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Secondary Traumatic Stress in the Mortuary Industry: Prevalence and Mitigation

Robert Borselli
Walden University

Walden University

College of Social and Behavioral Sciences

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Robert Borselli

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Dr. Olga Carranza, Committee Member, Psychology Faculty
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Sue Subocz, Ph.D.

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2020

Abstract

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by

Robert Borselli, MS

MS, Nova Southeastern University, 2012

BS, Troy University, 2006

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

For those working in the mortuary industry, exposure to traumatically deceased remains may predispose them to developing subjective Secondary Traumatic Stress (STS). The purpose of this quantitative study was to examine the relationship among the independent variables of hardiness and perceived social support, and the dependent variable of subjective STS in mortuary workers. The theoretical foundations on which this research was based are the theories of stress and illness, secondary traumatic stress, hardiness, and social support. The primary research question governing this research was whether social support and hardiness had any correlation to the levels of subjective STS in this population. A second research question was whether or not the number of exposures to traumatic human remains was a moderating factor among the variables. The research used an online survey method to gather data using validated instruments to quantify the levels of the variables. Once quantified, the data was analyzed using hierarchical linear regression models. Briefly, hardiness reached a statistical significance in predicting levels of STS, while social support did not reach a statistically significant level. Number of exposures did not appear to be a factor in the expression of the variables. Recommendations regarding better stress coping strategies are made such as resilience training and encouraging social support. An understanding of the stresses experienced by mortuary workers will foster positive social change through better mental and physical health among this essential workforce.

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Chapter 1: Introduction to the Study

Introduction

The purpose of this quantitative study was to examine the relationship among the independent variables of hardiness and perceived social support, and the dependent variable of subjective secondary traumatic stress (STS) in mortuary workers. Additionally, a moderation analysis was preformed that examined any possible relationship among exposures to traumatically deceased human remains and the variables. Furthermore, this research was undertaken to provide clinicians with data and recommendations that may advance stress-prevention interventions for those mortuary workers at risk of experiencing STS. From a social change perspective, this research is significant because, according to a prediction released by the United States Surgeon General's office in 1988, "80% of those individuals who do not die from traumatic causes will die from stress-related illness" (Kroshus, Swarthout, & Tibbetts, 1995, p.1). In addition, the World Health Organization (2019) estimates that of the annual worldwide 56.9 million deaths in 2016, 54% were related to stress-induced illnesses (e.g. ischemic heart disease, stroke, accidents, and chronic obstructive pulmonary disease). Thus, this research into STS will benefit the individual, the mortuary industry, and society.

This chapter will summarize the theoretical constructs related to subjective STS and the variables of hardiness and social support. The gap in the literature that this research aims to fill will be explained and the social implications of the research will be discussed. A more detailed look at the theoretical constructs is presented in Chapter 2.

Background

The following is a discussion of the mechanisms that may allow stress to predispose the individual to illness and disease.

Stress and Health

There is a correlation between experiencing subjective STS and higher rates than the general population of many serious and life-threatening illnesses (Kendall-Tackett, 2009). Traumatic, stress-related events tend to dysregulate both the hypothalamus-pituitary-adrenal axis (HPA) and the inflammatory response system (Kendall-Tackett, 2009). The human stress response is a complex cascade of chemical processes that affect the immune system (Kendall-Tackett, 2009). The stress-illness model identifies a positive correlation between chronic stress and an elevated risk of possible illness. The stress-illness model states that the individual suffering from trauma-induced stress often has significant physical and mental health problems. These problems may remain active for years after the traumatic event (Kendall-Tackett, 2009).

Secondary Traumatic Stress (STS)

Secondary Traumatic Stress (STS) is related to other caregiver stress reactions such as countertransference, burnout, vicarious stress, and compassion fatigue (Figley, 2003). Pathological physical and mental symptoms in caregivers have been noted by theorists as early as Jung (1921) well over a century ago. Secondary Traumatic Stress disorder, which shares symptoms with Posttraumatic Stress Disorder (PTSD), may manifest as a sense of fatigue and may include headaches and sleeplessness (American

Psychiatric Association, 2013). A lowered immune response has also been the noted (Sellah, 2008).

Perceived Social Support

Those who perceive that they have the support of their family, coworkers, and the community appear to be less likely to suffer the effects of subjective STS due to stress-buffering mechanisms described later (Setti, Lourel, & Argentero, 2016).

Hardiness

Hardiness has become recognized as a set of personal characteristics that help the individual view stressful circumstances as opportunities for personal growth and not necessarily as potential disasters (Funk, 1992; Maddi, 2007). The conceptualization of hardiness as a theory emphasized that stressful circumstances are an integral component of living and that a certain courage is needed if the individual is to grow and prosper (Funk, 1992).

Literature Gap

While the literature regarding mortuary workers in the military is robust, there appears to be a significant gap in the literature regarding subjective STS among those in the civilian mortuary industry. Indeed, little research has been done on the chronic, stressful exposure to human remains by civilian mortuary workers. In a meta-analysis conducted by Cieslak, et al. (2014) on the relationship between STS and job burnout, none of the selected papers studied the effects of subjective STS in the civilian mortuary industry. In a dated study, Weiner and Simon (1950) lamented the lack of research in this area. Evidently, their lamentations have gone unheeded as a literature search of the

ProQuest, Psyarticles, Sage Premier, and the Walden University/Google Scholar databases revealed little research on this topic. This research is important because the World Health Organization (2019) estimates that of the annual worldwide 56.9 million deaths in 2016, 54% were related to stress-induced illnesses (e.g. ischemic heart disease, stroke, accidents, and chronic obstructive pulmonary disease). This study will offer clinicians data and recommendations regarding subjective STS in an under-researched population.

Problem Statement

The research problem addressed by this study is that those involved in the handling and preparation of human remains (e.g. remains collection, embalming, dressing) may suffer from stress-related physical and psychological disorders due to this traumatic line of work (Peterson, 2002). The effects of subjective STS may result in an impaired quality of life. A stress-compromised immune system may eventually contribute to illness (Salleh, 2016). Peterson (2002), investigating the military mortuary service, found that psychological distress may increase with greater degrees of trauma. Examples of this are attending to deceased children, remains that are personally known to the worker, and those inexperienced in this type of work. Reduced levels of psychological stress were reported among older workers, those who are married, those reporting a good social support system, individuals with a college degree, and those high in the personality trait of hardiness (Peterson, 2002). While there are copious amounts of research regarding STS in the military and other occupations, there is little research (i.e. “a gap”) that examines subjective STS in the civilian mortuary industry.

Purpose of the Study

The purpose of this quantitative study was to examine the relationship among the independent variables of hardiness and perceived social support, and the dependent variable of subjective secondary traumatic stress (STS) in mortuary workers. Additionally, a moderation analysis was preformed that examined any possible relationship among exposures to traumatically deceased human remains and the variables. Furthermore, this research was undertaken to provide clinicians with data and recommendations that may advance stress-prevention interventions for those mortuary workers at risk of experiencing STS.

Research Question and Hypothesis

The research question and hypotheses for this study revolved around the moderation of subjective STS by hardiness and perceived social support for civilian mortuary workers who are exposed to traumatically deceased human remains and whether the number of exposures to traumatic remains is a factor in the relationship among variables.

Research Question 1

How do hardiness and perceived social support moderate the relationship between number of traumatic exposures and subjective STS in civilian mortuary workers who have been exposed to traumatized human remains during their professional work and is number of exposures to traumatic remains a factor in the relationship among the variables?

H0. There is not a significant relationship between hardiness and perceived social support and subjective secondary traumatic stress in civilian mortuary workers who have

been exposed to traumatized human remains during their professional work. The number of exposures is not a factor in the relationship among variables.

Ha. There is a significant relationship between hardiness and perceived social support and secondary traumatic stress in civilian mortuary workers who have been exposed to traumatic human remains during their professional work. The number of exposures is a factor in the relationship among variables.

Theoretical Framework for the Study

This study was based on the following theories: The Stress-Illness Model (Salleh, 2008), Secondary Traumatic Stress (Figley 2003), Hardiness (Funk, 1992), and Social Support (Rzeszutek, Partyka, & Gołąb, 2015). According to Salleh (2016) chronic stress has a significant negative impact on the immune system in a complex process that may eventually manifest as illness. Susceptibility to stress, through the interaction of genetics, coping style, personality, and the severity of environmental demands varies from individual to individual. There are many mitigating variables regarding stress. Hardiness and perceived social support were the only variables studied in the present research.

The trait of hardiness has been positively correlated to three personality sub-traits. These sub-traits encompass an individual's internal locus of control (Hystad, Olsen, Espevik, & Säfvenbom, 2015). Perceived social support appears to mitigate stress by buffering the individual from stress, allowing the individual to conserve their resources under stressful conditions, and is a source of comfort and solace when enduring stressful events (Hoffman, Hahn, Tirabassi, & Gaher, 2016; Setti, Lourel, & Argentero, 2016).

Nature of the Study

A quantitative design is a good fit for testing theories by examining the objective statistical relationship among variables (Creswell, 2009). Levels of the dependent and independent variables were quantified through validated instruments. The scores were then compared through multiple linear regression. An online survey was chosen as the data collection method. Survey research is the most often used data collection technique when studying the type of variables used in this study (Creswell, 2009). The key dependent variable is subjective STS. Hardiness and social support are the key independent variables. The moderator variable is the number of exposures to traumatically deceased human remains.

Definitions

Acute Stress

Stress that has a short, but relatively severe course (Dorland, 2012)**.**

Chronic Stress

Stress that persists over a long period of time (Dorland, 2012).

Hardiness

A personality construct referring to one's sense of commitment to a task or cause, a sense of control over life situations and outcomes, and a worldview that understands challenges as a necessary, personal-growth oriented part of life (Tomassetti-Long, Nicholson, Madson, & Dahlen, 2015).

Secondary Traumatic Stress

The presence of PTSD-like symptoms caused by at least one indirect exposure to traumatic material (NCTSN, n.d.).

Perceived Social Support

The experience or perception that the individual is loved, cared for, held in esteem, and a part of a social network characterized by mutual assistance and obligations (Pow, King, Stephenson, & DeLongis, 2017).

Stress

Mechanisms in which physical, mental, or environmental demands strain an individual's adaptive capacity (Salleh, 2008).

Stress Reaction

Any of the physiological reactions to adverse stimuli that tend to disturb the organism's homeostasis. Should compensating reactions, physiological or psychological, be inadequate or inappropriate, there is the possibility of pathology (Dorland, 2012). The adverse stimuli may be real or perceived (Connor & Davidson, 2003).

Stressor

Any factor, real or perceived, that tends to disrupt biopsychosocial homeostasis (Connor & Davidson, 2003).

Assumptions

From the onset, the study will make several assumptions regarding data collection, behavioral concerns, and statistical procedures.

Data Collection/Behavioral Concerns

It was assumed that the participants would be honest in answering the online survey if guarantees of confidentiality were expressed. It was also assumed that those preparing human remains for final disposition are, in fact, “caregivers.” A further assumption is that a self-report survey was the appropriate method for measuring the levels of the key variables. A final assumption regarding data collection is that participation in the survey would not re-traumatize the participants. This assumption is addressed further in Chapter 3.

Statistical Assumptions

Assumptions of a normal distribution of residuals (normalcy), homoscedasticity, and multicollinearity of the data were assumed. Normalcy refers to the assumption that the data are normally distributed. Homoscedasticity assumes that the data is equally distributed across values of the independent variables (Field, 2013). The assumption of multicollinearity assumes that the predictor (independent) variables within a regression model are not too highly correlated (Field, 2013).

Scope and Delimitations

The research problem addressed by this study was the statistical relationship among the dependent variable of subjective STS and the independent variables of hardiness and social support, and whether number of exposures to traumatically deceased human remains has a moderating relationship on the variables. The sample consisted of English-reading mortuary workers in North America. The focus on subjective STS was based on research that shows it is prevalent in many caregiving occupations. Hardiness and the perception of social support have been shown to be important correlates in the

mitigation of subjective STS (Peterson, 2002). There are several other variables shown to mitigate STS, such as experience on the job and having a college degree (Peterson, 2002). Those variables, however, will not be within the scope of this study.

There were no delimitations regarding race, gender or age, except that the participant must have been a minimum of 18 years old and must have been able to comprehend written English. The use of Likert-type self-response survey questions is a delimiting factor due to the elimination of rater bias.

Limitations

In preparing the survey, an attempt was made to balance parsimony and validity. The survey was designed to be short enough to encourage participation but still gather enough information to provide adequate validity. Because of the length of the total survey, the subject of the survey, and the fear of stressing the client, no open-ended responses or interviews were included. This was a limitation because although questions regarding trauma-related STS symptoms were asked, a participant's narrative may have added depth to the interpretation of the data. Questions relating to the participants general health status and any chronic illnesses might have helped interpret how stress was possibly impacting worker health but were omitted for brevity.

A second limitation is that the survey was presented in English. This was highly likely to limit the cultural breadth of the study. The exclusion of those from non-white cultures who may be innately more sensitive or resistant to STS could have been problematic. A third limitation is that the literature indicates that several other variables, such as the worker's age and experience also play a role in the prevalence and mitigation

of STS. Measurement and comparison of these variables were not in the scope of the study. Finally, those whose stress is severe and are suffering from the symptoms of STS were advised not to participate due to fear of re-traumatizing them. Participant safety being paramount, this issue was regarded as ethically unavoidable. This is addressed further in Chapter 5.

Significance

The proposed research is significant for three reasons: (a) this research will be original in that there appears to be little in-depth research on how the study's variables affect the mitigation of subjective STS among workers in the mortuary industry, (b) this research will provide future researchers data on the under-researched population of civilian mortuary workers, and (c) regarding social change, the proposed research is significant because it may serve as guidance to clinicians, individual mortuary workers, and the industry as a whole in an effort to prevent the debilitating effects of stress-related illnesses and behaviors.

Summary

This introduction has laid out the ideas behind this research, the theoretical background for the study, restated the problem statement and the purpose of the study, reviewed the research questions and hypotheses, briefly stated the research design, and discussed the nature of the study. The dependent and independent variables were defined and research assumptions were presented.The scope, delimitations, and limitations of the study were explained and the significance of this research was addressed. Chapter 2 will

present the theoretical background of the study and the scope of previous research in more detail.

Chapter 2: Literature Review

Introduction

There is a gap in the literature regarding the study of secondary traumatic stress (STS) in the civilian mortuary industry. The purpose of this quantitative study was to examine the relationship among the independent variables of hardiness and social support, and the dependent variable of subjective secondary traumatic stress (STS) in mortuary workers. Additionally, a moderation analysis was preformed that examined any possible relationship among the variables and exposures to traumatically deceased human remains. Furthermore, this research was undertaken to provide clinicians with data and recommendations that may advance effective stress-prevention interventions for those mortuary workers at risk of experiencing STS.

The literature pertaining to STS among mortuary workers in the military is robust, as is the amount of literature regarding the negative consequences of traumatic stress on individuals. However, there is little research to inform the present study on how subjective STS affects those in the civilian mortuary industry and what factors may potentially mitigate this stress. The major sections of this chapter contain information regarding the literature search strategy, including which psychology and medical databases were searched, a section devoted to the theoretical foundations of the study, a review of the literature related to key variables, and a summary of this chapter.

Literature Search Strategy

A search of the literature was conducted digitally through electronic psychology and medical databases such as PsyINFO, ERIC, Thoreau, PsyARTICLES, and Medline

Plus, as well as through the Walden University Library/Google Scholar database. The list of terms used to conduct this search included secondary traumatic stress, secondary victimization, compassion fatigue, burnout, vicarious stress, funeral directors, countertransference, resilience, hardiness, social support, five-factor personality theory, psychoneuroimmunology, stress-illness theory, stress theory, mortuary workers, and two-factor theory. To provide a thorough history of the subject and related issues, the literature search spanned the years 1921 to the present. This chapter provides a review of the Stress-Illness model, Secondary Traumatic Stress, Hardiness Theory, and Social Support Theory.

Theoretical Foundation

The theoretical framework for this study were the Stress-Illness model, Secondary Traumatic Stress, the Hardiness Model, and the Social Support Theory.

Stress-illness model

The relationship between stress and illness is complex and the susceptibility to stress varies from person to person (Salleh, 2008). Stress is a process in which environmental, psychological, and physical demands impact an organism's adaptive capacity. This results in psychological and biological changes through stress reaction and manifests as increased sympathetic arousal (Funk, 1992; Salleh, 2008). These stressors can be transient or chronic. Chronic stress might ultimately lead to exhaustion or psychological distress, and ultimately predispose the individual to illness (Funk, 1992).

When any organism is subjected to stress, a biological process independent of the organism's volition begins (Salleh, 2008). The human body has several mechanisms that

are designed to preserve life in the face of existential threats: the hypothalamus-pituitary-adrenal (HPA) axis, the immune response, and the release of catecholamines (Kendall-Tackett, 2009). In response to a threat, the sympathetic nervous system releases the hormones catecholamine, norepinephrine, epinephrine, and dopamine (Kendall-Tackett, 2009). This crisis response is the classic “fight or flight” response in which the body starts to maximize its available resources and minimize processes that are not essential to immediate survival (Kendall-Tackett, 2009). The response from the HPA axis is a cascade of chemicals. Corticotropin-releasing hormone (CRH) is released from the paraventricular nucleus of the hypothalamus for the primary purpose of signaling the anterior lobe of the pituitary gland to release adrenocorticotropin hormone (ACTH; Kendall-Tackett, 2009). ACTH then signals the adrenal cortex to release cortisol (Kendall-Tackett, 2009). Cortisol signals the body to react to the stressor by decreasing bone cell production to save energy while boosting the immune system. The body increases blood sugar levels and the metabolism of protein, fat, and carbohydrates for energy production (Kendall-Tacket, 2009; Salleh, 2008). Evolution appears to have favored this system to handle the acute stress of moment to moment survival. However, these mechanisms may produce illness in the organism when the stress is chronic (Salleh, 2008).

Research in the field of psychoneuroimmunology has indicated that a wide range of traumatic exposures and experiences can lead to chronic stress, potentially resulting in poor health outcomes. Chronic stress may suppress the immune system after an initial boost during the initial stress (Salleh, 2008). Inflammation also tends to increase (Salleh,

2008). Illnesses correlated with high-stress levels are cardiovascular disease, respiratory diseases, gastrointestinal illnesses, and chronic pain syndromes (Kendall-Tackett, 2009). Thus, it is evident that the cognitions, emotions, and behavioral changes induced in the individual by traumatic stressors may impact the individual's physical and mental health.

There are three sub-models of stress and illness that were most germane to this research; environmental stress, psychological stress, and the biological stress models (Salleh, 2008).

Environmental stress model. This model asserts that extreme environmental experiences are objectively related to substantial demands on the individual (Salleh, 2008). Research tends to show that chronically stressful environments have a strong influence on the course of emotional disorders and physical health (Conway, Rutter, & Brown, 2015; Euteneuer, Mills, Pung, Rief, & Dimsdale, 2013). An individual in a chronically stressful environment may adopt poor coping strategies, such as a poor diet, tobacco use, or substance abuse, resulting in lower self-rated health, psychological distress, higher blood pressure, and depressive symptoms (Euteneuer et al., 2013).

Psychological model of stress. This model proposes that the individual's subjective evaluation of their ability to cope with demands may be a stressor when the individual perceives an inability to cope. On the other hand, the perceived ability to cope successfully with stress may have a stress-mitigating effect and is a factor in the trait of hardiness (Salleh, 2008).

Schachter and Singer (1962), developed a model that suggests that cognitive factors play a major role in determining the level of emotional arousal caused by a

stressor. This model may help explain why an individual may or may not find a situation stressful. The sympathetic nervous system becomes aroused when an individual is confronted with a stressor. The individual then identifies and interprets the meaning of this stressor. These cognitions will determine the ultimate level of arousal and stress (Schachter & Singer, 1962).

Biological stress model. This model contends that several physiological systems in the body are upregulated by both psychologically and physically demanding stressors through the human stress response. To briefly review the human stress response, a stressful event may initiate a cascade of psychological and physical responses and behaviors which may ultimately lead to chronic health issues (Salleh, 2008).

Secondary traumatic stress (STS)

Although the term "secondary traumatic stress (STS)" has come into use relatively recently, the clinical observation of caregiver stress reactions has a long history. The physical and mental consequences of being the caregiver in a caregiver-patient relationship have been noted by many. An early reference to countertransference, a forerunner of compassion fatigue and secondary traumatic stress, can be found in the work of Jung (1921) who discussed the challenges of a therapist's conscious and unconscious reactions to a patient in a therapeutic situation (Gentry, 2002). Freud formulated the classical definition of countertransference as an empathic process, where a clinician may be adversely affected by the client's experiences (Shubs, 2008). Freud was referring to an analyst's unconscious and neurotic reactions to a patient's transference (Shubs, 2008). However, this definition is criticized for being overly broad (Fauth, 2006).

Fauth (2006) recommended adopting a more limited definition of countertransference as "idiosyncratic reactions to clients that are primarily based in [the] therapist's conflicts, biases, or difficulties" (p.17), when the experience of the client strikes a chord within the clinician.

Moving forward from countertransference, Freudenberger (1974) investigated the concept of "burnout." When applied to a therapist, as most of the early stress reaction theories were, the term usually means to "become exhausted by making excessive demands on energy, strength, or resources" (Freudenberger, 1974, p.159). Freudenberger (1974) noted that the physical signs of burnout are a sense of exhaustion and fatigue, lowered immune response, somatic symptoms such as headaches, gastrointestinal disturbances, and sleeplessness. Behaviorally, the individual may anger rapidly, become frustrated easily, and exhibit irritation towards clients and coworkers (Freudenberger, 1974). Those individuals experiencing burnout may report increased marital and family conflict (Maslach, 1978). The burned-out individual may turn to substance use for relief (Maslach, 1978). Many of the same symptoms of burnout would later go on to describe posttraumatic stress disorder (PTSD) and acute stress disorder (ASD; American Psychiatric Association, 2013). Maslach (1978) correlated the serious emotional stresses that are inherent in caregiving with the possibility of developing burnout. On the job, burnout may involve a loss of concern for the client, with the caregiver losing any positive feelings, sympathy, or respect for the client. Maslach (1978) stated that burnout is a "dehumanizing process, [where] clients are viewed as somehow deserving of their problems and are blamed for their victimization" (p.113). It should be restated that for the

purpose of this study it is assumed that the mortuary worker is “giving care” to the deceased.

The evolution of the theory and terminology regarding STS has moved from burnout to secondary victimization, to STS, and most recently, to compassion fatigue (Figley, 2003). The antecedents to STS have been identified with similar, though specific, etiologies. For instance, burnout is etiologically associated with long-term organizational stress, whereas STS may have a sudden onset and is a reaction to the suffering of another individual (Rzeszutek et al., 2015). Secondary victimization now generally refers to a crime victim becoming re-traumatized (or re-victimized) during the process of the investigation and prosecution of the crime (Campbell et al., 1999). Figley (2003) referred to secondary trauma as secondary victimization, which in turn became known as STS and compassion fatigue (CF; Ludick & Figley, 2016).

According to Figley (2003), the concept of compassion fatigue was introduced by Joinson (1992) in an article discussing the debilitating stress that may occur to nurses. While effective therapy hinges on the therapeutic alliance between the client and clinician (Figley, 2003), CF may leave caregivers detached, causing them to lose the ability to empathize, bond, and nurture their patients (Joinson, 1992). Although STS was originally linked specifically to trauma-work, CF is now the preferred term used for helping professionals such as counselors and therapists, while STS is used when describing diverse caregiver populations (Ludick & Figley, 2016). This overlap in terminology is due to the nuances in the etiological differences between the two conditions: While CF is a function of the clinician being worn down by chronic exposure to client trauma, STS is

comparable to PTSD in that the trauma may come from a variety of physical, psychological, or environmental sources. Despite the small differences in etiology, CF and STS are often used interchangeably to indicate the same constellation of reactions to client trauma (Figley, 2003; Ludick & Figley, 2016). For clarity, subjective STS will be the terminology used in this research.

Secondary traumatic stress is one of the several negative outcomes that are attributed to the process of vicarious trauma (Adams, Boscarino, & Figley, 2006). The theory of STS evolved from Figley's (1982) work on secondary victimization. The evolution of STS theory has continued, as Figley and Ludick (2016) proposed a reimagined STS theory. In defining the scope, mechanism, and relationship among a number of variables, these researchers offered several stipulations governing STS theory in an occupational setting: (a) STS is a complex and often unavoidable experience when working with or studying the suffering of others, (b) STS is most often present when an individual is exposed to a given dosage of evocative experience. This dosage may come from direct contact with the traumatized, video recordings of a traumatic event, and even reviewing written materials without photographs, (c) STS is elevated when the worker generates the necessary empathic response to do their job of attempting to understand and help the traumatized, (d) STS is elevated after prolonged exposure to evocative materials in the course of doing a particular task, (e) STS is elevated when prior traumatic events are remembered, (f) STS is lowered when an individual experiences incidents of compassion stress satisfaction, which increases a sense of worth and purpose, (g) STS is lowered when the worker experiences social support from peers, management, and the

institution he or she works for, (h) STS is directly related to the individual's level of Compassion Fatigue Resilience (CFR) or hardiness. In addition, STS is also affected by life demands outside of the workplace (Figley & Ludick, 2016).

The STS model has been used to account for work-related stress experienced by social workers, psychologists, physicians, nurses, first responders, and others who work or live with the traumatized. STS is a "clear peril of trauma exposure" (Ludick & Figley, 2016, p.4). Continued contact and empathic engagement may leave behind negative emotional energy that may culminate in STS (Ludick & Figley, 2016). Gentry (2002), referring to emergency service and mental health professionals after the events of 9/11/2001, stated that "there is also, however, little doubt that serving these survivors [of the events of 9/11/2001] exacts a toll that while minimal for some caregivers, can be devastating for others" (p.39). The STS model is based on the notion that the distress experienced by one individual may in turn distress another individual who witnesses this distress. This causes the witness to experience a higher level of subjective stress. STS mirrors the symptoms of PTSD (Rzeszutek et al., 2015). Several cognitive theories of PTSD suggest that negatively biased appraisals of a traumatic event contribute to the causation and maintenance of psychopathology following the event (Nanney, Constans, Kimbrell, Kramer, & Pyne, 2015). Nanney et al. (2015) pointed out that appraisal may refer both to "the act of judging value" and to "a judgment of value" (p.372) and may be used synonymously with "belief." These researchers go on to conceptualize beliefs as stable, trait-like interpretations about the self, the world, and others that may emerge

following trauma. Several studies have shown a strong correlation between negative self-appraisal and symptoms of PTSD (Nanney et al., 2015).

Secondary traumatic stress may affect most clinicians who have worked for extended periods with the traumatic material of others, rather than a subset of vulnerable individuals (Rzeszutek et al., 2015). An individual with pre-existing psychopathologies, a high caseload of traumatized patients, and a lack of experience in the field may be predisposed for STS (Rzeszutek et al., 2015). Nonetheless, several factors may serve to inoculate the individual from STS.

Hardiness

Hardiness is recognized as a set of personal characteristics that helps the individual view stressful circumstances as opportunities for personal growth and not necessarily as potential disasters (Funk, 1992; Maddi, 2007). The conceptualization of hardiness as a theory has emphasized that stressful circumstances are an integral component of living and that resilience is needed if the individual is to grow and prosper (Funk, 1992).

The specific conceptualization of hardiness used in this research can be found in the work of Hystad, Olsen, Espevik, and Säfvenbom (2015). These researchers stated that hardiness is related to three personality sub-traits: (a) the personal belief in one's ability to manipulate the outcome of events, (b) being motivated and committed to the various areas of life, including work, relationships, and self, and (c) a cognitive disposition that accepts challenges and new experiences as opportunities for personal growth. Hardiness can be further conceptualized using the traits of conscientiousness and openness to

experience included in the five-factor theory of personality (Eysenck, 1967). The interplay of traits and the extent to which an individual displays a specific trait may contribute to the individual's level of hardiness. For example, an individual scoring high in the openness to new experience trait may be higher in hardiness than the individual dominated by the trait of neuroticism.

Hardiness theory as the basis for resilience began with a 12-year longitudinal study that tracked employees caught up in the massive telecommunications deregulation process that began in 1981 (Maddi, 2007). The data showed that two-thirds of the sample suffered through violence, excessive absenteeism, and divorce after being displaced. Health problems for those individuals included heart attacks, cancer, mental disorders, and suicides. However, one-third of the sample appeared to thrive. The difference between these individuals appeared to be high levels of resilience. The resilient employees were characterized as being high in commitment, feeling an internal locus of control, and accepting challenges (Maddi, 2007).

After the correlation was made between stress and illness, a search began for psychosocial characteristics that might mitigate stress. One of these stress mitigating characteristics is the construct of hardiness (Funk, 1992). According to hardiness theory, this trait is a quality that is produced from rich, varied, and rewarding childhood experiences and is maintained by a sense that the environment is satisfying (Funk, 1992). Hardiness has been investigated as having a positive effect on cardiovascular reactivity, depressive symptoms, burnout, noise-induced stress, and cynical hostility (Funk, 1992). A large variety of populations have been studied, including bankers, dentists, human

services workers, nurses, teachers, and attorneys (Funk, 1992). Hardiness consists of three related dimensions: commitment, control, and challenge. However, recent research has increasingly treated hardiness as a unified construct. Hardiness has been hypothesized to reduce stress through the effect it has on cognitive appraisals (Funk, 1992).

Social support

The literature on traumatic stress tends to emphasize the role of social support in mitigating the impact of stress (Rzeszutek et al., 2015). Social support is an expansive construct that includes many subtypes of social interaction. However, the most germane to this study is the individual's perception of the social support they receive. The conceptualization of social support for this research is taken from the work of Hofman, Hahn, Tirabassi, and Gaher (2016). There are at least two theoretical approaches that explain the protective role of social support. The buffering hypothesis states that high levels of social support are a factor in the well-being of individuals under particularly stressful conditions. Social support is thought to offer the individual a source of solace during traumatic events (Setti, Lourel, & Argentero, 2016). Social support can also be viewed through the conservation of resources (COR) model (Setti et al., 2016). The COR model factors in both work-related social resources, such as support from peers and superiors, and non-work-related resources, such as family support. This model allows for the reduction of stress due to the individual having access to support when enduring stressful events. This allows the individual to conserve their resources.

Literature Review Related to Key Variables and/or Concepts

In this section, a review of the key variables and concepts of the research will be presented. Several studies related to the constructs of interest, research methodologies consistent with the present research, and any confounding issues reported during previous research will be noted. The section will conclude with a few words on the confounding issues present in survey research. Stress related illness, secondary traumatic stress, hardiness, and social support will be reviewed.

Stress related illness

In 1988, the United States Surgeon General's office predicted that 80% of individuals who do not die as a result of traumatic injuries will succumb to stress-related illness (Kroshus, Swarthout, and Tibbetts, 1995). In addition, the World Health Organization (2019) estimates that of the annual worldwide 56.9 million deaths in 2016, 54% were related to stress-induced illnesses (e.g. ischemic heart disease, stroke, accidents, and chronic obstructive pulmonary disease). Individuals who experience traumatic events have higher rates than the general population of many serious and life-threatening illnesses, including cardiovascular disease, diabetes, and cancer (Kendall-Tackett, 2009). Felitti et al. (1998) found that individuals who experienced four or more types of adverse childhood events, including psychological, physical, or sexual abuse have higher rates of serious illness. Individuals who report symptoms of chronic stress are more likely to abuse substances and experience chronic pain syndromes (Kendall-Tackett, 2009). Figley (1995) averred that the primary difference between posttraumatic stress (PTS) and secondary traumatic stress (STS) is the position of the stressor. If, for

example, a stressor is a direct threat of harm to the individual, it is primarily a trigger for PTSD, whereas if the stressor is experienced vicariously, is primarily a trigger for STS.

A useful framework for understanding the effect of stress on the human body comes from the field of psychoneuroimmunology. According to research in this field, severe and chronic stress tends to alter and upregulate key systems that are part of stress response (Kendall-Tackett 2009). A more thorough discussion of the biochemical cascade regarding stress and inflammation has been presented previously.

The rationale and importance for studying STS in the civilian mortuary industry cannot be overstated. These individuals, as shown by previous research such as the work of Kroshus, Swarthout, and Tibbetts (1995), may be subject to chronic secondary traumatic stress that may affect their health, behavior, and general well-being. Clearly, an attempt should be made to fill this gap in the literature.

Secondary traumatic stress

Kroshus, Swarthout, and Tibbetts (1995) reported on the occurrence of critical incident stress among funeral directors, a subset of participants for the present study. Critical incident stress was the term decided upon by these researchers for a constellation of symptoms related to posttraumatic stress disorder (PTSD).

Using a survey of their design and a quantitative research model, Kroshus, Swarthout, and Tibbetts (1995) surveyed 672 individuals licensed in the State of Minnesota as morticians. They reported that length of time in the industry accounted for significantly higher mean scores for stress-related symptoms (Kroshus, Swarthout, and Tibbetts, 1995). However, specific symptoms were different depending upon the length

of time in the industry. For instance, those with lengthy (> 20 years) experience in the industry endorsed items indicating symptoms of apathy and excessive concern for their physical well-being, while those with less experience (≤ 20 years) endorsed items related to symptoms of isolation and fear of being abandoned (Kroshus, Swarthout, and Tibbetts, 1995).

The Kroshus, Swarthout, and Tibbetts (1995) study examined the same general population and dependent variable as the present research. However, while presenting evidence of a correlation between STS (i.e. critical incident stress) and working as a mortician, they did not examine any independent variables that may have a stress-mitigating effect for the individual.

Buchanan, Anderson, Uhlemann, and Horwitz (2006) used a survey questionnaire method, distributed by mail to 1200 mental health professionals identified as working in the trauma field in Canada to examine subjective STS among that population. They found correlations between self-ratings of subjective STS and working with clients who had suffered traumatic events, such as physical or psychological abuse, disasters, childhood sexual abuse, and robbery.

The work of Buchanan et al. (2006) and Kroshus, Swarthout, and Tibbetts (1995) tends to show that secondary traumatic stress is indeed a real phenomenon when working with traumatized individuals. It also showed that subjective STS can be successfully investigated through survey research. Thus, past research supports the rationale for using a quantitative design with data collection through a self-report survey.

Hardiness

Research has shown that psychological stress is correlated with illness (Sellah, 2008). However, researchers have also noted that not every individual under stress becomes ill (Funk, 1992). Thus, a search began for psychosocial constructs that might mitigate the stress-illness relationship (Funk, 1992). Hardiness is one such construct. According to hardiness theory, this trait is a quality that emerges from rich, varied, and rewarding childhood experiences (Funk, 1992). These characteristics manifest in feelings and behaviors that are characterized as commitment, control, and challenge (Funk, 1992). "Commitment" has come to mean that these individuals consider potentially stressful situations to be interesting and meaningful (Funk, 1992). "Control" is defined as individuals realizing that stressors are mutable and not necessarily dangerous (Funk, 1992). The trait of "challenge" has come to mean that individuals understand that stress is a normal part of life rather than a threat, and view the stressor as an opportunity for personal growth (Funk, 1992).

Hardiness has been studied within a perspective that correlates stress-related illness with personal traits thought to reduce the effects of stress, such as optimism and social support (Funk, 1992). The context in which hardiness has been researched has also expanded to include hardiness as a mitigating factor in cardiovascular reactivity, depressive symptoms, and burnout (Funk, 1992). Some of the populations included in hardiness studies are attorneys, law enforcement officers, human services workers, nurses, teachers, single parents, and the elderly (Funk, 1992).

Ecolas, Pitts, Martin, and Bartone (2013) researched the protective value of hardiness on PTSD symptoms among members of the military using survey research,

specifically the Dispositional Resiliency Scale-15, a self-report scale (DRS-15; Bartone, 1995). Permission has been obtained from the author to use this self-report scale in the current research. The DRS-15 is a valid, reliable, and widely used self-report scale. The scale's successful use by previous researchers supports the rationale that hardiness can be investigated through survey research.

Social support

Since the 1970s the behavioral sciences have shown increasing interest in the role of social support and perceived social support as coping mechanisms (Zimet, Dahlem, Zimet, & Farley, 1988). Social support is a protective factor regarding the development and maintenance of stress-related symptomology following a traumatic event (Hofman et al., 2016; Zimet et al., 1988). The psychological and physiological mechanisms of action for this buffering effect are thought to be an increase in the individual's ability to cope and recover, and an increased probability that the individual can share their emotional concerns related to the distress with those in their support network (Hofman et al., 2016). Further, because perceived social support may enhance self-esteem and positive feelings, the immune system may be strengthened (Zimet et al., 1988). Social support may hasten recovery from illness and reduce the possibility of disease (Zimet et al., 1988).

While most researchers agree that social support relies on a transaction between individuals, the exact nature of this transaction has been described differently in various studies (Zimet et al., 1988). Shumaker and Brownell (1984) hypothesized that social support is "an exchange of resources between at least two individuals perceived by the provider or the recipient as intended to enhance the well-being of the recipient" (p.13),

while Cohen and Syme (1985) noted that transactions provided by others in the support network might have either a negative or a positive effect. Zimet et al. (1998) noted that both of these hypotheses may be correct, and that further study is needed to clarify the issue.

Zimet et al. (1988) used the Multidimensional Scale of Perceived Social Support, the scale designated for use with the current research, in a self-report study including 136 females and 135 male university undergraduates. This instrument demonstrated good internal and test-retest reliability, as well as moderate construct validity. This supports the rationale for its inclusion in the current research and, more generally, supports the idea that social support can be researched using self-report surveys.

Survey research

Survey research, although an accepted and widely used research method, is not without its drawbacks. One significant issue is eliciting participation. For instance, Buchanan et al. (2006) sent out 1200 surveys to mental health professionals surveying them for STS symptoms and had low rate of response. This sample should have been highly motivated to respond when taking the subject of the questionnaire into consideration. Those researchers received only 405 responses, indicating a response rate of 34%. Of these 405 responses, 125 were determined to be “non-responses” in that the survey packets were returned unopened by the recipient. Out of 1200 survey packets mailed out, only 280 surveys were completed and usable for data analysis. This left a final response rate of 23% (Buchanan et al., 2006).

Another drawback of survey research is that the self-report nature of this method limits the ability to substantiate the accuracy of the responses (Buchanan et al., 2006). A further drawback of survey research is self-selection bias. For instance, in the study by Buchanan et al. (2006), the final response rate of 23% might indicate that those who did respond were highly motivated to do so. Thus, Buchanan et al. (2006) lamented that, because of the potential for selection bias, they were unable to make inferences that might generalize to larger populations of Canadian mental health professionals working in the trauma field. This limited the effectiveness of their research. One final note on confounding factors for this research is that the dependent and independent variables may be influenced by factors outside of the scope of research. Particularly germane to the present research studying an occupational cause of subjective STS is that the onset of STS is also affected by other life demands outside of the workplace (Figley & Ludick, 2016)

Summary and Conclusions

The purpose of this quantitative study was to examine the relationship among the independent variables of hardiness and perceived social support, and the dependent variable of subjective STS in mortuary workers. Additionally, a moderation analysis was preformed that examined any possible relationship among exposures to traumatically deceased human remains and the variables. This research was an effort to provide clinicians with data and recommendations that may advance effective stress-prevention techniques for those mortuary workers at risk of experiencing STS.

This literature review has pointed out the lack of research on this subject and traced the evolution of STS through its theoretical antecedents such as countertransference, burnout, and compassion fatigue. An overview of the biological mechanisms resulting in pathologies correlated to traumatic and stressful events was presented. A summary of the theories governing this study's variables was also presented.

Although perceived STS has been researched extensively in other caregiving fields, perceived STS in the civilian mortuary industry has not been researched adequately. This research aims to fill a gap in the literature regarding this topic. The rationale for using survey research to investigate this topic, as well as examples of this type of research has been presented. Finally, issues that may confound the research were discussed.

Chapter 3 will identify the research design and its connection to the research questions, discuss how the design choice is consistent with quantitative research designs, describe the target population, discuss the sampling strategy, discuss how this research design was administered, and how the collected data was analyzed.

Chapter 3: Research Method

Introduction

The purpose of this quantitative study was to examine the relationship among the independent variables of hardiness and social support, and the dependent variable of subjective STS in mortuary workers. Additionally, a moderation analysis was preformed that examined any possible effects of exposures to traumatically deceased human remains. Furthermore, this research was undertaken to provide clinicians with data and recommendations that may advance effective stress-prevention techniques for those mortuary workers at risk of experiencing STS. The sections contained in Chapter 3 include the research design and rationale, methodology, data analysis plan, threats to validity, and ethical considerations.

Research Design and Rationale

The dependent variable that was explored by this research is subjective STS. The independent variables were hardiness and perceived social support. The variable used for the moderation analysis was number of exposures to traumatically deceased human remains. Brief descriptions of these variables are presented here.

Secondary Traumatic Stress (STS)

The dependent variable for this study was subjective STS. Briefly, STS manifests with a similar symptomology as posttraumatic stress disorder (PTSD). The main difference between the two is the placement of the stressor (Figley, 1995). A stressor that is a direct threat to the individual may allow for the onset of PTSD, whereas a traumatic

stressor that was witnessed by an individual in a helping capacity may predispose them to the onset of STS (Figley, 1995).

Number of Traumatic Exposures

The number of traumatic exposures to traumatically deceased human remains to which a mortuary worker is exposed was a variable in the moderation analysis for this study. Bauwens and Tosone (2014), studying trauma and personal growth in mental health professionals, found that a greater number of traumatic life events related to both primary and secondary traumatic stress. Secondary traumatic stress was the dependent variable in this study. Data on the number of traumatic occupational exposures was collected by a single question on the online survey.

Hardiness

Hardiness is an independent variable for this study and has been defined as a set of personal characteristics that enable the individual to view stressful circumstances as opportunities for growth, rather than potential disasters (Funk, 1992; Maddi, 2007). Hardiness is viewed as encompassing three sub-traits: commitment, internal locus of control, and the acceptance of challenge.

Perceived Social Support

The second independent variable for this study is perceived social support. An expansive construct, the most germane aspect of social support for this study is the social support that the individual perceives they are receiving. Conceptualized by Hoffman, Hahn, Tirabassi, and Gaher (2016), social support is thought to play a protective role in

the onset of STS by buffering the individual from stress and offering a source of solace during times of stress.

Research Design

This research design is quantitative. It is necessary to use a quantitative approach that will assign numerical, continuous values to the dependent and independent variables. This is necessary for the moderation analysis as well. Continous variables will allow for quantitative statistical analysis. Creswell (2009), considered the quantitative design a productive way of testing theories by examining the relationship among variables.

Survey research will be an integral part of this study. Survey research has been used successfully by other researchers to investigate STS, hardiness, and perceived social support.

Time and Resource Constraints

The survey was live online for almost 150 days. This was longer than anticipated due to a low response rate. The necessary number of participants was a minimum of 68, with 100 sought after for better validity. Monetary costs associated with the survey service and one published instrument, the Dispositional Resilience Scale (DRS-15; Bartone, 1995), were borne by the researcher. The other instruments had no cost associated with them when used for academic research. Due to the length of the proposed survey, which took about ten minutes to complete, a stipend of $10.00 in the form of a gift card was offered for each completed survey. This was an attempt to foster participation and limit participant dropout.

Methodology

Described next will be the target population of the study, sampling procedures, the sampling frame, sample size, procedures for recruitment, participation, and data collection. Then, informed consent and exit and debriefing procedures will be discussed. A short overview of the instrumentation and operationalization of the variable's constructs will follow. Finally, a data analysis plan will be presented, along with threats to the validity of the study and a discussion on ethics.

Population

The population for this study were English-reading workers in the civilian mortuary industry in the United States and Canada. According to the United States Bureau of Labor Statistics (2016), there are at least 25,850 morticians, undertakers, and funeral directors employed in the United States. The latest Canadian National Household Survey (NHS), indicates that there are 9085 funeral directors and embalmers working in that occupation in Canada (Statistics Canada, 2011). These figures do not include drivers, hairdressers, laborers, or temporary workers employed by this industry and listed elsewhere in the respective government databases.

Sampling and Sampling Procedures

Obtaining a sample from this population was completed by word-of-mouth (chain sampling) and cold calling through personal and professional contacts in the mortuary industry. The combination of these methods ensured that the survey was accessed by a broad spectrum of participants within the industry. The survey stayed live online for as long as needed to obtain approximately 100 participants (68 minimum). To foster

participation, a $10.00 gift card was offered to those that completed the survey in its entirety. The survey took about ten minutes to complete.

A summary of considerations for participant safety follows: the survey began with a check box acknowledgment by the participant that there is a small possibility that the subject matter of the survey may cause some distress. The prospective participant was advised that they should opt out of the study if they feel this might be the case. Participants with a pre-existing mental health condition were advised against proceeding with the survey. In addition, national hotline numbers such as the Mental Health Helpline (1-877-SAMHSA7) and the Suicide Prevention Hotline (1-800-273-8255) were provided at the end of the survey.

Sampling Frame

The sample consisted of 100 participants working in the civilian mortuary industry. These participants had at least one traumatic exposure to human remains over the course of their career. Kroshus, Swarthout and Tibbetts (1995) did not consider a timeframe for the most recent traumatic exposure as pertinent during the construction of their Critical Incident Questionnaire. This research follows their example on this issue. The participants were funeral directors, embalmers, or other workers within this industry. All participants were a minimum of 18 years of age. The participants were advised of the possible psychological complications of participation. They were instructed to opt out of the study if they felt that participation would affect them emotionally. The introduction to the survey had a checkbox where the participant acknowledged the possible ramifications of participation and agreed to proceed. Checking the “no” (do not agree) box redirected

the potential participant out of the survey. Further, the introduction to the survey asked that those previously diagnosed with a mental health disorder (e.g. depression, anxiety, PTSD, suicidal ideation) consider refraining from participation.

Sample Size

An appropriate sample size was calculated using G*Power software. G*Power software is a power and sample size calculator developed by Faul, Erdfelder, Buchner, and Lang (2014). For power calculation purposes, a medium effect size of .15, an alpha of .05, and a power of .80 may be used (Cohen, 1988). This regression model would require a minimum sample size of 68 participants to achieve a power of .80 (Faul et al., 2014). All statistical parameters used for this calculation are presented in Appendix A. The power of moderation analysis tends to be low (Aguinis, 2004). Thus, a large sample size ($n = \geq 100$) was sought in order to ensure an accurate evaluation of the moderating study (Aguinis, 2004). The study had 100 participants.

Procedures for Recruitment, Participation, and Data Collection

Recruitment was completed through word-of-mouth (chain sampling) and cold calling funeral homes throughout North America. The participants consisted of English-reading mortuary employees that completed an online survey through the survey service Survey Monkey. Permission to use Survey Monkey for academic research is found in Appendix B. The survey itself is found in Appendix C. Participants included anyone in the mortuary industry who had an occupational exposure to traumatically deceased human remains. Survey question “4” asked if the participant had an occupational exposure to the remains of individuals who have died of causes such as suicide,

homicide, SIDS, fire, explosion, or other violent causes of death. Experiencing at least one traumatic occupational exposure qualified the individual for participation in the study. A negative answer to this question redirected the participant out of the survey. Additional data collected was gender and years of service to the industry because these factors have been shown to also correlate to the mitigation of perceived STS in this population (Kroshus, Swarthout, & Tibbetts, 1995). Years of service is addressed when discussing issues that may confound the research results.

Informed Consent

Participants were presented with a digital informed consent statement containing a checkbox acknowledgement regarding the nature of the study. They had to agree to proceed in order to continue with the study. This informed consent form asked the participant to opt-out of the study if they felt that participation would delve into topics they might consider harmful to their emotional well-being. All participants were a minimum of 18 years of age. Those with pre-existing mental health conditions were advised to consider opting-out of the study.

Data Collection

Data was collected via the online survey service, Survey Monkey. Data collection began with basic demographic data, including years of service to the industry. The survey was designed to take no more than ten minutes to complete. Participants were compensated for their time. Using self-report instruments described later, data collection focused on symptoms of subjective STS, personal characteristics regarding resilience (hardiness), and the participant's perceived social support. In addition, the survey

contained one question asking the participant to quantify their lifetime exposure to traumatically deceased human remains. The data was used to run hierarchical multiple regressions in order to study the relationship among hardiness and perceived social support, and perceived STS. A moderation analysis between number of traumatic events and the variables was conducted

To ensure confidentiality, any data collected is being held separately from the participant's personally identifying information. However, collecting the participant's personally identifying information was necessary to send the promised stipend. Their personally identifying information was only used for that purpose. Telephone numbers, e-mail addresses, and IP addresses were not be collected. If the research subject opted to participate without receiving the stipend, they could participate anonymously.

Participant Exit and Debriefing

Although no formal follow-up was required in the study, the participants were encouraged to contact the researcher by phone, email, or text message with any questions regarding the study. In addition, a short list of crisis hotline phone numbers in the United States and Canada was provided.

Instrumentation and Operationalization of Constructs

Described here are the self-report scales that were used to quantify the variables in this study. This study used the Dispositional Resilience Scale (Bartone, 1995), the Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988), and the Secondary Traumatic Stress Scale (Bride, Robinson, Yegidis, & Figley, 2004).

Dispositional Resilience Scale-Short Form (DRS-15; v3.2)

The DRS-15 (Bartone, 1995; Appendix D) is a 15-item scale that includes positive as well as negatively keyed items for quantifying the personality trait of hardiness. Using four Likert-type ratings ranging from “not true at all” to “completely true,” the DRS-15 measures the three conceptually important hardiness facets of commitment, control, and challenge (Bartone, 1995). Possible scores on the DRS-15 range from 0 to 45, with 45 indicating the highest level of hardiness. The breakdown in scores for low hardiness levels is 0 to 22 and scores above 23 indicates a high hardiness score (Bartone, 1995).

The DRS-15 was used with permission of the author through a prepaid academic research license. The psychometric properties of the DRS-15 are robust. It has Cronbach’s alpha coefficients ranging from .70 to .77 for the facets and .83 for the overall scale. The scale has demonstrated criterion-related and predictive validity in several studies (Bartone, 1995).

The Multidimensional Scale of Perceived Social Support (MSPSS)

A 12-item subjective self-report measure, the multidimensional scale of perceived social support (Zimet, Dahlem, Zimet, & Farley, 1988; Appendix E) contains three subscales that address different sources of social support: family, friends, and significant others. Each of the 12 items is scored using five Likert-type options ranging from “very strongly disagree” to “very strongly agree.” The possible scores range from 12, little perceived social support, to 84, indicating high perceived social support. The MSPSS was found to have strong factorial validity, good internal and test-retest

reliability, as well as moderate construct validity (Zimet et al., 1988). The validity of the MSPSS was tested against 275 male and female university undergraduates (Zimet et al., 1988). The value of the MSPSS to the current research is its brevity and simplicity. However, a confounding issue regarding the MSPSS is that it was validated against a relatively homogenous sample of college students and that the item means of the MSPSS all fell above the midpoint of 3.5, suggesting frequent endorsement of higher levels of social support (Zimet et al., 1988). The authors hypothesized that this may be due to the participants perceiving themselves as being highly supported in their university social environment.

Secondary Traumatic Stress Scale (STSS)

The Secondary Traumatic Stress Scale (Bride, Robinson, Yegidis, & Figley, 2004; Appendix F), used with non-commercial research permission by the authors, is a 17-item scale that uses five-point Likert-type rating scales. Responses ranging from "never" to "very often," allow the user to record the frequency of symptoms related to STS. These frequencies are then assigned a number (1-5) allowing a continuous numerical score to be developed. As allowable per the instructions on the scale, the term "client" was changed to "the deceased" to better clarify the purpose of the scale for the user. This change was made because the participant may not realize that they are indeed in a "caregiver" relationship with the deceased.

The STSS scores high in reliability ($\alpha = .94$), scoring moderately high for the five-item intrusion subscale ($\alpha = .79$) and the seven-item avoidance scale ($\alpha = .87$; Bride, Robinson, Yegidis, & Figley, 2004). Using confirmatory factor analysis (CFA), the STSS

has factor loadings ranging from .46 to .82 and *t*-values ranging from 9.27 to 15.12. All three factors were highly correlated with each other: intrusion-avoidance $r = .96$, intrusion-arousal $r = .96$, and avoidance-arousal $r = 1.0$ (Bride, Robinson, Yegidis, & Figley, 2004).

Data Analysis Plan

The data was assessed for significant missing data and outlying values. Cases missing a significant amount of data (>50%) were removed from the dataset. Outliers were identified through a studentized residuals plot. According to Field (2013), if a datum has an associated studentized residual of ±3.21 it will be considered an outlier and removed from the dataset. Outliers tend to pull the regression line towards them and distort the meaning of the data. Descriptive statistics were calculated to describe the characteristics of the sample. Frequencies and percentages for categorical variables were calculated, while means and standard deviations for continuous variables were calculated and presented. Hierarchical linear regression models were calculated to analyze the following research question and hypotheses:

How do hardiness and perceived social support moderate the relationship between number of traumatic exposures and subjective STS in civilian mortuary workers who have been exposed to traumatized human remains during their professional work and is number of exposures to traumatic remains a factor in the relationship among the variables?

H_0. There is not a significant relationship between hardiness and perceived social support and subjective secondary traumatic stress in civilian mortuary workers who have

been exposed to traumatized human remains during their professional work. The number of exposures is not a factor in the relationship among variables.

Ha. There is a significant relationship between hardiness and perceived social support and secondary traumatic stress in civilian mortuary workers who have been exposed to traumatic human remains during their professional work. The number of exposures is a factor in the relationship among variables.

To evaluate these hypotheses, a moderation analysis using hierarchical linear regression was performed. A moderation analysis is used to determine how moderating variables affect the strength or direction of an existing relationship (Baron & Kenny, 1986).

A hierarchical linear regression is an appropriate analysis methodology to assess the relationship among two or more continuous or categorical predictor valuables and one continuous dependent variable in multiple steps (Field, 2013). Hierarchical linear regressions allow a researcher to determine moderating effects when the moderators are continuous variables (Field, 2013). The moderators, hardiness and perceived social support, were entered into the regression model as predictors and are continuous. The dependent variable, perceived STS, and the predictor variable, number of traumatic exposures are continuous variables.

Assumptions of the normal distribution of residuals (normality), homoscedasticity, and the absence of multicollinearity were assessed. Normality is the assumption that the data are approximately normally distributed (Field, 2013). Normality was assessed using a Q-Q scatterplot. This assumption will be met if the data points generally follow the

normality line (Stevens, 2009). The assumption of homoscedasticity is that the data are equally distributed across values of the independent and dependent variables (Field, 2013). A scatterplot was developed for assessing the residuals. The assumption of homoscedasticity will be met if the data points are randomly distributed with no cone-shaped pattern appearing. Finally, the assumed absence of multicollinearity will be met when the predictor variables are not highly correlated (Stevens, 2009). Multicollinearity is assessed through the technique of variance inflation factors (VIFs). VIFs below 10.00, and preferably below 5.00, indicate that this assumption is met (Stevens, 2009). Whether or not these assumptions were met is discussed in Chapter 4.

To establish a moderating effect, three steps needed to be used. First, the predictor variable must significantly predict the dependent variable (Baron & Kenny, 1986). Next, the moderators should also significantly predict the dependent variable (Baron & Kenny, 1986). Finally, the inter-action term between the moderator and the predictor should explain significantly more variance in the dependent variable than the model without the interaction term (Baron & Kenny, 1986). To meet these steps, a hierarchical linear regression was performed. In the first step of the regression, the relationship between the number of traumatic exposures and perceived STS was evaluated. In the second step, the moderator was added to the model. In the third step, an interaction term between the moderator and the predictor value was added to the model.

As there are two moderators, simple moderation effects will first be evaluated to determine each moderator's individual effect before inclusion into the full model. Therefore, two separate hierarchical linear regressions were used. Hardiness was the

moderator for the first analysis. Perceived social support was the moderator for the second analysis. If evidence exists for moderating effects for both moderators, a higher-order moderation affect will be examined by adding both moderators to a third hierarchical linear regression model. Significance will be determined using an alpha of .05.

Threats to Validity

This section will discuss threats to the validity of the findings. Discussed will be issues found in survey research, bias, bias in the study design, selection bias, recall bias, and confounding.

Survey Research

Survey research is an accepted and widely used research method. However, one significant issue is eliciting participation (Buchanan, Anderson, Uhlemann, & Horwitz, 2006). This research attempted to reduce this problem by offering a small stipend for participation. However, this was not without concerns. Participants may have completed the survey using erroneous answers to obtain the stipend.

Another drawback of survey research is that the subjective self-report nature of this method limits the researcher's ability to substantiate the accuracy of the responses (Pannucci & Wilkins, 2010). A final issue relates to most behavioral research in that this research will be studying correlations among variables and will not be able to attribute causation or mitigation of perceived STS to any specific variable.

Bias

Bias has been defined as any tendency that prevents unprejudiced consideration of a question (Pannucci & Wilkins, 2010). Bias can occur during any phase of research,

including research design, data collection, and data analysis (Pannucci & Wilkins, 2010). However, some degree of bias is unavoidable (Pannucci & Wilkins, 2010). Bias does not appear as a dichotomous variable. Instead, those reviewing the research will need to consider the degree of bias present in the study (Pannucci & Wilkins, 2010). Following is a brief discussion on the types of bias that may be found in the study and how possible bias has been handled in the design and implementation of this study.

Bias in the study design

By using self-report online questionnaires and surveys, inter-observer variability, that is, the slight differences in how different observers administer the survey will be eliminated. However, each participant may interpret questions differently, inducing response bias into the study. Using an appropriate sample size is one method this study used to control bias.

Selection/sampling bias

A further drawback of survey research is selection bias. Buchanan et al. (2006) described a final response rate of 23% in their research. That might indicate that those who responded were very highly motivated to do so. Selection bias may add bias into the data, For example, someone who is highly motivated to engage in the study may have already experienced STS or similar symptoms and now wishes to “share their story.” Conversely, those who were highly motivated not to engage in the study may exhibit symptoms of STS but not wish to offer details for various reasons. One reason could be a concern over re-traumatization. As discussed in the ethics section, those exhibiting moderate to severe mental health symptoms were advised to consider non-participation in

the study. This may have reduced the pool of those participants that the study aimed to identify. Ideally, participants should be unaware of how the variables are impacting their everyday life.

Buchanan et al. (2006) lamented that because of the potential for selection bias, they were unable to make inferences that might generalize to larger populations of Canadian mental health professionals working in the trauma field. This limited the effectiveness of their research. The use of a small stipend ($10) to incentivize participation may have been a source of selection bias because it is possible that some participants completed the survey with erroneous answers to obtain the stipend.

Recall bias

An unavoidable issue with the subject of this research is recall bias. Recall bias is the tendency for the participant to have the memory of an event influenced by the outcome of the event (Pannucci & Wilkins, 2010). Recall bias may have been a confounding issue with this research because of the psychological stress that perceived STS may cause the participant. This traumatic stress may have influenced the participant's memory in recalling the nature of their symptoms.

Confounding

This study examined perceived STS in an occupational setting. A confounding issue is how the large number of variables associated with the participant's everyday life impact how the dependent variable manifests. Particularly germane to this research is the conclusion by Ludick and Figley (2016) that onset of STS may be affected by other life demands outside of the workplace. A further confounding issue regarding the results of

this research is that while the data may show a correlation among the variables, no absolute causation can be stated. Another issue confounding the results of the study is that, for instance, the participant may have become bored with the survey and answered randomly to complete the survey, or the participant may have answered randomly to secure the stipend.

Ethical Procedures

There were several ethical issues to be considered in designing this study. Participants in this study were a minimum of 18 years of age. No institutional or commercial agreements outside of the participant's personal agreement to participate was needed. No data collection took place in the researcher's workplace. The research proposal was submitted to Walden University's Institutional Review Board (IRB) for approval. It is the mission of the IRB to help ensure that Walden University researchers operate within ethical standards.

Participants were assured in writing that their response would remain confidential. The collected data is being held confidentially through password encryption on a La Cie model LAC301588 external hard drive. This hard drive is secured in a locked, waterproof, and fireproof First Alert fire safe model 2092 DF located at the researcher's home office. The data will be stored for a minimum of five years after the publication of the results. The data will then be destroyed using WEBROOT data destruction software or similar software.

The online survey design included a provision redirecting the participant to a different web page to supply any information needed to send the promised stipend. Other

ethical issues, such as using participants within the researcher's work environment, conflicts of interest, or power differentials did not apply. The use of a $10.00 stipend was approved by the Walden University IRB. The only individuals with access to the data are Walden University faculty and the researcher. Access to the data by Walden University faculty is governed by a confidentiality agreement.

Summary

Chapter 3 discussed the research design, the rationale for a quantitative study, and described the methodology that was used in study. Target population, sampling procedures, recruitment procedures, and the research instruments were discussed. A review of threats to the validity of the data including bias has been presented. Finally, ethical procedures, including submission to Walden University's IRB, data storage and destruction, and ethical considerations regarding the participants has been presented. Chapter 4 discusses the data collected and explores the statistical meaning of the data.

Chapter 4: Results

Introduction.

The purpose of this quantitative study was to examine the relationship among the independent variables of hardiness and perceived social support, and the dependent variable of subjective secondary traumatic stress (STS) in mortuary workers. Additionally, a moderation analysis was preformed that examined any possible relationship among exposures to traumatically deceased human remains and the variables. The specific research questions for this study were:

H0. There is not a significant relationship between hardiness and perceived social support and secondary traumatic stress in civilian mortuary workers who have been exposed to traumatized human remains during their professional work. The number of exposures is not a factor in the relationship among variables.

Ha. There is a significant relationship between hardiness and perceived social support and secondary traumatic stress in civilian mortuary workers who have been exposed to traumatic human remains during their professional work. The number of exposures is a factor in the relationship among variables.

The study was based on the hypothesis that high levels of the personality trait of hardiness and the environmental condition of perceived social support will have a negative correlation with the prevalence of perceived STS in a sample of workers in the mortuary industry. Additionally, a moderation analysis was preformed that examined any possible relationship among exposures to traumatically deceased human remains and the variables. This specific research may benefit society by providing clinicians with data

and recommendations that may advance stress-prevention interventions for those mortuary workers at risk of experiencing STS.

Chapter 4 began with an introduction, then moves to a discussion of the data collection methods. Any discrepancies in the data collection plan are discussed. Basic descriptive and demographic characteristics of the sample are reported. Statistical assumptions are reviewed. Inferential statistics and associated probability values are presented.

Data Collection

Data collection began on December 12, 2018, the same day IRB approval was received by the researcher via Walden University e-mail. Data collection was completed on May 6, 2019. A total of 102 participants completed surveys. Two participant's surveys were disqualified as incomplete, leaving a total of 100 survey responses used in the current study. The sample consisted of 60 males, 39 females, and 1 "other."

Total data collection time was approximately 5 months. This was longer than expected as chain sampling through word-of-mouth by contacts in the industry was not as efficacious as anticipated. Chain sampling accounted for 31 of the 102 survey respondents. The remaining 71 survey respondents were recruited by cold calling random funeral homes across the United States and Canada during the working day. During these phone calls, the researcher explained the research being conducted to funeral home staff and requested permission to send the solicitation email. Cold calling was only slightly more effective, as for approximately every five calls only one participant completed a survey. The exact efficiency of cold calling was not tracked. Possible reasons for the

inefficiency of survey research, chain sampling, and cold calling are presented in chapter 5.

Results

Baseline demographic and descriptive statistics were calculated for each interval and ratio variable. Frequencies and percentages were calculated for each nominal variable.

Demographics.

The most frequently observed category of gender was male (*n* = 60; 60%). Frequencies and percentages are presented in Table 1.

Table 1

Frequency Table for Nominal Variables

Variable	*n*	%	Cumulative %
Gender			
Male	60	60	60
Female	39	39	99
Other	1	1	100
Missing	0	0	100

Descriptive Statistics. The observations for Hardiness had an average of 43.42 (*SD* = 7.66, Min = 30.00, Max = 78.00, Skewness = 1.15, Kurtosis = 3.24). The observations for Number of Exposures (Exposures) had an average of 228.69 (*SD* = 296.35, Min = 1.00, Max = 1001.00, Skewness = 1.73, Kurtosis = 1.87). The observations for Social Support (SS) had an average of 56.95 (*SD* = 12.69, Min = 12.00, Max = 84.00, Skewness = -0.80, Kurtosis = 1.75). The observations for Secondary Traumatic Stress (STS) had an average of 35.15 (*SD* = 9.77, Min = 16.00, Max = 63.00, Skewness = 0.18, Kurtosis = 0.39). in Table 2. When the skewness is greater than 2, the variable is considered asymmetrical

about its mean. When the kurtosis is greater than or equal to 3, then the variable's distribution is markedly different than a normal distribution in its tendency to produce outliers (Westfall & Henning, 2013). There were no issues with skewness in this data set. Although kurtosis for hardiness was slightly above the level of 3.0, no outliers were indicated according to the Studentized residual plots. Descriptive statistics can be found in table 2.

Table 2

Descriptive Statistics Table for Interval and Ratio Variables

Variable	*M*	*SD*	*n*	SE_M	Min	Max	Skewness	Kurtosis
Hardiness	43.42	7.66	99	0.77	30.00	78.00	1.15	3.24
Number of Exposures	228.69	296.35	100	29.64	1.00	1001.00	1.73	1.87
Soc Support	56.95	12.69	99	1.28	12.00	84.00	-0.80	1.75
STS	35.15	9.77	100	0.98	16.00	63.00	0.18	0.39

Assumptions

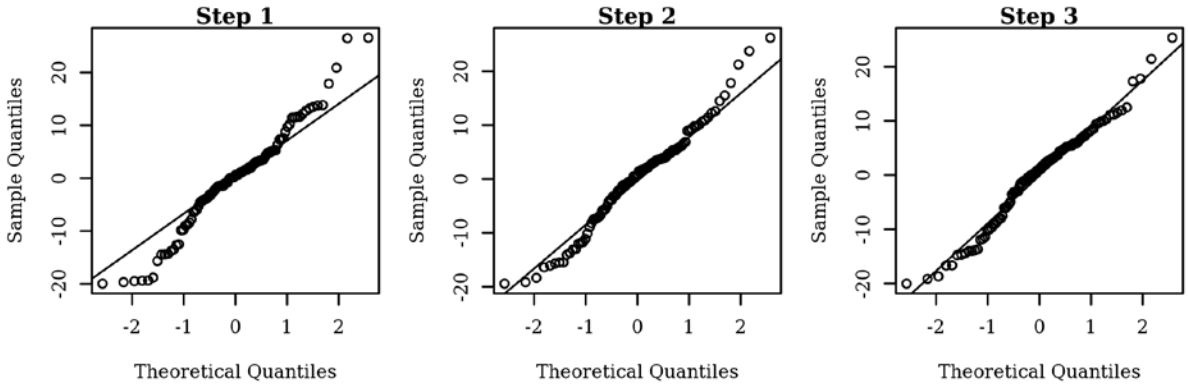
Analysis of the statistical assumptions are presented here. Statistical assumptions regarding hardiness will be discussed first, followed by those for social support.

Assumptions-Hardiness

Normality. Normality was evaluated for each regression model using a Q-Q scatterplot. The Q-Q scatterplot compares the distribution of the residuals (the differences between observed and predicted values) with a normal distribution (a theoretical distribution that follows a bell curve). In the Q-Q scatterplot, the solid line represents the theoretical quantiles of a normal distribution. Normality can be assumed if the points form a relatively straight line. There are no issues with normality with the hardiness dataset. The Q-Q scatterplots for normality are presented in Figure 1.

Figure 1

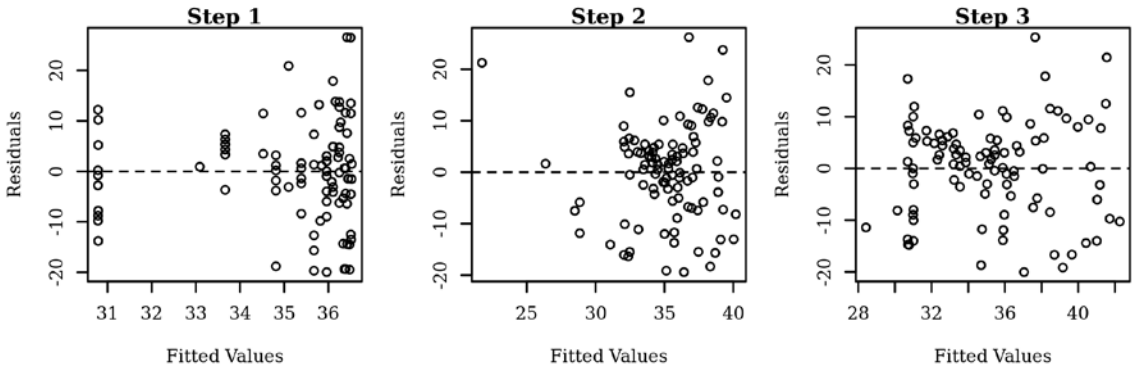
Q-Q scatterplot for normality for models predicting STS.



Homoscedasticity. Homoscedasticity was evaluated for each model by plotting the model residuals against the predicted model values (Osborne & Walters, 2002). The assumption is met if the points appear randomly distributed with a mean of zero and no apparent curvature. Figure 2 presents a scatterplot of predicted values and model residuals. The assumption of no homoscedasticity has been met.

Figure 2

Residuals scatterplot for homoscedasticity for regression models predicting STS.



Multicollinearity-Hardiness and Social Support. Variance Inflation Factors (VIFs) were calculated to detect the presence of multicollinearity between predictors for each regression model. Multicollinearity occurs when a predictor variable is highly correlated

with one or more predictor variables. If a variable exhibits multicollinearity then the regression coefficient for that variable can be unreliable and difficult to interpret. Multicollinearity also causes the regression model to decrease in statistical power (Yoo et al., 2014). High VIFs (i.e., VIF > 5) indicate multicollinearity (Menard, 2009). For Step 2, all predictors in the regression model have VIFs less than 5. For Step 3, all predictors in the regression model have VIFs less than 5. Table 3 presents the VIF for each predictor in the regression model. There are no issues with VIF's in this data set.

Table 3

Variance Inflation Factors for Each Step

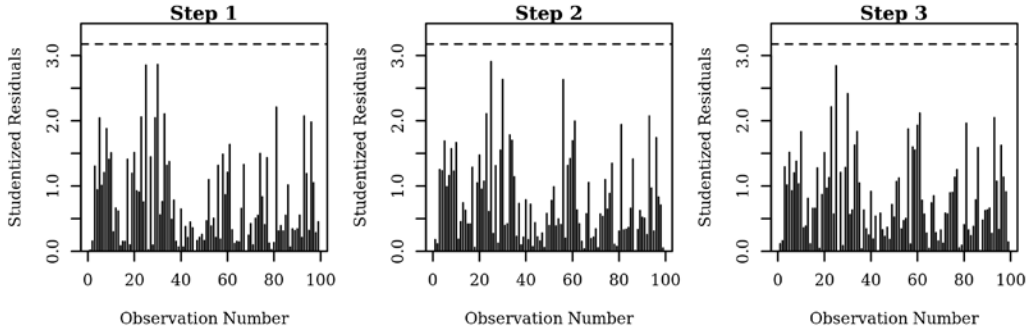
Variable	VIF
Step 1	
Exposures	-
Step 2	
Exposures	1.27
Hardiness	1.27
Step 3	
Exposures	1.57
Hardiness	1.45
Exposure x Hardiness	1.69

Note. - indicates that VIFs were not calculated as there were less than two predictors/moderators for the model step.

Outliers. To identify outliers, Studentized residuals were calculated and the absolute values were plotted against the observation numbers. An observation with a Studentized residual greater than 3.18 in absolute value, the 0.999 quartile of a *t* distribution with 98 degrees of freedom, was considered to have a significant influence on the results of the regression model. Figure 3 presents a Studentized residuals plot of the observations. Observation numbers are specified next to each point with a Studentized residual greater than 3.18. There are no outliers in this data set.

Figure 3

Studentized residuals plot for outlier detection for regression models predicting STS

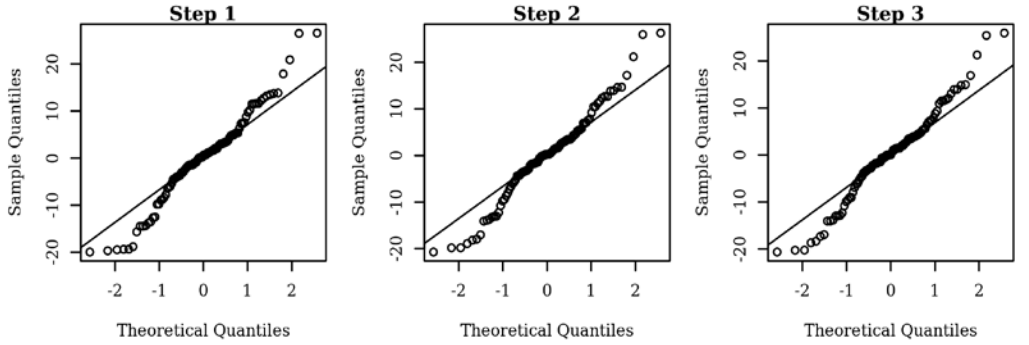


Assumptions-Social Support

Normality. Normality was evaluated for each regression model using a Q-Q scatterplot. The Q-Q scatterplot compares the distribution of the residuals (the differences between observed and predicted values) with a normal distribution (a theoretical distribution which follows a bell curve). In the Q-Q scatterplot, the solid line represents the theoretical quantiles of a normal distribution. Normality can be assumed if the points form a relatively straight line. The Q-Q scatterplots for normality are presented in Figure 4. The Q-Q scatterplots suggest a normal distribution.

Figure 4

Q-Q scatterplot for normality for models predicting STS

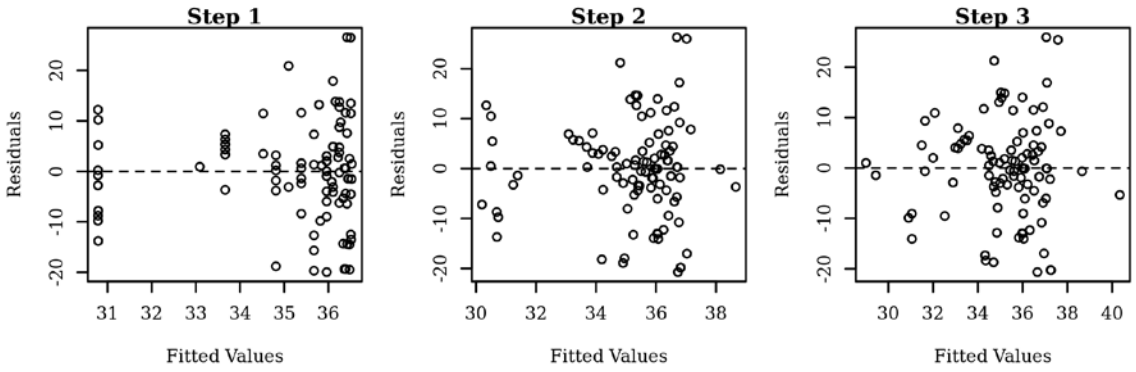


Homoscedasticity. Homoscedasticity was evaluated for each regression model by plotting the model residuals against the predicted model values (Osborne & Walters, 2002). The

assumption is met if the points appear randomly distributed with a mean of zero and no apparent curvature. Figure 5 presents a scatterplot of predicted values and model residuals. The assumption of no homoscedasticity has been met.

Figure 5

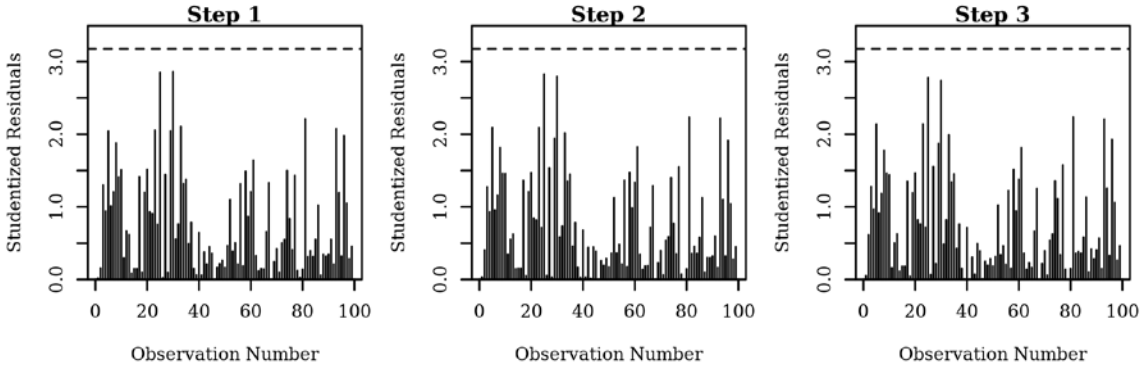
Residuals scatterplot for homoscedasticity for models predicting STS



Outliers. To identify outliers, Studentized residuals were calculated and the absolute values were plotted against the observation numbers. An observation with a Studentized residual greater than 3.18 in absolute value, the 0.999 quartile of a *t* distribution with 98 degrees of freedom, was considered to have significant influence on the results of the model. Figure 6 presents a Studentized residuals plot of the observations. Observation numbers are specified next to each point with a Studentized residual greater than 3.18. There are no outliers in this data set.

Figure 6

Studentized residuals plot for outlier detection for models predicting STS.



Hierarchical Linear Regression-Social Support

A three-step hierarchical linear regression was conducted with STS as the DV and SS as the IV. Both the IV and the moderator variables were mean-centered prior to entering these variables into the regression model and calculating in search of an interaction. Interaction occurs if the relationship between the IV and the DV depends on (is moderated by) the moderator variable. An interaction implies a multiplicative or buffering effect by the moderator variable. For Step 1, Exposure was entered as a moderator variable into the null model. SS was added as a predictor variable into the model at Step 2. Exposure x SS was added as a moderator/predictor variable into the model at Step 3.

Table 4

Regression Model Comparisons for Variables predicting STS

Model	R^2	df_{mod}	df_{res}	F	p	ΔR^2
Step 1	0.03	1	97	3.04	.084	0.03
Step 2	0.03	1	96	0.39	.532	0.00
Step 3	0.04	1	95	0.41	.525	0.00

Note. Each Step was compared to the previous model in the hierarchical regression analysis.

Comparing Regression Models: Social Support. The *F*-test for Step 1 was not significant, F (1, 97) = 3.04, p = .084, ΔR^2 = 0.03. This regression model indicates that adding Exposures did not account for a significant amount of additional variation

(moderation) in STS scores. The *F*-test for Step 2 was not significant, F (1, 96) = 0.39, p = .532, ΔR^2 = 0.00. This regression model indicates that adding SS did not account for a significant amount of additional variation in STS scores. The *F*-test for Step 3 was not significant, F (1, 95) = 0.41, p = .525, ΔR^2 = 0.00. This regression model indicates that adding Exposure x SS did not account for a significant amount of moderation in STS. The results for the regression model comparisons are in Table 5.

Table 5

Summary of Hierarchical Regression Analysis for Variables Predicting STS

Variable	*B*	*SE*	CI	β	*t*	*p*
Step 1						
(Intercept)	35.22	0.97	[33.29, 37.16]	0.00	36.13	< .001
Exposures	-0.01	0.00	[-0.01, 0.00]	-0.17	-1.74	.084
Step 2						
(Intercept)	35.22	0.98	[33.28, 37.16]	0.00	36.02	< .001
Exposures	-0.01	0.00	[-0.01, 0.00]	-0.16	-1.56	.122
Social Support	-0.05	0.08	[-0.21, 0.11]	-0.06	-0.63	.532
Step 3						
(Intercept)	35.04	1.02	[33.00, 37.07]	0.00	34.24	< .001
Exposures	-0.01	0.00	[-0.02, 0.00]	-0.21	-1.63	.106
Social Support	-0.03	0.08	[-0.20, 0.14]	-0.04	-0.37	.714
Exposure x SS	0.00	0.00	[-0.00, 0.00]	0.08	0.64	.525

Note. Confidence intervals (CI) for *B* are based on an alpha of 0.05.

Hierarchical Linear Regression-Hardiness

A three-step hierarchical linear regression was conducted with STS as the DV and hardiness as the IV. Both the IV and the moderator variables were mean-centered prior to entering these variables into the regression model and calculating in search of an interaction. Interaction occurs if the relationship between the IV and the DV depends on (is moderated by) the moderator variable. An interaction implies a multiplicative or buffering effect by the moderator variable. For Step 1, Exposures was entered as a moderating variable into the null regression model. Hardiness was added as a predictor

variable into the regression model at Step 2. Exposures x Hardiness was added as a moderator/predictor variable into the regression model at Step 3. The hierarchical regression analysis results consist of regression model comparisons and a regression model interpretation based on an alpha of 0.05. Each step in the hierarchical regression was compared to the previous step using *F*-tests. The coefficients of the regression model in the final step were interpreted.

Comparing Regression Models. The *F*-test for Step 1 was not significant, F (1, 97) = 3.04, $p = .084$, $\Delta R^2 = 0.03$. This regression model indicates that adding Exposures did not account for a significant amount of additional variation (moderation) in STS. The *F*-test for Step 2 was significant, F (1, 96) = 6.42, $p = .013$, $\Delta R^2 = 0.06$. This regression model indicates that adding Hardiness explained an additional 6.08% of the variation in STS scores. The *F*-test for Step 3 was not significant, F (1, 95) = 3.32, $p = .072$, $\Delta R^2 = 0.03$. This regression model indicates that adding Exposure v Hardiness did not account for a significant amount of additional variation (moderation) in STS scores. The results for the regression model comparisons are in Table 6.

Table 6

Regression Model Comparisons for Variables predicting STS

Model	R^2	df_{mod}	df_{res}	F	p	ΔR^2
Step 1	0.03	1	97	3.04	.084	0.03
Step 2	0.09	1	96	6.42	.013	0.06
Step 3	0.12	1	95	3.32	.072	0.03

Note. Each Step was compared to the previous model in the hierarchical regression analysis.

Regression Model Interpretation. Exposure did not significantly predict STS, $B = -0.00$, $t(95) = -1.19$, $p = .239$. Based on this sample, a one-unit increase in Exposure does not have a significant moderating effect on STS scores. Hardiness significantly predicted STS, $B = -0.45$, $t(95) = -3.04$, $p = .003$. This indicates that on average, a one-unit increase of Hardiness will decrease the value of an STS score by 0.45 units. Exposure x hardiness

did not significantly predict STS, $B = 0.00$, $t(95) = 1.82$, $p = .072$. Based on this sample, a one-unit increase in Exposure v Hardiness does not have a significant moderating effect on STS scores. The results for each regression are shown in Table 7.

Table 7

Summary of Hierarchical Regression Analysis for Variables Predicting STS-Hardiness

Variable	*B*	*SE*	CI	β	*t*	*p*
Step 1						
(Intercept)	35.22	0.97	[33.29, 37.16]	0.00	36.13	< .001
Exposure	-0.01	0.00	[-0.01, 0.00]	-0.17	-1.74	.084
Step 2						
(Intercept)	35.21	0.95	[33.33, 37.10]	0.00	37.12	< .001
Exposures	-0.00	0.00	[-0.01, 0.01]	-0.05	-0.43	.669
Hardiness	-0.36	0.14	[-0.63, -0.08]	-0.28	-2.53	.013
Step 3						
(Intercept)	34.61	0.99	[32.64, 36.59]	0.00	34.83	< .001
Exposures	-0.00	0.00	[-0.01, 0.00]	-0.14	-1.19	.239
Hardiness	-0.45	0.15	[-0.74, -0.16]	-0.35	-3.04	.003
Exposure x Hardiness	0.00	0.00	[-0.00, 0.00]	0.23	1.82	.072

Note. Confidence intervals (CI) for *B* are based on an alpha of 0.05.

Summary

The questions answered by this research were what are the relationships between hardiness and perceived social support, and secondary traumatic stress in civilian mortuary workers who have been exposed to traumatized human remains and is the number of traumatic exposures to human remains a factor in the relationship among the variables?

Three step hierarchical linear regressions were calculated to search for any relationship among the IV and the DV, along with any multiplicative or buffering relationship with the moderating variable. The implications of these regression models will be discussed in chapter 5.

In addition, Chapter 5 discusses both the successes and flaws in this research study, with possible explanations for each presented. In addition, ideas for future research that would advance stress-related interventions were presented.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this quantitative study was to examine the relationship among the independent variables of hardiness and social support, and the dependent variable of subjective secondary traumatic stress (STS) in mortuary workers. Additionally, a moderation analysis was preformed that examined any possible relationship among exposures to traumatically deceased human remains and the variables. Furthermore, this research was undertaken to provide clinicians with data and recommendations that may advance effective stress-prevention interventions for mortuary workers at risk of experiencing subjective STS. Statistical results were discussed in Chapter 4. The following is a general interpretation of the results.

Interpretation

The data presented in Chapter 4 does not entirely support either the null or alternate hypotheses of the present study. Negative correlations among all the variables and subjective STS were anticipated based on the literature. However, the results for this study indicated that only hardiness had a statistically significant relationship with subjective STS, while perceived social support had a nonsignificant relationship with subjective STS. The number of exposures to traumatically deceased human remains did not appear to be a factor in the relationships among the variables in this study. Each variable will be discussed separately. Possible explanations for a lack of correlation between subjective STS and (a) perceived social support and (b) exposure to traumatically deceased human remains (exposure) will be presented.

Hardiness

The tendency of hardiness to correlate negatively with subjective STS appears supported by the results. This is congruent with Maddi (2007), who found that those employees enduring high levels of stress and showing high levels of hardiness had a reduced incidence of serious stress-related medical problems (e.g. heart attack, cancer, mental disorders, and suicide). There appears to be a stress-buffering mechanism inherent with hardiness (Stoppelbein, McRae, & Greening, 2017). In the present study, those endorsing high levels of hardiness also endorsed low levels of STS. Therefore, since the literature correlates lower levels of stress to lower levels of serious illness, it can be predicted that those in the present study with high levels of hardiness will experience lower rates of medical issues. The stress buffering mechanism of hardiness appears effective.

Stoppelbein, McRae, and Greening (2017), studied hardiness and PTSD in mothers of children with pediatric cancer. These researchers found that hardiness only mitigated certain clusters of PTSD symptoms and stress-related coping strategies, such as avoidance and emotional numbing. No effect was found for biological stress-related symptoms such as hyperarousal and intrusive thoughts.

The trait of hardiness may initially help employees by keeping them on the job while they develop other stress coping strategies. A “natural selection” process among workers in the industry may occur through a type of stress inoculation very much like that found in exposure therapy (Brown, Zandberg, & Foa, 2019). The process may be as follows: If a worker found it so excessively stressful to perform their necessary tasks that

they could not go to work regularly, they might leave the industry. However, workers who possess the trait of hardiness may overcome any avoidant behaviors long enough to develop other strategies. This is partially supported by this study's data. The majority of the study's participants endorsed low levels of STS and high levels of hardiness. Exposure was not a factor in the relationship among the variables. Hardiness appears to be associated with reduced levels of stress in this study's participants. This study's exploration of hardiness aligns with the literature. As a practical matter, the results of the current study support what has been said by industry insiders: "We are a hardy bunch" (K. Borselli, personal communication, 2014).

Social Support

Social support can increase overall health and well-being by serving as a buffer against the deleterious physical and psychological effects of a stressful work environment (Bjornstad, Brown, & Weidauer, 2019). Although the results showed that those endorsing high levels of social support also endorsed lower levels of STS, the results did not reach statistical significance. Thus, the results from the present study differ with the work of Setti, Lourel, and Argentero (2016) who offered two hypotheses: Social support has a stress-buffering effect and allows the individual to conserve their resources in times of severe perceived stress. These hypotheses formed part of the theoretical foundation of this study.

Although perceived social support did not have a statistically significant relationship with subjective STS in the present study, it is difficult to dismiss social support as a buffer to subjective STS. The conservation of resources hypothesis (Setti,

Lourel, & Argentero, 2016) may provide a rationale for how a worker who has perceived social support is able to spread the burdensome manifestations of their stress across several individuals. This may reduce the individual's stress. This stress-reduction strategy could be, for example, as basic as the worker's family temporarily shouldering more than their share of household duties until the worker's stress returns to a self-manageable level.

Exposures

The number of exposures to traumatic events, analyzed in this research as a factor in the relationship among the variables, did not have a significant statistical relationship with either hardiness or social support and STS. This was not anticipated, as Bauwens and Tosone (2014) found that a greater number of traumatic life events correlated to subjective STS.

A possible explanation for the statistically nonsignificant levels of moderation between the number of exposures to traumatically deceased human remains and the variables of social support and hardiness may be that a type of *in vivo* exposure therapy is occurring. As the worker experiences more exposures, they may adapt to the stress produced. Possessing the quality of hardiness and having social support may initially keep the mortuary worker on the job while they adjust to the sights, sounds, and smells related to their occupation. Exposure to traumatically deceased human remains will introduce stress into the workers lives, but the buffering qualities of hardiness and social support provides some immunity. It is possible that any behavioral immunity due to "exposure therapy" happens early in the workers employment. Some of the statistically

nonsignificant results also may be related to the limitations of the study, which are discussed next.

Limitations

Balancing parsimony and adequate data collection can be a challenge. Surveys that are short enough to encourage participation but still gather enough information to provide adequate validity are challenging to locate. This proved to be a possible limitation in the study. In terms of specific survey items, there were no questions asking about the participants' medical history. Although questions regarding trauma-related STS symptoms were asked, basic medical history questions might have helped with the interpretation of the results. Questions relating to the client's general health status might have helped this researcher interpret how stress was possibly impacting worker health. These were left out of the survey due to considerations of survey length.

Second, survey research in general can be another limitation for scientific research. Although untracked, the study's participation rate was low. Alternate sampling strategies that differed from the initial chain sampling method have been utilized. Cold calling potential participants became the best option. However, many of those contacted by phone were unwilling to participate. It could be that asking workers to take time from their busy schedules to complete a survey is unreasonable. This may be one reason for the lower than anticipated participation rate. Another possible reason for the low participation rate may be that surveys have become ubiquitous and are often used as a fundraising tactic. This may result in a survey solicitation being immediately dismissed. It could also be that the e-mailed solicitations for survey participation automatically

ended up in a potential participant's e-mail "spam" folder or were blocked by the recipient's email firewall.

Third, there are several potential limitations regarding the participants themselves. One limitation might be that those who responded were more motivated to "have their story told." This had the potential to skew the data and may have affected the results. As the data started to accumulate, it became apparent that there were very few participants scoring low in hardiness. It is conceivable that those who did not have, or could not develop, the trait of hardiness left the industry rapidly and were not available for this study. Future researchers may be wise to consider this issue.

Fourth, the survey was presented in English. This was highly likely to limit the cultural breadth of the study. The exclusion of those from non-white cultures who may be innately more sensitive or resistant to subjective STS could have been problematic. A further limitation is that although a worker's age and years of experience were measured, it was outside of the scope of the study to explore the meaning of that data. In hindsight, that data may have been helpful with interpreting the results. Perhaps age and experience had a moderating effect on this sample's subjective STS scores. A final limitation was that those experiencing severe STS were advised not to participate in an effort to not re-traumatize the individual. Thus, those suffering from STS may have been excluded, and therefore these individual's social support and hardiness were unavailable for study. From an ethical standpoint, this could not be avoided.

Based on the results and interpretation of these results and in light of a variety of study limitations, we can now explore recommendations for future research in this area.

What follows are recommendations for future research on this population. Additionally, clinical interventions regarding subjective STS and its mitigation will be addressed.

Recommendations

In this section, I make several recommendations for future research. As the data accumulated it became apparent that most of those responding to the survey showed high levels of hardiness. This led to the question of whether individuals entering the industry already had high levels of hardiness at the onset of training or employment. Thus, one recommendation for further research is that it include longitudinal tracking of hardiness in individuals before employment or training, and after 5-10 years in the industry. A study of this type could shed light on the limitation discussed earlier regarding the possibility of skewed hardiness scores. Results from such research also may be of interest to the industry. Employee retention and stress-related health issues are of great interest due to the financial impact.

A recommendation for the overall industry is to involve sponsor hardiness training through mortuary schools or a continuing education program by employers. Several studies have shown that the stress-buffering benefits of hardiness often develop through training (Maddi, Harvey, Khoshaba, Fazel, & Resurreccion, 2009). The civilian mortuary industry might learn a lesson from their counterparts in the military where resilience training takes place for many roles such as medics and leadership positions (Pitts, Safer, Russell, & Castro-Chapman, 2016).

Hardiness training can also play a part in the recovery from STS (Maddi, 2007). Kizakevich et al, (2019) used biofeedback and breathing resilience-building techniques

with a group of military personnel, veterans, and first responders with trauma-induced symptoms of PTSD. The outcomes were positive. Maryam, Shohre, and Javad (2013), used a social skills model of hardiness training with pregnant women with symptoms of anxiety to build communication strategies and improve locus of control. Thus, even after the traumatic event, hardiness has proven efficacious in the mitigation of STS and its sequelae. Thus, a related is that, when possible, the clinician should consider hardiness training as an adjunct therapy when working with trauma victims. An important caveat regarding any program implemented by the industry is that the program must be accessible, engaging, and convenient in terms of the employees' scheduling, time requirements, and be available to the employee on-site when possible (Hassard, Teoh, Visockaite, Dewe, & Cox, 2018).

Finally, although the relationship between subjective STS and perceived social support did not reach statistical significance, the need for a work-life balance is likely intuitive. Therefore, the industry will benefit from taking into consideration the traumatic implications of the occupation and, to the extent possible, encourage positive social interactions by its workforce. A mandate to take leave or encouraging staff to participate in community events (e.g. "fun runs" for charity) via a workplace incentive (company picnics or time off for participation in community events) is one example. These recommendations for future research help clarify the ways this study can impact social change.

Implications for Positive Social Change

The implications for positive social change uncovered by this research are numerous. The need to guard against chronic stress can be found at three levels: the individual, the organizational, and the societal. It is widely reported in the literature that stress adversely impacts physical and mental health (Wolever et al., 2012). Thus, the worker, the mortuary organizations, and society would benefit from a better understanding of the stresses experienced by the workers.

Individual

Encouraging programs, both in the home and in the workplace, that mitigate the effects of subjective STS may result in healthier, less-stressed workers and families. There are many programs that can reach this goal. For example, psychoeducation through workplace continuing education may provide the worker with practical solutions to manage stress. Encouraging positive social interaction among the workers and their families through social events such as holiday parties or group outings may enhance the cohesiveness of both the workforce and the family unit.

Organizational

The results from this study illuminate some benefits to the industry. Factors such as reduced absenteeism, higher productivity, higher employee satisfaction and retention, and reduced healthcare costs may all be realized with lower subjective STS (“Benefits of stress management,” n.d.). Aside from helping the individual, providing the worker with stress-mitigating psychoeducation through seminars, webinars, and continuing education

credits may also allow the organization to meet CEU goals necessary for industry accreditation.

Society

This study focused on a better understanding of worker-specific factors such as hardiness and subjective STS. Not addressing these factors has costs. The financial cost of work-related stress, according to estimates considered conservative by the researchers, ranges from $221.13 million upward (Hassard, Teoh, Visockaite, Dewe, & Cox, 2018). Between 70% and 90% of these costs were related to lost productivity (Hassard, Teoh, Visockaite, Dewe, & Cox, 2018). Healthcare and medical costs constitute the remainder (Hassard, Teoh, Visockaite, Dewe, & Cox, 2018). Industry efforts aimed at mitigating worker stress should restore some lost productivity and employee retention due to improving workplace morale.

Stress-related costs to society have been studied using several standard methods. The methods are used to aggregate or extrapolate the expenditures by society for health-related health concerns. Estimates on the cost to society vary widely. Accounting for intangible costs is difficult. These costs are what the individual might pay to cope with stress (e.g. gym memberships, recreational activities, dietary supplements; Hassard, Teoh, Visockaite, Dewe, & Cox, 2018).

There is a social consideration more fundamental than financial. The World Health Organization (2019) estimates that of the annual worldwide 56.9 million deaths in 2016, 54% were related to stress-induced illnesses (e.g. ischemic heart disease, stroke, accidents, and chronic obstructive pulmonary disease). The benefit to humanity of

reducing the number of stress-induced illnesses are intangible. However, from a purely humane perspective, the prolonged illness and premature death of loved ones is a stressor itself, perhaps causing a feedback cycle that impacts the survivors with chronic stress of their own.

Conclusion

This study found that hardiness, a known buffer against stress (Maddi, 2007), was corelated to low levels of subjective STS in a sample of those employed in the mortuary industry. This was anticipated by the literature. Perceived social support, also a known buffer against stress (Setti, Lourel, & Argentero 2016), did not reach a significant level of interaction with subjective STS in this sample. However, perceived social support was highly endorsed by those showing low levels of subjective STS. Some possible explanations for this incongruity were presented. The moderation analysis of exposures to traumatically deceased human remains conducted in this study found no interaction with the variables of hardiness and perceived social support. This was also not anticipated, and possible explanations for this were presented. After a review of the data, recommendations for future research were made, followed by recommendations for stress mitigation at the individual, organizational, and societal levels. These recommendations can be found under the appropriate headings.

In conclusion, chronic stress is an unavoidable artifact of everyday life for many. Traits such as hardiness and environmental factors such as social support may provide some mitigation against the debilitating effects of chronic stress in occupations that are

known to be stressful. A study involving the mitigation of subjective STS in workers from the mortuary industry can now be added to the literature.

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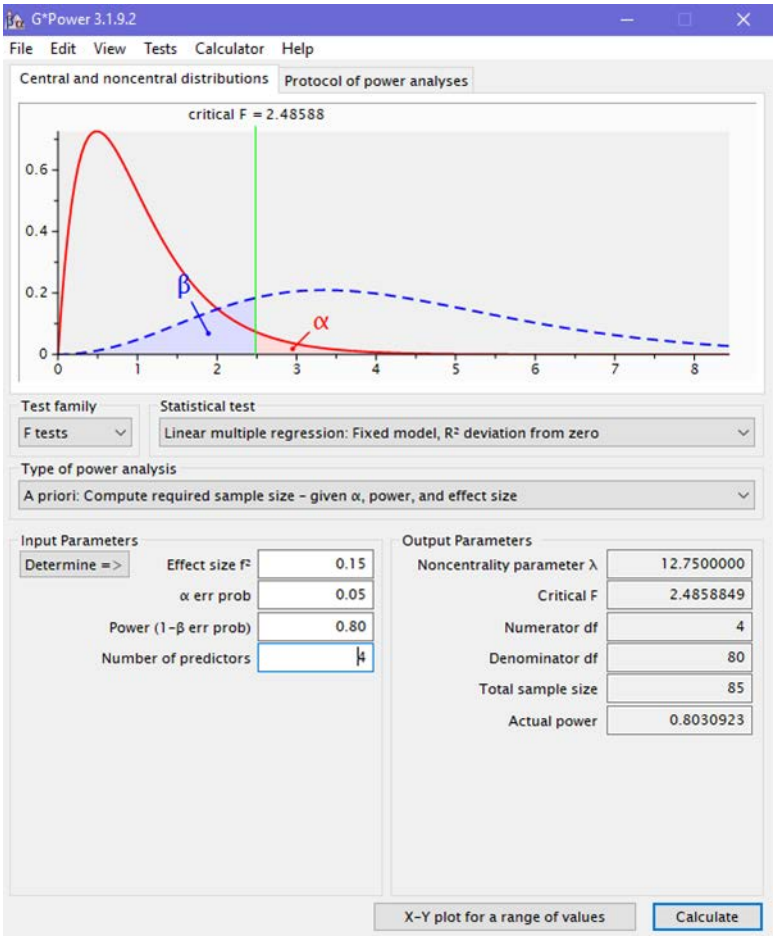
Appendix A: GPower 3.1.9.2



Appendix B: Permission to use Survey Monkey

SurveyMonkey Inc.

www.surveymonkey.com

For questions, visit our Help Center

help.surveymonkey.com

Re: Permission to Conduct Research Using SurveyMonkey

To whom it may concern:

This letter is being produced in response to a request by a student at your institution who wishes to conduct a survey using SurveyMonkey in order to support their research. The student has indicated that they require a letter from SurveyMonkey granting them permission to do this. Please accept this letter as evidence of such permission. Students are permitted to conduct research via the SurveyMonkey platform provided that they abide by our Terms of Use, a copy of which is available on our website.

SurveyMonkey is a self-serve survey platform on which our users can, by themselves, create, deploy and analyze surveys through an online interface. We have users in many different industries who use surveys for many different purposes. One of our most common use cases is students and other types of researchers using our online tools to conduct academic research.

If you have any questions about this letter, please contact us through our Help Center at help.surveymonkey.com.

Sincerely,

SurveyMonkey Inc.

Appendix C: Survey: A short survey about working in the mortuary industry

The purpose of the survey is to explore some of your experiences in the mortuary industry.

This survey should take about 10 minutes to complete. As compensation for your time, a $10 gift card will be offered for the first 100 completed surveys.

Your participation is voluntary, and all responses will be kept confidential. However, some information, such as your address, will need to be collected in order to send you your gift card. By foregoing the gift card, you will have the option to remain completely anonymous.

You are advised that if you have symptoms of severe stress, depression, or anxiety you may wish to opt out of this study.

You may contact the researcher, Robert Borselli, LMHC, with any questions you have about the survey.

Contact the researcher:
Robert Borselli, LMHC
rborselli@gmail.com
(305) 906-1268

Here are some helplines that may be of interest:
Suicide Prevention Lifeline
1-800-273-8255
Canadian Mental Health Association Crisis Line
1-800-667-8407
Text to National Alliance on Mental Health:
741-741

1.
I understand the nature of this research and I am willing to participate.
I will, to the best of my ability, give honest answers to all questions.

Yes, I will participate in this study.
No, I wish to opt out of the study

First, I would like to ask you a few questions to gather some demographic information. Again, all of your responses are confidential.

2. Are you?
Male
Female
Other

3.
How many years have you been in the mortuary industry?

4.
Thank you!
I would now like to ask you about some activities that you may engage in while on the job.

While on the job, have you handled (i.e. removed, embalmed, dressed, groomed) the remains of someone who has died from a cause such as suicide, SIDS, fire, accident, explosion, gunshot, etc.?

Yes
No.

5.
How many times have you done this?

6.
Thank you for your participation so far. Let's get started with our first set of questions.

Please read each statement then indicate how frequently the statement was true for you in the **past seven (7) days** by checking the box next to the statement.

Responses: 1 Never, 2 Rarely, 3 Occasionally, 4 Often, 5 Very Often

I felt emotionally numb.
1 Never
2 Rarely
3 Occasionally
4 Often
5 Very Often

7.
My heart started pounding when I thought about my work with the deceased.
1 Never
2 Rarely

3 Occasionally
4 Often
5 Very Often

8.
It seemed as if I was reliving the trauma(s) experienced by the deceased.
1 Never
2 Rarely
3 Occasionally
4 Often
5 Very Often

9.
I felt discouraged about the future.
1 Never
2 Rarely
3 Occasionally
4 Often
5 Very Often

10.
Reminders of my work with the deceased upset me .
1 Never
2 Rarely
3 Occasionally
4 Often
5 Very Often

11.
I have little interest in being around others.
1 Never
2 Rarely
3 Occasionally
4 Often
5 Very Often

12.
I felt jumpy.
1 Never
2 Rarely
3 Occasionally
4 Often
5 Very Often

13.
I was less active than usual.
1 Never
2 Rarely
3 Occasionally
4 Often
5 Very Often

14.
I thought about my work with the deceased when I did not intend to.
1 Never
2 Rarely
3 Occasionally
4 Often
5 Very Often

15.
I had trouble concentrating.
1 Never
2 Rarely
3 Occasionally
4 Often
5 Very Often

16.
I avoided people, places, or things that reminded me of my work with the deceased.
1 Never
2 Rarely
3 Occasionally
4 Often
5 Very Often

17.
I had disturbing dreams about my work with the deceased.
1 Never
2 Rarely
3 Occasionally
4 Often
5 Very Often

18.
I wanted to avoid working with some deceased.
1 Never

2 Rarely
3 Occasionally
4 Often
5 Very Often

19.
I was easily annoyed.
1 Never
2 Rarely
3 Occasionally
4 Often
5 Very Often

20.
I expected something bad to happen.
1 Never
2 Rarely
3 Occasionally
4 Often
5 Very Often

21.
I noticed gaps in my memory about working with the deceased.
1 Never
2 Rarely
3 Occasionally
4 Often
5 Very Often

22.
For our next set of questions, I am interested in how you feel about the following statements.
Read each statement carefully. Indicate how you feel about each statement.

Check the "1" if you **Very Strongly Agree**
Check the "2" if you **Strongly Disagree**
Check the "3" if you **Mildly Disagree**
Check the "4" if you are **Neutral**
Check the "5" if you **Mildly Agree**
Check the "6" if you **Strongly Agree**
Check the "7" if you **Very Strongly Agree**

There is a special person who is around when I am in need.
1 Very Strongly Agree

2 Strongly Disagree
3 Mildly Disagree
4 Neutral
5 Mildly Agree
6 Strongly Agree
7 Very Strongly Agree

23.
There is a special person with whom I share my joys and sorrows.
1 Very Strongly Disagree
2 Strongly Disagree
3 Mildly Disagree
4 Neutral
5 Mildly Agree
6 Strongly Agree
7 Very Strongly Agree

24.
My family tries to help me.
1 Very Strongly Disagree
2 Strongly Disagree
3 Mildly Disagree
4 Neutral
5 Mildly Agree
6 Strongly Agree
7 Very Strongly Agree

25.
I get the emotional help and support I need from my family.
1 Very Strongly Disagree
2 Strongly Disagree
3 Mildly Disagree
4 Neutral
5 Mildly Agree
6 Strongly Agree
7 Very Strongly Agree

26.
I have a special person who is a real source of comfort to me.
1 Very Strongly Disagree
2 Strongly Disagree
3 Mildly Disagree
4 Neutral
5 Mildly Agree

6 Strongly Agree
7 Very Strongly Agree

27.
My friends really try to help me.
1 Very Strongly Disagree
2 Strongly Disagree
3 Mildly Disagree
4 Neutral
5 Mildly Agree
6 Strongly Agree
7 Very Strongly Agree

28.
I can count on my friends when things go wrong.
1 Very Strongly Disagree
2 Strongly Disagree
3 Mildly Disagree
4 Neutral
5 Mildly Agree
6 Strongly Agree
7 Very Strongly Agree

29.
I can talk about my problems with my family.
1 Very Strongly Disagree
2 Strongly Disagree
3 Mildly Disagree
4 Neutral
5 Mildly Agree
6 Strongly Agree
7 Very Strongly Agree

30.
I have friends with whom I can share my joys and sorrows.
1 Very Strongly Disagree
2 Strongly Disagree
3 Mildly Disagree
4 Neutral
5 Mildly Agree
6 Strongly Agree
7 Very Strongly Agree

31.

There is a special person in my life who cares about my feelings.
1 Very Strongly Disagree
2 Strongly Disagree
3 Mildly Disagree
4 Neutral
5 Mildly Agree
6 Strongly Agree
7 Very Strongly Agree
32. My family is willing to help me make decisions.
1 Very Strongly Disagree
2 Strongly Disagree
3 Mildly Disagree
4 Neutral
5 Mildly Agree
6 Strongly Agree
7 Very Strongly Agree

33.
I can talk about my problems with my friends.
1 Very Strongly Disagree
2 Strongly Disagree
3 Mildly Disagree
4 Neutral
5 Mildly Agree
6 Strongly Agree
7 Very Strongly Agree

34.
We're almost done. Keep up the good work!

Below are some statements about life that people often feel differently about. Check the answer to show how much you think each one is true.

As always, give your honest answers. And, there are no right or wrong answers.

Most of my life gets spent doing things that are meaningful.
1 Not at all true
2 A Little True
3 Quite True
4 Completely True

35.
By working hard you can nearly always achieve your goals.
1 Not at All True

2 A Little True
3 Quite True
4 Completely True

36.
I do not like to make changes in my regular activities
1 Not at All True
2 A Little True
3 Quite True
4 Completely True

37.
I feel that my life is somewhat empty of meaning.
1 Not at All True
2 A Little True
3 Quite True
4 Completely True

38.
Changes in routine are interesting to me.
1 Not at All True
2 A Little True
3 Quite True
4 Completely True

39.
How things go in my life depends on my own actions.
1 Not at All True
2 A Little True
3 Quite True
4 Completely True

40.
I really look forward to my daily activities
1 Not at All True
2 A Little True
3 Quite True
4 Completely True

41.
I do not think that there is much I can do to influence my future.
Not at All True
A Little True
Quite True

Completely True

42.
I enjoy the challenge when I have to do more than one thing at one time.
1 Not at All True
2 A Little True
3 Quite True
4 Completely True

43.
Most days, life is really interesting and exciting for me.
1 Not True at All
2 A Little True
3 Quite True
4 Completely True

44.
It bothers me when my daily routine gets interrupted.
1 Not at All True
2 A Little True
3 Quite True
4 Completely True

45.
It is up to me to decide how the rest of my life will be.
1 Not at All True
2 A Little True
3 Quite True
4 Completely True

46.
Life in general is boring to me
1 Not at All True
2 A Little True
3 Quite True
4 Completely True

47.
I like having a daily schedule that does not change very much.
1 Not at All True
2 A Little True
3 Quite True
4 Completely True

48.
My choices make a real difference in how things turn out in the end.
1 Not at All True
2 Little True
3 Quite True
4 Completely True

49.

Thank you for participating in this study.

If you would like a $10.00 gift card please leave your information below.

Again, thank you very much and rest assured that your responses will be held confidentially.

For your privacy, I am not collecting phone numbers or e-mail addresses, so please contact the researcher if necessary.

Robert Borselli, LMHC
305-906-1268
rborselli@gmail.com

Here are some helplines that may be of interest to you:
Suicide Prevention Lifeline
1-800-273-8255
Canadian Mental Health Association Crisis Line
1-800-667-8407
Text to National Alliance on Mental Health: 741-741

Name
Address
Address 2
City/Town
State/Province -- select state --
ZIP/Postal Code
Country

Appendix D: Dispositional Resilience Scale

Instructions

Below are statements about life that people often feel differently about. Check the box to show how much you think each one is true. Give your honest answers. There are no right or wrong answers.

	Not at all true	A little true	Quite true	Completely true
Most of my life gets spent doing things that are meaningful				
By working hard you can nearly always achieve your goals				
I do not like to make changes in my regular activities				
I feel that my life is somewhat empty of meaning.				
Changes in routine are interesting to me				
How things go in my life depends on my own actions				
7. I really look forward to my daily activities				
8. I do not think there is much I can do to influence my own future				
9. I enjoy the challenge when I have to do more than one thing at one time				
10. Most days, life is really interesting and exciting for me				
11. It bothers me when my daily routine gets interrupted				
12. It is up to me to decide how the rest of my life will be				
13. Life in general is boring to me				
14. I like having a daily schedule that does not change very much				

15. My choices make a real difference in how things turn out in the end				

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Appendix E: Multidimensional Scale of Perceived Social Support

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the “1” if you **Very Strongly Disagree**
Circle the “2” if you **Strongly Disagree**
Circle the “3” if you **Mildly Disagree**
Circle the “4” if you are **Neutral**
Circle the “5” if you **Mildly Agree**
Circle the “6” if you **Strongly Agree**
Circle the “7” if you **Very Strongly Agree**

Items	
1. There is a special person who is around when I am in need.	1 2 3 4 5 6 7 SO
2. There is a special person with whom I share my joys and sorrows.	1 2 3 4 5 6 7 SO
3. My family really tries to help me.	1 2 3 4 5 6 7 Fam
4. I get the emotional help and support I need from my family.	1 2 3 4 5 6 7 Fam
5. I have a special person who is a real source of comfort to me.	1 2 3 4 5 6 7 SO
6. My friends really try to help me.	1 2 3 4 5 6 7 Fri
7. I can count on my friends when things go wrong.	1 2 3 4 5 6 7 Fri

8. I can talk about my problems with my family.	1 2 3 4 5 6 7 Fam
9. I have friends with whom I can share my joys and sorrows.	1 2 3 4 5 6 7 Fri
10. There is a special person in my life who cares about my feelings.	1 2 3 4 5 6 7 SO
11. My family is willing to help me make decisions.	1 2 3 4 5 6 7 Fam
12. I can talk about my problems with my friends.	1 2 3 4 5 6 7 Fri

Appendix F: Secondary Traumatic Stress Scale (STSS)

The following is a list of statements made by persons who have been impacted by their work with traumatized clients. Read each statement then indicate how frequently the statement was true for you in the past **seven (7) days** by circling the corresponding number next to the statement.

NOTE: "Client" is used to indicate persons with whom you have been engaged in the helping relationship. You may substitute another noun that better represent your work such as consumer, patient, recipient, etc.

Responses: 1 Never 2 Rarely 3 Occasionally 4 Often 5 Very Often

1. I felt emotionally numb 1 2 3 4 5
2. My heart started pounding when I thought about my work with the deceased 1 2 3 4 5
3. It seemed as if I was reliving the trauma(s) experienced by the deceased 1 2 3 4 5
4. I had trouble sleeping 1 2 3 4 5
5. I felt discouraged about the future 1 2 3 4 5
6. Reminders of my work with the deceased upset me 1 2 3 4 5
7. I have little interest in being around others 1 2 3 4 5
8. I felt jumpy 1 2 3 4 5
9. I was less active than usual 1 2 3 4 5

10. I thought about my work with the deceased when I did not intend to 1
    2 3 4 5
11. I had trouble concentrating 1
    2 3 4 5
12. I avoided people, places, or things that reminded me of my work with the deceased 1
    2 3 4 5
13. I had disturbing dreams about my work with the deceased 1
    2 3 4 5
14. I wanted to avoid working with some deceased 1
    2 3 4 5
15. I was easily annoyed 1
    2 3 4 5
16. I expected something bad to happen 1
    2 3 4 5
17. I noticed gaps in my memory about working with the deceased 1
    2 3 4 5