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Exploring Burnout and Perceived Stress in Emergency Managers during Deployments

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Abstract

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MSPH, Tulane University School of Public Health and Tropical Medicine, 1996

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Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Public Health

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Abstract

The stressful nature of deploying to a disaster makes it necessary for a good emergency manager to be capable of coping in high-pressure situations. When intensified by extended work hours, deployments can often lead to burnout, job strain, and emotional stress, which can have a significant impact on an employee's well-being. The purpose of this study was to examine the effects of burnout and perceived stress amongst emergency managers working for FEMA and to determine if social support was an effective intervention. The theoretical foundation used for this study was the job demands–resources theory, which aided in understanding, explaining, and predicting the well-being of employees, job performance, and organizational outcomes. The key research questions included to what extent do psychological job demands predict burnout, to what extent does the perception of stress lead to feeling burnout, and to what extent does peer support affect burnout. A quantitative correlational design utilizing secondary data from the Work, Family and Health Network was performed (N = 4,776). Results from linear regression found a relationship between psychological job demands and feeling burned out as well as a relationship between perceived stress and feeling burned out, as experienced by emergency managers. The model did not support a significant relationship between peer support and burnout. The social change implications include advancing the understanding of the stressful nature of deployments and stress from the psychological demands of the job that often leads to burnout. This study can be a resource to create and implement training programs for burnout prevention, and as a tool illustrating how to care for and support colleagues while also assisting disaster survivors.

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Dedication

I dedicate this doctoral study to my mother, Gwendolyn Ferdinand Hope, and aunt, Freda Ferdinand. I wish you could have physically been here to see this.

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Thank you to all the people who believed in me when I didn't believe in myself and when I began to feel tired.

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Section 1: Foundation of the Study and Literature Review

Introduction

The response efforts of an emergency managers' job is similar to first responders in that they react to an event rather than retreat from it (National First Responders Organization, 2014). First Responders welcome the threat and responsibilities in their chosen fields without hesitation to serve others (National First Responders Organization, 2014), as communities and local government recover to predisaster conditions. Government employees deployed as emergency managers react to disastrous events including but not limited to wildfires, floods, earthquakes, and severe storms (Federal Emergency Management Agency, 2010). The stressful nature of deploying to a disaster makes it necessary for a good emergency manager to be capable of coping in high-pressure situations (U.S. Department of Health and Human Services, 2005).

There are varying levels of the deployment process that may create stressful situations for emergency managers. In a study performed by Goldmann et al. (2012), the authors demonstrated a correlation between increased levels of preparedness, unit support, and postdeployment support with a reduction in posttraumatic stress disorder, suggesting evidence of a positive influence on mental health and cohesion among soldiers responding to conflict. Polusny et al. (2015), suggests that receiving unit support during deployment may promote pliability from posttraumatic stress disorder by increasing self-efficacy or mitigating the psychological consequences through strengthened coping abilities. Furthermore, receiving support from others may enhance coping skills by influencing the evaluation and response to stressful situations with either an emotional or

a behavioral response. This process can potentially buffer the psychological consequences from a traumatic event or experience (Goldmann et al., 2012). Although research suggests that emergency managers can suffer from mental fatigue and burnout, they do not receive emotional support to address their underlying issues. This is evidenced by numerous studies conducted by Pekevski (2013) in which he concluded that symptoms related to stress and burnout increase after disasters. Furthermore, a pilot study on FEMA managers conducted by Wallace (2016) supports the idea that many people do not seek support due to a fear of stigma. However, psychological first aid in the form of peer support is an intervention that can establish a compassionate human connection that is nonintrusive and can occur in a variety of settings (Pekevski, 2013).

There is a plethora of research on how burnout and stress affect other first responders such as firefighters, police officers, and nurses. Additionally, there is an abundance of information on how teachers are affected by burnout and emotional exhaustion; but limited literature related to the effect of burnout or stress and emotional exhaustion of government employees when serving as emergency managers during disaster operations. Elder, Nidich, Moriarty, and Nidich (2014) identified a gap in literature after studying psychological distress and burnout or stress in teachers and support staff by recommending the evaluation of burnout and emotional exhaustion in other stressful work environments. This study is significant in filling the gap because of the lack of information regarding other populations, such as government employees, functioning as emergency managers.

The population of emergency managers for this study are those who devise plans to help restore communities and the environment to predisaster conditions, which includes reconstruction, counseling to survivors, financial assistance, temporary housing, and safety information (College Foundation of North Carolina, 2017). The College Foundation of North Carolina (2017) further describes an effective emergency manager must be able to cope with stress and deal with high-pressure situations and job demands. They may also provide direction to administrative, technical, and political people, sometimes in very stressful situations. In this study I evaluated how government employees functioning as emergency managers are affected by burnout and perceived stress from the psychological job demands experienced during deployments and if peer support is an effective intervention.

This research was a quantitative study utilizing secondary data to examine the burnout and stress experienced by government employees deployed to disasters. The study was designed to determine if peer support is an effective intervention model for those individuals experiencing perceived stress and burnout during extended deployment assignments. Recognizing signs of burnout or perceived stress while deployed promotes social change among colleagues while in the field in that employees trained to recognize these signs are better able to provide peer support to each other, thus fostering physical and emotional comfort in times of need, while buffering the negative effects of stress (Louw, 2014). Increased support from coworkers can aid in decreasing levels of burnout (Louw, 2014). Demonstrating a need for increased trainings for employees on recognizing signs and symptoms of burnout and perceived stress during times of

deployment will contribute to positive social change. Yearly trainings for employees will provide government employees who function as emergency managers and are deployed to disasters with the necessary awareness of the symptoms of burnout and perceived stress. Early recognition of these signs is crucial to decreasing burnout among emergency managers. Furthermore, providing training for peer support can resolve problems before escalating to crisis levels in the workplace (Wallace, 2016).

Influencing social change through the accessibility of psychological first aid in the form of peer support is fundamental to the stability of psychological health among emergency managers deployed during an active disaster (Lewis et al., 2014). The benefit of psychological first aid as an intervention is not limited to mental health professionals, but can be performed by a peer working at the disaster (Pekevski, 2013). However, incorporating such an intervention into the long working hours and constant changing environment of disasters, as well as finding an opportunity to train responders on signs of distress (Pekevski, 2013) is particularly challenging to facilitate. While there is an abundance of research that examines burnout and stress experienced by first responders (police officers, firefighters, emergency medical personnel, nurses, and teachers), there is little research that investigates the impact of high levels of stress on government employees functioning as emergency managers.

Problem Statement

The stressful nature of emergency response that is intensified by extended work hours can often lead to burnout and exhaustion (Ariapooran, 2014). The initial working hours during an emergency response are typically longer involving consecutive shifts in

comparison to a traditional 40-hour workweek (M.A. Phillips, personal communication, April 9, 2016). Government employees functioning as emergency managers are deployed to disasters where they endure lengthy and extended periods of separation from their normal, daily duties and personal interactions. Employees may arrive for duty harboring unresolved personal issues or concerns they have left at home (Wallace, 2016). These unresolved issues and concerns are exacerbated by the extended deployment time that lasts well into the recovery period of a disaster (M.A. Phillips, personal communication, April 9, 2016). Emergency management is an all-encompassing deployment; with emergency managers providing their presence, compassion, and support for disaster survivors and communities who are experiencing distress (Ariapooran, 2014). In today's employment environment, many workers feel that they are under extreme stress while performing their jobs. According to the National Institute of Occupational Safety and Health (NIOSH; 2014), 40% of workers report their job as very or extremely stressful while 26% report feeling burnt out or stressed by their work often or very often; another 29% reported feeling quite a bit or extremely stressed at work.

Job characteristics such as prolonged working hours, not having enough time to complete tasks, job strain, burnout, and emotional stress have a significant impact on an employee's wellbeing (Ariapooran, 2014). In response to this serious concern, preventive interventions have been a topic of increased interest among mental health professionals both during and after exposure to traumatic events (Kaplan, Iancu & Bodner, 2014). Adapting mental health and psychosocial support to the psychological

risk factors is a critical, unmet need, while working deployments (Shultz & Neria, 2013). Offering psychological first aid through peer support is a proactive approach to addressing mental and psychosocial effects of burnout and perceived stress during emergency operations and can be valuable in reducing feelings of stress and exhaustion (Kaplan et al., 2014).

Bagnall, Jones, Akter and Woodall (2016) identified additional gaps regarding evidence of interventions in small or medium size organizations and across other sectors in comparison to health care organizations and large-scale organizations. The gaps included the need for more research is needed on the effectiveness of interventions on burnout and work-related stress, initial burnout and work-related stress prevention, and the development of a valid differential diagnostic instrument of burnout. Wills and Cross (2014) identified a gap to adequate training and preparation of personnel on their role in supporting recovery efforts versus their reality supporting recovery efforts versus the reality of what occurs in the field. New training opportunities, techniques, and programs are needed in order to address the gaps in the literature. This program will assist in understanding the barriers and tips to promote peer support amongst deployed personnel.

Mental health impacts and the need for improved prevention, treatment, and intervention related to trauma exposures have brought about significant new challenges (Ressler & Schoomaker, 2014). This notion was documented in numerous data collections and analyses performed by the Army as part of The Mental Health Advisory Team. The researchers analyzed contributors to stress and other mental health problems resulting from deployments including the lengths of deployments, exposure to combat,

and periods of rest between deployments. Limitations identified during the research included the need for an extensive review of mental health problems experienced across the entire Army, and the data made it difficult to assess stresses or behavioral health problems experienced prior to deployment. An additional limitation included the need for other interventions for mental health and the applicability to populations beyond the military, such as emergency managers, law enforcement, victims of natural and manmade disasters, and victims of violent crimes and terrorism (Ressler & Schoomaker, 2014).

Purpose of the Study

The purpose of this research study was to examine the effects of burnout and perceived stress amongst emergency managers and whether social support was an effective intervention. Identifying the need for social support on deployments can provide organizations or public health practitioners with the tools necessary to develop educational and intervention programs. These programs can decrease the effects from burnout or stress among emergency managers working for the federal government.

This quantitative study utilized secondary data resources to examine if there was a beneficial relationship between interventions ameliorating psychological stress and burnout. The secondary data resource relied on for this research was Inter-university Consortium for Political and Social Research (ICPSR) where data were collected from September, 2009, to December, 2012, for psychological demands, burnout, perceived stress, and organizational support. The ICPSR preserves a data archive of research in the social and behavioral sciences and collaborates with numerous U.S. statistical agencies and foundations to create thematic data collections. ICPSR supports researchers in

identifying relevant data for analysis and conducting research projects. The ICPSR provided data collected over an approximate 2-year period from 2011 to early 2013 on length of deployments and stress. This research will support professional practice by highlighting that emergency managers need an avenue to express their emotions during and postdeployment.

From these data sources, common themes were identified including burnout, psychological job demands, perceived stress, and peer support. The data analysis also focused on the commonalities among workers feeling these forms of distress and the need to talk to someone. This research study was designed to satisfy gaps in the research literature that have not provided sufficient focus on government employees functioning as emergency managers who are subject to deployments. Identifying the need for peer support may provide organizations and public health practitioners the tools necessary to develop educational and intervention programs or trainings to decrease perceived stress and burnout experienced from lengthy deployments.

Research Questions and Hypotheses

This study was guided by the following research questions:

RQ1: To what extent do psychological job demands predict burnout experienced by emergency managers?

$H_0$1: There is no significant association between psychological job demands and feeling burned out.

H_a1: There is a significant association between psychological job demands and feeling burned out.

RQ2: To what extent does the perception of stress lead to feeling burned out by emergency managers?

$H_0$2: There is no significant relationship between perceived stress and feeling burned out as experienced by emergency managers.

H_a2: There is a significant relationship between perceived stress and feeling burned out experienced by emergency managers.

RQ3: To what extent does peer support affect burnout?

$H_0$3: There is no significant relationship between peer support and burnout.

H_a2: There is a significant relationship between peer support and burnout.

The independent variable in the first research question is psychological job demands and the dependent variable is burnout, which was compared to determine if a significant relationship existed between the variables. A 7-point scale was utilized to gain understanding on the responses in the surveys for burnout and a six-item-screening scale for psychological demands. The responses to the variable for psychological demands ranged from strongly agree to strongly disagree (Work, Family and Health Network [WFHN], 2015). The responses to the variable for feeling burnout ranged from never to every day (WFHN, 2015). The independent variable in the second research question is perception of stress and the dependent variable is burnout. The responses from the Perceived Stress Scale (PSS) to the variable for perception of stress ranged from every day to never. The independent variable in the third question is peer support and the dependent variable is burnout. The responses from the Organizational citizenship behavior (OCB) scale for the variable of peer support ranged from never to all the time

(WFHN, 2015). The results of the study could assist in determining the types of job resources or peer support that could be beneficial in assisting emergency managers experiencing burnout or perceived stress.

Theoretical Foundation for the Study

Bakker & Demerouti (2014) defined job demands–resources theory (JD-R) as an aid in understanding, explaining, and predicting the well-being of employees, job performance, and organizational outcomes. It can be used to predict job burnout, organizational commitment, work enjoyment, and engagement. The use of this theory to address issues of burnout among government employees serving as emergency managers was appropriate for the nature of this research. This theory related to the burnout, psychological job demands, perception of stress, and peer support while working on deployments because it builds upon how job resources such as social support, performance feedback, and opportunities for development can mitigate the impact of job demands. The flexibility of this theory is that it incorporates all types of working environments or job characteristics by evaluating job demands and job resources (Bakker & Demerouti, 2014).

In recent years, the authors of this theory declared burnout is a serious, widespread issue in most Western countries and not just limited to people who interact with other people. As a result, the number of empirical studies on burnout increased rapidly with various causes for burnout proposed including a loss of coping resources, emotionally demanding interactions with clients, or lack of reciprocity in the exchange relationship (Bakker & Demerouti, 2016). Individuals are expected to be innovative and

psychologically engaged in their work; thus, job resources are critical in achieving work goals, reducing job demands, or stimulating personal growth and development (Vogt, Hakanen, Jenny & Bauer, 2016). Additional studies performed recently provided more evidence on the effects of interaction amongst individuals and burnout than previous years (Bakker & Demerouti, 2016). The evidence showed that adequate job resources generally have a favorable effect on employee well-being, and providing resources such as job control, social support, learning opportunities, and performance feedback have been observed to have a positive effect on work engagement (Tims, Bakker & Derks, 2013).

Over the years, the JD-R theory has been applied in many different forms and fostered several interventions such as hiring additional personnel to decrease workload, task restructuring, employee participation in the planning of tasks and shifts, increased budgets for education and training, and the implementation of a job mobility program (Bakker & Demerouti, 2016). Nielsen et al. (2017) documented that in the educational setting, examples of job resources are supervisory support, social support from colleagues, and role clarity. Wingerden, Bakker and Derks (2016) observed healthcare organizations are looking for ways to foster employee work engagement and job performance and offer interventions aimed at increasing personal resources, job resources, and challenging job demands at work.

The JD-R theory laid the groundwork for this quantitative research study. The theory assisted in addressing the relationship between situations and physical responses as developed in the research questions. Moreover, the use of this theory assisted in the

development of the literature review and determining the most appropriate data analysis for secondary data research. This theory strengthened the premise that peer support should be integrated into the workplace to reduce the adverse health impacts of burnout and stress. It could be achieved by training all employees in identifying the symptoms and having the understanding on how to address this phenomenon without being too intrusive.

Nature of the Study

This correlational quantitative research explored the relationship between psychological job demands (independent variable) as they relate to burnout (dependent variable); the perception of stress (independent variable) as it relates to burnout (dependent variable); and peer support (independent variable) as it relates to burnout (dependent variable) amongst federal government employees subjected to deployments. Performing a correlational research study is one of the most common and useful in statistics as it can foretell results and describe the degree of relationship between two variables by assuming the association is linear (BMJ, 2017). Furthermore, there is no attempt to control or manipulate the variables.

I deemed a quantitative correlation study the most appropriate approach for the study design because the intent was to methodically explore and interpret the nature of the relationship between the independent and dependent variables (Williams, 2007). The advantage of performing a quantitative research design is that results prove or nullify a hypothesis (McCusker & Gunaydin, 2015). In addition, there has been no changes to the structure of quantitative research design for centuries making it standard across many

scientific fields and disciplines (Shuttleworth, 2008). If properly designed, quantitative experiments can sort out the external factors, and the results can be considered unbiased, provide a comprehensive answer, and be legitimately discussed and published (Shuttleworth, 2008).

The secondary data source for the first, second, and third questions were obtained from the ICPSR where data were collected from September, 2009, to December, 2012. This data were generated through the National Institutes of Health and the Centers for Disease Control and Prevention, which formed the WFHN. This information was a valuable resource to this study because it has data designed to enhance the understanding of the impact of workplace practices and policies on work, family life, and health outcomes. The scope of the study included evaluation of those individuals who experienced burnout. Opinions were elicited from employers and managers regarding the amount of hours worked, balance between work and family, opportunities to work from home, the ability to take vacation and time off when desired, and decision-making authority at work (WFHN, 2015).

The WFHN data were generated from a Fortune 500 company and an extended-care company through group-randomized field experiments. The information technology division of a Fortune 500 company comprised 26 total sites made up of 56 study groups with 7 to 60 employees each (average of 28). The extended-care company comprised 30 worksites of 30 to 89 employees each (average of 51) who were randomly assigned to intervention or usual practice conditions. All employee and manager participants were assessed at baseline and 6, 12, and 18 months postbaseline. The baseline assessments

included survey interviews and health assessments of cardiovascular risk and sleep irregularities based on selected biomarkers and cycles of rest and activity. In addition to the employees' participation, the spouses or partners and children ages 9-17 were evaluated to document the dynamics of conflicts between work, family, and health. A select number of employee participants and their children participated in daily diary assessments, telephone interviews, and saliva sampling.

This study used a quantitative methodology with a correlational design to summarize the need for peer support as a type of job resource that could be beneficial in assisting government employees functioning as emergency managers from experiencing burnout during deployments. This approach allowed me to conduct an intense investigation on this phenomenon. The literature review corroborated the existence of very few quantitative studies involving burnout on government employees functioning as emergency managers and deploying to disasters. The population for this study was substituted for other forms of employment that are similar in stressors and physical job demands.

Literature Search Strategy

Research in social science implies a relationship exists between the quality of an individual's social relationships and the psychosocial mediators in health outcomes (Public Health Action Support Team [PHAST], 2011). Sociologists recognize that characteristics of a cohesive society are reflected by the quality of an individual's relationships, the significance of how an individual can possess or have access to a wide set of social networks & a shared set of social norms (PHAST. Feeney & Collins (2015)

also documented the existence of numerous epidemiological studies indicating social and psychological stress are contributing factors in adversely affecting a person's capability to maintain their health (Feeney & Collins, 2015). Sociological and social psychological research have concluded that the effects of stress are magnified when individuals experience a poor social support network and the limited ability to control a social situation or environment (PHAST, 2011).

This literature review provided an understanding of psychological demands as they related to burnout amongst government employed emergency responders during deployment to disasters based on currently available research. The objective of this study was to highlight the need for social support in reducing the effects of burnout during a deployment requiring long work hours and extended time away from the home and social network. In this section, I provide a definition of psychological demands, burnout, perception of stress, and peer support and describe how they relate to the primary research questions. This is followed by background information on the JD-R, which was the theoretical framework for this research project.

Google Scholar, ProQuest, and EBSCO were researched for literature pertinent to this topic. The following keywords in various combinations were utilized to obtain a substantial number of articles for review: *job strain, job stress, job demand theory, social support, burnout, emotional exhaustion, psychological job demands, compassion fatigue, first responders, government employees, natural disasters, deployments,* and *emergency declarations*. The research resources were set for a date range of 2011 to 2015 to produce recent articles and some textbooks (e.g., Creswell, 2009 and Frankfort-Nachmias

& Nachmias, 2008) were reviewed to support methodological design in this study. Utilizing the downloaded articles also provided additional resources from the reference lists. After completing the search, approximately 75 relevant articles were downloaded for review.

Literature Review Related to Key Variables and/or Concepts

Current research on psychological job demands, and burnout transcends across numerous occupations, including nurses, teachers, and first responders. Psychological job demands, perception of stress, and burnout interact within an individual in a variety of ways and can change based on the environment (Khan, Yusoff, and Khan, 2014). As discussions are consistently evolving regarding the blueprints of burnout and compassion fatigue, results have yielded subtle differences between these constructs, but instances where they partially overlap (Cieslak et al., 2014). The relationship between job demands and burnout are interrelated because job demands can lead to the manifestation of burnout symptoms (Bartholomew, Ntoumanis, Cuevas & Lonsdale, 2014). Job demands are also unwanted environmental factors that can negatively affect the working performance of employees by causing physical and psychological burnout symptoms; therefore, the nature of job demands decides the nature of symptoms of burnout (Khan et al., 2014).

Burnout is a result of prolonged exposure to stressful working environments (Khamisa, Oldenburg, Peltzer & Ilic, 2015). Khan et al. (2014) performed multiple studies regarding the relationships between psychological job demands, perception of stress and burnout. In one of their studies, job demands, burnout and work engagement

were determined to have a positive relationship between workload, emotions and symptoms of burnout (Khan et al., 2014). In another study, the authors found a positive relationship between workload, emotional demands, home network, and burnout. Khamisa et al., 2015) noted burnout was higher with nurses when compared to other health professionals due to the nature of their work, such as delivery of humane, empathetic, culturally sensitive, proficient, and moral care, in working environments with limited resources and increasing responsibilities (2015).

As it related to the research questions, the first and second research question were concerned with the relationship between psychological job demands and burnout during deployments. The reasoning is because the nature of the work environment during deployments can be inherently stressful and the responsibilities of the position can adversely affect an employee mentally and physically at every rank and component of the organization (Institute of Medicine, 2013; Wallace, 2016). Jon Wallace performed an analysis on Emergency Managers working for the Federal Emergency Management Agency (FEMA). Wallace's analysis indicated FEMA Emergency Managers could experience stress and burnout working in multiple cumulative disasters requiring lengthy and extended separation from family, friends, and other social networks (2016).

Stressful work environments are a known health risk, with documented negative physical and mental health consequences (Shatté, Perlman, Smith & Lynch, 2017). Recent research on mental health providers has focused beyond the symptoms of job burnout to include investigating the consequences of exposure to specific triggers. Some of those triggers include exposure to people who have experienced trauma and people not

trustworthy of others (Cieslak et al., 2014). Khan et al. (2014) determined in a study, work and social conflicts positively correlated with burnout symptoms as cynicism and stress because job demands exerted a negative pressure in the everyday working life of an individual. They further intimated that if such pressure persists for an extended time, then the individual could naturally develop negative symptoms of burnout making it difficult to find a resolution to function properly and return to normalcy.

Cieslak et al. (2014) performed a systematic review of databases yielding 41 original studies analyzing data from 8,256 worker. The review provided empirical evidence documenting a correlation between job burnout and secondary traumatic stress among professionals working as mental health providers and those employed in the public sector setting engaged with individuals who have survived some form of traumatic experience. It was intimated there was an expected sizeable increase of symptoms (secondary or vicarious traumatization, secondary post-traumatic stress disorder, and compassion fatigue) through the indirect exposure to trauma that is exclusive to this occupation when compared to other occupations (Cieslak et al., 2014).

The third research question addressed the effects of social support on burnout. There have been numerous studies on the topic of social support and burnout amongst individuals performing duties as first responders, and healthcare and teaching professionals. Disaster work can potentially have a severe emotional impact on Emergency Managers because they may arrive at the duty station with issues that may involve a recent death of a loved one, life challenges, or office workloads (Wallace, 2016). Jon Wallace performed an assessment on Emergency Managers by engaging them

in a conversation documenting their viewpoint of the availability of work-life programs and its effectiveness in addressing such stresses. Topics discussed included experiences with deployment difficulties, the rarity of people checking up on each other's wellbeing, and the lack of concern or knowledge of another coworker's physical disposition. Other sentiments included feeling alone on deployments, the desire of needing someone to have a discussion, needing a secure environment to have personal conversations while facing life safety and health issues, and identifying the need to do a better job in taking of their own staff while they are assisting others in need. The conversations intimated a reluctance in contacting the work-life employee assistance program for fear of how it would affect their position. Those with military experience expressed hesitance because they understood the risk of potentially losing their security clearance by engaging in mental health assistance and believed this would affect their federal civilian jobs as well. In referencing the Institute of Medicine Report (2013), Jon Wallace learned that the participants might believe that utilizing mental services would have an adverse effect on their positions, security clearances, or suitability to go on deployments. This phenomenon would explain the barriers to seeking help, which can have an overall adverse effect on workforce readiness and resilience.

Additional challenges of psychological job demands from deployments leading to burnout include working extended hours beyond a standard workday caused by inconsistent scheduling and communications with local and state governments while also attempting to manage environments that appear to be uncontrollable situations (Pearlman, 2012). The feeling of helplessness can be a concern while being required to work in

emotionally difficult environments and also managing personal and professional expectations (Rizzo, et al., 2013). Troxel, Trail, Jaycox & Chandra (2016) indicated individuals sometimes lack the necessary understanding of what to expect while deployed and not having the necessary training or skills to complete those tasks. Lastly, once the deployment is over, there is the potential for consecutive deployments within a short timeframe, particularly when there is a staffing shortage (Pearlman, 2012). This action prevents the individual from decompressing or allowing themselves the necessary time to handle any issues or concerns they are harboring.

Ariapooran (2014) performed a study on nurses because this profession tends to be at risk for symptoms of compassion fatigue and burnout, in addition to how social support portrays a crucial role in predicting compassion fatigue and burnout. Like Emergency Managers working at FEMA, nurses are often identified as emergency responders during times of disaster (Veenema et al., 2016). The author identified literature in a study documenting how 86% of emergency nurses experience moderate to high levels of compassion fatigue and approximately 82% experience burnout. The study further determined when co-workers provide higher levels of support; it decreases the levels of emotional exhaustion and burnout in nurses.

Like Ariapooran, Cardozo et al. performed research on international humanitarian aid workers providing care in emergencies as they are subjected to numerous chronic and traumatic stressors. While working in a foreign country, international humanitarian aid workers are exposed to significant risks of violence, terrorism, and direct attacks, which can potentially result in adverse mental health consequences, and impairing the

functioning and productivity of the aid organizations (Cardozo et al., 2012). Within the report, Cardozo et al. (2012) postulated that exposure to these risk factors and the inclusion of protective factors (social support, healthy lifestyle, and healthy coping strategies), would be significantly associated with mental health outcomes (depression, anxiety) and burnout. While also comparing post deployment to pre-deployment, chronic stress exposure increased during the deployment and were contributors to an increased risk for depression, emotional burnout, and exhaustion. The authors surmised that their statistical findings lend scientific support for the recommendations that peer support networks are beneficial during or after their deployment. Individuals possessing strong social support networks were less likely to suffer negative mental health consequences from their deployment and they were also less likely to suffer from depression, psychological distress, or burnout related to personal accomplishment, and had higher levels of life satisfaction throughout their deployment. An analysis performed by Siedlecki, Salthouse, Oishi & Jeswani in 2014 also confirmed that social support was associated with lower levels of depression, psychological distress, burnout lack of personal accomplishment, and greater life satisfaction.

Cieslak et al. (2014) study provided the first quantitative analysis on the relationships between job burnout and secondary traumatic stress among professionals working with traumatized clients. This review shows the moderating effects of theoretical frameworks, type of measures, language, the country of origin for the collected data, gender, and type of occupation related to trauma exposure. In general, burnout and secondary traumatic stress or compassion fatigue are likely to co-exist

among professionals exposed indirectly to trauma through their profession. The strength of this article for the first and second research questions provided the effects of indirect exposure to trauma where cultural and individual resilience factors are mitigation factors, such as endurance or self-efficacy. On the other hand, the weakness found in the article was the study did not offer a review of all aspects of secondary traumatic stress and burnout theories and frameworks thus limiting the operationalization of the constructs, and not entire theories.

The field test performed by Wallace was beneficial for identifying the causes of burnout due to psychological job demands, but there were some weaknesses identified. Wallace (2016) identified the weaknesses to the unscientific conduction of the field test, identifying and deploying a peer supporter to an event rather than a constant presence, the peer supporters were limited to a particular educational background and profession, and the field test occurred in one region. The strengths to the field test was the implementation of the companioning model, which proved itself beneficial in a variety of settings, including a disaster-affected community and the regional office. This model was familiar to individuals with first responder and military backgrounds, a person trained to provide employee focused companioning and peer supporter. Furthermore, the design of the model was not a sole remedy of assistance but as a supportive connection to other work-life programs in support of federal disaster workers, including Alternative Dispute Resolution and the Employee Assistance Program. The field test highlighted that the accessibility of personnel offering peer support was critical and a peer supporter needs to set limits and pay attention to their personal self-care. An additional highlight

was a consistent request for a peer supporter to listen as coworkers vented in challenging situations. Wallace concluded that having a companioning model in place and trained personnel identified could be invaluable and there is great potential to favorably influence FEMA's goals and operational efficiency.

One of the limitations of the Ariapooran study was the sample size because it was limited to the hospitals of Malayer suggesting the interpretation of the results should be performed with discretion, and additional research is necessary utilizing different samples beyond the nurses to broaden the results to other target populations (Ariapooran, 2014). An additional limitation was the use of self-reported scales for measuring the variables, in particular for the prevalence of the symptoms of compassion fatigue and burnout. A shortage of time and workload of nurses prevented the use of diagnostic interviews to assess the symptoms of compassion fatigue and burnout, which is necessary to evaluate the symptoms of compassion fatigue and burnout, is important in future studies suggesting interpreting the results with caution. In the Cardozo study, a weakness of the study was the inability to ascertain if aid workers who maintained a healthy lifestyle were shielded from the risks of mental illness or burnout symptoms (Cardozo, 2012). The results were limited because the follow up with aid workers were established for only six months thus affecting any determinations on the long-term consequences of deployment. Further, the authors intimated the theory of resiliency and adequate instruments to measure were not well defined at the beginning of the research.

The strength of the analysis identified in the Malayer study results supported the prevalence of the symptoms of compassion fatigue and burnout, and the meaningful

correlation between social support and symptoms of compassion fatigue and burnout in Iranian (Malayer) nurses (Ariapooran, 2014). The results from this study on the Iranian nurses indicated it is critical to pay closer attention to the symptoms of compassion fatigue and burnout and to the variables that are related to these physical conditions (Ariapooran, 2014). The strength of the Cardozo et al article supported encouragement to include social support and peer networks during deployments (2012). The study also recommended incorporating liberal telephone and Internet use policies sponsored by the organization for increasing the social support networks of deployed staff (Cardozo et al., 2012).

Definitions

Burnout/stress: A combination of emotional exhaustion, depersonalization, and reduced personal accomplishment (Khan et al., 2014).

Psychological demands: A psychosocial risk in the workplace referring to many facets of a job requiring sustained mental or emotional efforts (Roelen et al., 2014). Deployments increases job demands and time pressures that can potentially lead to burnout and stress.

Peer support: The actual or perceived availability of assistive behaviors provided by another individual (Ariapooran, 2014). Social psychologists identifies social support as evolving from social networks (PHAST, 2011).

Assumptions

I have made assumptions regarding the study and study design. Assumptions have more impact in some studies than others, and its frequency in studies may be

indicative of its importance (Schnall, Landsbergis & Baker, 1994). I assumed the data were collected in an approved setting for research and followed appropriate guidelines for data collection. It is assumed the participants in the surveys understood the goals and objectives of the studies and they were able to comprehend the invitation to participate in the study and provided informed consent. As the confidentiality of the participant responses was expressed during the surveys, I assumed the questions were answered in its entirety, honestly and openly.

Another important assumption of this project was that employees subjected to deployments as Emergency Managers will find education on stress and burnout to be beneficial to their practice. Fewer episodes of stress and burnout would be experienced based on the education offered during orientation and annual learning modules. In addition, employees subjected to deployments will utilize appropriate communication skills in seeking peer support in response to episodes of stress and burnout. One of the most important assumptions of this project was that there will be a statistically significant decrease in the number of employees experiencing stress and burnout during deployments utilizing peer support. Lastly, due to the lack of available literature on the effects of deployments to emergency responders other than police officers, firefighters, and nurses, I assumed these psychological job demands resulting in burnout and stress to be similar and that peer support could be an effective intervention. Furthermore, I assumed that the lived experiences were adequate to corroborate the objectives of this research study.

Scope and Delimitations

The goal of this study was to identify how government employees experience stress and burnout during deployments and how peer support can act as a buffer to these adverse health effects. These Emergency Managers provide services in the immediate aftermath of emergencies and may remain in affected communities for weeks or months, and work long hours under stressful conditions (Rutkow, Gable & Links, 2011). Because this study focused on government employees subject to deployments, it provided valuable information on a population less studied. The purpose of the proposal was to create an evidence-based program for an organization to create training programs based on stress and burnout that can be experienced during deployments and the importance of seeking peer support. There was reasonable evidence that training can be effective for preventing symptoms of burnout and stress (Bagnall et al., 2016). These might include employee participative stress awareness training with a focus on coping where employees feel that the environment is safe and non-threatening; there is a greater likelihood of successful outcomes (Bagnall et al., 2016). The training would be implemented organization-wide focusing on new hires, but also for veteran employees as part of their yearly training requirements.

In this study, I incorporated the constructs of the JD-R Theory to assist in addressing the relationship between the situation and physical environments. As mentioned previously, the application of the JD-R theory had been applied in various formats and resulting in numerous interventions (Bakker & Demerouti, 2016). Literature reviewed for this proposal showed that peer support was generalizable and had the

potential to be a valuable tool for reducing stress and burnout in individuals regardless of experience. The psychological benefits of utilizing peer support and offering it as training tool included improved health conditions, reduction in stress, reduction in death, and open communication without fear of job loss.

The delimitations in this research study included age, sex, marital status, job function, hardship deployment, and number of personally experienced trauma events during deployment (Cardozo et al, 2012). Additional delimitations can include self-report bias, demographics, and difficulties in other areas of their work life (Roberts, 2015). Lastly, cultural, personality characteristics and organizational factors play a role (Roberts, 2015). Significant barriers to the success of offering peer support is the reluctance of other employees feeling comfortable enough to express themselves without fear of affecting their employment (Wallace, 2016).

Significance, Summary, and Conclusions

As previously mentioned, there was an abundance of research regarding burnout and stress for firefighters, police officers, nurses, and teachers. There was extremely limited literature related to government employees serving as Emergency Managers. This study may be used to fill the research gap identified in the problem statement by examining the research questions of psychological job demands on burnout, perceived stress on burnout, and if peer support is effective in reducing burnout. This study can have significant implications for social change. The results of this study can provide valuable insight into the barriers, beliefs, and experiences of offering and providing peer support to circumvent the effects of burnout and stress in Emergency Managers. In

addition, this study can effectively design educational programs and support systems that address the needs of this population.

Understanding how burnout and work-related stress can be prevented and treated in workplaces was of great importance both from a public health perspective and for businesses aiming to reduce absenteeism and increase productivity (Bagnall et al., 2016). While much evidence exists to support, an association between psychological job demands, perceived stress and peer support, researchers used a variety of occupations in their study samples, and few studies were performed on single occupations. Khan et al. (2014) reported job demands increases burnout, but stress is not the sole contributor to burnout, but are attributable to an imbalance between job demands and job resources. Job demands, in the context of the study, refers to physical, social, and psychological aspects Emergency Managers experience while deployed. In different professions, it was measured by emotional demands, family conflict, workload, role conflict and ambiguity, lack of autonomy, promotions, scholarships, administrative duties, and organizational role stressors (Ilies, Huth, Ryan & Dimotakis, 2015). The next section provides more details about the study with respect to population chosen; hypotheses proposed and study methodology, with the goal of answering the research questions: To what extent does psychological job demands predict burnout experienced by Emergency Managers? To what extent does the perception of stress lead to feeling burned out by Emergency Managers? To what extent does peer support affect burnout?

Section 2: Research Design and Data Collection

Introduction

The U.S. Department of Health and Human Services (2005) describes stress as caused by a stimulant or demand that results in a peak of arousal or readiness, and when the stress level reaches its full capacity, there is a possible onset of deterioration of health and performance. Some individuals can functionally manage their stress and experience minimal psychological disturbances, but for others, stress can become problematic, particularly when the stress response is experienced for an extended period and remains unaddressed (U.S. Department of Health and Human Services, 2005). Corrective action is sometimes necessary to limit the impact of stress on health conditions such as those affecting the cardiovascular, immune, and nervous systems (U.S. Department of Health and Human Services, 2005).

The purpose of this research study was to evaluate the effects of burnout and stress experienced from lengthy deployments and how talking to someone (peer support) can be beneficial to any health effects. Long-term, burnout and stress can potentially lead to adverse health effects for the emergency manager. Historically, research has been conducted to examine the effects of burnout, stress, and emotional exhaustion for first responders, nurses, and teachers. There are not many studies available on how emergency managers are impacted by burnout and stress. Peer support can be crucial and beneficial in preventing or delaying the onset of adverse health conditions.

This section documents the research design and rationale and the role of the researcher. I cover the methodology selected, the instruments used to collect the data, the

process and procedures used to recruit the participants, and data analysis. Lastly, in this section I address the issues of trustworthiness and ethical research methods.

Research Design and Rationale

In this study I utilized a correlational quantitative methodology and design. A quantitative approach is an appropriate method when measurable data are collected on chosen variables from a sample of a larger population for understanding group tendencies (Creswell, 2008). This study was designed to discover how peer support can be an effective intervention for emergency managers affected by burnout and stress from the psychological job demands. The primary purpose of this quantitative study was to identify specific factors and the relationships amongst those factors as they relate to peer support among emergency managers. The decision to use this type of design stemmed from the primary objective of the study, which was to assess the direction and strength of the relationships among the variables (Research Methods, 2006a). Responses to the numeric survey questions were used to explore if there were an increased tendency for burnout from the psychological job demands, an increase in burnout due to perceived stress, and if burnout was reduced by peer support. The quantitative data furnished this study with actual statistical information that concretely supported the research questions.

Other forms of quantitative research designs were considered for this study included descriptive, quasi-experimental, and experimental. A descriptive design describes the current status of a variable or phenomenon and data collection is mostly observational in its current state (Williams, 2011). Creswell (2009) described a quasi-experimental design as a cause-effect relationship between two or more variables, and the

researcher does not assign groups. The independent variable is not manipulated, the control groups are determined and exposed to the variable, and the results are compared with results from the groups not exposed to the variable (Creswell, 2009). Experimental designs scientifically establish a cause-effect relationship among a group of variables in an effort to control for all variables except for the manipulated variable, the independent variable (Statistics Solution, 2017).

After careful consideration of the other research designs, correlational was determined to be the most appropriate design to investigate the relationship between psychological demands and burnout; perceived stress and burnout; and peer support and burnout. Benefits to performing correlational research include allowing a researcher to determine if a relationship exists between two variables without random assignments to conditions, and its predictive capabilities (Boundless Psychology, 2016). In addition, with a large sample size, one variable can predict the probability of the other variable when there is a strong correlation between the two (Boundless Psychology, 2016). The sample size for this study was based on the alpha (significance) level, effect size, and power. The alpha level (α) is the probability (*p* value) of a type I error or the chance of rejecting the null hypothesis when it is true (Hulley, Cummings, Browner, Grady, & Newman, 2013). The values are typically set at 0.05 or 0.01 to claim statistical significance. The effect size (f2) is important in reporting and interpreting effectiveness (Coe, 2002). The effect size is also the main finding of a quantitative study and is often needed before starting the research to calculate the number of participants required to avoid a Type II, or β, error, which ensures the study has acceptable power to support the

null hypothesis (Sullivan & Feinn, 2012). In this study, the effect size was the measure of the relationship between psychological job demands and burnout, perceived stress and burnout, and peer support and burnout. Effect sizes conventions are small (0.2), medium (0.5), and large (0.8; Sullivan & Feinn, 2012). The statistical power is the probability of committing a type II error—or the failure to reject the null hypothesis when it is false—and is usually set between 0.80 and 0.95 (Hulley et al., 2013).

This research was conducted using secondary data from the ICPSR. Walden University approved the topic of this research study, and I received Institutional Review Board (IRB) approval for this stage of the proposal. The following questions were designed to answer the overarching research question:

RQ1: To what extent do psychological job demands predict burnout experienced by emergency managers?

RQ2: To what extent does the perception of stress lead to feeling burned out by emergency managers?

RQ3: To what extent does peer support affect burnout?

Frankfort-Nachmias and Nachmias (2008) convey various statistical techniques to allow the researcher to assess the extent to which two variables are associated with a single summarizing measure. The correlational research design reflects the strength and the direction of the association between the variables and the degree to which one variable is predicted from the other (Frankfort-Nachmias & Nachmias, 2008). A linear regression analysis was an appropriate strategy for this study. It is the most basic type of regression and commonly used for predictive analysis (Statistics Solutions, 2013a). In

addition to performing a correlation analysis, Statistical Solutions (2013a) describes linear regression as a method of multiple functions such as:

- focusing on the strength of the relationship between two or more variables,
- assuming a dependence or causal relationship between one or more independent variables and one dependent variable,
- identifying the strength of the effect the independent variable(s) have on a dependent variable,
- forecasting effects or impact of changes, and
- predicting trends and future values.

The final steps of the research design call for analysis of all of the findings and development of summaries and conclusions appropriate for the findings.

Methodology

Population

The target population for this study were emergency managers working for FEMA. Emergency managers are located throughout the United States and are deployed domestically and internationally. There are approximately 5,000 people working for FEMA nationwide. Emergency managers are survivor-centric and deployed to various areas recovering from domestic disasters whether man-made or natural, including acts of terror (FEMA, 2016). It is possible for there to be multiple disasters occurring at one time. Multiple disasters affect staffing and can result in multiple deployments with little time to decompress or take care of personal or daily workload necessities.

Sampling method. Sample populations with experiences similar to those of the target population were retrieved as secondary data through ICPSR. The methodology for the research evaluating WFHN (2015) involved a cluster-randomized sample of eligible employees and managers at two employers representing different industries during September, 2009, to December, 2012. The industries included a Fortune 500 company and an extended care company. The employees and managers employed at the Fortune 500 Company worked in the information technology division and were eligible if they were employed by the firm in one of the two locations participating in the research and were classified as employees and not independent contractors. The employees and managers at the extended care company were eligible to participate if the participants regularly worked 22.5 or more hours per week in direct patient care or important positions within the nursing department, and worked the day or evening shifts.

The study was a group-randomized field experiment with open-ended and semistructured questions and was designed to enhance the understanding of the impacts of workplace practices and policies on work, family life, and health outcomes. All employee and manager participants were assessed at baseline and 6, 12, and 18 months postbaseline.

Data Collection

There are thousands of individuals employed by the federal government serving as emergency managers with organizations such as FEMA. In FEMA, emergency managers are employed as reservists, cadre of on-call response employees (COREs), permanent full-time employees, and incident management (IM) CORES. Although there

are approximately 5,000 people employed with FEMA, I focused this study on the approximately 500 FEMA employees working in Region IV. A total correlation sample size was calculated to determine how many participants are needed for studying whether a correlation coefficient differs from zero.

The WFHN data (codebook, manifest, and statistical data) were downloaded from the website at no cost for this study. I ensured there was enough respondents in the dataset to equate to the calculated sample size for my population in this study. To document the appropriateness of their population, the researchers of this dataset recommended an article explaining the data collection methodology and analysis. Prior to recruiting the participants, the authors performed an initial power calculation (Bray et al., 2013). The study was powered to $\alpha = 0.05$ with a power of 0.8 to evaluate the effectiveness of the intervention (Bray et al., 2013).

Data Analysis Plan

The statistical software package used for this analysis was SPSS and the data in the dataset was already set up for use in SPSS. The software managed the data, performed analyses, and ultimately displayed the overall results. According to WFHN (2015), limited data cleaning was performed on the WFHN files and the data providers indicated there were identified inconsistencies and possible unreasonable answers that remained in the data. The use of this information was left up to the discretion of the user of the data to determine how to handle their analyses. An associated flag as "0" or missing, and an equal sign for no issue noted the inconsistencies in the data. If there were any issues identified then it would be listed as "1" = issue. Some variables were

also recoded. For questions having a *lower* response but that represented *more* of the item (e.g., more stress), the reverse-coded items would make the *higher* response represent *more* of the item (e.g., more stress).

The variables provided in the dataset were single item variables, which is essentially a short measurement instrument utilized during the research process rather than a long measurement instrument. Fuchs & Diamantopoulos (2009) reported long measurements could lead to biased sampling because of the respondents potentially losing interest. Practically speaking, long measurement instruments tend to be costly because of additional expenses for data collection and coding. Employing single-item measures can reduce the risk of eliminating relevant constructs and selecting inappropriate theoretical models. Furthermore, the shortness of the questionnaires resulting in less time, greater flexibility, and ease of administration (less monotonous) are advantages of the use of single-item measures, thus reducing response biases (Fuchs & Diamantopoulos, 2009).

For the purposes of this research, it was sometimes useful to temporarily "group" or "split" the data in order to compare results across different subsets (Kent State University, 2017). The single-item variables in the dataset were combined and recoded into different variables. The mean score was calculated from all of the items for the variable. The new variable was arranged on a scale of 1-5 and was used to carry the analysis. The analyzed data answered the following research questions using the new variables:

RQ1: To what extent does psychological job demands predict burnout experienced by emergency managers?

RQ2: To what extent does the perception of stress lead to feeling burned out by emergency managers?

RQ3: To what extent does peer support affect burnout?

The demographic data of the government employees functioning as emergency managers were analyzed to establish an overall description of the population. A linear regression analysis assessed the relationship between the variables and evaluated the effects of psychological job demands, burnout, perceived stress, and peer support. Descriptive statistics reported for each of the variables in the study included a measure of central tendencies (e.g., frequency, mean, mode, median, variance, range, and standard deviation). Descriptive analysis was followed by a correlation analysis to address the research questions. Frequencies and percentages were reported concerning burnout, perceived stress, psychological job demands, and peer support.

The rule of thumb for determining the sample size for a linear regression analysis is requiring a minimum of 20 cases per independent variable in the analysis (Statistics Solutions, 2013b). The first step was to check whether there was a linear relationship in the data. The nearer the scatter of points are to a straight line, the higher the strength of association between the variables. The Pearson's Bivariate Correlation was also used to determine if both variables were strongly correlated. A Pearson product-moment *r* correlation assessed the relationship between the independent variable and the independent variable. Statistics Solutions (2013b) further detailed the process where

correlation coefficients, *r*, vary from 0 (no relationship) to 1 (perfect linear relationship) or -1 (perfect negative linear relationship). Positive coefficients indicate a direct relationship, where as one variable increases, the other variable also increases. Negative correlation coefficients indicate an indirect relationship, where as one variable increases, the other variable decreases. Lastly, the Cohen's standard was used to evaluate the correlation coefficient, where 0.10 to 0.29 represented a weak association between the two variables, 0.30 to 0.49 represented a moderate association, and 0.50 or larger represented a strong association (Statistics Solutions, 2013b).

Instrumentation and Operationalization of Constructs

The WFHN data was published in 2015 and was appropriate for this study because it was designed to provide an understanding of the impacts workplace practices and policies can have on work, family life, and health outcomes (ICPSR, 2015). The surveys performed were collected on topics such as psychological job demands, perceived stress, burnout, and peer support.

The majority of the data holdings through ICPSR were for public use with no access restrictions with respondent confidentiality ensured within the datasets, but they also maintained restricted data containing confidential and sensitive data. As previously stated, there were no restrictions for the WFHN dataset.

Validity and Reliability

Heale & Twycross (2015) intimated rigor in quantitative studies is determined through an evaluation of the validity and reliability of the tools or instruments utilized in the study. In determining the reliability and the validity of the datasets, I reviewed if the

data collected were rigorous and if they could assist with answering the research questions and implementing the study findings. I reviewed the survey process to evaluate the participants in the survey, the environment required for participation, instruments used for the inquiries, and the responses generated. I also ensured there were adequate responses for the proposed statistical analysis. The research data collected for the WFHN utilized a self-efficacy scale, and a burnout scale producing data with good internal consistency and suitable construct validity (WHFN, 2015).

Validity and reliability were established by the use of eligible employees and managers at two employers representing different industries based on employment at one of the participating locations and were not contractors, and schedules were comparable. Trained field interviewers administered face-to-face interviews and telephone interviews with the participants, and their spouses or partners, and children, if applicable (Bray et al., 2013). The researchers performed random group assignment to enhance the internal validity while minimizing the opportunity for contamination and ensured the formative research process was standardized to protect the scientific validity of the study.

Reliability and quality of data is a significant part of any research study; however, it is of particular significance in quantitative research studies. Quantitative studies strive to investigate and understand the attitudes, beliefs, and values of the phenomenon studied. All of the qualities previously mentioned were subjective qualities, so it was important for me to consider the study's internal and external validity. In order to address the quality and reliability of the data, I ensured an appropriate number of study participants were utilized in the assessments to provide a foundation of analysis and one

that is representative of the target population (Morrow, 2005). Fuchs & Diamantopoulos (2009) indicated a difficulty facing the use of single-item scales is the construction of the single-item measures to adequately represent the desired construct. These measures must be constructed carefully to achieve the desired reliability. The authors further documented that validity can be established by predicting the pattern of correlations with other theoretically relevant variables. In order for the data to be reliable, there should be a minimum of three items to assess the accurate reliability. Each of the variables in the dataset satisfied this criterion.

There was confidence in the data utilized from ICPSR, as it had been consistently accessed for scholarly papers, theses/dissertations, and reports. Further, the manner in which ICPSR archives the data allowed for replication, an understanding of published findings, and new research. Furthermore, Cheng and Phillips (2014) described secondary data as a standard where there is sufficient information provided from an author to understand, evaluate, and build upon previous research if another researcher can replicate the results without any additional information.

ICPSR's (2017) use of archived data has been critical to the scholarly community by ensuring culturally significant materials were accessible in perpetuity while some funding agencies have begun to require that the data they fund be deposited in a public archive. In addition, the use of archived data generates numerous publications and an increased profile for producers of data (Pienta, 2010). The repository enhances the data submitted to them for future researchers by ensuring the information is useful to make it complete, and self-explanatory (ICPSR, 2017). In addition, standards are maintained

demonstrating it is organizational, procedurally, and technologically sound as a true data custodian (ICPSR, 2017).

Bray et al. (2013) documented a series of efforts of how the data were collected. First, the research data for WHFN was collected using a self-efficacy scale and a burnout scale, which produced data with good internal consistency and suitable construct validity. Second, the instruments used for the WFHN included self-reporting answering survey questions provided by trained field interviewers administered face-to-face interviews telephone interviews. Third, the authors further documented the effectiveness study of the data from the WFHN treated each company as a separate field experiment and did not require pooling data from across the industries to meet study objectives for statistical power. The instruments in this dataset were appropriate, have been utilized in other forms of research, and was sufficient in answering the research questions.

As it related to internal validity for the WFHN, each experiment was viewed as concurrent replications making strong causal claims within a company; the work sites were randomly assigned to an intervention or usual practice conditions using a biased adaptive randomization technique; and the random grouping enhanced the internal validity while minimizing the opportunity for contamination (Bray et al., 2013).

Ressler and Schoomaker (2014) intimated future work needs to examine the applicability of these findings to broader populations beyond the military, including civilians in stressful roles as first responders, law enforcement, and survivors of natural and manmade disasters, as well as victims of violent crimes and terrorism. The research findings by using these instruments can be generalized to a larger population in different

settings with comparable job descriptions. Emergency Managers are comparable to the population researched in that Emergency Managers can experience psychological demands, burnout, and stress from assisting individuals affected by a traumatic event. Colleagues and I have experienced this phenomenon when requested to deploy. Deployments for an Emergency Manager is survivor-centric, fast-paced, long hours, and no "real" time to decompress. The effects of peer support regarding personal and work issues can assist in alleviating the effects of burning out and feeling stressed. Emergency Managers are comparable to the employees surveyed in the WFHN because Emergency Managers can encounter burnout and stress due to psychological job demands and lengthy deployments.

Operationalization

For the purpose of this study, the following definitions are provided:

Burnout. Various scholars reference Maslach et al.'s (2001) definition for burnout as a combination of emotional exhaustion, depersonalization, and reduced personal accomplishment (Khan et al., 2014). The Maslach Burnout Inventory (MBI) was developed by Christina Maslach for the purpose of assessing the three components of burnout syndrome: emotional exhaustion, depersonalization, and reduced personal accomplishment, all of which were implicated in job turnover, absenteeism, and low morale (WFHN, 2015). These variables were collected through the online survey system and entered into SPSS. There were three items collected for burnout.

- WM_BURN1 You feel emotionally drained from your work. How often do you feel this way?

- WM_BURN2 You feel burned out by your work. How often do you feel this way?
- WM_BURN3 You feel used up at the end of the workday. How often do you feel this way?

The mean score of each item were grouped into one variable, recoded, and labeled burnout. The responses to the statement in the six-item screening scale ranged from 1, never, to 7, every day.

Perceived stress. The PSS is commonly utilized for stress appraisals and has been found to predict many adverse physical and mental health outcomes (WFHN, 2015). The PSS has shown discriminant validity with regard to life event measures of stress (WFHN, 2015). There were four items collected for perceived stress.

- EM_STRS1 During the past 30 days, how often have you felt that you were unable to control the important things in your life? Would you say very often, fairly often, sometimes, almost never, or never?
- EM_STRS2 During the past 30 days, how often have you felt confident about your ability to handle your personal problems? (Would you say very often, fairly often, sometimes, almost never, or never?)
- EM_STRS3 During the past 30 days, how often have you felt that things were going your way? (Would you say very often, fairly often, sometimes, almost never, or never?)

- EM_STRS4 During the past 30 days, how often have you felt difficulties were piling up so high that you could not overcome them? (Would you say very often, fairly often, sometimes, almost never, or never?)

The mean score of each item were grouped into one variable, recoded and labeled as perceived stress. The responses to the statement in the PSS survey ranged from 1, very often, to 5, never.

Peer support. Peer support is the actual or perceived availability of assistive behaviors provided by another individual (Ariapooran, 2014). Peer support is a construct highlighting the significance of possessing inter-personal relations because it encompasses the sentiment of providing emotional support, and instrumental aid (PHAST, 2011). There were four items collected for peer support:

- WM_OCIT1 To what extent do you help other employees with their work when they have been absent?
- WM_OCIT2 To what extent do you help your coworkers when they have too much to do?
- WM_OCIT3 To what extent do you help coworkers with questions they have about their work?
- WM_OCIT4 To what extent are you willing to work harder in order to help your employer succeed?

The mean score of each item were grouped into one variable, recoded, and labeled peer support. The responses to the statement in the OCB survey ranged from 1, never, to 5, all the time.

Psychological job demands: Roelen et al. (2014) defined psychological job demands refer to many facets of a job requiring sustained mental or emotional efforts resulting in a psychosocial risk in the workplace. The authors reported jobs with increased job demands, such as deployments, requiring excessive workloads and time pressures in addition to long working hours can produce burnout from the stress reactions. It is suggested that job demands and having control of situations can predict health and well-being outcomes. When job demands are high and controlled, or decision-making capabilities are low, health and well-being suffer. There were six items collected for psychological job demands. There were six items collected for this category, but these three times were more relevant to psychological job demands:

- WM_JSTR4 You do not have enough time to get your job done.
- WM_JSTR5 Your job requires very fast work.
- WM_JSTR6 Your job requires very hard work.

The mean score of each item were grouped into one variable, recoded and labeled psychological job demands. The responses to the statement in the 7-point scale survey ranged from 1, strongly agree, to 3, neither.

Threats to Validity

Quantitative methodology analyzes a theory by testing the hypotheses of the studied phenomenon. In the study of peer support to manage burnout/stress from lengthy deployments, quantitative research can help researchers explore an individual's motivators, perceptions, and expectations on effectively managing their burnout/stress. Understanding how to manage the effects of burnout/stress through the means of peer

support is crucial to the quality of life and overall good health. Therefore, it is important that the data collected and analyzed are reliable and valid. The reliability and validity of the data collected ensure the information are transferable, trustworthy, and credible (Creswell, 2009).

Although secondary sources are beneficial to conducting research, concerns about the validity and reliability of the origin of the data collection is a constant concern (Heale & Twycross, 2015). Secondary sources are reliable as it covers the whole population; however, unreliable data exists and should only be used when no other data are available. Valid data should represent genuine and authentic findings and collected using scientific methods. The rigor and robustness of the study are essential for the measurement of validity and reliability, enhancing its quality, critiquing research, and influencing the decision about whether to implement the findings of the study. Lastly, content validity is necessary to evaluate the adequacy of the instrument and determining if it canvasses all of the content for the variable (Creswell, 2009).

External validity generalizes the results of an empirical investigation to and across various populations, settings, and times; even if they are not represented in the same sample (Research Methods, 2006b). The threats to external validity include population validity by having the confidence in suggesting the results of the study will be applicable to other groups (Research Methods, 2006b). A second approach is effectively using the theory of proximal similarity by effectively describing the ways in which my contexts and others differ and providing sufficient data illustrating the range of similarities between various groups of people, places, and times (Research Methods, 2006b).

According to Research Methods (2006c), establishing internal validity of the research is dependent on guaranteeing the relevance and accuracy of the results. This research arena stated the significant question in internal validity is determining if the observed changes can be attributed to my proposed intervention of peer support and not to other possible causes. Furthermore, a limitation of internal validity is that it is only relevant to the specific study in question (Nurani, 2008) and considering the different threats such as criticisms when concluding that my intervention caused the outcome of reduced burnout and stress from experiencing peer support.

Threats to Internal Validity History

This threat can be a threat for one group design, but not for a two-group design (Creswell, 2009). It addresses unanticipated events occurring during the progression of the experiment and determining if the events affected the dependent variable (Creswell, 2009). The researchers achieved this function by documenting the demographics of the participants, previous emotional and medical histories. The researchers achieved this during the selection process of the participants in the study and by standardizing the formative research process to protect the scientific validity of the study. I addressed this threat by limiting my research to Emergency Managers at FEMA.

Threats to Internal Validity Maturation

Assesses changes in the dependent variable due to normal developmental processes operating within the subject as a function of time (Creswell, 2009). The researchers selected usual practice as the control to directly address whether the intervention produced better outcomes than current practice.

Threats to Construct

Social Research Methods (2006) indicated critics of the research may insinuate the topic of the research study is not genuine or necessary and comments can also include not performing an adequate job of thinking through the constructs. The (WFHN researchers' (2015) formative research informed all aspects of the study, including the data collection and the intervention specific for the industries and organizations. The information used allowed for making decisions regarding which constructs would be most critical to measure in the study. In addition, a better understanding was gained of the types of families and specific issues faced by each industry. Interventions were customized for relevance to the particular types of work performed in each organization and the logistical constraints faced while implementing the data collection and intervention. I addressed this threat by thinking critically through my concept, obtained advice, and addressed comments regarding my operationalization. Moreover, I clearly articulated and documented the need for the study, need for social change, and proposed why the topic of my research was a genuine concern.

Interaction of Different Treatments

Critics can indicate there are various methods to reduce burnout and stress from the psychological job demands from lengthy deployments. I addressed the various methods of managing these physical conditions, but this study concentrated on peer support and how employees are in need of training to recognize the signs of a peer in distress.

Restricted Generalizability Across Constructs

A study concludes a treatment is effective, but it fails to anticipate any negative consequences of the side effects of the treatment (Social Research Methods, 2006). I was careful and cognizant if the intervention method and if it were positively effective and was generalizable to other potential outcomes. Individuals performing duties of peer support must be cognizant of not being too invasive into one's privacy and let the individual in need be the driver of the conversation.

Ethical Procedures

In this study, I met all of the ethical requirements of research by following all ethical codes of conduct and legal requirements. Walden University's policy is the Institutional Review Board (IRB) is responsible for ensuring that all research complies with the university's ethical standards as well as U.S. federal regulations (Walden University, 2017). Walden University will not accept responsibility for research conducted without the IRB's approval. Furthermore, the university will not grant credit for student work that failed to comply with the policies and procedures related to ethical standards in research (Walden University, 2017). The data from the WFHN was free for public use.

Ethics and Privacy

Informed consent. The ICPSR (2012) documented that informed consent statements were provided to the participants in both datasets before the commencement of the data collection. This was performed by ensuring all subjects were made fully informed decision and understood there were no penalties for refusing to participate.

Other procedures followed by ICPSR was the removal of any direct identifiers in the data prior to depositing data, and the data underwent procedures to protect the confidentiality of individuals whose personal information may be part of archived data. Further confidentiality assurance included (1) a rigorous review to assess disclosure risk; (2) modifying data, if necessary; (3) limiting access to datasets; and (4) consulting with data producers.

Protection from harm. Participation in the study was voluntary. Before each participant began the assessments, they were informed they could stop taking the assessments at any time. There was no penalty to the participants for discontinuing. All subjects made fully informed decision and understood there were no penalties for refusing to participate.

Informed consent. ICSPR (2017) updated procedures assured the protection of respondent confidentiality is a core tenet of responsible research practice beginning with obtaining informed consent. The informed consent must include a statement describing how the confidentiality of subject records were maintained and written in a way that does not inhibit the researcher's ability to share data.

Honesty with professional colleagues. I utilized a well recognized and respected secondary resource for data. The ICSPR is a resource for data, which has been widely accessed by students, researchers, and educators. The data collected were not fabricated to produce a particular outcome. I did not plagiarize this study and approval was obtained from the IRB prior to data analysis to maintain the integrity of the research.

Analysis of the data was not performed until receipt of approval from the IRB. As it related to the secondary resource data, the ICPSR accepts data with identifying information under conditions consistent with the consent of the study participants and the relevant IRB approval (ICSPR, 2017). ICPSR staff work in close collaboration with data depositors to address disclosure risks, stringent procedures are employed to protect the confidentiality of individuals and organizations by performing a detailed review of all datasets to assess disclosure risk, and modifying data, if necessary, to protect respondents' confidentiality (ICSPR, 2017). The process also involved limiting access to datasets for which there is an increase in risk of disclosure.

Summary

This section described the method and research design proposed for use in this quantitative study. The purpose of the study and literature reviews setting the foundation and philosophical framework for the study were outlined in Sections 1 and 2. Additionally, the related headings provided an in-depth view of the role of the researcher, the research design, the methodology used, the participant selection logic, instrument used, and the data analysis plan. Section 1 closed with the methodological assumptions, limitations, delimitations, and ethical assurances. Section 2 discussed the issues of trustworthiness, to include reliability and validity along with ethical procedures. The survey instruments and the operational definitions were also described. The methodology proposed in this study provided evidence to determine a conclusion. The method of collection, processing, and analyzing the data have been included and discussed in detail. Section 2 closed with reliability, validity, and ethical procedures. Section 3 of this

research study produces the statistical findings of the research project following IRB approval.

Section 3: Presentation of the Results and Findings

Introduction

The purpose of this study was to examine the effects of burnout and perceived stress amongst emergency managers working for FEMA, and to determine if social support was an effective intervention. Survey data were gathered from 4,776 emergency managers to complete the study.

Table 1 provides the psychometric characteristics for the five summated scale scores: decision authority, psychological job demands, peer support, burnout, and perceived stress. Table 2 displays the intercorrelations among the five summated scale scores to answer the research questions. As additional findings, Table 3 provides the results of the multiple regression model that predicted burnout based on decision authority, psychological job demands, and peer support. Table 4 displays the results of the multiple regression model that predicted perceived stress based on decision authority, psychological job demands, and peer support.

Initially, there were 5,509 respondents in this archival dataset. Based on study criteria, only nonsupervisory emergency managers were retained ($N = 4,811$). There were 34 respondents with missing answers who were also removed reducing the sample to $N = 4,777$. Mahalanobis distance statistics identified one respondent with multivariate outliers, which was removed leaving the final study sample to be $N = 4,776$.

The larger sample size was deemed most appropriate for this analysis because if the sample size were too small, the results would not represent the size of the target population (Kadam & Bhalerao, 2010). Moreover, Cohen (1988) suggested some

guidelines for interpreting the strength of linear correlations. Cohen suggested that a weak correlation typically had an absolute value of $r = .10$ (r^2 = one percent of the variance explained), a moderate correlation typically had an absolute value of $r = .30$ (r^2 = nine percent of the variance explained) and a strong correlation typically had an absolute value of $r = .50$ ($r^2 = 25$ percent of the variance explained). With this sample size of $N = 4777$, a trivial correlation of $r = .16$ (only 2.6% of the variance accounted for) is significant at the $p < .05$ level. Therefore, for the sake of this level of research, the Results section will primarily highlight those correlations that were of at least moderate strength to minimize the potential of numerous Type I errors stemming from interpreting and drawing conclusions based on potentially artificial correlations.

Data Collection of Secondary Data Set

The WFHN secondary data were collected during September, 2009, to December, 2012, involving a cluster-randomized sample of eligible employees and managers at two employers representing different industries. The industries included a Fortune 500 company and an extended care company. The employees and managers employed at the Fortune 500 Company worked in the information technology division and were eligible if they were employed by the firm in one of the two locations participating in the research and were classified as employees and not independent contractors. The employees and managers at the extended care company were eligible to participate if the participants regularly worked 22.5 or more hours per week in direct patient care or important positions within the nursing department, and worked the day or evening shifts.

The study was a group-randomized field experiment with open-ended and semistructured questions and was designed to enhance the understanding of the impacts of workplace practices and policies on work, family life, and health outcomes. All employee and manager participants were assessed at baseline and 6, 12, and 18 months postbaseline. There were no discrepancies in the use of the secondary data set from the plan presented in Section 2.

Table 1 displays the psychometric characteristics for the five summated scale scores. The Cronbach α coefficients ranged from α = .57 to α = .88 with a median sized coefficient of α = .73. Given the large sample size (N = 4,776), this suggested that all scales had adequate levels of internal reliability (Hertzog, 2008).

Results

Table 1

Psychometric Characteristics for Summated Scale Scores

Score	Number of Items	*M*	*SD*	Low	High	α
Decision authority	3	3.47	0.73	1.33	5.00	.57
Psychological job demands	3	3.79	0.73	1.67	5.00	.59
Peer support	4	4.04	0.57	2.50	5.00	.73
Burnout	3	4.39	1.65	1.00	7.00	.88
Perceived stress	4	2.31	0.74	1.00	4.50	.75

Note. (N = 4,776)

Table 2 displays the intercorrelations among the summated scale scores displaying the relevant Pearson correlation.

Table 2

Intercorrelations among the Summated Scale Scores

Score	1		2		3	4		5
1. Decision authority	1.00							
2. Psychological job demands	-.12	****	1.00					
3. Peer support	.04	***	.07	****	1.00			
4. Burnout	-.23	****	.40	****	.01	1.00		
5. Perceived stress	-.24	****	.15	****	.00	.39	****	1.00

Note. (N = 4,776). * $p < .05$. ** $p < .01$. *** $p < .005$. **** $p < .001$

Table 3 displays the results of the multiple regression model predicting burnout based on decision authority, psychological job demands, and peer support.

Table 3

Prediction of Burnout Based on Selected Variables. Multiple Regression

Variable	*B*	*SE*	β	*p*
Intercept	2.64	0.21		.001
Decision authority	-0.40	0.03	-.18	.001
Psychological job demands	0.87	0.03	.38	.001
Peer support	-0.04	0.04	-.01	.34

Note. (N = 4,776). Final Model: F (3, 4772) = 384.62, p = .001. Adjusted R^2 = .195.

Figure 1 displays a residual histogram for burnout suggesting this model met all the necessary statistical assumptions.

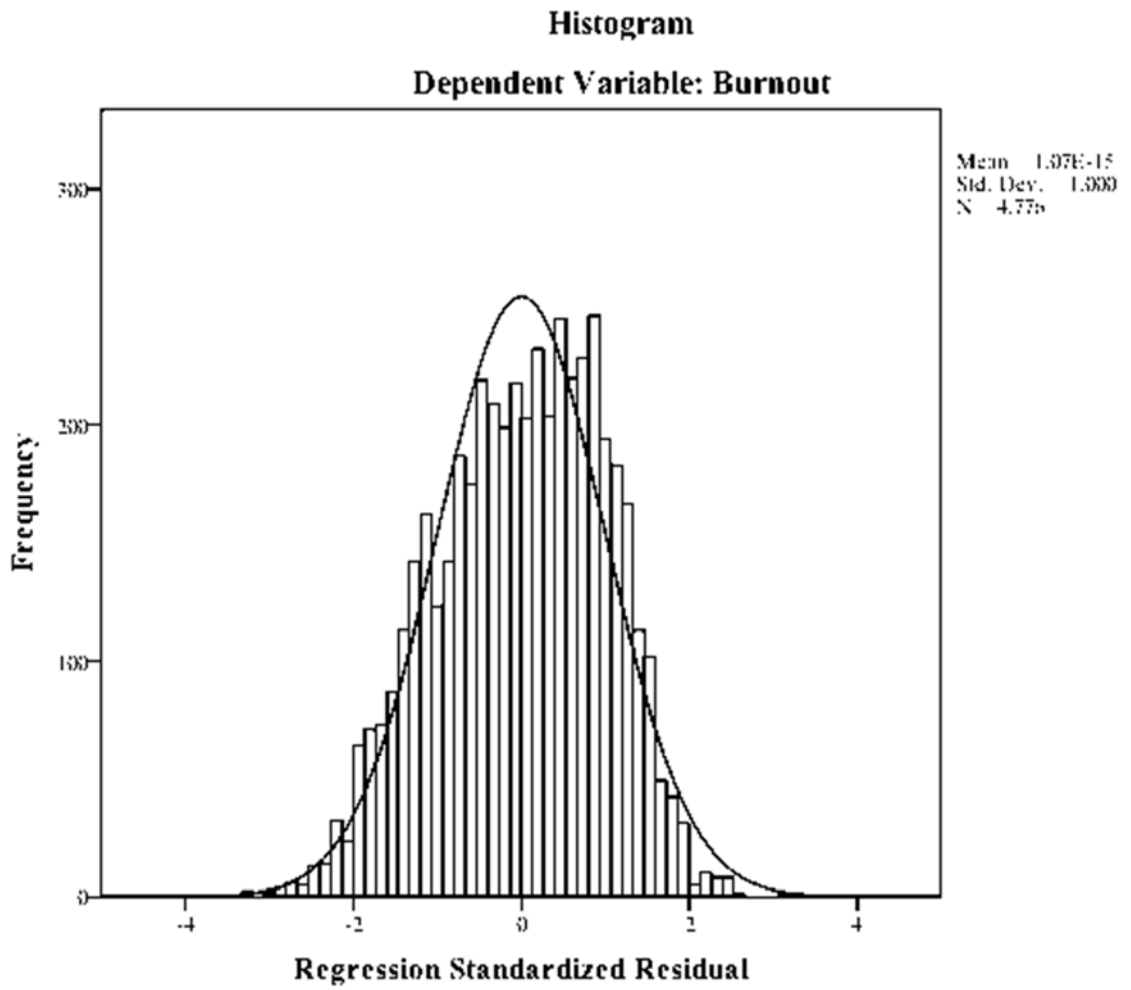

Figure 1. Residual histogram for the regression model predicting burnout (N = 4,776).

Figure 2 displays a P-P plot residual histogram for burnout suggesting this model met all the necessary statistical assumptions.

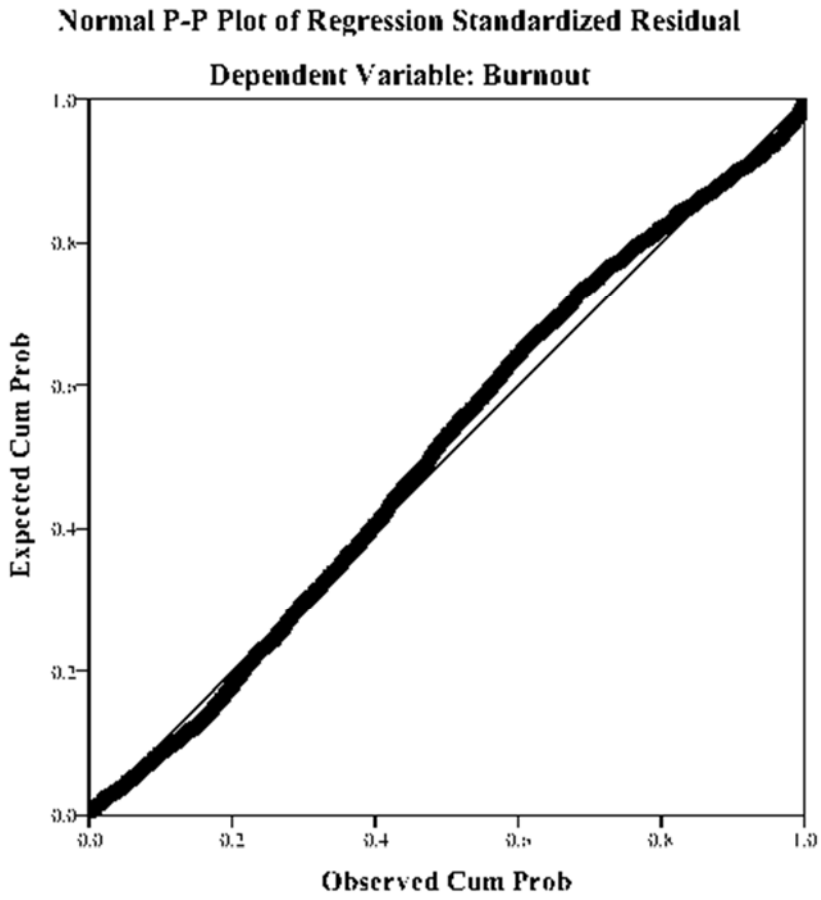

Figure 2. Normal P-P plot for the regression model predicting burnout (N = 4,776).

Figure 3 displays a scatterplot of the residuals against the predicted values for burnout suggesting this model met all the necessary statistical assumptions.

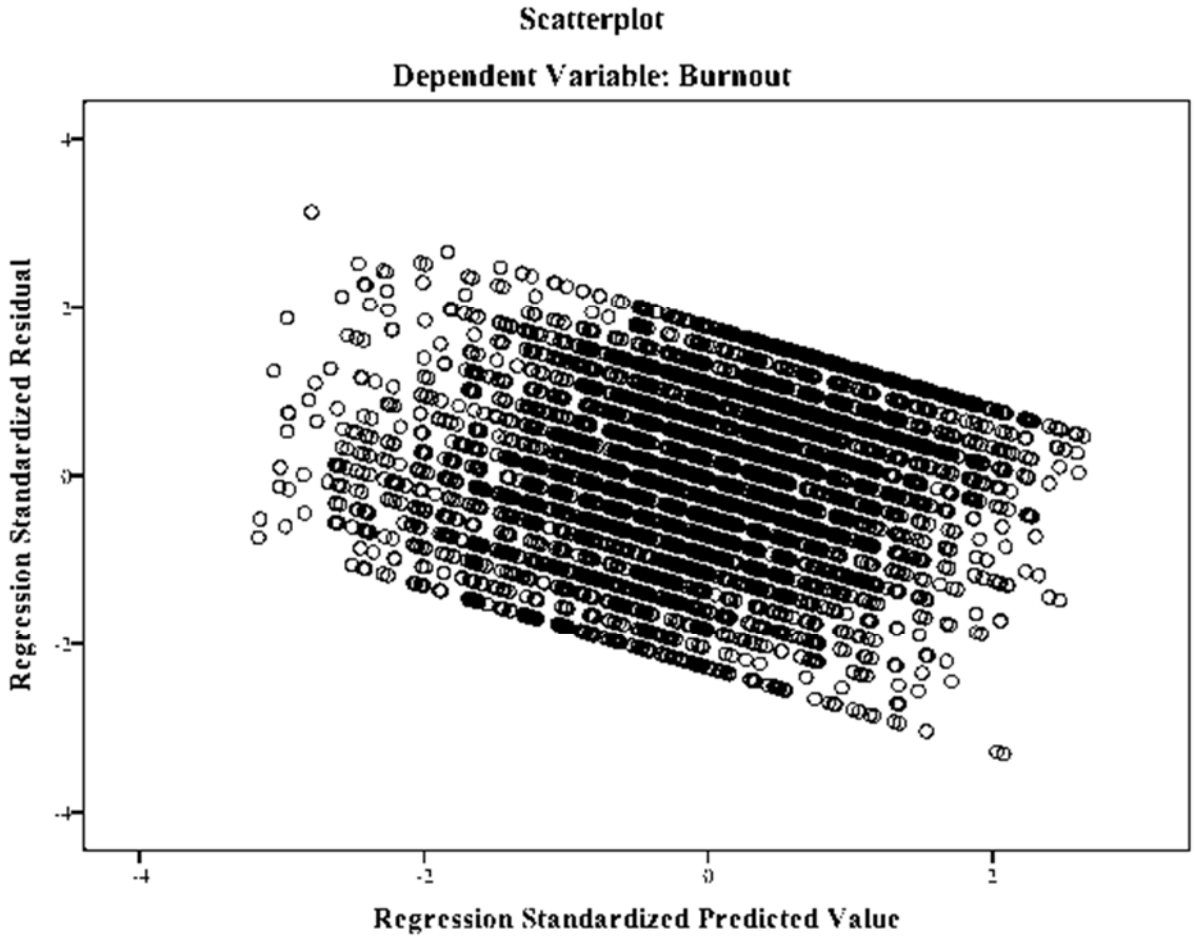

Figure 3. Residual scatterplot from the regression model predicting burnout (N = 4,776).

Table 4 displays the results of the multiple regression model predicting perceived stress based on decision authority, psychological job demands, and peer support.

Table 4

Prediction of Perceived Stress Based on Selected Variables. Multiple Regression

Variable	*B*	*SE*	β	*p*
Intercept	2.60	0.10		.001
Decision authority	-0.23	0.01	-.23	.001
Psychological job demands	0.13	0.01	.13	.001
Peer support	0.00	0.02	.00	.89

Note. (N = 4,776). Final Model: F (3, 4772) = 125.89, p = .001. Adjusted R^2 = .073.

Figure 4 displays the residual histogram for perceived stress suggesting this model met all the necessary statistical assumptions.

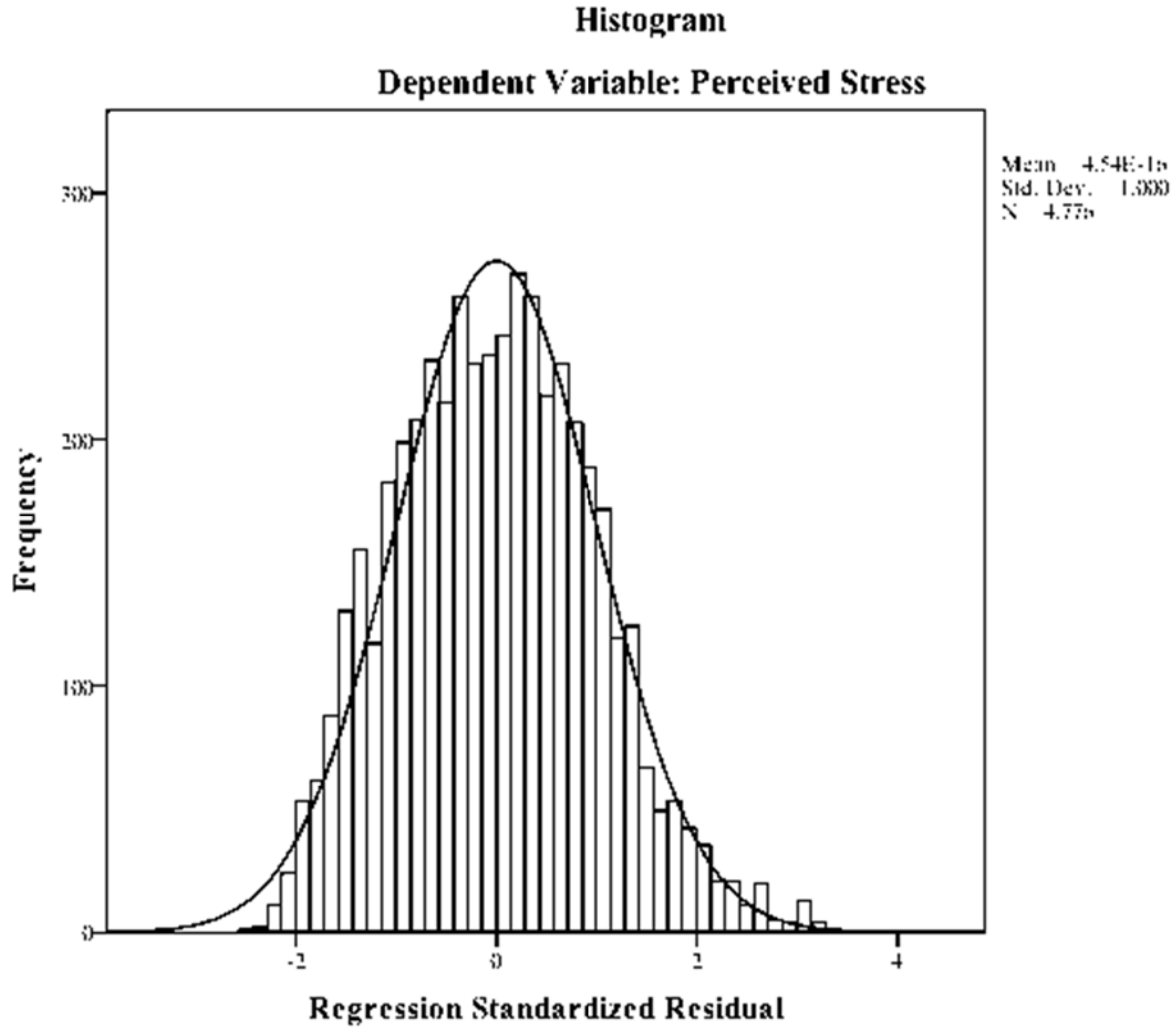

Figure 4. Residual histogram for the regression model predicting perceived stress (*N* = 4,776).

Figure 5 displays the P-P plot for perceived stress suggesting this model met all the necessary statistical assumptions.

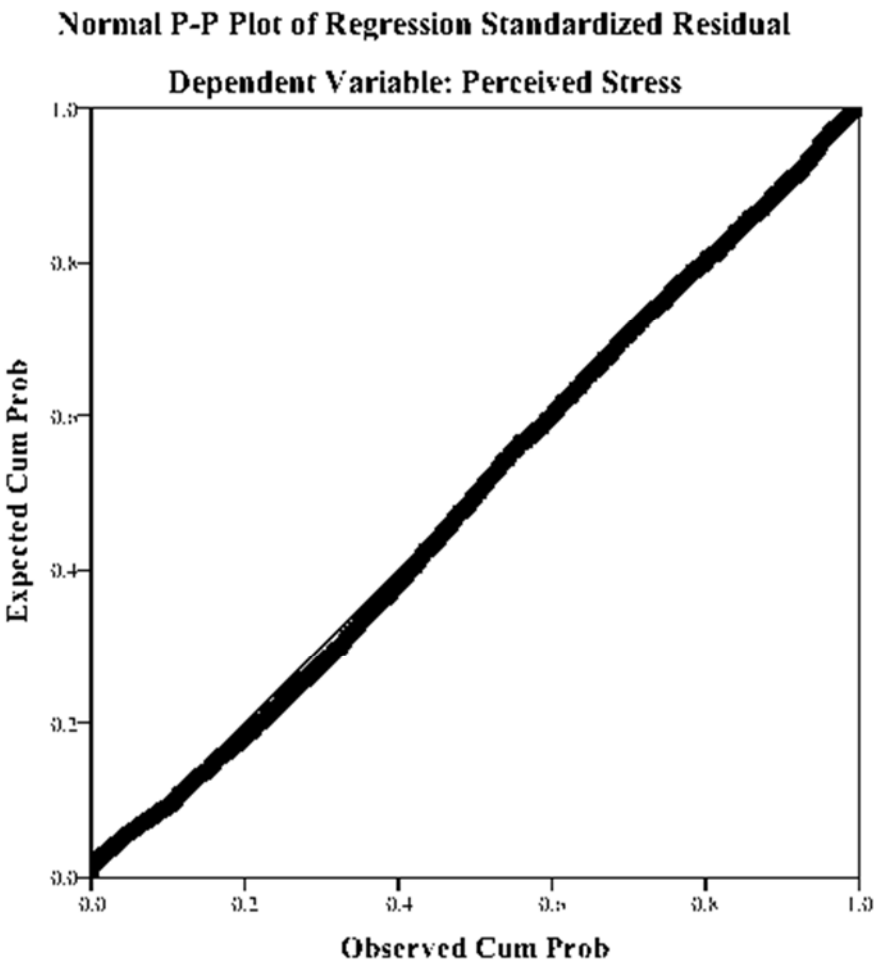

Figure 5. Normal P-P plot for the regression model predicting perceived stress (N = 4,776).

Figure 6 displays the scatterplot of the residuals against the predicted values for perceived stress suggesting this model met all the necessary statistical assumptions.

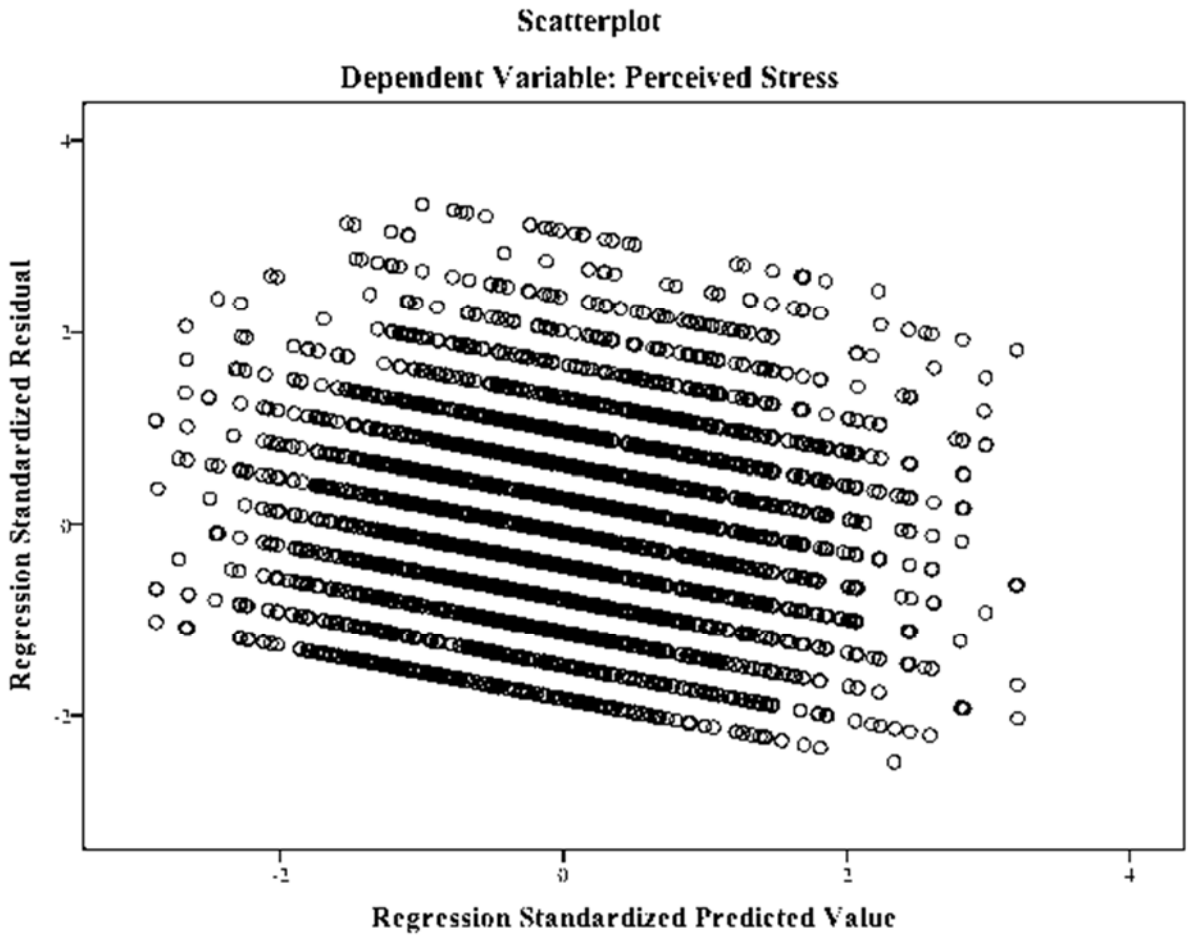

Figure 6. Residual scatterplot from the regression model predicting perceived stress (*N* = 4,776).

Summary

In summary, the purpose of this study was to examine the effects of burnout and perceived stress amongst Emergency Managers working for FEMA, and to determine if social support was an effective intervention. Hypothesis 1 (job demands and burnout) was supported (Table 2). Hypothesis 2 (stress and burnout) was supported (Table 2). Hypothesis 3 (peer support and burnout) was not supported (Table 2). In the final Section, these findings will be compared to the literature, conclusions and implications will be drawn, and a series of recommendations will be suggested.

Section 4: Application to Professional Practice and Implications for Social Change

Introduction

This research study was designed to explore the relationship between burnout and perceived stress amongst emergency managers and determine if social support is an effective tool in reducing burnout. Identifying the need for social support on deployments could provide organizations or public health practitioners with the tools necessary to develop educational training programs to increase awareness of the symptoms of burnout among emergency managers. This quantitative correlational study relied on secondary data obtained from the ICSPR to satisfy the gaps in the research literature that have not provided sufficient focus on the challenges of burnout faced by federal government employees functioning as emergency managers.

The nature of this study was a correlational quantitative research. This study explored the relationship between psychological job demands (independent variable) and burnout (dependent variable); the perception of stress (independent variable) and burnout (dependent variable); and peer support (independent variable) and burnout (dependent variable) amongst federal government employees subjected to deployments. Correlational research studies are one of the most common and useful in statistics. The process foretells results and describes the degree of relationship between two variables by assuming the association is linear (BMJ, 2017). Furthermore, there is no attempt to control or manipulate the variables.

I deemed a quantitative correlation study the most appropriate approach for the study design because the intent was to methodically explore and interpret the nature of

the relationship between the independent and dependent variables (Williams, 2007). The advantage of performing a quantitative research design is the method in which results prove or nullify a hypothesis (McCusker & Gunaydin, 2015). When properly designed, quantitative research can sort out the external factors, be considered unbiased, provide a comprehensive answer, and be legitimately discussed and published (Shuttleworth, 2008).

The secondary data source for the research questions was obtained from the WFHN, which were archived at ICPSR. This data were generated through the National Institutes of Health and the Centers for Disease Control and Prevention from September, 2009, to December, 2012. The secondary data were designed to enhance the understanding of the impact of workplace practices and policies on work, family life, and health outcomes. The scope of the study evaluated those individuals who experienced burnout.

The WFHN data were generated from a Fortune 500 company and an extended-care company through group-randomized field experiments. The information technology division of a Fortune 500 company comprised 26 total sites made up of 56 study groups with 7 to 60 employees each (average of 28). The extended-care company was composed of 30 worksites of 30 to 89 employees each (average of 51) who were randomly assigned to intervention or usual practice conditions. All employee and manager participants were assessed at baseline and 6, 12, and 18 months postbaseline. Opinions were provided for hours worked, balancing work and family, opportunities to work from home, the ability

to take vacation and time off when desired, and decision-making authority at work (WFHN, 2015).

In this study I used a quantitative methodology with a correlational design to summarize the need for peer support as a type of job resource that could be beneficial in assisting government employees functioning as emergency managers from experiencing burnout during deployments. In this section, I made a comparison of the findings from the statistical analysis to what was found in previous literature and the selected variables, draw conclusions and implications, and make a series of recommendations.

Interpretation of the Findings

RQ1 asked, To what extent does psychological job demands predict burnout experienced by Emergency Managers? The related null hypothesis ($H_0$1) predicted There is no significant association between psychological job demands and feeling burned out. To answer this, Table 2 displays the relevant Pearson correlation. A significant positive correlation was found ($r = .40$, $p < .001$) providing support to reject the null hypothesis for RQ1 (Table 2). An appropriate sample size is vital to any well-planned research study (Andrews, 2005). The large sample size was more appropriate because of the three items used for the research questions, and it proved to be representative of the entire population. According to Kim (2016), a statistical significance test result may be unreliable when a sample size is too small. In this case, the large sample size provided more reliable results (Andrews, 2005) than would have the smaller sample size.

RQ2 asked, To what extent does the perception of stress lead to feeling burned out stress by emergency managers? and the related null hypothesis ($H_0$2 predicted: There

is no significant relationship between perceived stress from burnout experienced by emergency managers. To answer this, Table 2 displays the relevant Pearson correlation. A significant positive correlation was found ($r = .39$, $p < .001$) providing support to reject the null hypothesis for RQ2 (Table 2). As indicated for the first research question, the large sample size was more appropriate because of the three items used for the research questions, and it proved to be representative of the entire population. The large sample size provided more reliable results (Andrews, 2005), than would have a smaller sample size.

RQ3 asked, To what extent does peer support affect burnout?" and the related null hypothesis ($H_0 3$) predicted: There is no significant relationship between peer support and burnout. To answer this, Table 2 displays the relevant Pearson correlation. No significant correlation was found ($r = .01$, $p = .66$) providing no support to reject the null hypothesis for RQ3 (Table 2).

Additional Findings

Table 3 displays the results of the multiple regression model that predicted burnout based on decision authority, psychological job demands, and peer support. The residual histogram (Figure 1), P-P plot (Figure 2) and scatterplot of the residuals against the predicted values (Figure 3) plus the large sample ($N = 4{,}776$) suggested that this model met all the necessary statistical assumptions. The three-variable model was statistically significant ($p = .001$) and accounted for 19.5% of the variance in the dependent variable. Specifically, as shown in Table 3, burnout was higher for lower

decision authority (β = -.18, p = .001) and more psychological job demands (β = .38, p = .001) but not related to peer support (β = -.01, p = .34).

Table 4 provides the results of the multiple regression model that predicted perceived stress based on decision authority, psychological job demands, and peer support. The residual histogram (Figure 4), P-P plot (Figure 5) and scatterplot of the residuals against the predicted values (Figure 6) plus the large sample (N = 4,776) suggested that this model met all the necessary statistical assumptions. The three-variable model was statistically significant (p = .001) and accounted for 7.3% of the variance in the dependent variable. Specifically, as shown in Table 4, perceived stress was higher with less decision authority (β = -.23, p = .001) and more psychological job demands (β = .13, p = .001) but not related to peer support (β = .00, p = .89).

The results both contradict and support previous research studies. For example, the findings from the first research question support Bartholomew et al. (2014) who indicated that job demands and burnout are interrelated because job demands can lead to the manifestation of burnout symptoms. In one of their studies, Khan et al. (2014) determined job demands, burnout, and work engagement have a positive relationship between workload, emotions, and symptoms of burnout. Khamisa et al. (2015) noted burnout was higher with nurses when compared to other health professionals due to the nature of their work, such as delivery of humane, empathetic, culturally sensitive, proficient, and moral care in working environments with limited resources and increasing responsibilities.

The findings for the second research question support the literature where Khamisa et al. (2015) postulated burnout is a result of prolonged exposure to stressful working environments. As it relates to both RQ1 and RQ2, Wallace's (2016) analysis indicated FEMA emergency managers could experience stress and burnout working in multiple cumulative disasters requiring lengthy and extended separation from family, friends, and other social networks. Khan et al. (2014) determined that work and social conflicts positively correlated with burnout symptoms such as cynicism and stress because job demands exerted a negative pressure in the everyday working life of an individual.

Lastly, it was surprising to learn the findings from RQ3 contradicted previous research. The contradictory nature of this study with previous research could be explained by a variety of factors. Cieslak et al. (2014) indicated results had yielded subtle differences between the constructs of burnout and compassion fatigues but also instances where they partially overlap due to the continuous evolution of burnout and compassion fatigue. In Wallace's (2016) assessment of FEMA personnel, the conversations intimated a reluctance in contacting the work-life employee assistance program for fear of how it would affect their position. Previous research by Ariapooran (2014) on nurses illustrated how social support portrays a crucial role in predicting compassion fatigue and burnout. This study further determined that when coworkers provide higher levels of support; it decreases the levels of emotional exhaustion and burnout in nurses. A report by Cardozo et al. (2012) postulated that exposure to risk factors from burnout and the inclusion of protective factors (social support, healthy

lifestyle, and healthy coping strategies) would be significantly associated with mental health outcomes (depression, anxiety) and burnout. The authors surmised that their statistical findings lend scientific support for the recommendations that peer support networks are beneficial during or after their deployment. An analysis performed by Siedlecki et al. in 2014 also confirmed that social support was associated with lower levels of depression, psychological distress, burnout, lack of personal accomplishment, and greater life satisfaction.

The findings from this study from RQs 1 and RQ2 did indicate that psychological job demands and perceived stress were significant predictors of burnout, which are findings in line with previous research. The findings from the RQ3 contradicted previous studies regarding peer support and its benefits for preventing burnout, but this is not surprising for the population evaluated. The results were negatively skewed because people will automatically state they are helpful towards their colleagues during times of distress. While working on deployments after a disastrous event, there tend to be positive connections between others in the work environment resulting in helpfulness. Furthermore, there is a common understanding that deployment life is stressful and the work demands are strenuous; therefore, emergency managers automatically support each other through teamwork while working through those adversities.

In light of the findings from the three research questions and utilizing the support of previous research, the JD-R theory was still appropriate. The JD-R theory was selected because it addressed the relationship between situations and physical responses as developed in the research questions. Although my findings from the secondary data

contradicted the hypothesis for peer support and burnout, this theory supports the premise that awareness training should be integrated into the workplace to reduce the adverse health impacts of burnout and stress. In addition, this theory is appropriate because of its flexibility in being applied in many different forms and fostering several interventions such as hiring additional personnel to decrease workload, task restructuring, employee participation in the planning of tasks and shifts, increased budgets for education and training, and the implementation of a job mobility program (Bakker & Demerouti, 2016). Working as emergency managers, time is usually very limited with high volumes of work with short deadlines during an emergency and tasks are often shifting based on necessity. It can be emotionally draining and stressful navigating the bureaucratic policies. Although the third research question did not support the hypothesis that peer support can reduce the symptoms of burnout, numerous literature reviews support the assumption that there is a relationship between psychological job demands and burnout and perceived stress and burnout. It also supports how awareness training can be a benefit and aid in counteracting the adverse health effects of burnout and perceived stress.

Nielsen et al. (2017) documented that within the educational setting examples of job resources are supervisory support, social support from colleagues, and role clarity. Additional studies performed recently provided more evidence on the effects of interaction amongst individuals and burnout than previous years (Bakker & Demerouti, 2016). The evidence concluded that job resources have a favorable effect on well-being and providing resources such as job control, social support, learning opportunities, and performance feedback have been observed to have a positive effect on work engagement

(Tims et al., 2013). If you work in a demanding role, you can experience less stress if your organization provides resources to support you (Tims et al., 2013).

Limitations of the Study

Research examining the association between psychological job demands, perceived stress, burnout and peer support is very limited. This study makes significant contributions to the literature by addressing this gap. It is among the first few studies to examine psychological job demands, perceived stress, burnout and peer support among Emergency Managers working for FEMA. It also extends our understanding of the predictors of burnout and perceived stress utilizing secondary data.

One limitation of this study was the use of the self-report measures using secondary data. Secondary data tend to be general and vague; the information may not be entirely accurate for purposes of the research, and the data may be outdated (Heale & Twycross, 2015). It also eliminated the need to perform a pre-test and post-test on the target population. Self-reporting measures, although convenient and cost-effective, but rely solely on the individual to report his or her behaviors truthfully. Individuals may be more apt to give socially acceptable answers rather than truthful answers to items on the scales and reported less or more burnout than how they actually felt, or how they will offer peer support, which was evident in the responses to the third research question. Furthermore, FEMA personnel are always reminded to self-monitor and take breaks when necessary, in addition to being reminded to be on the lookout for their colleagues and their own well-being. It is unspoken because it is understood that it has to be done.

Different research questions could have been presented that would have been more specific to giving and receiving peer support. Response bias may have limited the validity of this study because some of the responses would have been the expectation and not how the individual may have genuinely felt. In addition, the statistical analysis yielded low results for Cronbach alpha for the variables decision authority and psychological job demands, which could suggest there was no internal consistency. Fortunately, the measures used in this study have been widely validated and found to be a good measure of burnout. Further limitations could be not controlling for other factors, such as age, gender, and deployment experience, which may influence the results of perceived stress and burnout.

There were no issues or concerns with the validity and the reliability of the secondary data. Cronbach's coefficient alpha estimates the reliability of measurement instruments such as scales, multiple item tests, questionnaires, or inventories in various fields of study (Yurdugül, 2008). It is preferred for three, four, or five point Likert scale items (Javali & Gudaganavar, 2011). Yurdugül (2008) indicated the calculation of Cronbach's alpha does not depend on sample size but is formed from the average correlation and the number of items included in the potential scale. He indicated that in literature regarding reliability, the necessary minimum sample size for coefficient alpha is commonly suggested as 200, 300, or 500. If a sample size is too small, the statistical tests will have very low "power," meaning that it will be difficult to detect significant results. This was evidenced in the research findings where there was an ample

population size after accounting for certain parameters and the results of the Cronbach α, which measured for internal reliability and consistency.

Recommendations

Given what we found and given what the literature says, here is what we know. There are significant positive associations between psychological job demands and burnout, and perceived stress and burnout. There was no significant positive association between peer support and burnout. Often gaps can be as simple as redoing the study by using a different population. Additional research should be performed to determine if peer support is beneficial in preventing burnout since the findings of my research study indicated something different than what previous literature suggested. Lastly, a longitudinal approach would be advantageous in knowing if a more experienced Emergency Manager has less burnout than a new employee. In addition, it would be beneficial in studying if pairing an individual with more experience and an individual with little to no experience can provide information on stress, burnout, and peer support. Therefore, future research should have someone else utilize different types of questions regarding peer support and burnout, and then rate them.

Implications for Professional Practice and Social Change

The social change implications of this research are to advance the understanding of how stressful deployments can be and the stress from the psychological demands of the job can often lead to burnout. The results of this study can be used to develop yearly or new employee awareness training programs explaining the signs of a burned out employee and how to appropriately address the crisis without being too intrusive.

Moreover, the results of this study can encompass the areas of how to address issues regarding family life prior to deployment, the importance of a social network, and forms of treatment and interventions. It is imperative to implement preventative measures to address burnout and perceived stress.

Results of this study can be disseminated to FEMA as a resource and documentation that training programs should be created and implemented for burnout prevention, and as a tool illustrating how we should care for and support our colleagues while also assisting disaster survivors. Supportive interventions can lead to healthier employees. Furthermore, it can create self-awareness in knowing one's stressors, coping strategies, balancing the actions of giving of oneself and giving to oneself, and managing difficult and demanding assignments (Maslach, 2003).

Conclusion

The stressful nature of deploying to a disaster make it necessary for a good Emergency Manager to be capable of coping in high-pressure situations (U.S. Department of Health and Human Services, 2005). There was little research investigating the impact of high levels of stress on government employees functioning as Emergency Managers. Although some research suggests that Emergency Managers can suffer from mental fatigue and burnout, they do not receive emotional support to address their underlying issues. Employee burnout and perceived stress are common phenomenon that can often be misconstrued as a personal issue rather than a challenge to an organization in need of addressing. The costs of burnout and the need for peer support to individuals as well as organizations were the impetus of this research study.

Some individuals can functionally manage their stress and experience minimal psychological disturbances, but there are others where stress can become problematic, particularly when the stress response is experienced for an extended period and remain unaddressed (U.S. Department of Health and Human Services, 2005). The purpose and the design of this research study evaluated the effects of burnout and stress experienced from lengthy deployments and how peer support can be beneficial to these health effects. Specifically, I sought to find out if peer support had a positive effect on burnout after exposure to psychological job demands and perceived stress. Understanding and having an awareness of burnout and perceived stress on deployments is exceptionally advantageous to individuals and the organizations in which they work.

The results of this study indicated that burnout had a significant positive relationship with psychological job demands and perceived stress, but did not have the same relationship with peer support. The relationship between peer support and burnout contradicted the literature findings, but this could be attributed to the fact that peer support is an inherent part of the job and there are constant reminders that we should care for one another and ourselves. This study has added to the research on the causes and outcomes of burnout by highlighting the need for creating and implementing a training program for employees and promoting healthier and happier employees.

References

Alexopoulos, E. C. (2010). Introduction to multivariate regression analysis. *Hippokratia*, *14*(Suppl 1), 23–28.

Andrews, C. (2005). Power and sample size. Retrieved from http://www.andrews.edu/~calkins/math/edrm611/edrm11.htm on December 11, 2017.

Ariapooran, S. (2014). Compassion fatigue and burnout in Iranian nurses: The role of perceived social support. *Iranian Journal of Nursing and Midwifery Research*, *19*(3), 279.

Bagnall, A. M., Jones, R., Akter, H., & Woodall, J. (2016). Interventions to prevent burnout in high risk individuals: Evidence review. *Public Health England: Workplace Health, 2015709*, 1-30.

Bakker, A. B., & Demerouti, E. (2014). Job demands–resources theory. *Wellbeing,* 1–28. doi:10.1002/9781118539415.wbwell019

Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, *22*(3),273-285. doi:10.1037/ocp0000056

Bartholomew, K. J., Ntoumanis, N., Cuevas, R., & Lonsdale, C. (2014). Job pressure and ill-health in physical education teachers: The mediating role of psychological need thwarting. *Teaching and Teacher Education*, *37*, 101-107.

BMJ. (2017). Correlation and regression. Retrieved July 7, 2017 from http://www.bmj.com/about-bmj/resources-readers/publications/statistics-square-one/11-correlation-and-regression

Boundless Psychology. (2016). Correlational research. Retrieved January 29, 2017 from https://www.boundless.com/psychology/textbooks/boundless-psychology-textbook/researching-psychology-2/types-of-research-studies-27/correlational-research-125-12660/

Bray, J. W., Kelly, E. L., Hammer, L. B., Almeida, D. M., Dearing, J. W., King, R. B., & Buxton, O. M. (2013). An integrative, multilevel, and transdisciplinary research approach to challenges of work, family, and health. *Methods Report (RTI Press)*, 1–38. doi:10.3768/rtipress.2013.mr.0024.1303

Burkholder, G. (n.d.). *Sample size analysis for quantitative studies* [Class handout]. Walden University.

Cardozo, B. L., Crawford, C. G., Eriksson, C., Zhu, J., Sabin, M., Ager, A., . . . Olff, M. (2012). Psychological distress, depression, anxiety, and burnout among international humanitarian aid workers: a longitudinal study. *PLoS One, 7*(9). e44948. doi:10.1371/journal.pone.0044948

Cheng, H. G., & Phillips, M. R. (2014). Secondary analysis of existing data: opportunities and implementation. *Shanghai Archives of Psychiatry*, *26*(6), 371–375. doi:10.11919/j.issn.1002-0829.214171

Cieslak, R., Shoji, K., Douglas, A., Melville, E., Luszczynska, A., & Benight, C. C. (2014). A meta-analysis of the relationship between job burnout and secondary

traumatic stress among workers with indirect exposure to trauma. *Psychological Services*, *11*(1), 75. doi:10.1037/a0033798

Coe, R. (2002). It's the effect size, stupid: What effect size is and why it is important. School of Education, University of Durham. Paper presented at the Annual Conference of the British Educational Research Association, University of Exeter, England.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd Ed.). Mahwah, NJ: Lawrence Erlbaum.

College Foundation of North Carolina. (2017). Emergency response manager: What they do. Retrieved on July 8, 2017 from https://www1.cfnc.org/Plan/For_A_Career/Career_Profile/Career_Profile.aspx?id=xLcPXAP2BPAX1k9GtDONXAP2BPAXXAP2BPAXXAP2BPAXyyptYgXAP3DPAXXAP3DPAX

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage Publications.

Elder, C., Nidich, S., Moriarty, F., & Nidich, R. (2014). Effect of transcendental meditation on employee stress, depression, and burnout: A randomized controlled study. *Permanente Journal*, *18*(1), 19-23. doi:10.7812/TPP/13-102

Federal Emergency Management Agency (2010). *The federal emergency management agency publication 1.* Retrieved on January 29, 2017 from https://www.fema.gov/media-library-data/20130726-1823-25045-8164/pub_1_final.pdf

Feeney, B. C., & Collins, N. L. (2015). A new look at social support: A theoretical perspective on thriving through relationships. *Personality and Social Psychology Review*, *19*(2), 113-147. doi:10.1177/1088868314544222

Frankfort-Nachmias, C., & Nachmias, D. (2008). *Research methods in the social sciences* (7th ed.). New York, NY: Worth.

Fuchs, C., & Diamantopoulos, A. (2009). Using single-item measures for construct measurement in management research: Conceptual issues and application guidelines. *Die Betriebswirtschaft*, *69*(2), 195-210.

Goldmann, E., Calabrese, J. R., Prescott, M. R., Tamburrino, M., Liberzon, I., Slembarski, R., . . . Galea, S. (2012). Potentially modifiable pre-, peri-, and postdeployment characteristics associated with deployment-related posttraumatic stress disorder among Ohio Army National Guard soldiers. *Annals of Epidemiology, 2271-78*. doi:10.1016/j.annepidem.2011.11.003

Halbesleben, J. R., Neveu, J. P., Paustian-Underdahl, S. C., & Westman, M. (2014). Getting to the "COR" understanding the role of resources in conservation of resources theory. *Journal of Management*, *40*(5), 1334-1364. doi:10.1177/0149206314527130

Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative studies. *Evidence Based Nursing*, *18*(3), 66-67. doi:10.1136/eb-2015-102129

Hertzog, M. A. (2008). Considerations in determining sample size for pilot studies. *Research in Nursing & Health*, *31*(2), 180-191. doi:10.1002/nur.20247

Hulley, S. B., Cummings, S. R., Browner, W. S., Grady, D., & Newman T. B. (2013). *Designing clinical research: An epidemiologic approach* (4th ed). Philadelphia, PA: Lippincott Williams & Wilkins.

Ilies, R., Huth, M., Ryan, A. M., & Dimotakis, N. (2015). Explaining the links between workload, distress, and work–family conflict among school employees: Physical, cognitive, and emotional fatigue. *Journal of Educational Psychology*, *107*(4), 1136. doi:10.1037/edu0000029

Inter-university Consortium for Political and Social Research. (2012). *Guide to social science data preparation and archiving: best practice throughout the data life cycle* (5th ed.). Ann Arbor, MI: Author.

Inter-university Consortium for Political and Social Research. (2017). Data management & curation. Retrieved on February 24, 2017 from http://www.icpsr.umich.edu/icpsrweb/content/datamanagement/confidentiality/index.html

Javali S.B., & Gudaganavar N.V. (2011). Effect of varying sample size in estimation of reliability coefficients of internal consistency. *Webmed Central [Internet], 2*(2). doi:10.9754/journal.wmc.2011.001572

Kadam, P., & Bhalerao, S. (2010). Sample size calculation. *International Journal of Ayurveda Research*, *1*(1), 55–57. doi:10.4103/0974-7788.59946

Kaplan, Z., Iancu, I., & Bodner, E. (2014). A review of psychological debriefing after extreme stress. *Psychiatric Services*. *52*(6):824- 7. doi:10.1176/appi.ps.52.6.824

Kent State University. (2017). SPSS Tutorials: Grouping data. Retrieved on August 25, 2017 from http://libguides.library.kent.edu/SPSS/SplitData.

Khamisa, N., Oldenburg, B., Peltzer, K., & Ilic, D. (2015). Work related stress, burnout, job satisfaction and general health of nurses. *International journal of environmental research and public health*, *12*(1), 652-666. doi:10.3390/ijerph120100652

Khan, F., Yusoff, R. M., & Khan, A. (2014). Job demands, burnout and resources in teaching a conceptual review. *World Applied Sciences Journal*, *30*(1), 20-28. doi:10.5829/idosi.wasj.2014.30.01.21029

Kim, H.-Y. (2016). Statistical notes for clinical researchers: Sample size calculation 1. Comparison of two independent sample means. *Restorative Dentistry & Endodontics*, *41*(1), 74–78. doi:10.5395/rde.2016.41.1.74

Leedy, P. & Ormrod, J. (2001). *Practical research: Planning and design* (7th ed.). Upper Saddle River, NJ: Prentice Hall.

Lewis, V., Varker, T., Phelps, A., Gavel, E., & Forbes, D. (2014). Organizational implementation of psychological first aid (PFA): Training for managers and peers. *Psychological Trauma: Theory, Research, Practice, and Policy*, *6*(6), 619.

Louw, G. J. (2014). Burnout, vigour, big five personality traits and social support in a sample of police officers. *SA Journal of Industrial Psychology*, *40*(1), 1. doi:10.4102/sajip.v40i1.1119

McCusker, K., & Gunaydin, S. (2015). Research using qualitative, quantitative or mixed methods and choice based on the research. *Perfusion*, *30*(7), 537-542.

National First Responders Organization. (2014). National first responders organization Retrieved November 28, 2016, from http://www.nfro.org/index.html

National Institute for Occupational Safety and Health (NIOSH). (2014). Stress…at work. Retrieved on September 6, 2015 from http://www.cdc.gov/niosh/docs/99-101/

Nielsen, K., Nielsen, M. B., Ogbonnaya, C., Känsälä, M., Saari, E., & Isaksson, K. (2017). Workplace resources to improve both employee well-being and performance: A systematic review and meta-analysis. *Work & Stress*, *31*(2), 101-120. doi:10.1080/02678373.2017.1304463

Nurani, L. M. (2008). Critical review of ethnographic approach. *Jurnal sosioteknologi*, *7*(14), 441-447.

Pearlman, L. (2012). What to do about burnout: identifying your sources. Retrieved on November 30, 2016 from http://www.headington-institute.org/files/what-to-do-about-burnout_edited_82038.pdf

Pekevski, J. (2013). First responders and psychological first aid. *Journal of Emergency Management*, *11*(1), 39-48. doi:10.5055/jem.2013.0126

Polusny, M. A., Martyr, M. A., Erbes, C. R., Arbisi, P. A., Kramer, M., Gibson, E., & Oleson, H. (2015). Prevalence and Risk Factors for Post-Traumatic Stress Disorder Symptoms among National Guard/Reserve Component Service Members Deployed to Iraq and Afghanistan. *CR Martin, V. R, Preedy, & VB Patel (Eds.), Comprehensive guide to post-traumatic stress disorders. New York, NY: Springer*.

Public Health Action Support Team [PHAST]. (2011). *Section 5. Social support and social integration*. Retrieved on November 30, 2016 from http://www.healthknowledge.org.uk/public-health-textbook/medical-sociology-policy-economics/4a-concepts-health-illness/section5

Research Methods. (2006a). Correlation. Retrieved on March 26, 2017 from https://www.socialresearchmethods.net/kb/statcorr.php

Research Methods. (2006b). External validity. Retrieved on March 26, 2017 from https://www.socialresearchmethods.net/kb/external.php

Research Methods. (2006c). Threats to construct validity. Retrieved on February 24, 2017 from http://www.socialresearchmethods.net/kb/consthre.php.

Ressler, K. J., & Schoomaker, E. B. (2014). Commentary on "The Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS)": Army STARRS: a Framingham-like study of psychological health risk factors in soldiers. *Psychiatry: Interpersonal and Biological Processes*, *77*(2), 120-129.

Roberts, J. (2015). *Individual and Work Related Factors of Burnout Among Direct Care Staff*. Walden University. Dissertation.

Rizzo, A., John, B., Newman, B., Williams, J., Hartholt, A., Lethin, C., & Buckwalter, J. G. (2013). Virtual reality as a tool for delivering PTSD exposure therapy and stress resilience training. *Military Behavioral Health*, *1*(1), 52-58. doi:10.1080/21635781.2012.721064

Roelen, C., Rhenen, W., Schaufeli, W., Klink, J., Magerøy, N., Moen, B., . . . Pallesen, S. (2014). Mental and physical health-related functioning mediates between

psychological job demands and sickness absence among nurses. *Journal of Advanced Nursing*, *70*(8), 1780-1792. doi:10.1111/jan.12335

Rutkow, L., Gable, L., & Links, J. M. (2011). Protecting the mental health of first responders: legal and ethical considerations. *The Journal of Law, Medicine & Ethics, 39*(s1), 56-59. doi:10.1111/j.1748-720X.2011.00567.x

Schnall, P. L., Landsbergis, P. A., & Baker, D. (1994). Job strain and cardiovascular disease. *Annual Review of Public Health, 15*(1), 381-411. doi:10.1146/annurev.pu.15.050194.002121

Shatté, A., Perlman, A., Smith, B., & Lynch, W. D. (2017). The Positive Effect of Resilience on Stress and Business Outcomes in Difficult Work Environments. *Journal of Occupational and Environmental Medicine, 59*(2), 135. doi:10.1097/JOM.0000000000000914

Shultz, J. M., & Neria, Y. (2013). Trauma signature analysis: state of the art and evolving future directions. *Disaster Health, 1*(1), 4-8. doi:10.4161/dish.24011

Shuttleworth, M. (2008). Quantitative research design. Retrieved January 3, 2017 from https://explorable.com/quantitative-research-design

Siedlecki, K. L., Salthouse, T. A., Oishi, S., & Jeswani, S. (2014). The relationship between social support and subjective well-being across age. *Social Indicators Research*, *117*(2), 561–576. doi:10.1007/s11205-013-0361-4

Social Research Methods. (2006). Threats to construct validity. Retrieved on May 29, 2017 from https://www.socialresearchmethods.net/kb/consthre.php

Statistics Solutions. (2013a). What is linear regression?. Retrieved on August 25, 2017 from http://www.statisticssolutions.com/what-is-linear-regression/

Statistics Solutions. (2013b). Data analysis plan: Bivariate (Pearson) correlation. Retrieved on August 25, 2017 from http://www.statisticssolutions.com/academic-solutions/member-resources/member-profile/data-analysis-plan-templates/data-analysis-plan-bivariate-pearson-correlation/

Statistics Solutions. (2017). Establishing cause and effect. Retrieved on May 29, 2017 from http://www.statisticssolutions.com/establishing-cause-and-effect/

Sullivan, G. M., & Feinn, R. (2012). Using effect size—or why the *P* value is not enough. *Journal of Graduate Medical Education*, *4*(3), 279–282. doi:10.4300/JGME-D-12-00156.1

Tims, M., Bakker, A. B., & Derks, D. (2013). The impact of job crafting on job demands, job resources, and well-being. *Journal of Occupational Health Psychology*, *18*(2), 230. doi:10.1037/a0032141

Troxel, W. M., Trail, T. E., Jaycox, L. H., & Chandra, A. (2016). Preparing for deployment: Examining family-and individual-level factors. *Military Psychology*, *28*(3), 134. doi:10.1037/mil0000110

U.S. Department of Health and Human Services. (2005). *A guide to managing stress in crisis response professions* (DHHS Publication No. SMA 4113). Rockville, MD: Center for Mental Health Services, Substance Abuse and Mental Health Services Administration. Retrieved January 29, 2017, from http://mentalhealth.samhsa.gov/publications/allpubs/SMA-4113/default.asp

Veenema, T. G., Griffin, A., Gable, A. R., MacIntyre, L., Simons, R. A. D. M., Couig, M. P., . . . Larson, E. (2016). Nurses as leaders in disaster preparedness and response—A call to action. *Journal of Nursing Scholarship*, *48*(2), 187-200. doi:10.1111/jnu.12198

Vogt, K., Hakanen, J. J., Jenny, G. J., & Bauer, G. F. (2016). Sense of coherence and the motivational process of the job-demands–resources model. *Journal of Occupational Health Psychology*, *21*(2), 194. doi:10.1037/a0039899

Walden University. (2017). Institutional review board for ethical standards in research. Retrieved on February 24, 2017 from http://academicguides.waldenu.edu/researchcenter/orec

Wallace, J. R. (2016). Field test of a peer support pilot project serving federal employees deployed to a major disaster. *Social Work & Christianity*, *43*(1).

Whitley, E., & Ball, J. (2002). Statistics review 4: Sample size calculations. *Critical care*, *6*(4), 335.

Wills, J., & Cross, N. Z. R. (2014). Supporting the supporters in disaster recovery. Thorndon, New Zealand: New Zealand Red Cross. Retrieved November 30, 2016 from http://supportingthesupporters.org/images/SupportingthesupportersJWILLS.pdf

Williams, C. (2011). Research methods. *Journal of Business & Economics Research*, *5*(3).

Wingerden, J. V., Bakker, A. B., & Derks, D. (2016). A test of a job demands-resources intervention. *Journal of Managerial Psychology*, *31*(3), 686-701. doi:10.1108/JMP-03-2014-0086

Work, Family and Health Network. (2016). Work, family, and health study (WFHS) (ICPSR36158-v1). Ann Arbor, MI: Inter-university Consortium for Political and Social Research. doi:10.3886/ICPSR36158.v1

Yurdugül, H. (2008). Minimum sample size for Cronbach's coefficient alpha: a Monte-Carlo study. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, *35*(35).

Appendix A: Secondary Data Documentation

4. JOB STRAIN—DECISION AUTHORITY AND PSYCHOLOGICAL JOB DEMANDS

Scale Subject Instructions and Item List

Subject Instructions

The next set of statements will ask about your experience of the day-to-day functions of your job at ^FCOMPANY.

Item List

Variable Name	Item Text	Reverse coded	Subscale
WM_JSTR1	Your job allows you to make a lot of decisions on your own.	R	Decision Authority
WM_JSTR2	On your job, you have very little freedom to decide how you do your work.		Decision Authority
WM_JSTR3	You have a lot of say about what happens on your job.	R	Decision Authority
WM_JSTR4	You do not have enough time to get your job done.	R	Psychological Job Demands
WM_JSTR5	Your job requires very fast work.	R	Psychological Job Demands
WM_JSTR6	Your job requires very hard work.	R	Psychological Job Demands

Original Responses:
Strongly Agree = 1
Agree = 2
Neither = 3
Disagree = 4
Strongly Disagree = 5

Reverse-coded Responses:
Strongly Agree = 5
Agree = 4
Neither = 3
Disagree = 2
Strongly Disagree = 1

For items 1 through 3, higher scores reflect greater decision authority.
For items 4 through 6, higher scores reflect greater job demands.

Scoring of Scale

Decision Authority, listwise deletion:

IF NMISS(OF WM_JSTR1 WM_JSTR2 WM_JSTR3)=0 THEN
SCWM_JSTRDA=MEAN(OF
WM_JSTR1R WM_JSTR2 WM_JSTR3R);
ELSE IF NMISS(OF WM_JSTR1 WM_JSTR2 WM_JSTR3) < 3 THEN
SCWM_JSTRDA=-8;
Psychological Job Demands, listwise deletion:
IF NMISS(OF WM_JSTR4 WM_JSTR5 WM_JSTR6)=0 THEN
SCWM_JSTRPJD=MEAN(OF
WM_JSTR4R WM_JSTR5R WM_JSTR6R);
ELSE IF NMISS(OF WM_JSTR4 WM_JSTR5 WM_JSTR6) < 3 THEN
SCWM_JSTRPJD=-8;
Notes:
There are only three items per subscale; thus, imputed scales are not possible.
There is a longer version of the scale that is not being used and has its own scoring guide (Job
Content Questionnaire and User's Guide, Karasek et al., 1985).

11. ORGANIZATIONAL CITIZENSHIP BEHAVIORS: INTERROLE HELPING

Scale Subject Instructions and Item List

Subject Instructions

The next set of questions will ask about your relationship to other workers at

^FCOMPANY.

Item List

Variable Name	Item Text
WM_OCIT1	To what extent do you help other employees with their work when they have been absent?
WM_OCIT2	To what extent do you help your coworkers when they have too much to do?
WM_OCIT3	To what extent do you help coworkers with questions they have about their work?
WM_OCIT4	To what extent are you willing to work harder in order to help your employer succeed?

Original Responses:
Never = 1
Rarely = 2
Some of the time = 3
Most of the time = 4
All of the time = 5
Higher scores reflect greater organizational citizenship behaviors.

Scoring of Scale

OCB interrole helping, listwise deletion:

IF NMISS(OF WM_OCIT1-WM_OCIT4)=0 THEN SCWM_OCIT=MEAN(OF

WM_OCIT1-WM_OCIT4);

ELSE IF NMISS(OF WM_OCIT1-WM_OCIT4) < 4 THEN SCWM_OCIT=-8;

OCB interrole helping, mean imputation:

```
IF NMISS(OF WM_OCIT1-WM_OCIT4) <= 1 THEN SCWM_OCITi=MEAN(OF
WM_OCIT1-WM_OCIT4);
ELSE IF NMISS(OF WM_OCIT1-WM_OCIT4) < 4 THEN SCWM_OCITi=-8
```

15. BURNOUT/EMOTIONAL EXHAUSTION

Scale Subject Instructions and Item List

Subject Instructions: Next we will talk about how your work makes you feel.

Item List

Variable Name Item	Text
WM_BURN1	You feel emotionally drained from your work. How often do you feel this way?
WM_BURN2	You feel burned out by your work. How often do you feel this way?
WM_BURN3	You feel used up at the end of the workday. How often do you feel this way?

Reverse-coded Responses:
Every day = 7
A few times a week = 6
Once a week = 5
A few times a month = 4
Once a month or less = 3
A few times a year or less = 2
Never = 1

Higher scores reflect greater burnout.

Scoring of Scale

Emotional Burnout, listwise deletion:

IF NMISS(OF WM_BURN1R WM_BURN2R WM_BURN3R)=0 THEN

SCWM_BURN=MEAN(OF WM_BURN1R WM_BURN2R WM_BURN3R);

ELSE IF NMISS(OF WM_BURN1R WM_BURN2R WM_BURN3R) < 3 THEN

SCWM_BURN=-8;

Range: 1–7

Note: There are only three items in the scale; thus, mean imputation is not plausible.

23. PERCEIVED STRESS

Scale Subject Instructions and Item List

Subject Instructions

The next set of questions is about how you have felt during the past 30 days. Please respond using very often, fairly often, sometimes, almost never, or never.

Item List

Variable Name	Item Text	Reverse-coded
EM_STRS1	During the past 30 days, how often have you felt that you were unable to control the important things in your life? Would you say very often, fairly often, sometimes, almost never, or never?	R
EM_STRS2	During the past 30 days, how often have you felt confident about your ability to handle your personal problems? (Would you say very often, fairly often, sometimes, almost never, or never?)	
EM_STRS3	During the past 30 days, how often have you felt that things were going your way? (Would you say very often, fairly often, sometimes, almost never, or never?)	
EM_STRS4	During the past 30 days, how often have you felt difficulties were piling up so high that you could not overcome them? (Would you say very often, fairly often, sometimes, almost never, or never?)	R

Original Responses:
Very Often = 1
Fairly Often = 2
Sometimes = 3
Almost Never = 4
Never = 5

Reverse-coded Responses:
Very Often = 5
Fairly Often = 4
Sometimes = 3
Almost Never = 2
Never = 1

Higher score means a higher level of stress.

Scoring of Scale

Scores are created by summing subject responses after reverse-coding certain items.

Perceived Stress, listwise deletion:

IF NMISS(OF EM_STRS1 EM_STRS2 EM_STRS3 EM_STRS4)=0 THEN

SCEM_STRS=SUM(OF EM_STRS1R EM_STRS2 EM_STRS3 EM_STRS4R);

ELSE IF NMISS(OF EM_STRS1 EM_STRS2 EM_STRS3 EM_STRS4) < 4 THEN

SCEM_STRS=-8;

Perceived Stress, mean imputed:

IF NMISS(OF EM_STRS1 EM_STRS2 EM_STRS3 EM_STRS4) <= 1 THEN

SCEM_STRSi=(MEAN(OF EM_STRS1R EM_STRS2 EM_STRS3 EM_STRS4R)*4);

ELSE IF NMISS(OF EM_STRS1 EM_STRS2 EM_STRS3 EM_STRS4) < 4 THEN

SCEM_STRSi=-8;

Range: 4–20