to a wide array of potentially disturbing cognitive and emotional experiences (Alexander & Klein, 2009). This risk of exposure and harm can place considerable stress on the mental health of first responders (Benedek, Fullerton, & Ursano, 2007). The most studied disorders first responders may develop following exposure to trauma are Post-Traumatic Stress Disorder (PTSD), Substance Use Disorders (SUDs), Major Depressive Disorder (MDD), and Acute Stress Disorder (Benedek et al., 2007; Kleim & Westphal, 2011). Firefighters, as one type of first responder, encounter those serious risks, and are the population of focus in this dissertation.

### **Stress-Related Consequences of Firefighting**

The job of a firefighter sometimes requires responding to critical incidents. These incidents are potentially physically, psychologically, and/or emotionally stressful and may pose a threat to one's life (Dowdall-Thomae, Gilkey, Larson, & Arend-Hicks, 2012). Negative impacts on firefighter mental health can be seen in the symptomology and prevalence rates of disorders found in first responders. In a review of prevalence rates of PTSD in different subgroups of first responders, rates for firefighters were around 18% (Kleim & Westphal, 2011). Overall prevalence of depression, PTSD, and other mental health disorders in all first responders range between 8-32% (Kleim & Westphal, 2011). Other studies estimate a range of 5.9 to 22 percent for first responders having been negatively affected by traumatic experiences and developing

PTSD (Flannery, 2014). The negative effects of potentially traumatic events (PTEs) on firefighter mental health are significant (Whealin, Ruzek, & Southwick, 2008). Though there are no nation-wide studies comparing prevalence rates of first responders to the general population, the available studies mentioned above that examined smaller populations suggest that first responders are at an increased risk for various mental health concerns. Additionally, research from the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) report that rates of PTSD are higher for those whose job increases their risk of exposure to PTEs (Friedman, Resick, Bryant, & Brewin, 2011). This not only highlights the need for greater support for these mental health concerns, but also a greater need to study their rates and prevalence within first responder populations.

**Predictors of mental health concerns.** A study on the predictors of PTSD and other mental health concerns found that firefighters were exposed to a variety of different PTEs, such as injury or harm of others (Whealin et al., 2008). Firefighters can also be required to help those who are vulnerable, injured, or deceased, and face risk of death (Armstrong, Shakespeare-Finch, & Shochet, 2016; Whealin et al., 2008). Exposures to these events are sometimes life-threatening, with an occupational fatality rate noted to be 4.5 times higher than the national average (U.S. Bureau of Labor Statistics, 2007). Additionally, one in four firefighters retire as a result of a work-related injury or disease developed on the job (IAFF, 2000). The psychological costs are reflected in firefighters' risks of developing PTSD, substance use disorders, and depression (Meyer et al., 2012). Firefighters are also at increased risk for a diagnosis of Acute Stress Disorder, anxiety disorders, alcoholism, PTSD, and cardiac disability. Dowdall-Thomae et al. (2012) found that over 50% of firefighter deaths were due to overexertion and stress.

Young, Partington, Wetherell, St. Clair Gibson, & Partington's (2014) research demonstrates that firefighters face repeated exposure to death, injury, and danger, and that there is little known about how they cope with the stress:

[The nature of firefighters' work] requires an abrupt change from rest to near maximal physical effort and incorporates almost instant stress management that must be made in extreme heat, in a limited time and with partial information, yet little is known about the coping strategies incorporated to manage the physiological and psychological demands associated with this environment (p. 366).

### **Impacts of Critical Incidents in United Kingdom and United States Firefighters**

In Blaney's (2009) study of the impacts of critical incidents on firefighters in the United Kingdom (UK), firefighter participants identified physical, emotional, cognitive, and behavioral reactions to stressful events. They identified physical symptoms such as gastrointestinal problems, difficulty sleeping, and fatigue. They had a range of emotional reactions, some of which were grief, guilt, shock, a feeling of inadequacy, empathy, and anger. Their cognitive reactions involved worry about fellow firefighters, worries about family, flashbacks, disconnection from others, reflection, and thoughts about difficulty connecting with others. Their behavioral reactions included avoidant behaviors such as reluctance returning to work, avoiding particular traumatic aspects of an incident, and prioritizing having a safety plan in case of fire at home.

In a Monnier, Cameron, Hobfall, and Gribble (2002) study that examined the impact of critical incidents on psychological functioning of firefighters from a fire department in a Midwestern city in the United States, results revealed that firefighter critical incident exposure was related to reports of the expression of anger and depressive symptoms. Their study utilized

different outcome measures: (a) one that examined depressive symptoms, (b) a critical incident inventory (CII) that identified how many times a particular type of critical incident had occurred in the last two months, (c) one that assessed anger expression, and (d) an assessment of the loss and gain of resources.

Though Blaney (2009) and Monnier et al. (2002) did not use the same exact measures nor methods, both studies aimed to better understand how critical incidents impacted the psychological functioning of firefighters. The overlap found between these two studies was the expression of anger and depressive symptoms, and the UK study went further by assessing how firefighters were impacted cognitively, behaviorally, and physically by critical incidents. Though these additional findings could be specific to the UK, it is probable that similarities exist between the two countries in regard to the complex reactions firefighters have to potentially traumatic events.

### **Purpose of the Study**

The purpose of this dissertation was to inform the development of a future primary prevention (a future proactive stress program) to an at-risk population, informed by data collected from firefighters in the states of Arizona and New Hampshire. As seen above, firefighters face significant risks in being the first to respond to emergencies and have expressed need for increasing the skills and tools firefighters can use to manage the stress they face (Bryson, 1991).

### **Significance of the Study**

The mental health of first responders can have a wide impact on the communities they serve. First responders are responsible for preparing for emergencies and ensuring communities continue to operate safely and securely (Prati & Pietrantonio, 2010; Rutkow, Gable, & Links,

2011). Impairment in first responder mental health has been found to be related to both public and personal costs and can affect their delivery of services (Kleim & Westphal, 2011). First responders also hold the responsibility of taking care of themselves by balancing their personal life with work life (Alexander & Klein, 2009). In a study of police officers that were first responders to completed suicides, respondents acknowledged that their experiences in work put pressure on their marriages and noted that the range of reactions and disturbing images experienced in their profession remained with them long after incidents occurred (Koch, 2010). As seen in the example above, exposure to PTEs has wide-ranging impacts on the mental health and general welfare of first responders (Alexander & Klein, 2009). Protecting the mental health of first responders is important not only in preserving their well-being and quality of life, but also by enabling them to continue to effectively protect public safety and uphold security (Benedek et al., 2007).

As seen in the paragraph above, the preservation of the mental health of first responders is vital for many reasons. This dissertation focuses on the firefighter population within all first responder types. This section provides evidence for the relevance and importance of firefighter mental health by including research on first responder mental health, as there is little research specifically outlining the unique challenges firefighters face and how those affect their mental health. This section is one of many that highlights the lack of existing research on firefighters in the United States and emphasizes the need for additional research on the stress and mental health of firefighters.

**Personal significance.** This topic has personal significance to me. As a significant other to a firefighter, I have been a part of a small-town fire department community for nearly a decade. Fire culture and the experiences that have come from it, in combination with my general

interest in trauma and my care for first responders, informed the topic of this study. In my clinical work as a doctoral student, I have worked with first responders and have come to deeply care for their well-being. As first responders give so much to their communities, it is my belief that they should be given support and care in return.

### **Stress Management**

The discipline of Psychology has produced a number of different ways to manage stress generally, one of which is through proactive stress management and has been shown to aid in the development of coping abilities, well-being, and satisfaction with life (Probst, 2013). Despite the research that has thus far demonstrated the benefits of proactive approaches (Kleim & Westphal, 2011; Whealin et al., 2008), and a previously suggested need in 1991 for a proactive stress management program for firefighters (Bryson, 1991), there have yet to interventions designed specifically for firefighters.

Many recent developments in the United States have brought greater attention to the behavioral health of firefighters, but these developments are secondary in their approach, meaning that they focus on problems after they have taken place. Additionally, there continues to be emerging research suggesting the benefits of a proactive approach for first responders, such as a mindfulness-based stress reduction pilot with police officers, but proactive stress management programs specifically for firefighters have yet to be developed (Christopher et al., 2015). The goal of this dissertation was to conduct research on the unique stress facing firefighters, informed by firefighter experiences, for the development of a future proactive intervention program for firefighters.

## **Study Design**

This research utilized a phenomenological research design and data was collected through semi-structured individual interviews and a demographic information questionnaire with volunteer and full-time firefighters in the states of New Hampshire and Arizona. Qualitative data was collected in interviews to understand the stress experienced by firefighters and how this stress is managed, to determine need, and to target stressors that are specific to firefighting. Information was collected about existing stress management training and what firefighters feel is needed in the creation of a future stress management program. This dissertation concludes with considerations for development. The details of the research design can be found in greater detail in the Methods section, following the review of key terminology.

### **Definition of Key Terminology**

#### **First Responder**

The term first responder has been used to include firefighters, emergency medical personnel, and police officers. First responders are the first people to react to disasters and emergency incidents and this traditional definition has been used in the majority of the literature so I have utilized it here. There is recent research advocating for the expansion of the term first responder to encompass a wider range of responders and has proposed that the term “public health worker” be used, although this non-traditional definition is less frequently used (Benedek et al., 2007). The proposed expanded list of first responders includes nurses, hospital staff, and volunteers from charities (Alexander & Klein, 2009; Benedek et al., 2007).

#### **Potentially Traumatic Events**

First responders are continually exposed to potentially traumatic events or PTEs, incidents in which a person faces risk of death, injury, and/or witnessing harm to others (Whealin

et al., 2008). There are many other detailed terms that are used to describe the harmful effects of PTEs (but should not describe the event itself), such as “vicarious traumatization,” “compassion fatigue,” and “burn out” (Alexander & Klein, 2009, p. 88). These specific terms lack definition, clarity, and measurement (Alexander & Klein, 2009). For this reason, the primary definition of PTEs was utilized in the present study.

Of note, there is an important distinction to be made regarding a PTE experienced and one’s reaction to it. A mental health outcome that could result from both exposure to a PTE and specific reactions to it could be PTSD.

### **Resilience**

Individuals respond to stress in various ways. Literature on first responder exposure to job-related trauma suggests that a portion of first responders are at risk for being negatively impacted. This exposure to trauma can later develop into enduring mental health disorders and significantly impact quality of life. Research has focused on both on individuals that later develop mental health disorders and those who do not. Individuals who can effectively manage exposure are said to be resilient (Whealin et al., 2008). Resilience is defined as the “process of adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress” (American Psychological Association, 2018, para. 4).

### **Proactive Coping**

Proactive coping is defined as attempts made to prevent or mitigate negative effects before a potentially traumatic event takes place. Proactive coping requires that individuals develop resources and abilities to prepare to manage future stressors. Proactive coping is not designed for one specific type of stressor, but for management of stressors in general (Wagner & Martin, 2012).

## Literature Review

In order to construct a conceptual framework for this study that is informed by contemporary research, this section describes the literature on protective factors, firefighter coping research, existing interventions and treatment, rationale, and implications. This section concludes with research questions and the Research Methodology follows a review of the conceptual framework.

### Protective Factors of Resilience

As there are many inherent risks involved in firefighting, there is also considerable research on factors that may buffer or protect against stressors. The following section describes the research on resilience and its various components including group cohesion, social support, self-efficacy, appraisals, and post-traumatic growth in firefighters and other first responders.

**Resilience.** Resilience was defined previously as an individual's or group's ability to implement skills early to reduce strain caused from exposure to stress (Whealin et al., 2008). There are many existing studies that describe individual factors related to resilience to potentially traumatic events (PTEs). Examples of personality characteristics found in individuals resilient to adverse events include traits such as hardiness, optimism, and extraversion (Afflect & Tennen, 1996; Bartone, Ursano, Wright, & Ingraham, 1989; Chung, Easthope, & Chung, 1999). People identified as resilient also appear to have greater social resources and stronger social bonds than individuals who later develop PTSD. Though there is much research examining groups labeled resilient and non-resilient, there is little explanation that identifies core mechanisms that help guard individuals against harm (Whealin et al., 2008).

In an ethnographic study about the emotional and social characteristics found in first responders that participated in the emergency response to the September 11th, 2001 terrorist

attacks, one of the primary findings was the varying patterns of “collective resilience” (Freedman, 2004, p. 377). Many different types of first responders in this study noted that they made intentional decisions to block some reactions to traumatic material in order to continue their ability to do their job. Also noted was a mix of training and learned ability to “numb down” feelings and “maintain distance” (Freedman, 2004, p. 385). Although this is not a typical example, it highlights the threat of emotional impact in responding to emergencies (in this case a terrorist attack) and the intentional decisions made to not be fully affected by their exposure to PTEs. This study also notes the adaptive function that “emotional numbing” has and allows first responders to be able to continue functioning in their jobs (Freedman, 2004, p. 385). The conclusions drawn from Freedman’s study positively note the significant resilience first responders have and that emotional numbing and maintaining psychological distance can be useful to completing job tasks. This study also found that first responder groups are highly cohesive in nature and develop rituals to make meaning of experience (Freedman, 2004).

The research on resilience in first responders suggests that individuals identified to be resilient have a variety of different characteristics, are able to utilize an assortment of different supports, and are able to employ many different skills to help protect themselves from harm (Freedman, 2004; Whealin et al., 2008). As briefly mentioned above, one of the supports an individual might use to prevent harm is to utilize strong social supports and social bonds. Social support and organizational belongingness are discussed below.

**Organizational belongingness and social support.** The nature of a firefighter’s job requires one to rely on other firefighters in order to achieve the goals of preserving property and protecting lives (Freedman, 2004). This community and group cohesion are described to be “crucial to their ability to get the job done and to their survival at a fire” (Freedman, 2004, p.

380). In Freedman's ethnographic study, firefighters are described to be a part of two families, their domestic family and their family at the firehouse. Family at the firehouse has outlined responsibilities, jobs, and a system for relating with family at home. In addition to their own, there are duties for colleagues' family members, particularly during difficult circumstances such as line-of-duty deaths or injuries.

***Organizational belongingness.*** Organizational belongingness is defined as the degree to which employees feel important and respected by the organization that employs them. A study by Armstrong et al. (2016), that examined stress and organizational belongingness in firefighters, identified a possible relationship between organizational belongingness and stress in an organization. Organizational stress was not found to be directly related to symptoms of PTSD. Organizational stress was not defined within this study, but the way it was discussed suggests that it could be defined as a stressor or stressors that arise from one's experience within one's workplace. Their study's findings are consistent with other literature that has found belongingness to be the most significant variable when one is measuring for well-being. While this study was conducted in Australia, it is possible that there are many parallels between emergency service workers in Australia and in first responders in the United States.

One of the major findings of Freedman's (2004) research on first responders that participated in the emergency response to the September 11th, 2001 terrorist attacks was the significant solidarity and group cohesion found in firefighters and police officers. This was found to be characteristic of mutual support and created both cohesion and an environment of trust. This was also noted to contribute to a sense of fulfillment and purpose both individually and collectively and allowed work to be performed both safely and effectively (Freedman, 2004).

*Post-traumatic growth.* Positive changes that happen following exposure to potentially traumatic experiences are described to be posttraumatic growth (PTG); these include changes in an individual's perception of their strengths, their relationships, and their general outlook on life. Both operational and organizational stress were found to be related to both PTSD and PTG (Armstrong et al., 2016).

In an Australian study that examined predicting PTG in firefighters (2014), variables related to PTG were found to be the source of trauma, organizational belongingness, and self-care coping. This study hypothesized that the training for and exposure to PTEs may actually better prepare firefighters for future trauma. Additional results found that organizational belongingness may be correlated with PTG but may also overlap with other types of coping. This study is consistent with other literature that asserts PTG is a possible outcome for firefighters' post-PTE (Armstrong et al., 2016).

*Social support.* Social support is a well-studied topic among first responders. Research on social support suggests that it helps for fostering a sense of meaning, maintaining performance in a job, and alleviating stress. This was found in groups that were highly cohesive (Freedman, 2004). Though research focusing on first responders that participated in the emergency response to the September 11<sup>th</sup>, 2001 terrorist attacks involves a very specific population, valuable data from this group may have implications to the first responder community at large.

In a review of the mental health of first responders by Kleim and Westphal (2011), social support was noted to be important as a factor that could possibly protect against the development of PTSD and possibly be a main factor in a person's individual and organizational sphere, where one could find social support from those in superior positions. One study suggested that first

responders that felt important and had support could experience lower levels of stress (Kleim & Westphal, 2011). First responders were also found to sometimes refer to themselves as a part of the “brotherhood,” which is notably embedded into the culture, when they learn to rely upon each other in situations that pose potential threat to one’s life (Kronenberg et al., 2008, p. 118). Kronenberg et al.’s (2008) review on first responder culture notes that literature on resilience has shown that social support generally is a protective factor and that for first responders, social support is present among colleagues.

Social support in the lives of first responders has both advantages and disadvantages, but most of research on first responder social support suggests that it is beneficial. In two meta analyses of perceived and received social support, the importance of social support for first responders was reinforced (Halbesleben, 2006; Viswesvaran, Sanchez, & Fisher, 1999). Though it is unclear the mechanisms behind social support as a mediating factor for the reduction of stress, it has been suggested that social support is a component of resilience (Prati & Pietrantonio, 2010). In a Hoyt et al. (2010) study examining disclosure of emotions among first responders, disclosure of positive emotions was related to a decrease in PTSD symptoms. Disclosure to social supports without shared experience (such as friends and family) was also related to lower levels of PTSD symptoms. This study also suggested that disclosure of PTEs could be best facilitated with these individuals in a therapeutic environment. First responders that lacked social support were found to be at greater risk for developing PTSD.

**Positive and negative appraisals.** The positive and negative appraisal of potentially traumatic events is associated with positive and negative outcomes, respectively. Research on individual explanatory style suggests that one’s appraisal about the cause of external events can significantly predict how they react emotionally to those events. Generally, it is noted that the

ability to reappraise events that are stressful is related to emotions that are positive. In a Whealin et al. (2008) study, those that reported fewer negative beliefs before joining as a firefighter were less likely to develop PTSD after one year on the job. Resilient individuals have reported generally experiencing a higher amount of positive emotions while stressful events are occurring. This is associated with positively making meaning of one's experience and an increase in cardiovascular recovery following negative emotional arousal. An individual's ability to appraise situations positively despite adverse events was associated with resilience which is further explained when individuals are able to find positive meaning in situations that are stressful (Whealin et al., 2008).

There is some research to suggest that negative appraisals are possibly related to symptoms of PTSD. Negatively appraising situations, or individuals that evaluate PTEs in a disproportionately negative way may be more likely to develop mental health concerns as a result of their trauma exposure (Whealin et al., 2008). These findings are important when considering first responder perceptions of self-efficacy.

**Perceived self-efficacy.** Research has shown that perceived self-efficacy is considered a factor in the personality characteristic of hardiness and is related to the absence of PTSD (Whealin et al., 2008). Self-efficacy has been correlated with an increase in feelings of control during events that are out of one's control. Individuals with high self-efficacy during stressful events have been found to have less stress and arousal. The strengthening of one's ability to cope before exposure to a stressor was found to improve both biological and psychological reactions to stressors that were previously perceived to be distressing (Whealin et al., 2008).

### **Firefighter Coping Research**

Many of the studies and research examples given above are specific to all first responders. Firefighters have been included as a first responder in those studies and as such they are at an increased risk for developing mental health concerns, and there could be several firefighter-specific protective factors to protect against these concerns. Additionally, research exists on how to foster resilience in first responders and military personnel, populations that are more frequently exposed to potentially traumatic events. An exploration of literature on how firefighters manage the stressors to which they are exposed, and an examination of existing programs and interventions for firefighter exposure to PTEs follows in the next section.

**Proactive coping.** As mentioned previously, firefighters appear to have many protective factors that can help buffer and possibly prevent the development of mental health concerns. Resilient first responders can have specific personality traits that may aid in managing PTEs. It appears that firefighters can benefit from (a) the utilization of social support, (b) a strong sense of organizational belongingness, (c) the utilization of positive appraisals of PTEs, and (d) a high level of self-efficacy in PTEs, as they could experience PTG as a result of exposure to PTEs (Armstrong et al., 2016). These protective factors can be viewed as relating to the concept of proactive coping. Coping style in general and other firefighter-identified methods of coping, as well as what firefighters identify as significant stressors on the job, were examined.

A study by Wagner and Martin (2012) examined if firefighter mental health can be predicted by their emotional intelligence and proactive coping. Their study found that proactive coping was negatively related to mental health concerns and that emotional intelligence negatively predicted posttraumatic stress symptoms. Proactive coping is defined as attempts made before a PTE occurs to prevent its occurrence or manage stressors before they happen. The

results of this study suggest that proactive coping may be one of the more effective types of coping for firefighters due to the finding that proactive coping negatively predicted symptoms of posttraumatic stress. While emotional intelligence is suggested as a factor in this study, it does not reoccur in other studies.

A Blaney (2009) study examines critical incident stress management (CISM) as the construct to promote health advocates to shift from a disease model to a health model, which gives consideration to coping and resilience. It also suggests that a more comprehensive paradigm promoting health could better address the needs of firefighters today. Some of the strategies employed by firefighters in this study after a PTE had occurred fell into three different categories: (a) social support, (b) personal coping, and (c) meaning making. The most significant category was social support, which included items such as “verbal ventilation,” “talking to peers,” and “talking to partner, family, and friends” (p. 44). This study also identified reflective experiences as a positive coping technique. Reflective experiences were described through examples in the study, noting that participants reflected on particular incidents and engaged in “reflective processes” (p.44). Meaning making appeared to have some overlap with seeking social support. Strategies identified to be least helpful were avoidance, lack of action, and withdrawal from others. Firefighters in this study expressed that as a result of these unhelpful strategies, they lost sleep, had difficulty managing emotions, lost appetite, and felt worse (Blaney, 2009).

**Identified stressors.** Though there has yet to be research conducted to date on some of the most difficult stressors experienced by firefighters in the United States, there are a variety of identified stressors by firefighters in the UK. In the study mentioned above, firefighters reflected on effective coping strategies. They also reflected on types of events they found to be most

distressing as a firefighter. Some of these events included: (a) line of duty deaths, (b) accidents with multiple casualties, (c) an injured member of a rescue team, (d) an emergency worker suicide, (e) incidents involving traumatic death or injury of children, and (f) if a victim was known to a firefighter (Everly & Mitchell, 1997). News stories on PTEs in the media were identified to sometimes worsen the impact of the event due to the brief, graphic nature of the broadcasts. Organizational stressors noted were bells in the station and interacting with other organizations. Moran and Colless (1995) found that motor vehicle accidents, deaths, fires, incidents involving children, and burns were identified as the most stressful aspects of firefighting. Other studies noted stressors such as inadequate police protection, attacks by crowds while providing medical care, an increased number of dispatches, overwhelming number of injuries and fatalities (Wee, Mills, & Koehler, 1999), distraught bystanders, physically demanding or prolonged incidents, severe injuries such as deformations, and being of the belief that there was a failure in responsibility (Boudreaux & McCabe, 2000). Situations where emergency workers feared for their personal safety, witnessed parent grief, or were blamed for the death or injury of a victim was noted to possibly contribute to development of PTSD (Back, 1992; Clifford, 1999).

*Stigma.* In addition to reported stressors mentioned above, another factor affecting firefighters is stigma, which is defined as “a negative and erroneous attitude about a person, similar to a prejudice or negative stereotype, which leads to negative action or discrimination” (Haugen, McCrillis, Smid, & Nijdam, 2017, p.219). It was found that stigma and barriers to care were experienced by first responders and that this had the potential for (a) delayed access of mental health treatment and (b) an increased risk of experiencing long-term trauma-related psychopathology. The most frequently endorsed concerns related to stigma were fears of one’s

job being negatively impacted by seeking psychological services and fears of confidentiality.

There was also some evidence for a relationship between particular mental health concerns and stigma (Haugen et al., 2017).

### **Existing Interventions and Treatment**

With respect to the negative impacts of PTEs on first responder mental health, there is significant debate over what interventions to use and when to use them (Kleim & Westphal, 2011). Existing interventions can be divided into pre- and post-trauma interventions, or proactive and reactive interventions.

**Proactive interventions.** Proactive interventions for first responders often focus on ways to develop skills, strengths, and resilience and lack thorough research and development. One example of a proactive intervention is the United States Army's Battlemind Program (Kleim & Westphal, 2011), developed to be administered to soldiers before deployment, and which focused on building resilience, self-esteem, and skills needed to face the difficulties of combat. Studies of this program found that regardless of the amount of combat soldiers experienced, there were fewer depressive symptoms reported and less stigma noted over time (Kleim & Westphal, 2011). Additionally, the US Army developed the Comprehensive Soldier Fitness Program (Cornum, Matthews, & Seligman, 2011). This program was informed by positive psychology and research on resilience, aiming to develop psychological strength and performance and to reduce responses identified as maladaptive (Cornum et al., 2011). Other examples of resilience-focused interventions are the Trauma Resiliency Model (TRM) and the Community Resiliency Model (CRM), which include skill building and are both founded on a biological understanding of trauma. These models were not specifically designed for first responders but could be adapted for first-responder use (Miller-Karas, 2015). Research on

proactive interventions has not only focused on promoting resilience, but also predicting resilience and symptomology and identifying risk factors in first responders. Risk factors are divided into demographic characteristics and characteristics of cognitive processing before, during, and after PTEs have occurred. Firefighters who catastrophize before a PTE could be more likely to develop PTSD symptoms. First responders that had low levels of perceived safety during or after a PTE could be more likely to report symptoms of depression and dissociation during PTEs (Kleim & Westphal, 2011). Though the literature has focused on identifying risk factors associated with trauma, there is still little information known about the mechanisms behind adaptation to trauma (Ritchie, Watson, & Friedman, 2006).

**Reactive interventions.** Reactive interventions for first responders focus on the negative impacts of PTEs post-occurrence. These types of interventions have been well researched and developed. Some of the most common post-trauma interventions are Psychological First Aid and Critical Incident Stress Debriefing and Management (Alexander & Klein, 2009). Other interventions include the Trauma Risk Management Program, the FEMA crisis-counseling program, and peer-to-peer counseling programs (Alexander & Klein, 2009; Castellano & Plionis, 2006). Psychological First Aid works to address the physical needs of first responders, develops coping skills for individuals and groups, and attempts to normalize emotional responses to PTEs. Trauma Risk Management (TRiM) identifies those most at risk for developing symptoms of PTSD after response to a single incident (Alexander & Klein, 2009). There are many additional existing reactive interventions designed for first responders; even the American Red Cross has their own type of debriefing intervention (Reyes & Elhai, 2004).

One reactive intervention that has become controversial is Critical Incident Stress Debriefing (CISD), a type of debriefing for groups following a PTE. Studies suggest that CISD

is not preventative of PTSD symptoms and some research suggests it is potentially harmful (Benedek et al., 2007). CISD later transformed into Critical Incident Stress Management (CISM), which involves combining both mental health professionals and a peer support group into a team (Levers, 2012). Current review suggests that CISM is effective but further research is needed to continue its development (Everly, Flannery, & Eyster, 2002).

**Treatments.** There are many different empirically supported treatment approaches that exist to address PTSD in various populations, first responders included. The most common approaches are cognitive-behavioral therapy (CBT) and brief eclectic psychotherapy (BEP). Preliminary evidence suggests that these two approaches are the most efficacious for treating PTSD in first responders. Other existing psychosocial interventions include cognitive processing therapy (CPT), eye-movement desensitization and reprocessing (EMDR), prolonged exposure (PE), and stress-inoculation therapy (SIT; Benedek et al., 2007; Haugen, Evces, & Weiss, 2012). EMDR and PE as psychosocial interventions and cognitive-behavioral interventions focus on immediate treatment and lack testing in randomized clinical trials (Agorastos, Marmar, & Otte, 2011; Haugen et al., 2012). Research on interventions immediately following PTEs is limited, as sufficient randomized clinical trials have not been conducted but there is some support for the use of cognitive-behavioral intervention in days or weeks following a PTE (Agorastos et al., 2011).

In addition to psychosocial treatments, there are pharmacological treatments utilized to address PTSD. Of all existing pharmacological treatments for PTSD, selective serotonin reuptake inhibitors (SSRIs) are the most empirically supported. Though both pharmacological and psychosocial treatments are used to treat PTSD, it is undetermined which should be recommended as a primary intervention. Certain guidelines for treatment suggest and encourage

the utilization of a combination of both pharmacological and psychosocial treatment but research has not yet been conducted with first responders as the study population (Haugen et al., 2012).

**Support for proactive interventions.** Informed by theory, there has been movement to shift research focus towards proactive interventions and treatment (Whealin et al., 2008). There are several examples of existing proactive interventions that have been efficacious in reducing symptomology in first responders. The Battlemind program has proven effective in reducing symptomology of depression and stigma over time in soldiers (Kleim & Westphal, 2011). A recently developed early intervention program aimed at reducing stress from work in police officers found an increase in global health and coping that employed problem-solving (Arnetz, Arble, Backman, Lynch, & Lublin, 2012).

### **Rationale and Implications**

The few examples of proactive and reactive interventions and treatments that exist so far have proven to be helpful for first responders, but no treatment programs are specifically tailored for firefighters. The mental health and healthy psychological functioning of firefighters are of critical importance to society and in order to discuss directions for future research, assumptions and gaps of the literature need to be considered (Benedek et al., 2007). There are many factors to consider when conceptualizing the mental health needs of firefighters such as ethical concerns, the diversity and culture of firefighters, and the importance of social support. It appears that the literature assumes that stressors of a PTE are short-term, rather than enduring and cumulative (Reyes & Elhai, 2004). The literature review suggests a need for continued research on the efficacy of proactive interventions and the development of additional proactive interventions and treatment, and for a more dynamic, comprehensive approach in treating first responders that does not assume homogeneity (Kleim & Westphal, 2011).

This dissertation proposed that one be developed and aimed to research firefighter stressors and stress management to aid in the future development of a proactive stress management program for firefighters. The following section explains the methods involved in collecting data from interviews with firefighters to inform the development of the proposed program. This thorough review of the literature and the data collected by fire officers will inform the future development of a comprehensive, proactive program that helps firefighters better manage their stress before, during, and after a potentially traumatic event. Through my research of firefighter stressors and their need for more proactive stress management to help ensure better mental health and psychological functioning, I sought to answer four specific research questions.

### **Research Questions**

These research questions were used to inform the development of a future proactive stress management program that is specific to firefighters:

1. Qualitatively, what are the existing stressors that firefighters face?
2. What coping skills exist that firefighters employ to manage these stressors?
3. What stressors do firefighters struggle to manage?
4. What do firefighters think is needed to develop a proactive stress management program?

### **Methods**

#### **Research Aim**

The primary aim of this qualitative research study was to gain an in-depth understanding of the unique training, stress experienced by, and specific needs of firefighters.

### **Rationale for a Qualitative Approach**

The type of qualitative design used for this study is phenomenological research since the emphasis is on understanding an essence or phenomenon (Creswell, 2013). In this case, it is the essence of the stress experienced by firefighters, how they manage this stress, and what the specific needs are of the firefighter population within the United States. A qualitative design will allow for greater understanding of the distinct experience of training as a firefighter, the unique stress experienced as a firefighter, and specific needs within a developed proactive stress management program.

### **The Sample**

Inclusion criteria required participants to be firefighters or fire officers in the states of Arizona or New Hampshire. Fire officers were included as a subsection within the sample population for this study. This study aimed to understand whether fire officers have separate experiences and responsibilities as a result of their managerial and leadership roles. This research sought to collect a mix of volunteer, call, and full-time firefighters and fire officers. The states of Arizona and New Hampshire, both convenience-based locations, allowed for qualitative research to be collected and allowed for greater diversity in stresses facing firefighters of varied regions and career statuses.

All participants in this research were firefighters and fire officers in the state of New Hampshire and Arizona. The desired number of participants to participate in interviews ranged from 5 to 15, which was based upon recommendations of sample size for survey research by Gall, Gall, and Borg (as cited in Mertens, 2009). The total number of participants in this study was 13, with 12 male firefighters and one female firefighter. There were seven firefighters from New Hampshire and six from Arizona. Participant classification from New Hampshire included

four firefighters, two fire captains, and one chief officer (3 officers; 4 firefighters). Participant classification from Arizona included one firefighter, one engineer, three fire captains, and one chief officer (4 officers; 2 firefighters). Firefighters were randomly selected from all towns in New Hampshire, ultimately selecting from Grafton County, Belknap County, Hillsborough County, Merrimack County, and Carroll County. Firefighters were contacted from Pima County and Maricopa County in Arizona. Only firefighters from Maricopa County responded and all firefighters from Arizona were randomly selected from a Maricopa County fire department. Mean total years of experience in the fire service was 16.23 years and ranged from 6-32 years. All participants endorsed receiving training in both firefighting and emergency medical services (EMS). More than half of the participants endorsed working for or having worked for other fire departments (8 Yes, 5 No).

### **Recruitment of the Sample**

In the State of Arizona, recruitment began by contacting fire departments/agencies in major metropolitan areas (Pima County and Maricopa County). These areas were Convenience-based locations. In the State of New Hampshire, recruitment began by selecting 10 municipal fire departments/agencies, using a random identification process from a list of all municipal fire departments/agencies.

Once fire departments/agencies were selected (in Arizona and New Hampshire), chief officers were contacted by email and phone to arrange 30 to 60-minute phone interviews to describe this research and provide instructions to forward an invitation to participate in the study to all members of their department. Chief officers were requested to forward an invitation email to all members of their department with a URL to an online form. This online form captured recruit contact information and electronic consent (see Appendices C, D, E, and F and Appendix

E for a waiver of signed consent). After chief officers agreed to participate and disseminated the recruitment materials, there was a two-week waiting period to await the receipt of prospective participants' willingness to participate.

In an effort to prevent participants from experiencing any coercion to participate from their supervisors, chief officers were requested to respect participants' confidentiality and privacy. Chief officers were not informed of who did or did not participate in the study and were requested to refrain from asking individuals if they participated.

Upon receipt of the study's invitation, volunteers indicated their willingness to participate by providing their contact information and electronic consent via the aforementioned online form. Among those who volunteered, participants were selected for contact through a random identification process.

Volunteers were contacted to schedule interviews (phone), in which the study's data collection occurred. During these interviews, as the principal investigator, I collected data and collected demographic information (as mentioned in Appendix A) and verified that consent was obtained electronically.

### **Data Collection Methods**

Data was collected from interviews with firefighters from New Hampshire and Arizona. These interviews were one hour in length and attempted to capture the nuances specific to firefighter training and determine need to inform program development. The interview utilized a semi-structured interview protocol that contains demographic informational questions; several open-ended questions regarding firefighter training; stressors experienced; coping with stressors before, during, and after a fire call; and firefighter identified needs. The semi-structured protocol can be found in Appendix B.

The demographics questions collect data that may provide important information for understanding the differences that exist among departments and how these data may aid in the interpretation of their qualitative responses. The firefighter population varies vastly in many ways, such as career status, leadership roles, and emergency medical training. For example, a full-time fire captain/paramedic in a major city will likely have different experience on-the-job than a volunteer firefighter with no emergency medical role in a rural village. The demographics questions can be found within the semi-structured interview protocol in Appendix A. Copies of informed consent forms can be seen in Appendices C through F. Appendices G and H provide mental health resources for firefighters in both New Hampshire and Arizona.

Within the demographic information, participants were asked to state what level of training they had received. The first certification is Firefighter I and firefighters can also obtain Firefighter II and Firefighter III certification (National Fire Protection Association, 2018).

### **Data Analysis**

Thematic analysis was chosen to analyze data collected from the semi-structured interviews for this study. Thematic analysis can be understood as “a qualitative method for identifying, analyzing, and reporting patterns within the data” (Braun & Clarke, 2006, p. 79). To begin, research from the literature review for this study was re-read multiple times to develop initial codes and themes. Each participant’s interview transcript was then read thrice, which allowed the researcher to become engaged with and critical of the data, allowing for the development of ideas with regards to content within the interview. Following review of initial research and each interview, I then utilized a theory-driven coding system. Codes were created through the coding of data as it corresponded to features within the interview. I then conducted another review of data collected from interviews to allow for any additional coding of data. This

produced additional codes missed from the initial phase of coding. When all codes within and across participants were reviewed, codes were refined, and a total of eight themes were produced. Additionally, differences between states and roles within a department were evaluated. The results of the themes collected from the semi-structured qualitative interview questions are discussed below in the Results section. Furthermore, demographic data was reviewed based primarily based on frequency, mean, and range of information provided within interviews (Braun & Clarke, 2006).

### **Risks and Ethical Considerations**

There was minimal to mild risk determined to be involved in these semi-structured interviews. Consent forms were provided prior to the interview. The consent form used (Appendix A) included language stating that the participant was able to stop at any time and choose to not answer any questions (whether they are unable or do not wish to do so). If the individuals felt that they were being negatively impacted by the questions or material being discussed, the interview would be stopped immediately, and appropriate attention would be given to help support the mental and emotional health of the participants. Mental health resources can be found in Appendices G and H. None of the interviewees requested to halt participation or seek mental health resources as a result of participating in this study's semi structured interview.

### **Considerations**

Results, limitations, and conclusions that arose from the current study is discussed following the reported data. Themes from the qualitative data are discussed. Two notable limitations to be considered for this study were perception by the fire departments that the survey

interview participation would be burdensome and the reliance upon self-report data to later inform program development.

### **Development of a Proactive Stress-Management Program**

Creating a proactive stress management program tailored specifically for firefighters is a challenging task. This program would require a unique design that considers first the dangerous nature of a firefighter's occupation and second that firefighters face specific types of stressors needing to be addressed. Additionally, the job of a modern-day firefighter is changing. No longer is the job limited to the extinguishment of fires but has expanded to include responsibility for a variety of hazards in the community. This can include incidents involving aircrafts, water rescue, the collapse of buildings, missing persons, incidents of mass casualties, infrastructure incidents, events involving weapons of mass destruction, but most notably, emergency medical services.

Even the nature of the fires themselves have evolved. Today, structures are being built with a greater use of petroleum products. These structures are often susceptible to burning at higher temperatures, which can result in the emission of harmful and carcinogenic chemicals and building collapse. Homes are also built to better withstand fires, meaning that they are more likely to cause flashovers (Calo, 2012). A flashover is when a room becomes suddenly and entirely engulfed in flames, as a result of feedback from thermal radiation (Flatley, 2005). This means that firefighters are facing different, more dangerous threats than in years past and this should be considered in the development of a future proactive stress management program.

## **Results**

### **Demographics and Titles**

**Demographics.** This section details frequency, mean, and range of demographic information that was collected at the beginning of each interview. Each interview asked the

participant to state their firefighting rank; there were five Firefighters, one Engineer, five Captains, and two Chief Officers. Each participant was asked to describe their marital status; eight were married, one engaged, two divorced, and two were single. Participants' total years in the fire service ranged from 6-32 years, with  $M=16.23$  years. Average years in the fire service for New Hampshire participants was  $M=12.6$  and  $M=19.57$  for Arizona participants. Participants were asked whether they were cross-trained in both firefighting and emergency medical services and if so, to what level. All participants (13) reported having training in both firefighting and emergency medical services. For firefighting training, seven participants reported having training in Firefighter II and six participants reported having training in Firefighter III. Five participants were trained to Emergency Medical Technician (EMT) level, three participants reported being trained to Advanced Emergency Medical Technician (A-EMT) level, and four participants reported having training at Paramedic level. Participants were then asked about the level of their fire-related education (post-secondary education). Seven participants reported having graduated with an Associate's degree, two participants a Bachelor's degree, two participants a Master's degree, and two participants reported having taken various college-level courses. When asked about military experience, 11 participants reported having none and two participants reported having served in the military (one US Army, one US Navy). Participants were asked about having served in law enforcement, which 10 participants reported having not served, one participant reported having served in law enforcement, and one participant reported having worked for emergency dispatch. When asked whether participants work or have worked for other fire departments or agencies, eight participants reported that they have or do currently work for another department and five participants reported that they have not worked for another department or agency. Of the eight participants that reported currently or previously working for

other departments, seven participants were from New Hampshire and one participant was from Arizona. There was an  $M= 2.16$  average number of agencies that participants stated they currently or previously had worked for, with one participant that endorsed having worked for other departments and agencies but did not specify how many.

**Additional demographics.** To develop a profile of the participants' department, participants were asked a series of four questions. Participants were asked how many emergency calls their department/agency responds to per year, responses resulted in a range of 500 to 400,000 calls per year. On average, participant responses from New Hampshire had  $M=3,275$  calls and participant responses from Arizona had  $M=335,000$  calls. All 13 participants reported that their department/agency performed emergency medical services. Participants were then asked whether they believed they attended more medical or more fire calls; 11 stated that they attended more medical calls and 2 stated that they attended more fire calls. Within those participants that stated they attended more fire calls, one was from New Hampshire and one was from Arizona. Participants were then asked how many square miles are in the district in which they serve. Participants from New Hampshire averaged  $M=26.97$  square miles, with a range of 20 - 41 square miles. Participants from Arizona averaged  $M=639.8$  square miles, with a range of 10 - 1600 square miles. The last question participants' responded to prior to answering additional department-specific questions about roster involve the population of the town they serve. Participants in New Hampshire's responses ranged from 3000 – 90000, with  $M=18,250$ . Participants in Arizona's responses ranged from 1,500,000 – 5,000,000 with  $M=2,778,750$ .

**Firefighting titles.** Following these questions, participants were then asked to specify for how many years they held the following firefighting titles: (a) probationary firefighter, (b) firefighter, (c) engineer, (d) line officer (including lieutenant, captain, etc.), and (e) chief officer

(deputy chief, battalion chief, etc.). For each of these titles, participants were also asked to specify whether these positions were volunteer, call, part-time, or full-time. There is variability within the literature about how these types of positions are defined. For the purposes of this study, volunteer positions were defined as positions that are unpaid, call (also known as paid per call or paid-on-call) positions were defined as positions in which the firefighter is paid per call, part-time positions were defined as career firefighters who work up to 35 hours per week, and full-time positions were defined as career firefighters who work at least 35 hours per week.

Responses across participants were examined by frequency and reviewed by category. There were few volunteer positions endorsed across participants. The majority of positions reported were call and full-time positions, with some instances of part-time positions. There were no chief officer positions endorsed that were volunteer, call, or part-time in this interview sample. As the majority of participants from New Hampshire worked for call departments and all participants from Arizona worked for full-time departments, this is reflected in the self-reported data. All other positions were not endorsed or not reported by participants.

**EMS titles.** Participants were then asked to report for how long they held various EMS titles, organized into volunteer, call, part-time, and full-time categories. There were only two instances of volunteer-held positions, as EMT. The majority of positions fell into the call and full-time categories, with some positions reported to be in the part-time category. The most endorsed position fell in the full-time EMT category, with a range of 0.5 – 24 years. There were no reported instances of nurses or physician assistants in volunteer, call, part-time, or full-time capacities. All other positions were not endorsed or reported by participants.

**Fire titles on roster.** Participants were then asked to state, to the best of their ability, how many of each of the following firefighting titles that their department/agency currently has

on its roster. Titles were organized again into the following categories: (a) volunteer, (b) call, (c) part-time, and (d) full-time. There was only one instance of reported volunteer fire positions on roster. This participant reported having nine non-firefighting EMS positions on roster in their department. The majority of participants endorsed having fire positions on roster in call and full-time positions, with three instances of part-time positions. The most endorsed position was full-time firefighter.

There were only two instances of engineer positions on roster, which occurred in the call category. As the majority of participants from New Hampshire worked for call departments and all participants from Arizona worked for full-time departments, this is reflected in the Self-reported data. All other positions were not endorsed or not reported by participants.

**EMS titles on roster.** Participants were asked to state how many of each of the following EMS titles that their department/agency current has on its roster. Titles were organized again into the following categories: (a) volunteer, (b) call, (c) part-time, (d) and full-time. These responses were measured based on frequency and range. There were no reported volunteer positions by any participants. The majority of positions fell in the call and full-time department categories. There was one instance of one part-time paramedic position on roster. The most endorsed position was full-time paramedic. There was also one instance of one physician's assistant on roster in the call category. All other positions were not endorsed or not reported by participants.

**Internal training program.** Participants were then asked whether their department/agency required attendance in an internal training program for new members (e.g. recruit school, probationary firefighter program, etc.). The majority of participants reported that there was requisite attendance in an internal training program for new members, with varying requirements. Participants from Arizona reported that probationary firefighters were required to

attend an internal training program through the firefighter academy, which was on-site and through the department. Examples included “so once you get hired, you have to go through a 16-week academy. They treat everyone like they have zero firefighting experience and teach you everything from the ground up.” Participants from New Hampshire reported a variety of different requirements, such as “we require firefighter I in the first year and then you go through a one year probationary period with certain requirements you have to meet” to “we have a small program that we make people go through... about 20 hours.” Reported requirements across participants for probationary firefighters ranged from “training every shift,” to participating in a certain number of hours in an internal training program, to “five months of total training.”

When asked how frequently training occurred within companies versus across the entire department/agency, participants reported a variety of different time schedules for training. The most frequently occurring responses were: (a) five (5) instances of training that occurred every shift or daily; (b) seven (7) instances of training that occurred once or twice a month; and (c) seven (7) instances of training was dependent upon many factors such as rank, engine, time of year, etc.

In summary, the majority of participants reported probationary firefighters being required to participate in an internal training program, with varying requirements. When asked about the frequency of training, the majority reported a variety of different time schedules, with many participants having reported that frequency of training is dependent upon many different factors.

**Standard operating guidelines and procedures.** The next set of questions asked participants whether their department has standard operating guidelines and procedures (SOG/SOP) for on-the-job injuries and mental health concerns. Participants were also asked whether they knew what the SOG/SOP stated, if they had ever seen it used, and if they were able

to describe how it had been used. Regarding an SOG/SOP for on-the-job injuries, the majority of participants (12 of 13) reported that their department had an SOG/SOP. All participants reported a process for how on-the-job injuries were handled by their department and a majority of participants reported that they had seen this SOG/SOP used. In terms of the process of how to handle an on-the-job injury, the answers varied. Most answers involved some type of assessment of how severe the injury was, sometimes involved paperwork for workers' compensation or to an insurance company, depending on its severity. Some examples given were: "the first thing I do is make sure I'm ok, as far as not continuing to do what's troubling. Notify my company officer or direct supervisor, go to the office, do injury reports... we submit to insurance carrier" and "if injury, see a doctor at health center within 3 days to be evaluated.

When participants were asked about an SOG/SOP about mental health, four participants reported being unsure if there was an SOG/SOP, four participants responded that there was no SOG/SOP for mental health, four participants responded that there was an SOG/SOP for mental health, and one participant reported that it was included within the SOG/SOP for on-the-job injuries. Five participants were able to recount a process for how mental health difficulties are handled in their department. All participants that were able to recount a process for handling mental health difficulties reported some aspect of the existing resources available within the same department. All of these participants were from Arizona and reported an existing peer support model, a website with resources for mental health (Firestrong©), referrals to providers, employee assistance, etc. Some participants that reported that their department did not have a formal SOG/SOP mentioned that there was some opportunity to access a critical incident stress debriefing resource (CISD) from the state.

In summary, the majority of participants reported that their department/agency had an SOG/SOP for on-the-job injuries. All participants were able to recall a process for how on the job injuries were handled within their department and a majority had seen this SOG/SOP used. In response to a mental-health specific SOG/SOP, there was a split between some who stated there was no SOG, some that were unsure, and some that said one exists. Only some participants were able to recount a process for how mental health difficulties are handled within their department/agency. Those participants that were able to recount a mental health SOG process were from the State of Arizona. Some participants from New Hampshire that identified no formal SOG for mental health, reported some access to CISD as a resource.

### **Qualitative Experience of Firefighters**

The following information about participant responses to qualitative interview questions were organized into the four research questions guiding this research.

#### **Research Question 1 and Existing Stressors**

The first research question posed by this study is: Qualitatively, what are the existing stressors that firefighters face? This question informed the following questions (the results of which are reviewed below).

**Stressors.** The first of the stress-related questions asked of participants began with asking ‘What forms of stress do you experience in your job as a [firefighter, fire officer]?’ There were many answers, which were grouped into 10 separate codes: (a) life safety and property conservation, (b) home/family/relationships, (c) mental/emotional stress, (d) political and managerial stress, (e) high-stress calls, (f) abuse of the fire department/emergency medical services, (g) sleep deprivation, (h) on-the-scene stressors, and (i) compassion fatigue. There was one additional code that appeared in the data from two participants noting that though they

experienced various stressors as a firefighter, this stress was manageable. The most frequently occurring codes were: on-the-scene stressors (14 occurrences), mental and emotional stress (8 occurrences), compassion fatigue (7 occurrences), and political and managerial stress (6 occurrences). Examples of responses coded *on-the-scene stressors* are: “You’re walking into someone’s worst day of life. You’re asking a total stranger to fix their problems. That’s a big part of their life on your plate that you have to deal with,” “the stress of responding to unknown emergencies,” “getting there and making sure everyone gets there safely,” and “duration, the fact that you’re constantly moving for a 24-hour period.”

Some examples of responses coded *mental and emotional stress* are seen below and describe various types of mental and emotional stressors:

When we get toned for a building fire, I get pretty excited. You also have to think in the back of your head that someone’s house is being destroyed right now... as a firefighter going into a burning building, you’re going into something you’re not supposed to go into.

Other examples of mental and emotional stress are: “being familiar with your gear. I used to be terrified of being in an air pack,” and “used to have anxiety for certain things. Confined spaces used to bother me, but I worked on that a lot.”

**Intensity, context, and frequency.** After participants reported stressors faced, they were then asked how they would rate the intensity of the stressors they listed, on a scale of 1 – 10. Stressors ranged in rank from 2 out of 10 to 10 out of 10. Some of the stressors listed include: night terrors, confined spaces, lack of sleep, pediatric calls, knowing people you respond to, problem-solving, firefighter fatalities, compassion fatigue, etc. Participants were then asked, “In what contexts do these stressors occur?”

Responses were organized into three codes: (a) every day; (b) on-the-scene; and (c) after the fact. The most frequently occurring code was “on-the-scene.” There were 13 instances of responses that were coded as an *on-the-scene* context. Examples of these responses are: “just on the job, to be able to perform the job effectively. Try not to bring it home. Sometimes fatigue outside of work can take its toll” and “every now and then I get claustrophobia. We have a training maze for the state. When I’m leader, it’s fine. When I’m not, my head gets to me.” Responses coded *after the fact* and *every day* occurred the same number of times.

Participants were then asked how often they experience the stressors they’ve described. Responses were organized into seven codes: (a) every call/shift/day (6 instances), (b) variable (3 instances), (c) once or twice a year (2 instances), (d) once or twice a week (4 instances), (e) not often/hardly at all (5 instances), (f) once or twice a month (8 instances), and (g) five times a month (3 instances). The three most frequently occurring codes were: once or twice a month, every call/shift/day, and not often/hardly at all. Examples of stressors coded as “every call/shift/daily” are: “every working structure fire you have stress until fire control and until you get out of the danger zone” and “I would say to some extent every shift. The physical stressor, our job is physically demanding and physically stressful and you’ll experience every day.” Examples of responses coded “not often or hardly at all” are: “pediatric calls—those are rare but stick with you. In twelve years, I’ve had three or four personally. They stay with you, but I don’t sit there and fret on them.”

**Most common stressor.** Participants were asked to pick which of the stressors they had listed were the most common or frequently occurring stressor. Participants were also asked what their job’s most common stressor was. The stressors from both questions were organized into six codes: (a) on-the-scene stressors (3 instances), (b) physical stressors (3 instances),

(c) administrative/political/leadership stressors (3 instances), (d) worry about fellow firefighters/management stress (5 instances), (e) sleep deprivation (7 instances), and (f) duration stress (4 instances). The most frequently occurring codes were sleep deprivation, worry about fellow firefighters/management stress, and duration stress. Some examples of administrative/political/leadership stressors are: “used to work for [department]... for them, it was the leadership. Firefighters were led by call officers. No one was on the same page. They all wanted things done differently” and “probably the day-to-day problem-solving stuff.”

### **Research Question 2 and Coping**

The second research question posed by this study is: What coping skills exist that firefighters employ to manage these stressors? This question informed the following questions (the results of which are reviewed below).

**Strategies.** After asking participants about stressors experienced, they were then asked about strategies to cope with job stresses. Participants were first asked to identify what strategies they had learned in order to cope with their job stresses. These responses were organized into 10 codes: (a) taking care of oneself (2 instances), (b) spouse with similar experiences/family support (7 instances), (c) just brush it off/shut off emotions (4 instances), (d) gaining perspective (2 instances), (e) reading/music/podcasts (4 instances), (f) relying on crew/friends (5 instances), (g) physical activity and diet (6 instances), (h) faith/church (3 instances), (i) counselor (1 instance), and (j) planning outside of work (7 instances). The most frequently occurring codes were spouse with similar experiences/family support and planning outside of work. An example response coded “taking care of oneself” is: “we do have time to recuperate. It’s a benefit of scheduling.” An example response coded “reading/music/podcasts” is: “I listen to some podcasts, leadership ones, good tips and stuff on why some things don’t matter.”

Participants were then asked a follow-up question about which strategies have they been using specifically to cope with the stresses of their job. Responses were organized into eight codes: (a) read/movies/podcasts (2 instances), (b) friends/family (5 instances), (c) all of the strategies (5 instances), (d) church (2 instances), (e) don't talk to significant other (2 instances), (f) get sleep when you can (3 instances), (g) limit commitment/exposure (7 instances), and (h) physical activities and outside life (7 instances). The two most frequently occurring strategies endorsed were engaging in physical activities and outside life and limiting commitment and exposure. An example of responses coded "don't talk to significant other" are: "don't talk to wife about work stuff" and "I don't tell my wife too much about this (compassion fatigue). Some things I don't want her to have those images in her head."

Participants were then asked what kinds of stresses their coping strategies target. Responses were organized into six codes: (a) mental/emotional stress (4 instances), (b) physical stress (2 instances), (c) administrative/political stress (2 instances), (d) specific traumatic calls (3 instances), (e) all stressors (8 instances), and (f) fatigue/sleep stress (3 instances). The most frequently occurring codes were "all stressors" and "mental/emotional stress." An example response coded "mental/emotional stress" is: "mental stressors, you know, like, I think a lot of times... I'll have a bad day here. I'm stuck doing paperwork, people pissing me off. I'll go out for a run and it's like a new day." When participants were asked how successful they thought their strategies were, the range of responses (on a scale of 1 to 7) was from 3-7. The most frequently endorsed ratings were 7/7 (6 instances) and 5.5/7 (2 instances).

The last two questions in this section were about when participants used strategies. Participant responses were organized into six codes: (a) outside of work (1 instances), (b) call specific (1 instances), (c) occasionally (3 instances), (d) several times a week (2 instances),

(e) every other shift (1 instance), and (f) often/daily (8 instances). The most endorsed responses were often/daily, occasionally, and several times a week. Some examples of “often/daily” responses are: “as far as the gym, pretty much on a daily basis” and “as often as I can. Seven days a week.” Participants were then asked whether they used strategies before, during, or after a stressful event. Responses were organized into four codes: (a) hard to reflect (1 instances), (b) before and after (4 instances), (c) before, during, and after (5 instances), and (d) after (4 instances). The most endorsed codes were before, during, and after and after. An example response coded *after* is: “Um... with the fire service, we never really know what we’re going to, so I’d say after. Not really preventative. Mostly an afterwards thing.”

**Department-related questions.** The next set of questions asked participants specifically about their experience within their department. The first question asked whether there were aspects of their department or agency that made them feel stressed. If they answered yes, they were asked to specify what these stresses were. Responses were organized into 10 codes: (a) morale of department (1 instance), (b) day-to-day stressors (1 instance), (c) pressure as woman firefighter (1 instance), (d) pressure to perform best (1 instance), (e) bureaucracy (2 instances), (f) member attitudes (1 instance), (g) upper management/admin stress (6 instances), (h) not stressed, annoyed (2 instances), (i) limited staffing (1 instance), and (j) department not stressful (4 instances). The most frequently occurring codes were upper management/admin stress and department not stressful. An example of a response coded upper management/admin stress is: “I’d say upper management. Some of the policies and procedures we have. I’d say attitudes of members, our disciplinary process, some of our dispatch policies. Those are the big ones that hit right off the bat.”

Participants were then asked whether their department offers to help firefighters cope with stresses. Responses were organized into seven codes: (a) physical activity (1 instance), (b) no (2 instances), (c) actually using resources (1 instance), (d) peer mentorship program (2 instances), (e) CISD (2 instances), (f) EAP (3 instances), and (g) yes (10 instances). The majority (10 of 13) participants reported that their department helped firefighters cope with stresses. The other responses that were coded either reported that their department did not help or offered certain things, such as encouraging physical activity, having a peer mentorship program, having employee assistance programs, or having access to critical incident stress debriefing. One chief officer participant noted that the most difficult part of helping firefighters with coping is encouraging them to engage with the existing resources. The most frequently occurring codes were “yes” and “EAP.”

**Standards, stress management, and training.** Participants then were asked about existing trainings within their departments. The first question asked participants whether their department offered formal stress management training. Responses were organized into five codes: (a) yes (4 instances), (b) maybe/unsure (1 instance), (c) emphasis on breath (1 instance), (d) no, but CISD (2 instances), and (e) no (8 instances). The majority (9 of 13) participants reported that their department did not offer formal stress management training. One participant shared that their department taught firefighters to focus on their breath and “take a minute to save a minute” as a strategy for stress management.

Participants who reported that formal stress management training was offered were asked to describe the training. Responses were organized into seven codes: (a) peer support (1 instances), (b) 40-hour continuing education (1 instance), (c) not applicable (6 instances), (d) CISD negative experience (1 instance), (e) stress relief/recognition (1 instance), (f) financial

security/knowledge of resources (5 instances), and (g) sit-down presentation (1 instance). The most frequently occurring codes were financial security/knowledge of resources and not applicable. The “financial security/knowledge of resources” code attempts to capture participants’ reports of finding comfort in knowing the existing resources and discussing various financial stressors that firefighters can face. One example of a response coded “financial security/knowledge of resources” is: “knowing what all the resources available to us are and that we’re fortunate that we’re pretty resource-rich.” Another example of a response coded “financial security/knowledge of resources” is:

Even as far as money management. Don’t get in over your head. Live within your means. Don’t get into debt... A lot of guys and girls fall victim really quick into credit card debt and financial problems, which then bleeds into stress with the department.

Participants were then asked what could be improved in these trainings. Responses were organized into seven codes: (a) taken seriously (1 instance), (b) stigma (1 instance), (c) more physical activity (1 instance), (d) to exist (4 instances), (e) budget for more experts (1 instance), (f) access resources more (4 instances), and (g) no suggestions (4 instances). The three most endorsed responses were to exist, access resources more, and no suggestions. An example of responses coded as “to exist” is: “it would be nice if they offered it, but um... yeah having it exist would be nice.”

Participants were then asked whether their department or agency had ever offered formal mental health training and if so, to describe this training. Responses were organized into three codes: (a) yes (3 instances), (b) unsure (1 instances), and (c) no (10 instances). Responses (from those who answered yes to this question) were organized into three codes: (a) presentation (2

instances), (b) peer support resources/fire strong resources (5 instances), and (c) not applicable (6 instances).

Participants were also asked whether they had ever seen training or resources implemented or used in any way. Responses were organized into two codes: (a) no (7 instances) and (b) yes (5 instances). The most frequently endorsed code was “no.” A sample response coded “yes” is: “I know my officer sought mental health when he had a particular incident. It wasn’t so much training on our job, more clearing his mind and talking to someone about what happened.”

Participants were also asked whether they ever received formal mental health training in their firefighting education. If they responded yes, they were encouraged to describe this training. Responses were organized into five codes: (a) yes (3 instances), (b) training through paramedic (1 instance), (c) I think so (1 instance), discussion of resources (1 instance), and no (12 instances). The most frequently endorsed code was “no.” A sample response coded “yes” is:

Peer support training and the IFF has actually done a lot in the last few years as far as behavioral health stuff. It was two days. I don’t want to make it sound like it wasn’t good, because it was, but it boiled down to learning to listen to people, open up, and steering in the right direction for help.

Participants were asked whether there were things that got in the way of coping with some of the stressors they’ve mentioned during the interview. If they answered yes, they were asked to describe these barriers. Responses were organized into seven codes: (a) mentality of others (1 instance), (b) “just getting busy with life” (2 instances), (c) sleep deprivation (2 instances), (d) stigma (3 instances), (e) no (4 instances), (f) home life stressors (3 instances), and (g) no break (2 instances). The most frequently endorsed code was “no.” An example of a

response coded “home life stressors” is: “families tend to do that occasionally. Sometimes you feel like you can’t talk to your family. You feel like you have to talk to people there (on the call, department, etc.) because they would know what you’re talking about.”

Following this question, participants were asked if it was their fire department or agency that made it harder to cope with their stress. If they answered yes, they were asked to describe how the department or agency made it more difficult. Responses were organized into four codes: (a) mistrust of system (1 instance), (b) stigma (2 instances), (c) no (12 instances), and (d) depends (1 instance). The most frequently endorsed code was “no.” A sample response coded “mistrust of system” is: “combination of member struggling to ask and coworkers not recognizing or not trusting system enough to ask for help.” A sample response coded “depends” is: “a lot of it depends on what calls you’re going to, how often, what your shifts are, and what people you have around you.” A sample response coded no is: “I wouldn’t say it’s them. I would say it’s my issue, not theirs.”

Participants were asked whether their department or agency had on-going physical fitness requirements or standards. If they answered yes, they were asked to describe what they were. Responses were organized into five codes: (a) yes (6 instances), (b) no formal standards (8 instances), (c) workout culture (2 instances), (d) encouraged to workout (5 instances), and (e) no requirement to workout (6 instances). The most frequently endorsed codes were *no formal standards*, *yes*, and *no requirement to work out*. All six participants that answered “yes” work for a department in Arizona. An example of a response coded “no formal standards” is:

No, not requirements. They encourage us to work out on shift and provide exercise equipment on stations. We have physicals but not like a physical test. No annual physical fitness requirements. We go to our annual physicals but that’s sort of it.

### Research Question 3 and Difficult Stressors

The third research question posed by this study is: What stressors do firefighters struggle to manage? This question informed the following questions (the results of which will be reviewed below).

**Most difficult stress and job satisfaction.** Participants were asked about what kinds of job stresses they have found to be the most difficult for them, on a scale of 1–10. Answers were organized into 10 codes: (a) financial stress, (b) knowing people on calls, (c) not getting into trouble, (d) ensuring firefighter safety, (e) society, (f) call volume, (g) cancer, (h) firefighter injury or fatality, (i) sleep deprivation, and (j) traumatic calls. The most frequently occurring code endorsed by participants was *sleep deprivation* (4 instances) with a range of 6.5–8 out of 10. The second most endorsed stressor (3 instances) was *firefighter injury and fatality* with a range of 2–10 out of 10. The third most endorsed stressor was traumatic calls (2 instances) with a range of 8 – 9 out of 10.

Participants were also asked why they think these are the most difficult stressors. Participants gave a variety of different answers as to why particular stressors were most difficult for them. Some examples are: “The most difficult for me is definitely the child calls, the pediatric calls. They tend to stick around a little bit because it’s the easiest for me to relate to,” “Society – pretty frustrating that we have to be life coaches some of the time. You get up at 3am for someone with a belly ache for 3 weeks” and “Cancer. That is our biggest unseen enemy. You don’t see it coming but it’s always in the back of your head.”

Participants were then asked to describe if stresses of their job affect their job satisfaction. Responses were organized into four codes: (a) cause for leaving (4 instances), (b) part of job but rewarding (2 instances), (c) not much you can do (2 instances), (d) and they don’t

(6 instances). The most frequently occurring codes were: *they don't* and *cause for leaving*. Of the participants that had responses coded as “they don't,” five of the six participants worked for a department in Arizona. An example of a response coded as “cause for leaving” is:

In all honesty, when I started out in [department] as a career guy, I had it set in my head what I was going to be and the stresses from that work place and the fact that they didn't recognize stresses. I did leave. When [department] had the opening... but I've known their history. They're very proactive and I'm very happy in [department].

If participants said yes, they were then asked if the stress they experienced ever made them consider leaving the fire service. Responses were organized into two codes: (a) considered leaving department or fire service (4 instances) and (b) no (9 instances). For those who reported having considered leaving the fire department or service, an example response:

Leaving it? It's made me think about maybe not retiring early but a different plan. It's not just the fire department, but it's the pay. You could go to slower stations or have a different career path. Made me evaluate what to do long-term. It's a young man's game, get up and off the truck.

Participants were then asked what they would do if a fellow firefighter in their department or agency seemed to be experiencing a mental health-related issue. Responses were organized into nine codes: (a) find someone close to member (2), (b) encourage access of resources (5), (c) “anything I can do to help them (3), (d) call someone from the fire academy (1), (e) notify EAP if there is a problem (2), (f) enforce treatment if needed as officer (1), (g) decide after talking (6), (h) approach them (12), (i) and close as a department (1). Most frequently occurring responses were *decide after talking* and *approach them*. An example response coded “anything I can do to help them” is: “probably talk to him or her, see if there is

anything we could talk about to help them out. Chat with them to see how severe the issue is.” Officers were also asked this question specifically, but responses were similar between both questions and responses to both questions were coded together.

Participants were asked what they believed were the worst kind of stressors endured by their firefighters. Responses were organized into 10 codes: (a) physical stress (1), (b) boredom (1), (c) fear of losing benefits (1), (d) fear of cancer (1), (e) politics (1), (f) “the daily stuff” (1), (g) home life stressors (3), (h) sleep deprivation (4), (i) death/traumatic calls (7), and (j) emotional stress (2). The most frequently occurring responses were *death/traumatic calls*, *sleep deprivation*, and *home life stressors*.

Participants were then asked if their agency or department provided stress management training, if these stresses were included in the training curricula. Responses were organized into three codes: (a) no answer (1), (b) no (5), and (c) yes/most likely (7). The most frequently endorsed code was *yes/most likely*. Participants were also asked how stress management training could be improved in their department. Responses were organized into 12 codes: (a) no answer (1), (b) learn how to cope on call (1), (c) learn what to expect from job (1), (d) address stigma (1), (e) awareness training (1), (f) increase engagement (1), (g) to exist (3), (h) include testimonials (1), (i) have training based on standards (1), (j) train more (2), (k) consider emotional support (1), and (l) consider the culture of fire service (2). The most frequently occurring responses were *to exist* and *more training*.

#### **Research Question 4 and Program Development**

The fourth and final question posed by this study is: What do firefighters in New Hampshire and Arizona think is needed to incorporate into a stress management program

developed for firefighters? This question informed the following questions (the results of which are reviewed below).

**Program development.** The final question asked of participants was what would be useful for the principal researcher to know in order to develop a useful stress management program for firefighters. Responses were organized into eight codes: (a) talk about mental health from beginning (1), (b) continue to address stigma (2), (c) be patient in gaining firefighter trust (2), (d) consider firefighter culture, etc. (5), (e) have resources and help people access them (2), (f) importance of trust between membership and management (1), (g) have a proactive approach (1), and (h) become a firefighter or have experience first-hand (3). The most frequently occurring responses were coded *consider firefighter culture* and *become a firefighter or experience first-hand*. An example of a response coded “consider firefighter culture” is:

Obviously realizing the schedule we work, the calls we go on, time takes away from family, sometimes the culture of our department, the way we are with each other. It’s not bad, but for some people... it’s a rough job, so we have a different sense of humor but just for us a way to distress.

## Qualitative Themes

### Thematic Analysis

Using thematic analysis of the qualitative data from interviews led to the emergence of eight themes that were present across participants. The information presented here will first name and define the themes. Excerpts from interviews are used to support the themes. Additionally, themes per role within the department and per state are reviewed. Themes were chosen in part due to the frequency with which they occurred across participant interviews. The themes of fatigue, self-care, and sleep-deprivation were chosen based on the frequency with which they

occurred. Other themes, such as stigma, mental health, lack of engagement, fatigue, self-care, compassion fatigue, were developed from frequency and grouping of codes within the data. The theme “protectiveness” specifically was developed due to interviewer experience with departments, participants, and participant tendency to attribute difficulties and stressors to greater systems or group characteristics, rather than the department itself.

The first theme that appeared many times across participants was *sleep deprivation*. Participants reported the presence of sleep deprivation and the negative effects of this from both states. An example of a response that falls under the theme of “sleep deprivation” is: “sleep deprivation is the biggest enemy hands down. You never catch up on it and magnifies everything else that is going wrong.”

The second theme that appeared in the data was *stigma*. This theme appeared many times within the data across participants, with many noting it to be a barrier to communication and mental health treatment. Some examples of responses that fall under the theme of “stigma” are: “the fire service is sort of messed up in a way where you talk but understate. its nuts when you actually think about it” and “the stigma is definitely still here, but it’s starting to go away.”

A third theme that appeared in the data was *protectiveness* which refers to the tendency across participants to speak about their department in a favorable manner. When participants were asked about whether their department contributed to their experience of stress or if there were elements of their department that were stressful, several attributed their stress to the fire service, firefighters, or themselves. Some examples of this: “No, I don’t think it’s the department. I think it’s the beast of the industry” and

I think it’s just ourselves. Us as a people. How we cope with things. It’s up to us. How we decompress and live our lives. Some stress on this job, but I think that often it is based

on each individual person and how they want to cope with that.

The fourth theme was *mental health*. Many questions were asked of participants regarding mental health standard operating guidelines and procedures, training, and how they would approach a fellow firefighter facing a mental health problem. This theme also appeared in different ways based on participant state and department. Some examples of responses that fell under the theme of “mental health” are:

There’s nothing that can prepare you to see someone die... the young ones affect us more than others. The members of my department have family. They get really affected when they see a kid die. That’s something you can’t train for. I’d say the emotional stresses. That’d be the number one thing. Then again, our job is to help people on the worst day of their lives. If we weren’t doing that, we wouldn’t have a job.

Another example of a response that falls under this theme is under the code of “shut off emotions” and states:

Um... for the routine stuff, just brush it off. For the severe stuff, we usually get in a group and go out and get dinner, have a cigarette, brush it off, vent and communicate with it. [Any other strategies?] Um, just get away from it for a while, go home after the shift, listen to music, spend time with your family, hug your loved ones.

A fifth theme that appeared in the data was *lack of engagement* which refers to firefighters not engaging with existing resources. This theme appeared several times in the data.

Some examples of responses that fall under the theme of “lack of engagement” are:

I can only speak locally. A lot of guys aren’t good at talking about themselves and this is how they don’t take advantage of the resources. Not recognizing it. We’re real good at hiding things from each other” and “Once a member asks, but can’t help until we know.

A combination of member struggling to ask and coworkers not recognizing or not trusting the system enough to ask for help.

The sixth theme that appeared in the data was *self-care*. Participants were asked about strategies of coping with stressors faced. Participants listed many different ways in which stress was managed, emphasizing various coping skills. It also emphasized how important these strategies were in allowing participants to continue performing their job and maintain overall well-being. An example of a response that falls under the theme of “self-care” is:

For me, the huge thing is working out. Focusing physically/mentally. Good night’s rest. Read books about job and anything that makes me better and spend time with friends and family. Not making your job your life. Otherwise you can get burned out.

The seventh theme was *fatigue* which describes the demanding job of a firefighter and how it reportedly wears on participants over time. This was described by one participant as “firefighting is a young man’s game.” Another example of a response that falls under the theme “fatigue” is:

I guess that the fact there sometimes is not a break. Sometimes you can’t slow down, have to keep going. For the meantime, tuck it away or push through it. Um, there’s the stressors of home life that kind of get compounded in too if you’re not one hundred percent into the work because of something going on at home, it makes it tougher to be ready for work.

The eighth and final theme that appeared in the data was *compassion fatigue* which describes the exposure to trauma and stress over time and the lack of compassion can develop as a result. Compassion fatigue appeared across participants and participants reflected both an awareness and effort to eliminate their compassion fatigue. A participant reflected on

“compassion fatigue” by stating:

I think you get to a point in 32 years, you get really tired of seeing people sick and injured. Not that you don't want to help them, but sort of like the starfish story, you can't save them all and they keep coming.

**Participant location.** There were several location-specific differences worthy of review. The theme of *mental health* appeared across participants, but it appeared as though getting firefighters to access existing resources was more of a challenge for Arizona participants. Participants from Arizona reported having greater satisfaction with the resources that did exist. For New Hampshire participants, there appeared to be a greater need for mental health resources and supports than were available. There also was a greater need for stress management resources for New Hampshire participants. Between states, there was a theme of *standardization* that appeared. For Arizona participants, there was greater reported standardization and training (centralized internal training program, physical fitness standards, etc.) and for New Hampshire participants, there was a lack of standardization and training. Overall, between the two states, New Hampshire participants reported working for several other fire departments during their time in the fire service. In Arizona, only one participant reported having worked for one other department prior to working for their current department. As there were fewer reported resources overall for participants in New Hampshire, there also were more frequent mentions of CISD. Sometimes mention of CISD was in place of other resources.

Between the two states, in regard to department-specific stressors, participants from Arizona reported not being stressed by their department, while participants from New Hampshire had more feedback on elements of their departments (past or present) that they found stressful. The two states also differed in terms of call volume and department type. All Arizona

participants worked for a full-time career fire department. Nearly all New Hampshire participants reported working for a combination department (of career and call members). As reflected in the demographic information earlier in this section, average call volume was much less for New Hampshire participants, while participants from Arizona were exposed to overall much greater call volume.

**Participant roles.** There were some role-specific themes that occurred across the data (firefighter, officer, chief). The majority of what is discussed in this paragraph is across states, for all participants. However, it is note-worthy that roles within fire departments differ between departments and between states. For example, there may be one primary fire chief at a fire department in New Hampshire, while there may be many fire chiefs within a fire department in a major city in Arizona. Some roles do not exist across departments (i.e., battalion chief). One theme that appeared for those in a firefighter role was *personnel-dependent experience*, meaning that participants reflected that often their experience within a department was dependent upon those who worked there. Participants also reflected that their experience within a department was dependent upon how officers managed firefighters and how upper management directed officers. Some reflected that this aspect of their experience as a firefighter was cause for leaving a particular department, seen in the following example:

All four of my family was on [department]. That was a lot of stress to me. Leaving the fire department my family worked for. Lots of stress in and of itself that my family built a legacy around but you have to weigh it out of your mind. You're leaving a name behind but is it going to be healthier for yourself to leave. The buildup of things not being fixed made me leave. They were unrecognized. [Department] is a good place to work for certain people, just not for me.

Those in officer positions appeared to report officer-specific worries. Themes appeared regarding worry about not getting in trouble for decisions made, worry about safety of firefighters, bureaucracy stress, and dissatisfaction with policies. An example of this is seen in the following examples: “to be honest, the most difficult for me was the whole doing the right thing not getting in trouble stressor... that’s the stuff I’d bring home the most.” Another example is:

I don’t like the whole setup. So, we have commissioners instead of [city council]. That, they’re like in this building. So everything I’m doing they’re watching. Rather than having them be at the town hall, like the police chief. They don’t have to deal with that. I think that weighs on the guys.

A theme that appeared specific to one participant in a chief role involved the dissipation of certain worries over time. An example of this:

Um... you know less so for me personally, as I’m old and don’t care what people think. For young guys fear of seeming weak or peers learning about counseling. I think we’ve done a pretty good job of breaking that down, but still a paramilitary organization and it’s still hard for some members.

This research is discussed further in the Discussion section.

### **Discussion**

The aim of this research was to develop a greater understanding of the stresses faced by firefighters. It was my hope to gain a greater understanding of these stressors in order to use this information to inform the development of a future proactive stress management program. Four research questions were posed which informed the questions within the semi-structured interviews. This section will discuss the results to these research questions as compared to

existing literature and the implications for proactive stress management interventions.

### **Demographics**

There are several aspects of the demographics of the current study's population worth consideration. This study aimed to gather participants from two separate locations, which allowed for greater variety and comparison of firefighters from different types of departments. This study also aimed to understand experiences from firefighters in different roles. The demographics of the study's sample revealed an even split between participants in firefighting roles and officer roles and a nearly even split between participants from both states. The variety of responses from this population comes from the variance in types of stressors, types of departments, types of roles, and types of internal training programs for new members. The commonalities between Arizona and New Hampshire firefighters centered around relationship status (the majority married or in a relationship), average time in the fire service (16.23 years), cross-training in fire and EMS, having degrees in higher education, and responding to more medical calls than fire calls.

The similarities and differences in demographics are important to consider for several reasons. The demographics collected from this sample (responding to more medical calls than fire calls) are consistent with research, which suggests that the nature of the fire service is evolving, as is the job of a firefighter (Calo, 2012). The variety within the sample also reflected the differences in standardization and variability between departments, particularly as training was not standard across states. Similarities and differences are important to consider for future research, as this was research with a small sample size. It would be important to further examine whether the similarities and differences that exist from this study are consistent on a larger scale.

### Research Question 1

**Stress consistent with research.** The first research question posed by this study informed six questions in the semi-structured interview, which aimed to understand the nature of specific stressors faced by firefighters. Existing stressors identified by this study's participants reported that the most frequently identified existing stressors in this study were on-the-scene stressors, mental and emotional stress, compassion fatigue, and political and managerial stress, which are consistent with existing research identifying specific on-the-scene stressors (Everly & Mitchell, 1997).

Home/family/relationship stress was also identified as an existing stressor found to occur most often outside of work. This is consistent with a Koch (2010) study reporting that work experiences can affect marriages, however, this study pertained to law enforcement officers (Koch, 2010). It is also consistent with Freedman (2004) research on firefighters' experience of having two families—their domestic family and family at the firehouse (Freedman, 2004). The home/family/relationship stress from the current study relates to Freedman's identified domestic family.

Findings of this study were also consistent with existing research on stressors identified as most difficult, revealing that the most difficult stressors involved traumatic/stressful calls, stressors specific to being on-the-scene, and calls involving death and/or injury. One participant noted having difficulty when responding to calls where they knew the victims, which also is consistent with the literature (Everly & Mitchell, 1997). Other reported stressors included an increased number of dispatches (identified as duration stress in this study), being short-staffed, incidents involving children (pediatric calls in this study), observing distraught bystanders, experiencing physically demanding or prolonged incidents (duration stress in this study), and

being of the belief that there was a failure in responsibility (Boudreaux & McCabe, 2000; Wee, et al., 1999). Participants in this study did not specifically identify motor vehicle accidents, inadequate police protection, attacks by crowds while providing medical care, injuries involving deformations, fear of personal safety, or receiving blame for the death or injury of victims (Back, 1992; Boudreaux & McCabe, 2000; Wagner & Martin, 2012; Wee et al., 1999).

**Inconsistent with research.** Findings of this study that were not consistent with existing research involved identified common stressors, rated intensity of stressors, context of stressors, and frequency of stressors. The most common stressors reported by participants in the current study were lack of sleep, concern for other firefighters, and duration stress. Affected sleep, worry for other firefighters, and duration stress generally were consistent with research, but were not specifically identified as common stressors (Blaney, 2009). There were no specifically identified stressors rated in existing research, only stressors identified to be most difficult. The most endorsed context was “on-the-scene.” Though there was no examination of context of firefighter specific stressors, there is existing research that groups types of stressors into organizational stressors and operational stressors, which future research may wish to consider for categorization of firefighter specific stress (McCreary & Thompson, 2006). There was considerable variability with frequency of stressors, with some occurring daily, monthly, and hardly at all.

Two additional stressors worth consideration are compassion fatigue and political and managerial stress. Compassion fatigue is present in research on firefighters and first responders but has not yet been identified specifically by firefighters as a stressor. Political and managerial stress relates to organizational stress research, but there is no research on fire officer related stressors.

**Stress implications.** Overall, this study sought to understand the nature of stresses that firefighters face. Comparison of results to existing research revealed that there were many commonalities with research reviewed. Some of the existing research was not specific to firefighters, which continues to highlight the lack of existing research on firefighters specifically, in addition to the stressors they face. It appears as though existing research focuses primarily on first responders and the most extreme stressors experienced. Firefighter stress should continue to be a focus of future research in breadth and depth and future research should consider the stressors identified by participants from this study for program development.

### **Research Question 2**

This study's second research question informed 21 questions in the semi-structured interview, with the aim of gaining a greater understanding of existing coping skills that firefighters employ to manage their stressors.

Though there was no existing research that specifically examined general coping skills firefighters employ to manage stressors, there is existing research on what strategies firefighters used following exposure to a PTE. Results from this study revealed strategies consistent with that research, with family support and planning time outside of work identified as the most endorsed strategies (Blaney, 2009). From the current study, the most frequently endorsed strategies used to target stressors were limiting commitment, physical activity, and outside life, which correspond with "planning activities outside of work." Though none of these strategies align exactly with existing research, planning activities outside of work does relate to proactive coping research. The most frequently endorsed times that participants reported using coping strategies were "before, during, and after." This is also consistent with proactive coping research, suggesting that some participants are proactive in their approach to manage stress.

Participants also reported perceiving that their strategies were often all-encompassing and used all the time, but were particularly important for mental/emotional stress and after an experienced stressful event. Participants appeared to perceive their strategies to be relatively successful, with high average ratings. Participant perception of strategy success appears to be related to research on positive and negative appraisals and self-efficacy. Research on explanatory style suggests that one's appraisal about the cause of external events can predict how one will react emotionally to those events (Whealin et al., 2008). This is also considered to be a component of being resilient. Research on self-efficacy also has been correlated with an increase in feelings of control during events that are out of one's control (Whealin et al., 2008). It is possible that participants in this study may generally appraise events in a positive way and may believe themselves to be efficacious. Though neither of these specific concepts were assessed in participants of the current study, the results seem to suggest elements of resilience.

As trainings and resources from one's department can be considered supports to utilize as a strategy to manage stress, aspects of one's department and its trainings were discussed. Overall, it appeared as though the majority of participants from both states did not experience formal stress management training or formal mental health training from their department. The majority of participants also reported not having experienced formal mental health training in their firefighting education. Many of the suggested ways in which trainings could improve were for them to exist; and for those participants that did report trainings existed, for there to be greater access of resources from firefighters. This suggests that there is a lack of standardization across states, in regard to procedures and trainings. Results also suggest the presence of stigma, which may serve as a barrier to accessing of existing resources. Though there was a lack of training and standardization for all participants, there was a greater lack of resources, training,

and standardization for participants belonging to fire departments in the State of New Hampshire.

Overall, there were many identified strategies that were endorsed by participants from this study on how to manage stress. There were strategies that aligned with existing literature, such as reliance upon social support, family support, and planning activities outside of work. There were results that did not appear in existing literature, such as strategies used specifically to target stress, specific times when strategies are used, perception of the success of strategies used, and whether firefighters are supported in various ways through existing department trainings. Results also continued to highlight the overall lack of training, resources, and supports available for firefighters, particularly those belonging to more rural, combination-type departments. Various types of coping strategies, existing trainings, and existing resources are important to consider for future research and program development, particularly in tailoring proactive approaches to specific stressors and in helping firefighters access what resources exist.

### **Research Question 3**

As reviewed in the Results section, this third research question informed six questions in the semi-structured interview, aiming to understand what stressors firefighters struggle to manage. Traumatic calls and sleep deprivation were stressors that occurred multiple times across participants as stresses perceived to be most difficult. This is consistent with research on most distressing stressors for firefighters in the UK and with this study's research on existing stressors and stressors identified as most commonly occurring (Everly & Mitchell, 1997). The research from this study also identified pediatric-related fire calls to be difficult to manage, which is also consistent with the research. Previous research on this topic discussed what worsened the impact of distressing events experienced. The current study did not discuss this specifically but did

discuss job satisfaction and whether stresses of the job ever made participants consider leaving the fire service (Everly & Mitchell, 1997). In this study, a quarter of participants reported that these stresses affected their job satisfaction, with many of these participants reporting that stresses were the cause for leaving a particular department. Participants were then asked whether stresses of the job caused participants to consider leaving the fire service. Though a majority reported that it did not, a quarter of participants reported that stresses made them either consider leaving their department or the fire service.

Unlike existing research, the current study discussed approaching a fellow firefighter who appeared to be experiencing a mental health issue. All participants reflected on various ways in which they would approach a fellow firefighter about a mental health issue, with most reporting that they would approach the firefighter and decide what to do after discussion with that firefighter. It appeared that despite whether there was a formal SOG/SOP for mental health within a participant's department, all participants would approach a fellow firefighter in need, regardless of position, and determine how they are able to help.

Other stressors that were reportedly determined to be difficult to manage were home life stressors and the death or injury of firefighters, which is also consistent with previously reported stressors within participant interviews. These stressors are also consistent with research, suggesting that the death or injury of firefighters is stressor identified to be difficult to manage. Though home life stressors were not identified specifically within the research, research on law enforcement jobs suggested that job stress negatively impacted marriages (Koch, 2010).

In sum, when evaluating the stressors that firefighters struggle to manage, this study revealed that there are many different types of stressors and that many are consistent with limited, existing research. Some stressors were not present in existing research, such as whether

stress affects job satisfaction, how to approach a fellow firefighter that appears to be experiencing a mental health issue, or what stressors exist in a department's stress management training. The results of my research also suggest that the stress identified by firefighters as difficult to manage does not just involve the most severe calls that they respond to and that stress is not isolated to the job itself. This research continues to highlight the need for greater research on the types of stress faced by firefighters and the need for training on how to manage them.

#### **Research Question 4**

As reviewed in the Results section, the fourth research question informed the final question in the semi-structured interview, which asked "What (else) would be useful for me to know in order to develop a useful stress management program for firefighters?" This question was not asked in the existing research but was informed by research by Bryson (1991) who suggested a need for a proactive stress management program (Bryson, 1991). Participants reported that it would be most important for someone developing a proactive stress management program for firefighters to acknowledge and be familiar with firefighter culture. Furthermore, participants frequently endorsed that it would be important for whoever is developing a program to either become a firefighter or have firsthand experience in the fire service.

These suggestions are consistent with a review by Kronenberg (2008) on first responder culture, which suggested that first responders sometimes refer to themselves as a part of the "brotherhood" (Kronenberg et al., 2008, p. 118). This is also consistent with research on group cohesion, suggesting that there was significant solidarity and group cohesion in firefighters, characteristic of mutual support and created an environment of trust (Freedman, 2004). This may suggest that the best way to gain the trust of firefighters and the tight-knit community is to have a shared experience.

Other important suggestions involved acknowledging the presence of stigma within the fire service, having greater discussion of mental health, being patient when gaining trust of firefighters, creating resources and encouraging firefighters to access them, acknowledging the importance of trust between a membership and management, and having greater consideration for a proactive approach to stress management. The suggestion of being patient when gaining trust of firefighters is also consistent with research by Freedman (2004) and Kronenberg et al. (2008) on various features of firefighter culture. Consideration of mental health, stigma, and encouraging firefighters to access existing resources are three separately grouped suggestions, but also appear to connect based on the general presence of stigma within the fire service. The presence of stigma in this study is consistent with research on stigma (Haugen et al., 2017). This highlights the influence that stigma has on the fire service and on firefighters and the need to continue to address it as a barrier. All these suggestions overall are important when considering the development of a proactive stress management program, particularly as consideration for a proactive approach was one of the suggestions made by participants.

**Content versus process.** When reviewing suggestions for future program development, consideration should also be given to future research questions and whether they are seeking responses that are focused on content (what should be included in the program), process (how the program is developed or delivered), or both. The fourth research question states: What do firefighters think is needed to develop a proactive stress management program? The final question in the semi-structured interview is slightly different, asking participants: What (else) would be useful for me to know in order to develop a useful stress management program for firefighters? The fourth research question would likely elicit responses involving content (what should be in the program), while the final question in the semi-structured interview was more

open-ended, eliciting a variety of responses involving content (what should be in the program) and process (considerations for program development and/or program delivery). Future research should further examine what firefighters would like to be a part of a proactive stress management program in regard to both content and process. If program developers would like to elicit responses that involve both content and process, consideration should be given to the utilization of open-ended questions.

### **Themes**

In addition to the summary of qualitative data regarding various stressors, coping strategies, and trainings, the data as a whole revealed several themes worth consideration. As described previously, these eight themes were: sleep deprivation, stigma, protectiveness, and mental health, lack of engagement, self-care, fatigue, and compassion fatigue.

**Sleep deprivation.** As mentioned above, *sleep deprivation* was described as a common stressor, a stressor determined to be difficult to manage, and identified as a worst stressor experienced by firefighters. This theme appeared across states, suggestive of a common theme and struggle for firefighters in both states and in all positions. This theme also suggests that this should be a component of a future proactive stress management program for firefighters, particularly given existing research on the importance of sleep and the deleterious effects of sleep deprivation. In previously described research, there were reports that firefighters had experienced disturbed sleep (in addition to other physical and emotional symptoms) as a result of critical incidents (Blaney, 2009). It's possible that the prevalence of sleep deprivation across participant interviews also is reflective of experiencing critical incidents over time and some participants made a connection between the two.

**Stigma.** The second theme was *stigma*, which also was mentioned several times across participant interviews. Stigma was identified as a barrier, an aspect of fire service culture to be improved, and worth consideration in the development of a proactive stress management program. Some participants identified that stigma was present within the fire service and appeared to be lessening over time. This reflection is also consistent with previous research on the positive impacts of the Battlemind Program (Kleim & Westphal, 2011), with findings suggesting that participants reported experiencing fewer depressive symptoms and less stigma over time as a result of this program (Kleim & Westphal, 2011). This is also consistent with research on the presence of stigma in first responder populations, which note that stigma was found to be experienced by many first responders and can potentially delay accessing mental health care, therefore leading to an increased risk of chronic trauma-related mental health concerns (Haugen et al., 2007). Stigma was also identified by participants as an area that stress management training could address. There likely are many factors that contribute to existing stigma within the fire service. Future research and program development would likely benefit from greater understanding of how and why stigma exists within the fire service.

**Protectiveness.** The third theme was *protectiveness*, which refers to participant's tendency to speak about their department in a favorable manner. There were several quotes in the Results section that reference description of one's department favorably. There likely are many reasons for why this theme developed from this population. It is also possible that the participants in this study experience organizational belongingness within their department. Participants that experience organizational belongingness within their department may not perceive their department to be influencing their experience within the fire service (Armstrong et al., 2016).

Participant tendency to present their department in a favorable manner may also be due to reluctance to trust an outside researcher or for fear of repercussion if forthcoming about their department's flaws. This protectiveness was also seen in the initial recruitment stages of this research, with bigger full-time departments wanting to examine research questions prior to forwarding the interview opportunity onto their firefighters. Protectiveness may have also been seen in my attempts to recruit and schedule participants for interviews. Though firefighters are often known for being quick to stop and respond to an emergency, they were generally unresponsive to requests to participate in this study. The tendency to protect one's department from harm and a reluctance to trust someone outside of the organization also aligns with group cohesion research and research on fire culture, suggestive of the tight-knit nature of firefighters (Freedman, 2004). Examining participants' experiences of belongingness within their department would also be an area worth consideration in future research and in future program development. It is also relevant for future program developers, particularly if protectiveness exists within the fire service, as it may be a barrier to program implementation.

Additionally, it is possible that my experiences as a researcher and my training in clinical psychology may bias my perception of participants and departments, at times perceiving participant behavior as defensive or protective.

**Mental health.** The fourth theme was *mental health*. As exposure and risk of harm can place considerable stress on first responder mental health, there were many questions within the semi-structured interview that inquired about various aspects of firefighter mental health at an individual and departmental level. Mental and emotional stress appeared multiple times across participant responses, with participants often reflecting on this type of stress being difficult and that strategies to cope with stress would attempt to specifically target mental and emotional

stress. This theme also encompasses a specific strategy that was mentioned by several participants, coded as “shut off emotions.” This refers to strategically ignoring some aspect of one’s experience, whether that be feelings or physical experiences. This strategy is consistent with previous research by Freedman (2004), noting that many types of first responders would intentionally block some reactions to traumatic material in order to continue one’s ability to do their job. This study described this strategy as “emotional numbing” and noted that it likely served an adaptive function, and likely contributed to developed resilience (Freedman, 2004, p. 385).

There were other ways in which participants reflected on managing stress and caring for their mental health, which was consistent with resilience research. Participants reported seeking support from peers, friends, and family, which is consistent with research noting that first responder groups are highly cohesive and develop rituals to make meaning of experience, alleviate stress, and maintain job performance (Freedman, 2004). This is also consistent with resilience research on the utilization of social support and the general importance of social support generally with first responders (Kronenberg et al., 2008). There also was mention by some participants of their job being both difficult and rewarding. This connects to previous research on resilience in first responders and features of resilient individuals engaging in positive meaning making of experience. One’s ability to appraise situations positively despite adverse events was also associated with resilience (Whealin et al., 2008). This also relates to post-traumatic growth research, suggesting that following exposure to potentially traumatic experiences, changes occurred in perception of one’s individual strengths, their relationships, and their general outlook on life (Armstrong et al., 2016).

**Lack of engagement.** The fifth theme was *lack of engagement*, as multiple participants mentioned that there were firefighters within their department that did not engage with existing resources. This appeared to connect with stigma, as stigma was identified as a possible barrier to coping with stresses. Several reflections that noted that firefighters don't always take advantage of resources, that firefighters don't always communicate difficulties to each other, that stigma is still present in the fire service, and that this lack of engagement was a frustration for several participants in officer/chief positions. Future research would benefit from greater examination of what resources exist, whether firefighters are accessing them, and if resources are not being accessed, what barriers exist that prevent access. Lack of engagement appeared to be a general theme that existed for participants from Arizona. This theme was less present for participants from New Hampshire, particularly as participants from New Hampshire reported having an overall lack of trainings and resources to access.

**Self-care.** The sixth theme was *self-care*, which came from the participant-described strategies of managing stress. Participants reported relying on family support, support from fellow firefighters, and friends. There were references to taking care of oneself in various ways, such as engaging in pleasurable activities of reading, music, and podcasts. Participants cited focus on physical activity and diet, with many noting that they engaged in physical activity regularly if not daily. Several participants reflected on how physical activity helps manage stress, with one participant describing it as "my Prozac." Many of the identified strategies participants reported involved seeking social support, which is consistent with existing research. Previous research suggests that social support is linked to maintenance of job performance, making meaning, and alleviating stress (Freedman, 2004). Social support has also been found to protect against development of PTSD (Kleim & Westphal, 2011). One participant reported a specific

strategy that appears counter to social support research, describing that he did not fully communicate to his wife about some critical incidents he experienced, out of concern for his wife and not wanting for her to be negatively affected.

Other notable strategies relating to self-care involved participant faith/church, utilizing a counselor, and planning activities outside of work. It is possible that participant utilization of church as a coping strategy could be another place in which one experiences social support and organizational belongingness. It also could be a place in which one makes meaning of experience, which was found to be an important component of social support (Freedman, 2004). Research suggests that resources of religion can be protective and supportive psychologically to one's well-being through perception of social support and increased hope (American Psychological Association, 2006). Ways in which participants from this study engaged in self-care is important for future research and program development, as there were a variety of strategies participants engaged in (some of which were consistent with research and some were not).

**Fatigue.** The seventh theme was *fatigue*, due to participant reports of experiencing long term and short-term effects of stress. Various participants reflected on ways in which they felt affected by aspects of their work. This fatigue can be seen in responses reflecting on duration, going "0 to 100 mph," and how "sometimes there isn't a break." Fatigue, whether due to the demanding nature of the job, sleep deprivation, or other factors, seems significant when considering the development of a proactive stress management program.

Fatigue captures the many stressors that participants reported experiencing regularly and the many stressors participants reported finding difficult to manage. As mentioned previously, home, family, and relationship stressors were identified as potential barriers to managing other

stressors and also identified by some as some of the worst kind of stressors experienced by firefighters. This highlights that firefighters face many unique stressors that are fatiguing that are not exclusive to responding to calls as a firefighter

**Compassion fatigue.** The eighth theme was *compassion fatigue*. Not only did participants identify that compassion fatigue develops over time in their jobs, but participants also reflected a desire to eliminate it. This is noteworthy for several reasons. First, the identification of one's compassion fatigue reflects one's self-awareness. Second, self-awareness of compassion fatigue could be seen as a component of resilience, with participants possibly implementing skills early to reduce strain caused from exposure to stress (Whealin et al., 2008). Awareness of compassion fatigue and making an effort to alter it could suggest elements of resilience and proactive coping. This theme also connects to the theme of general fatigue, as compassion fatigue is yet another experience that is tiring to firefighters.

### **Arizona and New Hampshire**

**States differed.** There were several differences that existed between states. For participants from New Hampshire, there was little to no mental health or stress management training, and no standard operating guidelines or procedures for mental health difficulties. New Hampshire participants reported experiencing some department-specific stress and also noted sometimes knowing victims when responding to calls. Participants from Arizona reported generally having greater resources to access, while also reporting not having formal mental health or stress management training. The majority of Arizona participants reported that their department did not have or were uncertain whether their department had standard operating guidelines or procedures for mental health difficulties. Arizona participants also reported experiencing extreme heat in the summer to be a stress specific to their state. Both states differed

in type of department (combination versus full time) and both states had standard operating guidelines and procedures for on-the-job injuries.

**Significance of state differences.** These findings suggest distinct differences that contribute to participant experience of stress and management of stress. In addition to a general lack of existing research on firefighter stressors, there is also a lack of understanding of how different types of departments have different experiences. Dependent upon department and state, firefighters will have different experiences, stressors, and level of connection to their fire department. This highlights a need for developed standard operating guidelines and procedures, training, and resources for firefighters regarding mental health support and stress management. This also suggests that it is important for future research and program development to further study and create more accessible policies, training, and resources for firefighters.

**Generalization.** Convenience-based locations also included a comparison between small call departments and large full-time departments. The data gathered from those departments may be similar to the profile of comparable departments in other states.

### **Firefighter Roles**

This study chose to interview participants that held different roles within a department, with the aim of gathering data from both those in firefighting roles and those in fire officer roles. As fire officers have a unique experience of both having been a firefighter and also having responsibility for firefighters, this research sought to understand what differences might exist. Data from this study suggests that there are unique stressors and experiences specific to participant role within a department. Those in a firefighter role reported that their experience within a department depended upon who worked there and how they were managed by their officers. Those specifically in officer positions reported worrying about firefighter safety,

bureaucracy stress, and dissatisfaction with policies and administration. One participant in a chief role reflected that as a chief in his 60s, certain stressors disappeared over time, such as having to appear strong or caring about what other people think. When comparing these findings to the original aim and intention of comparing firefighting roles, there does appear to be stresses unique to firefighters and unique to the type of role held within a department. This is important to consider for future research and future program development, as one should not just consider stresses specific to firefighting, but also stress specific to role.

### **Limitations**

**Bias.** Before discussing the limitations of this study, it is first worth reviewing researcher bias. I am a doctoral candidate in a clinical psychology program with personal connections to those in firefighting roles. This research was informed by previously existing research, my personal connections, and my training in clinical psychology. The research that was coded and consolidated into themes was filtered through these lenses. I was influenced by and am a part of a small community fire department social circle. Though I am not a firefighter myself, nor do I have first-hand experience as a firefighter, I do have experience and knowledge in being a part of this community.

**Generalization and consolidation.** When examining the results of this study, several limitations emerge that are worth discussion. This study aimed to examine the unique stress experienced by firefighters and better understand how firefighters currently manage these stresses. There was considerable information to be gained from this study, however, the study sample size was not large enough to generalize to either state or for the entire country in terms of experience. More data would need to be collected with a greater sample size. As the aim was greater understanding of stresses and strategies, the semi-structured interview protocol was

developed. After analysis of participant interviews, it is apparent that the interviews may have benefitted from asking fewer questions that were more specific. This research may also have benefitted from utilizing the semi-structured interview protocol with a focus group prior to finalizing interview questions and data collection, as this would have further consolidated questions and allowed for greater specificity. An example question that could have been asked in this research is: “Should a proactive stress management training program be developed? Why or why not?”

**Scheduling and participation.** The semi-structured interview involved recruiting and scheduling people to commit for one-hour interviews, which was challenging and likely could have been perceived as burdensome. This research may have benefitted from being developed into an online survey. This would have allowed for participants to participate at their leisure and potentially gain greater participation. This research has prepared the way for a participant informed survey with a larger sample size, which can be elaborated upon based on current understanding of firefighter stress and coping found in this study.

**General lack of firefighter research.** As mentioned in the introduction and literature review, there is very little research specific to on firefighter stress within the United States, let alone proactive stress management. This research may not answer all questions regarding unique experiences of stress as a firefighter in this country, particularly given how unique and multi-faceted experiences can be based on department and location. This research is a step in the direction of improving stress management and well-being of firefighters.

### **Future Proactive Stress Management Program**

There are several results from this study worth consideration in the development of a future proactive stress management program for firefighters. Research and program development

would benefit from considering findings from this research on common stressors, difficult stressors, and coping strategies to apply to future quantitative and qualitative research on a larger scale. These data and future data collected can describe firefighter stress and can become an educational component of a future proactive stress management program to the stressors of firefighters. Furthermore, as firefighters reflected on what they would do if a fellow firefighter were experiencing a mental health issue, it would be important for future research and program development to consider helping firefighters recognize symptoms of mental health difficulties. Signs of mental health difficulties may often go unnoticed and it would be beneficial to teach firefighters to recognize and take proactive steps to seek support for themselves and be more supportive to each other.

**Fire culture and patience.** The following recommendations for program development are primarily from the themes that emerged from this research. As suggested from participants, future program development should consider firefighter culture and be patient. What this could mean is understanding that there may be resistance to this program and resistance to change generally (which could be considered a part of fire culture). There may be reluctance to trust outsiders. Do participants think that this type of training is necessary? Why or why not? Is there a need? If not, what is there a need for?

**Testimonials, stigma, and compassion fatigue.** Consideration should be given to utilizing testimonials, as one participant had suggested, as a component of a future program. This may help alter the effects of stigma or encourage firefighters to consider benefits of resources that they may otherwise be reluctant to utilize. Additionally, to further investigate how prevalent stigma and compassion fatigue are in the fire service, as they are likely a barrier to engagement with existing resources. Previous research has suggested that some stigma-related concerns of

first responders involved fear of a breach of confidentiality and fear that seeking certain services would negatively impact their career (Haugen et al., 2017). Future research and program development should further examine and consider reflections from participants in this study regarding existing systems in Arizona departments that preserve confidentiality and support firefighters that access psychological supports (Haugen et al., 2017). One participant reported that there were policies and systems in place that (a) allowed for officers to remove firefighters from a station for a period of time, (b) preserve confidentiality of firefighters' situation, and (c) encourage firefighters to seek out psychological services without fear of their job being negatively impacted.

**First-hand experience.** Future research would benefit from gaining first-hand experience to inform program development, as this likely will enhance data and richness of experience. This also will allow participants and program developers to have a shared experience.

**Organizational belongingness and stress.** Future research and program development should further examine firefighter experience of organizational belongingness. Does it exist? Why or why not? As previous research has reviewed operational and organizational stress within a department, future research on firefighters should further examine these concepts, as it is possible that the types of stressors experienced could be grouped into particular categories.

**Social support.** Future program development and research should encourage the use of social support as coping strategy, particularly given its benefits. Also, consideration should be given to educating firefighters on when social support is insufficient and additional resources are needed.

**Self-care and sleep deprivation.** Future research and program development should promote self-care, proactive coping, and resilience practices. Research and program development

would benefit from continuing to discuss what strategies firefighters use and the timing of strategies. Certain questions to consider asking are: Which strategies are proactive and reactive? Which strategies do you employ during the job? How does sleep deprivation play a role in firefighter experience? Is this consistent with research from this study?

**Home stress.** As home stress was identified to be a stressor in this study, consider further discussing this type of stressor. Questions that may guide future research are: How can a firefighter's home and family life be stressful? How have people navigated this successfully?

**Resilience.** Examine programs like Battlemind and the Comprehensive Soldier Fitness Program and investigate whether certain program components could be applied to firefighters. Also further examine the presence of resilience within a firefighting population. What can be learned from resilient firefighters that can be applied to those identified as less resilient?

**Psychotherapy.** Further discuss firefighter experiences of psychotherapy to inform the development of a future program, as this can be a beneficial resource to firefighters that struggle to effectively manage stress. There may be elements of firefighter therapy experience that can be incorporated into a stress management program. This may also generally benefit firefighters who have not participated in psychotherapy, are resistant to attend, or do not have the means to access this resource.

**Nationwide resources.** Based on the findings from this research, it appears as though fire departments each have their own approach to how they run their organization, as seen in their policies, trainings, departmental meetings, and more. The general lack of standardization, training, and resources, and individual approach that each department can have may lead to a significant disparity in empirically based resources for firefighters, including but not limited to mental health-related supports. While there is no one-size-fits-all solution to stress management,

a nation-wide stress management program should be explored, especially to assist areas where limited resources would preclude the development of their own program. Additionally, future research and program development should consider the development of a nation-wide database of information regarding available resources for each department in the country (per state) and a survey asking about stress and coping strategies, in order to collect a robust sample to inform program development.

**Collaboration.** Future program development should also consider consulting with firefighters throughout the process and would also likely benefit from utilizing firefighters as presenters or co-presenters of program material. This collaboration would help to address many of the components mentioned above, such as fire culture, patience, testimonials, stigma, first-hand experience, and organizational belongingness. There are significant benefits to collaboration with firefighters in program development and delivery, allowing for the gaining of trust, learning and meaning-making with people who have lived experiences, and tailoring of a future program to firefighters by firefighters.

## **Conclusions**

The four research questions posed by this study involved determining what the existing stressors that firefighters faced were, what coping skills they employed to manage these stressors, what stressors they struggled to manage, and what firefighters thought I should know in developing a proactive stress management program. There were unique features to participants depending on their state. Participants reported many unique stressors and coping strategies. There were commonalities among reported unique stressors and stressors identified to be the most difficult to manage. Participants also had many reflections on what would be important for a researcher to consider when developing a proactive stress management program, with one

participant suggesting the importance of proactive approach to stress management. There was a lack of standardization and formal training, with New Hampshire found to be generally lacking in available resources for firefighters. When examining themes, sleep deprivation was found to be an important stressor worth consideration, as was stigma, protectiveness, the importance of mental health, lack of engagement, self-care, fatigue, and compassion fatigue. Many of the findings of this research aligned with previously existing research of notable stressors, with some deviations such as duration stress, the prevalence of sleep deprivation, and home-life stressors.

Future research would benefit from further collection of data regarding the unique nature of stressors firefighters face, how firefighters currently cope with these stressors, and how firefighters could benefit from the utilization of proactive stress management. Future research would also benefit from a much larger sample size in order to generalize to the larger population of firefighters across the country. Future program development should consider determining if different types of proactive stress management programs or trainings should exist, dependent upon the type of fire department and region. There were distinct differences between participants from New Hampshire and Arizona and it is possible that the experiences between types of departments may or may not be different enough to warrant separate tailored programs. Overall, this research continued to highlight that firefighters in this country face numerous difficulties and stressors and that there is a need for both the development of greater stress management skills and support for firefighter well-being.

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Appendix A: Semi-Structured Interview Protocol

**Individual Demographic Questionnaire**

*Completed by Principal Investigator on Date:* \_\_\_\_\_

1. What is your gender? (Check one)  Female     Male
2. What is your age? \_\_\_\_\_
3. What is your marital status? \_\_\_\_\_
4. How many years of experience (total) do you have in the fire service? \_\_\_\_\_
5. Are you cross-trained and to what level (having training in both Firefighting & EMT)? (Check one)  Yes     No
6. What is the level of your Fire-Related Education (Level I, II, II, Associate, Bachelor, and Doctorate)? \_\_\_\_\_
7. Do you have any military experience of any kind? (Check one)  Yes     No
8. Have you served in law enforcement? (Check one)  Yes     No
9. Are there other agencies you've worked for or currently work? \_\_\_\_\_

- For how many years have you held one of the following titles?

Firefighter Jobs	Number of Years				
	No EMS Role	Emergency Medical Responder	Emergency Medical Technician	Advanced Emergency Medical Technician	Paramedic
Volunteer Firefighter					
Call Firefighter					
Part-Time Firefighter					
Full-Time Firefighter					
Line Officer / Company Officer					
Chief Officer					

**Department/Agency Demographic Profile:**

Is your department/agency Volunteer, On-Call, Career, or a Combination? \_\_\_\_\_

To how many emergency calls does your department/agency respond per year? \_\_\_\_\_

Does your department/agency perform Emergency Medical Services?

- If yes, would you say that you attend more medical or more fire calls? Check one.

**Medical Calls**

**Fire Calls**

- How many of the following job categories does your department/agency currently have on its roster?

	No EMS Role	Emergency Medical Responders	Emergency Medical Technicians	Advanced Emergency Medical Technicians	Paramedics
Volunteer Firefighters					
Call Firefighters					
Part-Time Firefighters					
Full-Time Firefighters					
Line Officer / Company Officers					
Chief Officers					

- How many square miles are in the district in which you serve? \_\_\_\_\_
- What is the population of the district you serve? \_\_\_\_\_
- Does your department/agency require attendance in an internal training program for new members (e.g. recruit school, probationary firefighter program, etc.?)  Yes  No
- How frequently is training held within engine companies versus within the department/agency? \_\_\_\_\_

## Appendix B: Qualitative Interview Questions

**Qualitative Interview Questions**

- Does your department/agency have standard operating guidelines and procedures (SOG/SOP) for on-the-job injuries? If so, do you know what it says? Have you ever seen it used?
- Does your department/agency have a psychology/mental health-related SOG/SOP? If so, do you know what it says? Have you ever seen it used? If yes, please describe how it has been used.

**Job-Related Stress**

- What forms of stress do you experience in your job as a [firefighter, fire officer]?

*Follow-Up Questions:*

- How would you rate the intensity of these stresses (on a scale of 1-10)?
- In what contexts do these stressors occur?
- How often do you experience these stresses?

*Follow-Up Questions:*

- Which of these would you say is the most common/frequent (e.g., almost daily)?
- What is your job's most common stressor (e.g. almost daily)?
- What kind of job stresses have you found to be the most difficult for you (rated from 1-10)? Why do you think this is the most difficult?
- How do the stresses of your job affect your job satisfaction?
- Probe: If yes, has the stress you've experienced as a firefighter ever made you consider leaving the fire service?

**Stress Coping Strategies**

- What strategies have you learned in order to cope with your job stresses?

*Follow-Up Questions:*

- Which strategies have you been using to cope with the stresses of your job?
- What kinds of stresses do these strategies target?
- How successful do you think your strategies have been? (1 to 7 Likert scale)
- When did you typically use these strategies?
  - Probe: before, during, or after stressful event?

**Department/Agency-Related Questions**

- Are there aspects of your department/agency that make you feel stressed? If yes, what are these stresses?
- Does your department/agency offer to help firefighters to cope with stresses?

*Follow-Up Questions:*

- Has your department/agency ever offered formal stress management training?
  - If yes, please describe.
  - If yes, what have you found helpful about these trainings?

- What areas could be improved in these trainings?
- Has your department/agency ever offered formal mental health training?
  - If yes, please describe.
  - Have you ever seen this training implemented / used in any way?
- In your firefighting education (school, academy, college, etc.) did you ever receive any formal mental health related training?
  - If yes, please describe.
- Are there things that get in the way of coping with these stressors? What are these?
  - Probe: Is it your fire department/agency that makes it harder for you to cope with stress? If yes, how so?
- What would you do if a fellow firefighter in your department/agency seemed to be experiencing a mental health-related issue?
- Does your department/agency have on-going physical fitness requirements / standards? What are these?

**Officer-Specific Specific Questions**

- What would you do if you believed one of your firefighters were experiencing a mental health issue?
- What do you consider the most severe kinds of stresses endured by your firefighters?
- If your agency/department provides stress management training, are these stresses included in the training curricula?
- How can stress management training be improved in your agency/department?

**Additional Questions**

- What (else) would be useful for me to know in order to develop a useful stress management program for firefighters?

## Appendix C: Chief Officer Consent Form for Participants in a Research Study

**CHIEF OFFICER  
CONSENT FORM FOR PARTICIPATION IN A RESEARCH STUDY**

This informed consent form is for chief officers, who are asked to participate in a research project titled, *Proactive Stress Management for Firefighters*.

**Name of Principal Investigator:** Amanda Mead, M.S., Doctoral Candidate

**Name of Organization:** Antioch University, Psy.D. in Clinical Psychology

**Name of Project:** Dissertation entitled: *Proactive Stress Management for Firefighters*

**Introduction:** I am Amanda Mead, Doctoral Candidate in Clinical Psychology at Antioch University New England. As part of my graduate program, I am completing a project that will influence the creation of a proactive stress management program for firefighters. I want to base the design of this program on fire officers' and firefighters' experiences at work. I am going to give you information about the study and invite you to be part of this research. You may talk to anyone you feel comfortable talking with about the research, and take time to think about if you want to participate or not. You may ask questions at any time.

**Purpose of this research:** The purpose of this study is to understand (a) stress that firefighters face, (b) which stressors are hard to handle (c) what firefighters do to handle stress (d) what fire officers and firefighters (in New Hampshire and Arizona) think is important for training. Your ideas will be used to help with creating a stress management program for firefighters.

**Participants' involvement:** This research asks you to participate in an interview about (a) your experiences as a firefighter; (b) different stress you have had as a chief officer; (c) stress you have seen among your firefighters; (d) stress that you and your firefighters have a hard time managing; (e) ways you and the firefighters manage this stress; and (f) what you think would be needed in a training program to help firefighters better handle stress.

You are free to skip any of the questions. The interview is no longer than 60 minutes, and you will be given information about the study at the end. Each of these interviews will be tape-recorded, but only for research purposes. The information you give will not have your name or other personal information on it when the research is finished (see "Confidentiality" below). To protect others from official work-related pressure to participate, please do not ask any of your staff if they have chosen to take part in this research.

**Voluntary participation:** Taking part in this study is optional. Your choice to participate and the information you give in the interview will not be used against you. Your participation is confidential, so your job cannot be affected whether or not you participate. You are free to stop participating in this study at any time, even after the interview is finished. If this happens, the information you have given will not be used in the research study and will be destroyed.

**Risks:** No study is completely free from risk. I do not expect that you will experience harm or stress during this study. I will not ask you to talk about specific stressful events you could have

experienced. It is possible that general conversation about stressful experiences could be upsetting. You can stop being in the study at any time. If you experience any stress because of your participation, I will make every effort to guarantee that participants have an appropriate source for emotional support. I will provide you with a list of mental health resources should you or participants experience distress. There are no physical risks involved in participation in this study.

**Benefits:** There is no direct benefit to you, but your participation may help others in the future. Your participation will help the creation of a stress management program for firefighters to be used across the country. Your participation will directly impact the creation of this program. Participants may find participation and discussion in this study to be personally beneficial.

**Confidentiality:** All information I collect during this research will be de-identified and tagged with an ID code, and kept in a locked location. It cannot be connected back to you. No names of any kind will appear in the write-up of this project, and only the primary researcher will have access to the list connecting your name to the ID code. This list will be kept in a different, secure, locked location. Audiotapes will be destroyed at the end of this study.

**Whom to contact if you have questions about this study:** If you have questions about this study, the research being conducted, or the program being developed, you can contact Amanda Mead at \_\_\_\_\_

If you have questions about your rights as a research participant, you can contact Kevin Lyness from Antioch's Institutional Review Board or Barbara Andrews, the Interim Provost of Antioch University New England. Dr. Kevin Lyness can be contacted by email at \_\_\_\_\_ or \_\_\_\_\_. Dr. Barbara Andrews, Ph.D. can be contacted by email at \_\_\_\_\_ or phone at \_\_\_\_\_.

**Your Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Print Your Name:** \_\_\_\_\_

**Principal Investigator** (Amanda Mead, M.S.): \_\_\_\_\_

*You will be given a copy of the full Informed Consent Form*

## Appendix D: Fire Officer/Firefighter Consent Form for Participation in a Research Study

**FIRE OFFICER / FIREFIGHTER  
CONSENT FORM FOR PARTICIPATION IN A RESEARCH STUDY**

This informed consent form is for fire officers and firefighters whom we are inviting to participate in a research project titled, *Proactive Stress Management for Firefighters*.

**Name of Principal Investigator:** Amanda Mead, M.S., Doctoral Candidate

**Name of Organization:** Antioch University, Psy.D. in Clinical Psychology

**Name of Project:** Dissertation entitled: *Proactive Stress Management for Firefighters*

**Introduction:** I am Amanda Mead, Doctoral Candidate in Clinical Psychology at Antioch University New England. As part of my graduate program, I am completing a project that will influence the creation of a proactive stress management program for firefighters. I want to base the design of this program on fire officers' and firefighters' experiences at work. I am going to give you information about the study and invite you to be part of this research. You may talk to anyone you feel comfortable talking with about the research, and take time to think about if you want to participate or not. You may ask questions at any time.

**Purpose of this research:** The purpose of this study is to understand (a) stress that firefighters face, (b) which stressors are hard to handle (c) what firefighters do to handle stress (d) what fire officers and firefighters (in New Hampshire and Arizona) think is important for training. Your ideas will be used to help with creating a stress management program for firefighters.

**Participants' involvement:** This research asks you to participate in an interview about (a) your experiences as a firefighter/fire officer; (b) stress you have seen among your firefighters; (c) stress that you and your firefighters have a hard time managing; (d) ways you and the firefighters manage this stress; and (e) what you think would be needed in a training program to help firefighters better handle stress.

You are free to skip any of the questions. The interview is no longer than 60 minutes, and you will be given information about the study at the end. Each of these interviews will be tape-recorded, but only for research purposes. The information you give will not have your name or other personal information on it when the research is finished (see "Confidentiality" below).

**Voluntary participation:** Taking part in this study is optional. Your choice to participate and the information you give in the interview will not be used against you. Your participation is confidential, so your job cannot be affected whether or not you participate. You are free to stop participating in this study at any time, even after the interview is finished. If this happens, the information you have given will not be used in the research study and will be destroyed.

**Risks:** No study is completely free from risk. I do not expect that you will experience harm or stress during this study. I will not ask you to talk about specific stressful events you could have experienced. It is possible that general conversation about stressful experiences could be upsetting. You can stop being in the study at any time. If you experience any stress because of

your participation, I will make every effort to guarantee that participants have an appropriate source for emotional support. I will provide you with a list of mental health resources should you or participants experience distress. There are no physical risks involved in participation in this study.

**Benefits:** There is no direct benefit to you, but your participation may help others in the future. Your participation will help the creation of a stress management program for firefighters to be used across the country. Your participation will directly impact the creation of this program. Participants may find participation and discussion in this study to be personally beneficial.

**Confidentiality:** All information I collect during this research will be de-identified and tagged with an ID code, and kept in a locked location. It cannot be connected back to you. No names of any kind will appear in the write-up of this project, and only the primary researcher will have access to the list connecting your name to the ID code. This list will be kept in a different, secure, locked location. Audiotapes will be destroyed at the end of this study.

**Whom to contact if you have questions about this study:** If you have questions about this study, the research being conducted, or the program being developed, you can contact Amanda Mead at \_\_\_\_\_

If you have questions about your rights as a research participant, you can contact Kevin Lyness from Antioch's Institutional Review Board or Barbara Andrews, the Interim Provost of Antioch University New England. Dr. Kevin Lyness can be contacted by email at \_\_\_\_\_ or \_\_\_\_\_. Dr. Barbara Andrews, Ph.D. can be contacted by email at \_\_\_\_\_ or phone at \_\_\_\_\_.

**Your Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Print Your Name:** \_\_\_\_\_

**Principal Investigator (Amanda Mead, M.S.):** \_\_\_\_\_

*You will be given a copy of the full Informed Consent Form*

## Appendix E: Waiver of Informed Consent Documentation

**WAIVER OF INFORMED CONSENT DOCUMENTATION**

The principal investigator of *Proactive Stress Management for Firefighters* is requesting a waiver of informed consent documentation for all participants of this research. This is due to the research presenting no more than minimal risk of harm to participants and involves no procedures for which written consent is normally required outside of the research context. By allowing participants to complete consent electronically, this will provide an ample amount of time to consider whether they wish to partake in the study, at their own convenience, and in private. This will minimize the possibility of coercion and undue influence. This research instead will utilize electronic signatures, as would be utilized in the use of a survey. The utilization of an electronic consent form and obtaining electronic signatures is due to the challenges posed geographically, as the principal investigator is unable to collect physical copies of informed consent. This is also due to ensuring participation in research in the State of New Hampshire, without imposing a burden on the participant in signing and returning documentation of his/her signature. Obtaining electronic signatures would also not delay the data collection process. The following copy of electronic informed consent is in Appendix F of the IRB Application Document. In the event that participants are unable or unwilling to provide electronic consent, they will be provided with a paper copy of the consent form to complete.

## Appendix F: Fire Officer/Firefighter Online Consent Form for Participation

**FIRE OFFICER / FIREFIGHTER  
ONLINE CONSENT FORM FOR PARTICIPATION**

Dear Participant,

The research conducted in this study is for fire officers and firefighters who are being invited to participate in a research project titled, *Proactive Stress Management for Firefighters*.

I am Amanda Mead, Doctoral Candidate in Clinical Psychology at Antioch University New England. As part of my graduate program, I am completing a project that will influence the creation of a proactive stress management program for firefighters. I want to base the design of this program on fire officers' and firefighters' experiences at work. I am going to give you information about the study and invite you to be part of this research. You may talk to anyone you feel comfortable talking with about the research, and take time to think about if you want to participate or not. You may ask questions at any time.

The purpose of this study is to understand (a) stress that firefighters face, (b) which stressors are hard to handle (c) what firefighters do to handle stress (d) what fire officers and firefighters (in New Hampshire and Arizona) think is important for training. Your ideas will be used to help with creating a stress management program for firefighters.

This research asks you to participate in an interview about (a) your experiences as a firefighter; (b) different stress you have had as a chief officer; (c) stress you have seen among your firefighters; (d) stress that you and your firefighters have a hard time managing; (e) ways you and the firefighters manage this stress; and (f) what you think would be needed in a training program to help firefighters better handle stress.

You are free to skip any of the questions. The interview is no longer than 60 minutes, and you will be given information about the study at the end. Each of these interviews will be tape-recorded, but only for research purposes. The information you give will not have your name or other personal information on it when the research is finished (see "Confidentiality" below).

Taking part in this study is optional. Your choice to participate and the information you give in the interview will not be used against you. Your participation is confidential, so your job cannot be affected whether or not you participate. You are free to stop participating in this study at any time, even after the interview is finished. If this happens, the information you have given will not be used in the research study and will be destroyed.

No study is completely free from risk. I do not expect that you will experience harm or stress during this study. I will not ask you to talk about specific stressful events you could have experienced. It is possible that general conversation about stressful experiences could be upsetting. You can stop being in the study at any time. If you experience any stress because of your participation, I will make every effort to guarantee that participants have an appropriate source for emotional support. I will provide you with a list of mental health resources should you

or participants experience distress. There are no physical risks involved in participation in this study.

There is no direct benefit to you, but your participation may help others in the future. Your participation will help the creation of a stress management program for firefighters to be used across the country. Your participation will directly impact the creation of this program. Participants may find participation and discussion in this study to be personally beneficial.

All information I collect during this research will be de-identified and tagged with an ID code, and kept in a locked location. It cannot be connected back to you. No names of any kind will appear in the write-up of this project, and only the primary researcher will have access to the list connecting your name to the ID code. This list will be kept in a different, secure, locked location. Audiotapes will be destroyed at the end of this study.

If you have questions about this study, the research being conducted, or the program being developed, you can contact Amanda Mead at \_\_\_\_\_

If you have questions about your rights as a research participant, you can contact Kevin Lyness from Antioch's Institutional Review Board or Barbara Andrews, the Interim Provost of Antioch University New England. Dr. Kevin Lyness can be contacted by email at \_\_\_\_\_ or \_\_\_\_\_. Dr. Barbara Andrews, Ph.D. can be contacted by email at \_\_\_\_\_ or phone at \_\_\_\_\_.

If you indicate your willingness below to participate in this research and provide your contact information to be contacted, it means you have read (or have had read to you) the information contained in this letter, and would like to be a volunteer in this research study. By indicating my willingness to participate and contact information below, I am providing implied consent to participate in this study.

Thank you,  
Amanda Mead, M.S. (Principal Investigator)

## Appendix G: Mental Health Resources for New Hampshire

**Mental Health Resources for New Hampshire****Community Resources**

- NAMI NH
  - Information and Resources Line:
    - [www.naminh.org/](http://www.naminh.org/)
    - For information about resources for mental health support and providers
  - Information about support groups in NH:
    - <http://www.naminh.org/find-support/support-groups/>
- Riverbend Psychiatric Emergency Services
  - 24-Hour Crisis Line,
  - 24-hour emergency evaluation and crisis intervention
  - Short-term crisis stabilization
  - Referral for outpatient mental health services
  - Based in Concord, NH

**Crisis Lines**

- 24/7 Firefighter & Family Crisis and Support Line
- Safe Call Now
  - A 24/7 help line staffed by first responders for first responders and their family members
  - Can assist with treatment options for responders suffering from mental health, substance abuse, etc.
- National Suicide Prevention Lifeline
  - Free, confidential support for people in distress, prevention and crisis resources for loved ones
- Veteran's Crisis Line
  - For veterans and their loved ones
  - <https://www.veteranscrisisline.net>, click on "confidential veteran's chat"
- Crisis Text Line
  - Text from anywhere in the US to text with a trained Crisis Counselor for 24/7 support
- Trans Lifeline
  - Call for a hotline staffed by transgender people.
- Disaster Distress Helpline
  - 24/7 national hotline dedicated to providing immediate crisis counseling for people experiencing an emotional distress related to any natural or human-caused disaster

**Peer Support**

- [www.naminh.org/](http://www.naminh.org/)
  - Find Support > Support Groups > Peer Support
  - Support centers and groups for adults across NH
- NAMI Connection

- A recovery support group exclusively for those who experience mental health problems
- Led by trained facilitators
- Groups in Dover, NH
  - Wentworth-Douglas Hospital, Dover NH
  - Contact:
- Group in Lebanon
  - Dartmouth Hitchcock Medical Center, Lebanon, NH
  - Contact:
- Group in Nashua
  - John Mason Institute, Nashua NH
  - Contact:
- Group in Portsmouth
  - Seacoast Mental Health, Portsmouth, NH
  - Contact:
- Note: Concord and Manchester Groups are currently closed

## Appendix H: Mental Health Resources for Arizona

**Mental Health Resources for Arizona****Community Resources**

- NAMI Arizona
  - [www.namiaz.com](http://www.namiaz.com)
- NAMI Southern Arizona (Pima County)
  - [www.namisa.org](http://www.namisa.org)
  - Community-wide Crisis Line:
- NAMI Valley of Sun (Maricopa County)
  - Office (non-crisis):
  - <https://namivalleyofthesun.org/>

**Crisis Lines / Text Lines**

- 24/7 Firefighter & Family Crisis and Support Line:
- Safe Call Now:
  - A 24/7 help line staffed by first responders for first responders and their family members
  - Can assist with treatment options for responders suffering from mental health, substance abuse, etc.
- Behavioral Health Crisis Line (Maricopa County)
  - Maricopa Crisis Line:
  - Hearing Impaired Crisis:
- Behavioral Health Crisis Line (Pima County)
- EMERGE Crisis Line:
  - Domestic Violence/Sexual Assault
- National Suicide Prevention Lifeline:
  - Free, confidential support for people in distress, prevention and crisis resources for loved ones
- Veteran's Crisis Line:
  - For veterans and their loved ones
  - <https://www.veteranscrisisline.net>, click on "confidential veteran's chat"
  - Send a text message to receive support 24 hours a day, 7 days a week, 365 days a year.
- Crisis Text Line
  - Text from anywhere in the US to text with a trained Crisis Counselor for 24/7 support
- Trans Lifeline:
  - Call for a hotline staffed by transgender people.
- Disaster Distress Helpline:
  - 24/7 national hotline dedicated to providing immediate crisis counseling for people experiencing an emotional distress related to any natural or human-caused disaster
- Call and ask for a CIT (Crisis Intervention Trained) officer who is equipped in handling a mental health crisis or ask for the MAC (Mobile Acute Crisis) Team

### **Non-Emergency Support**

#### **Pima County**

- Peer recovery, non-emergency support by Hope, Inc.
- 24/7, 365 days a year support

### **Crisis Facilities**

#### **Pima County**

- Walk-ins available 24 hours a day, 7 days a week at:
- Banner University Medical Center:
- Sonora Behavioral Health (Northwest Hospital):
- St. Joseph's Hospital:
- St. Mary's Hospital Behavioral Health:
- Veteran's Affairs Medical Center:

#### **Maricopa County**

- The Urgent Psychiatric Care Center (UPC)

### **Support Groups**

#### **Pima County**

- NAMI Connection
  - Hope Inc
- Conexión NAMI (en español)
  - Iglesia San Juan, Salon #2
- Creative Expressions Group
  - Joel D. Valdez Main Library

#### **Maricopa County**

- NAMI Connection
  - Southwest Network Saguaro Clinic

### **Online Resource for Mental Health Treatment**

- [www.codegreencampaign.org/resources](http://www.codegreencampaign.org/resources)
- State-specific Licensed Resources for Mental Health Treatment

## Appendix I: Tables

Table 1

*Summary of Frequencies of Fire Service Positions Held and Ranges*

	Volunteer	Call	Part-Time	Full-Time
Probationary Firefighter	1 ( <i>1 year</i> )	5 ( <i>1 year</i> )	2 ( <i>1 year</i> )	9 ( <i>1-1.5 years</i> )
Firefighter	2 ( <i>1-6 years</i> )	5 ( <i>3 – 17 years</i> )	2 ( <i>10 – 16 years</i> )	10 ( <i>1 – 14 years</i> )
Engineer	0	1 ( <i>15 years</i> )	0	3 ( <i>3-14 years</i> )
Line Officer	0	2 ( <i>6-10 years</i> )	1 ( <i>6 years</i> )	7 ( <i>1 – 20 years</i> )
Chief Officer	0	0	0	2 ( <i>1-10 years</i> )

Table 2

*Frequency of EMS Positions Held and Ranges*

	Volunteer	Call	Part-time	Full-time
EMR	0	1	1	1
EMT	2 (2-4 years)	3 (3-16 years)	2 (2-4 years)	10 (0.5-24 years)
A-EMT	0	3 (4-12 years)	1	4 (2-14 years)
Paramedic	0	0	1	5 (1-30 years)

Table 3

*Firefighting Titles on Roster by Frequency and Range*

	Volunteer	Call	Part-Time	Full-Time
Probationary Firefighter	0	1 (4 on roster)	0	4 (4-150 on roster)
Firefighter	0	5 (11-30 on roster)	1 (2 on roster)	7 (2-1500 on roster)
Non-firefighting EMS	1 (9 on roster)	1 (2 on roster)	0	1 (14 on roster)
Engineer	0	2 (7-8 on roster)	0	0
Line Officer	0	4 (1-5 on roster)	1 (2 on roster)	6 (1-40 on roster)
Chief Officer	0	4 (1 on roster)	1 (1 on roster)	6 (1-6 on roster)

Table 4

*EMS Titles on Roster by Frequency and Range*

	Volunteer	Call	Part-time	Full-time
EMR	0	1 (5 on roster)	0	1 (500 on roster)
EMT	0	5 (6-10 on roster)	0	4 (2-500 on roster)
A-EMT	0	5 (2-12 on roster)	0	0
Paramedic	0	2 (1-2 on roster)	1 (1 on roster)	7 (1-500 on roster)
Registered Nurse	0	0	0	0
Physician's Assistant	0	1 (1 on roster)	0	0

Table 5

*Frequency of Firefighting Rank*

Firefighting Rank	Frequency
Probationary Firefighter	0
Firefighter	5
Engineer	1
Line Officer (Captain, etc.)	5
Chief Officer	2

Table 6

*Frequency of Marital Status*

Marital Status	Frequency
Single	2
Engaged	1
Married	8
Divorced	2

Table 7

*Years in the Fire Service*

Participant	Years in Fire Service
01	6
02	17
03	32
04	15
05	32
06	18
07	11
08	12
09	24
10	8
11	17
12	12
13	7

Range: 6 – 32

$M=16.23$  years

New Hampshire  $M=12.6$  years

Arizona  $M=19.57$  years

Table 8

*Cross-training*

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Cross-training in Fire and EMS	Frequency
Yes	13
No	0

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Table 9

*Types of Cross-training*

Type of Training	Frequency
Firefighter I	0
Firefighter II	7
Firefighter III	6
EMT	5
A-EMT	3
Paramedic	4

Table 10

*Level of Fire-related Education*

Level of Fire-related Education	Frequency
Some college	2
Associates degree	7
Bachelor's degree	2
Master's degree	2

Table 11

*Military Experience*

Military Experience	Frequency
Yes (Army, Navy)	2
No	11

Table 12

*Law Enforcement*

Law Enforcement Experience	Frequency
Yes (law enforcement, dispatch)	2
No	10

Table 13

*Working for Other Departments or Agencies*

Worked for Other Departments or Agencies	Frequency
Yes	8
No	5

N=8 work or have worked for other departments or agencies

N=7 Participants from New Hampshire, N=1 Participants from Arizona

M=2.16 average agencies currently working for and/or have worked

Table 14

*Responses about Other Departments or Agencies*

Participant	Response
01	“3 past”
04	“3 past”
06	“1 past, 1 additional agency + current department”
09	“2 past”
10	“1 past”
11	“I have worked for other agencies as well yes.” (did not specify)
12	“1 other department currently, 3 past”
13	“2 past”

$M=2.14$  past departments

$N=2$  work for 1 other department

$N=7$  from New Hampshire

Table 15

*Emergency Calls Department/Agency Responds to Per Year*

Participant	Response
01	“Around 2000”
02	“300,000 to 400,000”
03	“250,000 to 300,000”
04	“About 500”
05	“Well over 400,000”
06	“My department runs 1900”
07	“I wanna say 250,000+”
08	“the whole department? About 400,000+”
09	“I think we’re somewhere around 13,000 last year. 14,000, I checked.”
10	“I don’t even think I could give a good estimate off the top of my head right now... a lot, I don’t know.”
11	“800 calls a year”
12	“4800 roughly”
13	“[department] 1700 and some change and [department] does about 500”

Range: 500 – 400,000 calls per year

New Hampshire  $M=3,275$  calls per year

Arizona  $M=335,000$  calls per year

Table 16

*Agencies Performing Emergency Medical Services*

<u>Emergency Medical Services Response</u>	<u>Frequency</u>
Yes	13
No	0

Table 17

*Attendance of More Medical or Fire Calls*

<u>Fire or Medical Calls Response</u>	<u>Frequency</u>
More Fire Calls	2
More Medical Calls	11

\*For the N=2 that reported they attended more fire calls, N=1 from New Hampshire and N=1 from Arizona

Table 18

*Square Miles in the District Served*

Participant	Response
01	29 square miles
02	10 square miles
03	540 square miles
04	2 square miles
05	530 square miles
06	41 square miles
07	519.4 square miles
08	1600 square miles
09	23.6 miles
10	“I don’t off the top of my head”
11	27 square miles
12	26.2 square miles
13	24 square miles for [department] 20 for [other department]

New Hampshire  $M=26.97$  square miles, range: 20 – 41 square miles

Arizona  $M=639.8$  square miles, range: 10-1600 square miles

Total  $M=260.94$

Table 19

*Population of Town Served*

Participant	Response
01	“9,000”
02	“unfortunately, I don’t.”
03	“about 3,000,000”
04	“about 4,000, maybe a little more”
05	“1,500,000 people”
06	“roughly 9500”
07	“1,615,000”
08	“about 5,000,000”
09	“90,000”
10	“not off the top of my head”
11	“5,500”
12	“uh, 16,000”
13	“[department] 8-9,000 or [other department] around 3,000”

New Hampshire: Range 3000-90000,  $M=18,250$

Arizona: Range 1,500,000 – 5,000,000,  $M=2,778,750$

$M=938,375$ , Range 3,000 – 5,000,000

Table 20

*Summary of Frequencies of Fire Service Positions Held and Ranges*

	Volunteer	Call	Part-Time	Full-Time
Probationary Firefighter	1 (1 year)	5 (1 year)	2 (1 year)	9 (1-1.5 years)
Firefighter	2 (1-6 years)	5 (3 – 17 years)	2 (10 – 16 years)	10 (1 – 14 years)
Engineer	0	1 (15 years)	0	3 (3-14 years)
Line Officer	0	2 (6-10 years)	1 (6 years)	7 (1 – 20 years)
Chief Officer	0	0	0	2 (1-10 years)

Table 21

*Frequency of EMS Positions Held and Ranges*

	Volunteer	Call	Part-time	Full-time
EMR	0	1	1	1
EMT	2 (2-4 years)	3 (3-16 years)	2 (2-4 years)	10 (0.5-24 years)
A-EMT	0	3 (4-12 years)	1	4 (2-14 years)
Paramedic	0	0	1	5 (1-30 years)

Table 22

*Firefighting Titles on Roster by Frequency and Range*

	Volunteer	Call	Part-Time	Full-Time
Probationary Firefighter	0	1 (4 on roster)	0	4 (4-150 on roster)
Firefighter	0	5 (11-30 on roster)	1 (2 on roster)	7 (2-1500 on roster)
Non-firefighting EMS	1 (9 on roster)	1 (2 on roster)	0	1 (14 on roster)
Engineer	0	2 (7-8 on roster)	0	0
Line Officer	0	4 (1-5 on roster)	1 (2 on roster)	6 (1-40 on roster)
Chief Officer	0	4 (1 on roster)	1 (1 on roster)	6 (1-6 on roster)

Table 23

*EMS Titles on Roster by Frequency and Range*

	Volunteer	Call	Part-time	Full-time
EMR	0	1 (5 on roster)	0	1 (500 on roster)
EMT	0	5 (6-10 on roster)	0	4 (2-500 on roster)
A-EMT	0	5 (2-12 on roster)	0	0
Paramedic	0	2 (1-2 on roster)	1 (1 on roster)	7 (1-500 on roster)
Registered Nurse	0	0	0	0
Physician's Assistant	0	1 (1 on roster)	0	0

Table 24

*Required Attendance in an Internal Training Program for New Members*

<u>Internal Training Program</u>	<u>Frequency</u>
No	2
Yes	11

Table 25

*Forms of Stress Experienced in Your Job*

Forms of Stress Codes	Responses
On-the-scene Stressors	<p>01 – “I'd say the traumatic experiences you're seeing and dealing with immediately. You don't really have time adjust and the duration factor plays into it. Going from zero to hero in a couple minutes and that's a tough thing to adjust to. You can't give 100 % to the entire situation and some things have to give. I think that's where compassion fatigue plays a role.”</p> <p>01 – “Duration, the fact that you are constantly moving for a 24 hour period. Our department is pretty strapped for resources so it’s not like we really get a break (in terms of the amount of people we have)”</p> <p>01 – “We work 24 hours on 2 days of, 24 on, 4 days off.”</p> <p>01 – “The duration is the stress I’m under in the sense of stress.”</p> <p>01 – “The stress at a scene, that never changes. That’s that sudden exposure and you're exposed to it for a short time.”</p> <p>01 – “Physical fitness is another one. I think because we're all moving, but most of us outside of work (I was just leaving the gym when you called). We all try hard to stay in shape so our physical abilities are not a factor. Doesn't know how many pushups I do, I'll still get tired. but, being in a building, there's a lot that go into it. We don't like being warm. Going into a burning building where it's past warm, just friggin' hot.”</p> <p>01 – “I think that gets to the point where compassion fatigue towards yourself you shut down certain areas you used to care about. Your back hurts or you gotta get stuff done.”</p> <p>01 – “On the scene stressors - just depending on what the call is. Medical calls can be stressful. You're working walking into someone's worst day of life. You're asking a total stranger to fix their problems. That's a big part of their life on your plate that you have to deal with.”</p>
On-the-scene Stressors	<p>09 – “Phew. That's hard to say. I think it's... um. The stress I get on the calls. Just the going and getting there and making sure everyone gets there safely. Then what you deal with at the incident. Like medicals, what they go through and what you end up seeing. The day to day stuff that goes on at the fire house you need to take care. The problem solver stresses. I think another one people don't think about a whole lot is getting up in the middle night multiple times. at the fire house, at work, not at home. I live an hour away from home. If something happens here, something’s broken, and not being able to be there to help. If i was at home, it would be easy to take care of. Hard to explain when she's worked up over something being broken. Can taking an hour, for me that's not</p>

- a roundtrip. An extra stressor to square something away. it definitely stresses me out. "we don't have any water" — home stress"
- On-the-scene Stressors 12 – “Physical stress, emotional stress, um... both kind of vague. Hard to narrow down. There are quite a bit of different forms we encounter every day. Physical stressors - lifting heavy objects, cardiovascular stress based on certain types of incidents - brush fire or structural fire, being in the gear with having extra weight added with breathing apparatus, doing a physically demanding job. Emotional stress - more just on the EMS side of it, seeing different situations with people being sick or injured and the toll that takes on their family members. [Interviewer: As a result, does it take a toll on you?] Yeah absolutely.”
- On-the-scene Stressors 02 – “Critical calls, high stress calls that involve kids... um... child abuse,”
- On-the-scene Stressors 06 – “Uh, that's a hard question to answer. Stress of just responding to unknown emergencies. Stress of getting every day work done, stores, equip checks, whatever other responsibilities we have. [Interviewer: Anything else you can think of?] Sometimes you get disgruntled customers. People on a call that maybe aren't happy with you or happy generally. As a supervisor, there is also the stress of employees that are stressed, acting out, or having their own trouble.”
- On-the-scene Stressors 08 – “Uh... like sometimes physical like calls you have and summer/fire, sometimes mental with a diff call, or someone has an issue in station, up late night because of long schedule.”
- On-the-scene Stressors 11 – “Um... wow. I guess it would be job, job-related stress. don't know how to describe it aside from that. Trying to accomplish life safety, property conservation, and um, extinguishing the fire. Not so much the fire side, but the EMS side - the hardest thing usually is sick or injured or dead children. I had a few of those and since we're in a smaller community, we tend to know a lot of people we deal with. I've had friends killed in accidents I've been on call for.”
- Mental/Emotional Stress 01 – “There's a certain timeframe to that life support being available.”
- 01 – “Their problems. That's a big part of their life on your plate that you have to deal with. It's ... anyone who's not nervous going into a burning building is not safe. I'm an adrenaline junkie. When we get toned for a building fire, I get pretty excited. You also have to think in the back of your head that someone's house is being destroyed right now. constantly

- fitting in back on your head. At the same time, your... people die in burning buildings. A firefighter going into a burning building. You're going into something you're not supposed to go into. That's a little scary. That's a stress. Sometimes you can't always help. We're not a final solution. Some houses and people we just can't save. Unfortunately sometimes you have to stand by and just watch. And if you can't fix it you feel like you've failed."
- 01 – "Stressors being in the building? A personal thing of mine. Being familiar with your gear. I used to be terrified of being in an air pack. Department recognized it and helped me work through it. I'm probably one of the better people to be working on the SCBA. I help other people work through being in an air pack. It's a very weird feeling."
- 01 – "It's also a lot of ... its loud being in a building. you hear yourself breathing fast. Then you know you need to breath slower but you can't. That all compounds."
- Mental/Emotional Stress 12 – "Emotional stress - more just on the EMS side of it, seeing different situations with people being sick or injured and the toll that takes on their family members. [Interviewer: As a result, does it take a toll on you?] Yeah absolutely."
- Mental/Emotional Stress 13 – "Um... I don't know. It's hard as I enjoy my work. Lack of sleep overall work/personal life), used to have anxiety for certain things. Confined spaces used to bother me but I worked on that a lot. Incident in the past where you had - someone went to find their dog and found deceased in the woods. Night terrors for a while (about a week). Looked in obituary. Went away on their own. Impacted sleep. Prone to getting them. Childhood night terrors."
- 13 – "Um... if I'm working a lot of extra shifts, with child and extra job, I feel bad when I come home and am tired/wife's tired, every now and then i get claustrophobia. Training maze for the state, when I'm the leader, Its fine, when I'm not, head gets to me. Talk to self and calm self down and reduced anxiety. Experienced it before"
- Compassion Fatigue/Tiring from Stress 01 – "But you do eventually start to feel like you're instigating the problem of reviving the same person over and over"
- 01 – "I'd say the traumatic experiences you're seeing and dealing with immediately. You don't really have time adjust and the duration factor plays into it. Going from zero to hero in a couple minutes and that's a tough thing to adjust to. You can't give 100 % to the entire situation and some things have to give. I think that's where compassion fatigue plays a role."

- 01 – “He was getting more effected by us who had been doing it for the past year. Vacation is definitely a good thing. The compassion fatigue. ”
- 01 – “I think we were just talking about this the other day. (compassion fatigue) Same guys watching calls for years and years. They've woken up the same guy for years and years. It gets tiring”
- 01 – “One example - cleaning out windows in this house at a structure fire. Smashing the windows with an ax. Didn't need to be destroyed, and now racking up bill. Making our job easier rather than opening it. Those are things were you start to get fatigued towards caring about certain things. When you're working inside or anywhere.”
- 01 – “I think that gets to the point where compassion fatigue towards yourself. You shut down certain areas you used to care about. Your back hurts or you gotta get stuff done.”
- Compassion Fatigue/Tiring from Stress 05 – “I mean, you see dead people for 32 years it won't have an impact on you. So if you don't have healthy coping mechanisms you will develop unhealthy coping mechanisms. That is usually leads people down an unhealthy path and leads them to accessing those services like we just got done talking about. Um, i think you get to a point in 32 years, you get really tired of seeing people sick and injured. Not that you don't want to help them, but sort of the starfish story. You can't save 'em all and they keep coming. That's why in the beginning of your career, its incident. You think you'll never get to that point and further in your career, you get tired of seeing people get sick and injured. Your bucket gets empty and if you don't fill it with family, religion, etc., it'll give you cancer.”
- Political and Management Stress 04 - “As a firefighter previously as a lower level officer or firefighter, was just doing the right thing. Making sure you didn't get someone hurt. I don't know.”
- 04 – “Dude, right now, so political. Political stress would be the hardest stress I deal with at this point”
- Political and Management Stress 03 – “Oh, um... you know, you worry about your kids, your men, keep them safe on fires. but those are incidents I'm on. You worry about calls you're not on. Medical calls that turn into violent incidents.”
- Political and Management Stress 09 – “Phew. That's hard to say. I think it's... um. The stress I get on the calls. Just the going and getting there and making sure everyone gets there safely. Then what you deal with at the incident. Like medicals, what they go through and what you end up seeing. The day to day stuff that goes on at the fire house you need to take care. The problem solver stresses. I

Political and Management Stress	<p>think another one people don't think about a whole lot is getting up in the middle night multiple times. at the fire house, at work, not at home.”</p> <p>06 – “Uh, that's a hard question to answer. Stress of just responding to unknown emergencies. Stress of getting every day work done, stores, equip checks, whatever other responsibilities we have. Anything else you can think of? Sometimes you get disgruntled customers. [Interviewer: People on a call that maybe aren't happy with you or happy generally?] Correct, as a supervisor, there is also the stress of employees that are stressed, acting out, or having their own trouble.”</p>
Home/Family/Relationship Stress	<p>01 – “Then there's the stress of work too. People some have poor home life. So I don't bring it to work, but some people have stresses at home. Very compounding. Directly at work.”</p> <p>01 – “Or the home life. Going home and trying to talk about something stressful (family member stressed at homework/copier), hard to be empathic. I think it's about that compassion fatigue also.”</p>
Home/Family/Relationship Stress	<p>05 – “A stressor to a lot our guys is that you can't manage your family the way you do your business. A lot of guys have a hard time separating our worlds and you got to separate your worlds. I think a lot of the stressors really aren't running on the complicated dangerous serious calls. More of the stupid shit.”</p>
Home/Family/Relationship Stress	<p>02 – “Interpersonal relationships.”</p>
Home/Family/Relationship Stress	<p>09 – “Phew. That's hard to say. I think it's... um. The stress I get on the calls. Just the going and getting there and making sure everyone gets there safely. Then what you deal with at the incident. Like medicals, what they go through and what you end up seeing. The day to day stuff that goes on at the fire house you need to take care. The problem solver stresses. I think another one people don't think about a whole lot is getting up in the middle night multiple times. at the fire house, at work, not at home. I live an hour away from home. If something happens here, something's broken, and not being able to be there to help. If I was at home, it would be easy to take care of. Hard to explain when she's worked up over something being broken. Can taking an hour, for me that's not a roundtrip. An extra stressor to square something away. it definitely stresses me out. "we don't have any water" — home stress”</p>
High-Stress Calls	<p>04 – “I can think of would be a bad call. It's not the actual duties of firefighting. It's the Bullshit”</p>

- High-Stress Calls 02 – “Critical calls, high stress calls that involve kids... Um... child abuse”
- High-Stress Calls 07 – “Uh... probably the kid calls. I've seen some drowning, pediatric codes, child abuse stuff. I have 3 little ones. Those are the tougher ones for me to deal with. Sleep deprivation is probably the other big one. That's probably a big thing for a lot of the guys.”
- High-Stress Calls 10 – “Um... (sighs)... I think the biggest stresses I've noticed for myself have been ... as far as stressful calls go, I've had usually calls with pediatric patients hit me a bit harder. More for myself, I consider it a physical stress. Having to go from being asleep to going 100mph in the middle of the night. That's what hits me the most.”
- High-Stress Calls 11 – “Not so much the fire side, but the EMS side - the hardest thing usually is sick or injured or dead children. I had a few of those and since we're in a smaller community, we tend to know a lot of people we deal with. I've had friends killed in accidents I've been on call for.”
- Sleep Deprivation 04 – “If you had a lot of calls or a really bad call. I know when i was doing 24 hour shifts, sleep would be a major... you'd think about sleep and get stressed out.”
- Sleep Deprivation 05 – “Phew, wow. Stresses... probably whether it be a sign, symptom, or direction. Sleep deprivation is the biggest enemy hands down. You never catch up on it and magnifies everything else that is going wrong”
- Sleep Deprivation 02 – “sleep deprivation”
- Sleep Deprivation 13 – “Um... I don't know its hard as i join my work. lack of sleep overall (work/personal life), Used to have anxiety for certain things. Confined spaces used to bother me but I worked on that a lot. Incident in the past where you had - someone went to find their dog and found deceased in the woods. Night terrors for a while (about a week). Looked in obituary. Went away on their own. Impacted sleep. Prone to getting them. Childhood night terrors.”
- Abuse of FD/EMS 02 – “Abuse of FD/EMS - Some people use 911 as their primary care physicians. If they call 911 and get an ambulance, they'll get in and be seen quicker, versus having a family member bring them in. If my wife takes me in, I'll have to sit in the hospital for 5 hours. Some of the lower income, 911 is their primary care physician. Or people calling for reasons that are not 911 related. They'll say one thing but when we get there it'll be a different problem. As far down as, they just want to spend time with us, they have a broken heart.”
- 02 – “abuse of the fire department/EMS, you know obviously”

Abuse of FD/EMS

05 – “More of the stupid shit. I can't believe people are calling 911 for these things. How come people can't manage their lives with basic injuries or basic medical necessity. Example: I'm nauseous, I've been nauseous for a few days. Symptomology, that could be a precursor for things but vitals are normal. We'd look and think about making appointment to our doctor. We've been taught 911 is all things to all people, which is why it's being moved into community (community Paramedicine) - non emergency type stuff to filter it. What's stressful for guys screaming down the road to a nonemergency. Waste of fuel, energy, and stressful. In 32 years, damn we gotta figure that out. Actually, I only have 3 years left so I don't have to figure it out.”

Stressful but Can Handle

01 – “Duration - 4/10 - Young, can handle”

01 – “Young so I can balance and doesn't really wear me down that much.”

Life Safety/Property  
Conservation

11 – “Um... wow. I guess it would be job, job-related stress. I don't know how to describe it aside from that. Trying to accomplish life safety, property conservation, and um, extinguishing the fire.”

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Table 26

*Most Common Stresses by Frequency*

<u>Common Stress</u>	<u>Frequency</u>
On-the-scene stressors	3
Physical stress	3
Administrative/political/leadership	8
Sleep deprivation	7
Duration	4

Table 27

*Most Difficult Stresses*

Most Difficult Stressor	Response
Sleep Deprivation	02 – “For me personally is the sleep deprivation. I would say a 7-8/10. Because it affects me at home the next couple days off through needing to come home and take a nap or if I’ve got a busy day scheduled on my day off, being able to function away from work and also like anyone else, I get crabby when I’m tired, and that can affect home as well.”
Sleep Deprivation	04 – “ I keep coming back to sleep... Sleep and probably the amount of calls we were doing. We do a 24 and we do like 8-10 calls and I think, we had like 4 guys on duty. You know you're going to go and pretty much do all the work. Sometimes you get yourself into a situation where you don't have enough people to do what you're doing. At that time? Probably an 8/10. That would equal up with what I’m doing now. It's just a different job. Why are they the most difficult? Just because those are the things that, well, without sleep you can't really do your job. That's obviously something on your mind and you don't want to get hurt or someone else to get hurt. If you're working understaffed or whatever the case might be, it's always something that's on the back of your mind.”
Sleep Deprivation	07– “Sleep - 10.”
Sleep Deprivation	13 – “Sleep, when I’m really sleep deprived 6 or 7 out of 10. More of a problem at home.”
Firefighter Injury/Fatality	03 – “Firefighter fatality 12/10”
Firefighter Injury/Fatality	03– “Firefighter injury (around 7-8/10)”
Firefighter Injury/Fatality	06 – “Um... Probably just dealing with the deaths of other people. [Interviewer: Like on a call?] Right, like if there is a suicide or something. Depending on what you see. Rating? 2/10. Why most difficult? I don’t know, I deal with stress very well, so I feel like it’s obviously very subjective. It’s just you see things you don’t see every day, what other people don't necessarily see. [Interviewer: Sticks with you?] It can, sometimes, depending on what it is.”
Traumatic On-the-Scene	01 – “Probably the traumatic ... The traumatic, the what you're seeing. That's a scale of 9/10. Why? Um, because, we're supposed to be coming up with a solution. we're the firefighters that fix the problem. Stop it from getting worse or solve it. When it's something we can't handle. Firefighters are pretty egotistical people. We know we have a big ship and have pride that we can handle situations. When we can't handle, we get a little temper tantrum about it (2 year old). It bothers a good chunk of people. [Interviewer: Left unresolved in some way] Right. Value i'd put 9 because there's always that could be something that's worse, but it’s something you can't wrap your head around sometimes.”

Traumatic On-the-Scene	10– “The most difficult for me is definitely the child calls, the pediatric calls. They tend to stick around a little bit. Because the easiest for me to relate to. I’ve kind of taken care of a few of my nieces and it’s a bit harder to detach from those calls. It’s almost like having my kid.”
Financial Stress	12 – “Um... I would say kind of the ... I guess the stress of feeling like I need to be at work. The financial stress. You need to constantly be at work to make money to afford what you need to be able to afford. 5-6/10. [Interviewer: Why do you think this is the most difficult for you?] That’s what puts the stress from me also onto my family. Where it makes me feel like I need to be at work to make money but then they feel like they don’t see me.”
Knowing People on Calls	11 – “Knowing the people involved, especially if they’re friends (7/8 out of 10) those are the ones that stay with you afterwards. Um... you remember all their good times and then you see them in a bad time and you’re trying to remember them in their good times.”
Not Getting in Trouble	09 – “Actually to be honest, the most difficult for me was the whole doing the right thing not getting in trouble stressor. Used to be 8, 4/10. Why? That’s the stuff I’d bring home the most. Yeah. It really wasn’t stuff that happened on calls. It was what I get into around work. There was a time where no matter what you did, it wasn’t right. People would have time to think about what they’d do differently and ask you why you would do what you did. Stuff out of control that would stress me out.”
Worrying About Firefighter Safety	08 – “I think the most difficult - maintaining calm and focused when you’re tired even when things don’t go the way you wanted. Thinking of your feet. Not panicking when something goes wrong. Make sure everyone stays safe. 7-8/10. Why, because I think it’s the one that is the most important. You have a job to do and want to make sure everyone can perform. occurs daily. If i don’t stay calm, we can make a mistake on the job. That’s why most important”
Society	07 – “Society - pretty frustrating that we have to be life coaches some of the time. You get up at 3am for someone with a belly ache for 3 weeks. That stress is probably a 6/7 as well. 70 percent of our calls are like that. Where you get there and it isn’t an emergency. that falls in line with the call volume. 12 calls a shift and 8 are like that. Try to educate people like that too. Impacts waiting room call times and not sure how it affects medical side of things. People using 911 as medical care.”
Call Volume Cancer	07 – “call volume 7-8” 05– “Um... you know, probably in lieu of the things i gave you is cancer. That is our biggest unseen enemy. You don’t see it coming but it’s always in the back of your head. You know you’re going to get it, but when and what kind. And will it be a cancer the department sees in line of duty or not. How will it affect your family. Inevitable. I just saw one of our guys die from complications of his leukemia.

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Cancer for firefighters is very top of list. Cancer? To me, it's a 8=9/10. Why? bro that's retired, sister, son that's gonna be terminated for stupidity. Young son coming up through ranks. Good job of preaching safety and cleaning. Health center very conscientious about this but once you get it, you got it. We're an anti-tobacco antismoking industry yet a lot of guys still partake in a lot of nicotine products. Opioids are horrible in the fire service right now. Horrible in our organization.”

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Table 28

*Strategies Learned to Cope*

Strategies Learned to Cope	Responses
Family support	01 – “The stresses at work i can handle because I don’t have the stresses at home.”
Family support	05 – “I’ve got a phenomenal family/support mechanism. i am pretty blessed. am surrounded by really good people.”
Family support	07 – “I lean on my wife, my church, my faith group. My kids are everything. And my hobbies.”
Family support	12 – “As well as talking to my wife, I talk to her about a lot of stuff. She works in an emergency room and sees a lot of the same stuff I do. We talk about stuff most people don't talk to their families about.”
Family support	08 – “Spend time with friends/family. Not making your job your life, otherwise can get burned out.”
Family support	11 – “Um, just get away from it for a while, go home after the shift, listen to music, spend time with your family. Hug your loved ones.”
Family support	10 – “And, between my wife and other family in the fire service and I’ve worked with the same crew now for about 4 years, it's always having them around to talk to because we've become a real close knit group. And having family on the job for almost 4 years before me, seeing what's worked for them and what hasn't and have them to talk to that understands.”
Planning after work activities	<p>01- “He was getting more effected by us who had been doing it for the past year. Vacation is definitely a good thing.”</p> <p>“Come from a farming family. even though I’m at work I’m thinking about how horses will be moved around and how things will get done. That helps me work through or side tracks my mind from stressors at work. The coping is the outside life.”</p> <p>“I can kind of, you know when you get 5-10 min of downtime at work. During a break I’ll be looking at places to go hiking. Wrapping my head around what to do outside of work.”</p> <p>“I have a lot of hobbies. When I get that isolated stressful incident, I’m able to handle it then. Especially with help of work.”</p> <p>“Oh. Um. busy outside life.”</p> <p>“When you're fishing or hunting or hiking, you just going with the flow and don't have any end goal. Have to make it back to truck/home obviously, but it’s a carefree feeling. work you have a mission to accomplish. The fact that there is no mission with my hobbies/stress relief is kind of calming”</p>
Planning after work activities	12 – “Uh... definitely exercising and trying to find positive outlooks for ways I can expend the energy and stress while I’m at work, whether it be hiking or playing sports and stuff like that. As

- well as talking to my wife, I talk to her about a lot of stuff. She works in an emergency room and sees a lot of the same stuff I do. We talk about stuff most people don't talk to their families about.”
- Physical activity/diet 13 – “Working out helps a lot too. Working with captain and helps sleep too”
- Physical activity/diet 05 – “Staying in shape. when I was hired in 86' I weighed 143 lbs. I'll be 60 in 2 weeks and I'll be 148lbs. I eat good and workout good.”
- Physical activity/diet 12 – “Uh... definitely exercising and trying to find positive outlooks for ways I can expend the energy and stress while I'm at work, whether it be hiking or playing sports and stuff like that.”
- Physical activity/diet 08– “Um... for me, huge thing is working out. Focusing physically / mentally.”
- Physical activity/diet 10 – “Um... I guess for me the biggest thing I have done is take that stress and use the gym almost as a coping mechanism. I started training and competing in power lifting and strong man. So that's an outlet for me I guess.”
- Physical activity/diet 06 – “Um... I think physical activity and whatever people do to relax, whether it is music, work outdoors. Those are the things that work for me.”
- Relying on crew/friends 04 – “I drink, I go out and hang out. Maybe like, get the guys together. Go to a bar. Not all the time. I wouldn't say its compulsive. social aspect and drinking taking the edge off (me)”
- Relying on crew/friends 07– “Uh, relying on my crew. If I have issues, we are always in a family deal. My dad did 33 years. I watched him way before EAPs or Firestrong©), stuffs. His destressor was grabbing us and going fishing. He was close to guys. Not like working at Costco. You see guys on the weekend. The people I work with are close with me, we go on vacations together. it is a family.”
- Relying on crew/friends 03 – “Uh... Talk to peers”
- Relying on crew/friends 11 – “For the severe stuff, we usually get in a group and go out and get dinner, have a cig, brush it off.”
- Relying on crew/friends 10 – “I've worked with the same crew now for about 4 years. It's always having them around to talk to because we've become a real close knit group.”
- Reading/music/podcasts 13– “I listen to some podcasts, leadership ones, good tips/stuff why some things don't matter. Dealing with other people, don't know what's going on in their lives.”
- Reading/music/podcasts 08 – “A good night's rest. Read books about job and anything that makes me better.”
- Reading/music/podcasts 11 – “[Interviewer: Any other strategies?] Um, just get away from it for a while, go home after the shift, listen to music, spend time with your family. hug your loved ones.”

Reading/music/podcasts	06– “Um... I think physical activity and whatever people do to relax, whether it is music, work outdoors. Those are the things that work for me.”
Faith/church	07 – “Lean on my wife, my church, my faith group. My kids are everything, and my hobbies.”
Faith/church	05 – “Um, my faith in Christ. My church. My faith keeps me sane.”
Faith/church	09 – “And uh... I think the big one is just going to church and going to mass and praying and uh, getting perspective on that. No matter what I do here, as long as I’m good with god it really doesn't matter. If you're trying to do the right thing, whatever happened happens. I wish I had come to that a lot sooner. For quite a few years, would have a knot in my stomach, even though I wasn't in trouble all the time.”
Changing perspective	02 – “Uh... understand that you can't ... as bad as it says. sometimes you can't fix stupid. Being that there are some people that no matter what you tell them, a) won't believe you or b) will continue to do it. Stupid might not be the right term. A lot of people we deal with have mental health issues who just don't care, who might not have any means of accessing health care, so for me personally, I just don't let it get to me.”
Changing perspective	09 – “Um... I think getting a better perspective on what's going on. That came with experience. The whole perspective of not blowing things out of proportion and being able to. The longer I’ve been here, I’m in a better position to justify what happened and why. Take care of things before they come a problem. I think it's basically that is our problem and handle them before they become a problem.”
Self-care	13 – “I listen to some podcasts, leadership ones, good tips/stuff why some things don’t matter. Dealing with other people, don’t know what’s going on in their lives. Working out helps a lot too. Working with captain and helps sleep too”
Self-care	01- “We do have time to recuperate. Benefit of scheduling.”
Talking to counselor	03 – “Talk to counselors. When I had my fatal accident, had 3 things in 3 months that were bad. Diagnosed with PTSD and saw counselor for it. The [company] burial team. 19 firefighter wildfire where firefighters were killed. Burying kids. That was 2 months after fatality. Probably too close to then. 4-5 visits. Probably only time I went to counseling. 19 individual memorials. I was section manager for that. Month after that, guy on department I was close to committed suicide.”

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Table 29

*Which Strategies Used to Cope Specifically by Frequency*

<u>Strategies Learned to Cope</u>	<u>Frequency</u>
Read/movies/podcasts	2
Friends/Family	5
All of the above	5
Church	2
Don't talk to wife	2
Try to get sleep when you can	3
Limit commitments	7
Physical activities/outside life	7

Table 30

*Most Severe Stress Endured by Firefighters*

Severe Stress	Response
Death/traumatic calls	10- "Um, I think ... just from listening to the older guys talk, it seems like the pediatric calls tend to hit guys a bit harder as well as when we have a line of duty death. An injury happens to one of our own, that makes everyone pause and step back and re-evaluate things. Since that's like a family member, that seems to stick around longer and is harder for some people to deal with."
Death/traumatic calls	01- "Probably the emotional stress as far as... that's uh. The incident emotional stress. There's nothing that can prepare you to see someone die all ages. The young ones affect us more than others. The members of my department have family. They get really affected when they see a kid die. That's something you can't train for. I'd say the emotional stresses. That'd be the number one thing. Then again, our jobs is to help people on the worst day of their lives. If we weren't doing that, we wouldn't have a job."
Death/traumatic calls	09 – "Phew. Probably the stress at incidents is the most severe. Yeah those are the most severe. [Interviewer: Specific types of calls?] Yeah, anything with uh death of a child is probably... for me that's been the worst."
Death/traumatic calls	12 – "Uh, probably emotional stress from EMS call. More EMS stress than fire stress."
Death/traumatic calls	08 – "Uh... well... for some people might be physical stress, others up all night, responding to certain types of calls (kids drowning, child abuse calls) depends on person. I'm not sure there is one thing i can pinpoint. What is stressful for me is not for everyone else. Gruesomeness of our calls could be a stressor for some for sure"
Death/traumatic calls	03 – "Uh... you know. Again the one that doesn't happen very often. Death of firefighter on or off duty versus popular members dying in hunting/off duty stuff. That's stressful. The loss of a firefighter most. Daily stuff, the working incident where there is a child fatality."
Death/traumatic calls	11 – "Um... I would say dealing with um... traumatic, traumatic calls and pediatric calls."
Sleep deprivation	05 – "Sleep is a big one"
Sleep deprivation	07 – "Hmm... I'd say sleep deprivation. That would be for me and most guys. That's probably the biggest one. You can fight a house fire and it wears you out. The older I get, I get up once or twice a night, it really starts to wear on you. Even if you sleep at the station, you don't sleep as well. Sort of with one eye open. Anticipating "Am i going to get a call or not"
Sleep deprivation	02 – "Um.. I would say sleep deprivation and then the off-the-job stresses that bleed over to the department (problems at home, drugs and alcohol abuse, and financial)"
Sleep deprivation	13 – "Just the lack of sleep for my department. Really enjoy my 24's. Stressors, risks know you're gonna take ( 24 hour shift)"

Home life stressors	04 – “It would definitely be (by my firefighters), I would say time away from home. And I would say probably that you're always on duty. You mean, like... I kind of am too I guess. but like when I go home. when I went home in [department]. I was home. I was an hour away. here, when busy got a call, they then get up and go to work. They get home, might not eat dinner and have to go to another call. I think there's a lot and a lot of it probably doesn't even have to do with going out the door. They have wives and kids and additional stressors involved. Who's going to drive this person here. Who's going to clean the house.”
Home life stressors	05 – “Um, relationships. Marriage is a big one. Our guys don't do well with marriage. that a big one”
Home life stressors	02 – “Um.. I would say sleep deprivation and then the off-the-job stresses that bleed over to the department (problems at home, drugs and alcohol abuse, and financial)”
Emotional stress	01 – “Probably the emotional stress as far as... that’s uh. The incident emotional stress... I’d say the emotional stresses..”
Emotional stress	12 – “Uh, probably emotional stress from EMS call. More EMS stress than fire stress”
Physical stress	08 – “Uh... well... for some people might be physical stress, others up all night, responding to certain types of calls (kids drowning, child abuse calls) depends on person.”
Boredom	06 – “Um, most severe kind of stresses? [Interviewer: yeah] You know I would say its boredom. if there are periods of time where there are no calls, you know, with nothing specific to do for a long period of time, I think they would get bored. [Interviewer: And they would find it stressful in some way?] Yes. I think that's the major one.”
Fear of losing benefits	05 – “A lot of our new guys have lost benefit packages that old guys like me have them and have to go fight for benefits. I think public opinion and trust is still very high. So those are irrefutable benefits/privileges. Guys love being loved and it feeds their ego, energy, and keeps them doing the right thing. Housing market was stressful for guys in the fire service.”
Fear of cancer	05 – “The cancer scare is a big one. For a lot of the new guys future is scary to them”
Politics	05 – “Politics is a big one.”
“The daily stuff”	03 – “Daily stuff”

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Table 31

*Useful to Know to Develop in Program*

Useful to Know	Response
Consider our culture	01 – “Become a firefighter? I don’t know. In all honesty, just like any profession out there, there are a lot of articles and reading material. If you made it to this point, you’re probably pretty educated in what we do. I guess just keeping up on what we do. Seeing how our workload ... one thing I have a struggle talking to my old man about ... when he was a firefighter, he did just that. He didn’t have to do the computer work or the amount of work. Each generation will say they have it tougher than the last, but the job is always changing. We’re getting a lot more involved with our job. So keeping up with the times is very important to working with the younger and older generation. Starting with people who are new to the career and knowing there is help out there will greatly overall improve everyone involved. Right now there is a big push to community Paramedicine. We’re doing outreach to make people generally healthier. Public classes on CPR and drug take back programs. The department I used to work for did an addiction recovery service. Safe stations. An addict could walk up the station and say I need help and we would bring them to a drug rehab facility. They weren’t physically or medically hurt, but we would still bring to help. Geared towards addiction treatment. (Firefighter, Med calls, Public outreach) Trying to work on not having calls. Proactive approach. [Interviewer: Anything else?] Um. I’m sure I could sit here and ramble but I honestly think just a general understanding of 2018 fire service and emergency medical service. There are plenty of just EMTs that have just as heavy of a workload as I do. Staying knowledgeable would be the best thing for everybody.”
Consider our culture	02 – “It’s such a wide range of people that you’re talking to. You know, I think that it’d be hard to zero in unless you tried zeroing in on strictly paid people who work 24/ hour shifts. I think some of our stressors will be different than just a volunteer department. That they wouldn’t have the training and resources that we have. Where our stressors are different than theirs. It would be hard to zero in on to know what would be helpful to you.”
Consider our culture	13 – “Uh... I think I talked about most. I think the thing that stresses us the most is people being deceased and lack of sleep. On med calls, 90% don’t bother me. Some do. That would affect me the most. Run of the mill doesn’t bother me. Specific circumstances and culture shift to people adopting it, I know some is happening now. Some with firefighter suicides. Some people grasping it. Suicide and depression, hard to understand it. I don’t really understand it or day to day anxiety but I also don’t want others to go through it.”
Consider our culture	06 – “Um... just that everyone is different. Everybody handles stress deals with stress and gets stressed by different things. Like nothing is the same. So whatever works for me or the fact that I don’t react the

Consider our culture	<p>same way as other people. I think it's significant. I don't think there is one answer to anything. [Interviewer: Anything specific to firefighting or being an officer that would be useful to consider?] There is a ton of information about this stuff. Monthly articles in Firehouse Magazine. I don't know if you're familiar with that. That could be useful."</p> <p>08 - "Um... obviously realizing the schedule we work, the calls we go on, time takes away from family, sometimes the culture of department, the way we are with each other. It's not bad, but some people ... it's a rough job, so we have a different sense of humor, but just for us a way to distress, not to be mean. When we see a gruesome call, make a joke to be able to move on. A matter of what we do and how we do it. We aren't sitting in a cubicle. We live with people. Sometimes you need a break from your own family. Have to be adaptable. Have to have thick skin. Sometimes stressful and tiring mentally. Not sure if that can be changed (job situation/stresses). New generation of people seem to have the hardest time, not as tough as the older guys. Everything is difficult for them. Older guys have experienced a lot and different than younger guys."</p>
Experience first-hand	01 - "Become a firefighter?"
Experience first-hand	02 - "Don't know if you've gone and worked a shift with a crew or station and being able to have an open dialogue. Experiencing it first hand?"
Experience first-hand	07 - "I'd recommend you do a ride along. For me trying to explain some things to you. I know the stuff, but to actually witness it first hand and see things. That probably would be most beneficial. Then you get hands-on experience. A lot of people don't understand what goes on behind the scenes. Um that would be it for me I think and then it could show you the stuff they see firsthand. They deal with this daily, etc. Seeing firsthand how they interact."
Have resources and get engagement	02 - "I can only speak locally. A lot of guys aren't good at talking about themselves and this is how they don't take advantage of the resources. Not recognizing it. We're real good at hiding things from each other."
Have resources and get engagement	03 - "There's a lot of stuff... We don't have in-house counseling. 1650 members. Instead of hiring one psych for 200k a year/benefits to be the one all, which is impossible- we contract with 40 different counselors. They've been screened. When someone comes up with issue, they try to match the best fit for a member. We work real closely with someone that has an in-house psychologist. Struggling to find the one person. I don't think there is one person. I think this model works well for us. In our screening process, we determine which counselor is best fit,"
Be patient	09 - "Um, probably for you, not to be discouraged. For me and guys I work with. It'd be diff for you to come and sit down and get us to open up about stress. It would be a struggle but I think with some patience you probably could get 3-4 of us to talk about it. I think that's where the

- peer support has worked out. You know you're talking to another fireman who's been on a similar call and I think that for someone on the outside coming in and just kind of start talking about whatever and lead in. I would say it could be difficult. It all depends on the people you are talking to. I think you are patient and stick with it. People will open up. Especially now. I guess I am one of the older guys now. We have a lot fewer of the old school Vietnam guys who bottle it up. I think just patient, don't be discouraged.”
- Be patient 04 – “Um.. I don’t know. I think the biggest thing is that we like to talk to our own people. It’s the culture of the fire dept. Obviously I don't know you but (laughs) we have a meet tomorrow night. If you show up and you and want to talk about it. Half the guys would walk out. It’s a culture thing. Some guys don’t want to talk about that kind of stuff even if its small. For me to know would be find a way to make it go through us. You know what I mean?”
- Stigma 12 – “There's still kind of a hesitation, particularly with older firefighters that don't want to talk about their stress. I think historically people don't want to talk about. It's being more addressed and people are still getting better about it, but older firefighters still don't want to talk about. I don't think so.”
- Stigma 10 – “Um, I think, like I just mentioned with that last one, the stigma of asking for help and knowing when there is a problem.”
- Talk about mental health 11 – “Well, in the fire service, they have a significantly higher rate of divorce. I’m not sure for the reasoning. Also a higher rate of suicide. I believe that encompasses law enforcement as well. I’m not sure if they go hand in hand or but in the last couple years. Things that have come out like the code green campaign and other agencies that would help. They often don't help until it’s too late. [Interviewer: Some intervention earlier on?] Yeah I would say earlier intervention would be a good thing. [Interviewer: When would you say would be the best time to intervene?] From the start. They don't tell you about stuff you’re going to see, the situations you're going to be put in. They teach you how to go to the call, re-mediate the situation, and go home. If people knew about the mental health issues exist in the field, they'd know where to go for that. The fire service is kind of a good old boys club. Some people refer to it as ‘270 years of tradition unimpeded by progress.’ Some people will tell you they just need to suck it up and deal with it, rather than the counseling. With the newer generation coming in on the softer side of things, I think the rates of suicide and mental health issues, they're already coming in with mental health issues, it’s just going to compound it and make it worse. I don't know how to fix that. Newer people coming in with their own mental health issues. Yeah. you come into the fire service to help others and people come in it with "oh it's me oh it's me" but there is a lot of... they don't start fresh, it that makes... they have the... you know, trophies for participation, that whole. I don't want to call it a millennial thing, because it’s not, but they're having the ... a lot

Trust between membership and management	more people are diagnosed with anxiety, bipolar, depression. I don't think the fire service does a good job of helping with that um cause they assume everyone comes in with a fresh start, but in reality a lot of them have those psychological issues to begin with. If they start taking about mental health from the beginning that would be beneficial.” 03 – “You know, this is something. I don’t know how you teach this. I’ve worked with other departments. The success of our program is significantly dependent on a level of trust between membership and management. For managers to turn over the role of EAP to labor and to have a firefighter captain to say ‘I need this guy off for 4 weeks and don’t ask me why.’ A lot of departments don’t have trust between labor and management. We've had this for years. Other companies tried to mimic this. That whole level of trust is hard for departments to get over.”
Have proactive approach	01 – “Proactive approach.”

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