Hardiness and Perceived Work Stress as Predictors of Professional Quality of Life Among Emergency Services and Assessment Clinicians

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DAVID M. YOST

has been approved for

the Department of Counseling and Higher Education

and The Patton College of Education by

Christine Suniti Bhat

Associate Professor of Counseling and Higher Education

Renée A. Middleton

Dean, The Patton College of Education

Abstract

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Director of Dissertation: Christine S. Bhat

Research shows that stress in the workplace can contribute to negative physical and mental health outcomes among workers in a variety of settings, while the personality disposition of Hardiness can serve as a protective factor against those outcomes. Existing literature on human services professionals shows that Perceived Work Stress and Hardiness can predict Professional Quality of Life, which includes the positive outcome of Compassion Satisfaction and the negative outcomes of Burnout and Secondary Traumatic Stress (Stamm, 2010). The purpose of the current study was to determine whether Perceived Work Stress and the Hardiness components of Control, Commitment, and Challenge predict Compassion Satisfaction, Burnout, and Secondary Traumatic Stress among Emergency Services and Assessment (ES) clinicians in the Commonwealth of Virginia. ES clinicians conduct prescreening assessments for involuntary psychiatric hospitalizations and are exposed to unique work stressors. A secondary aim of the current study was to determine if there are interactions among the variables that better explain the relationships. Findings indicated that Perceived Work Stress and Hardiness are significant predictors of Professional Quality of Life for ES clinicians, but not all components of Hardiness made significant contributions to each regression model. The Hardiness component of Commitment did not significantly predict Secondary Traumatic Stress. The Hardiness component of Challenge did not significantly predict any of the

outcome variables. Perceived Work Stress, Control, and Commitment accounted for 58.3% of the variance in Compassion Satisfaction. Perceived Work Stress, Control, and Commitment accounted for 65.2% of the variance in Burnout. Perceived Work Stress and Control accounted for 31.2% of the variance in Secondary Traumatic Stress. No interaction effects were detected among the predictor variables that better explained the relationships in the regression models for each of the three outcome variables. The findings of this study suggest that assessment of stress management ability and hardiness could inform hiring practices for ES clinicians and that training and supervision could benefit from incorporating stress management and modeling features of Hardiness. Future research should employ qualitative measures to identify other variables contributing to Professional Quality of Life in this population and utilize longitudinal designs to assess directionality of relationships and their changes over time.

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Dedication

I dedicate this dissertation to the Emergency Services team at New River Valley Community Services in Blacksburg, Virginia. You taught me great lessons about myself. With this project, I hope to begin to repay you.

Table of Contents

Page

List of Tables

Page

List of Figures

Page

Chapter 1: Introduction

A growing interest in understanding the cost of caring reveals that people who work in helping professions risk negative psychological consequences such as Burnout and Secondary Traumatic Stress due to their exposure to the stress of helping those who are suffering (Figley, 1982, 1995). Despite prolonged exposure to stress resulting from the occupational hazards of helping, many people serving in helping professions are able to derive feelings of personal fulfillment and satisfaction from their work (Pearlman & Saakvitne, 1995; Stamm, 2002, 2010).

Research into both the negative and positive aspects of this work, known collectively as Professional Quality of Life, has investigated the institutional and personal factors that promote satisfaction and protect against pathological reactions in a variety of professions and settings exposed to occupational stress (Stamm, 2010). The job of Emergency Services and Assessment Clinician (ES clinician) in the Commonwealth of Virginia is one where workers are exposed to occupational stress. ES clinicians provide crisis interventions and conduct prescreening assessments for involuntary psychiatric hospitalizations in the context of emergent psychiatric crises. The disposition of Hardiness has emerged as a potential moderator of stress and Burnout as well as a contributing factor to job satisfaction in prior studies (Kobasa, 1979; Kobasa et al., 1982; McCalister, Dolbier, Webster, Mallon, & Steinhardt, 2006).

The purpose of this dissertation was to examine Professional Quality of Life among ES clinicians and its relationships with Perceived Work Stress and Hardiness. This chapter will include an overview of the research background for this topic and each

variable, a statement of the research problem, the research question, the delimitations of the study, and definitions for relevant terms.

Background

The present study descends from a long history of research into the connection between stress and illness. The history of research on the effect of the experience of stress on the incidence and presentation of illness reveals a fairly consistent positive correlation between the two constructs, indicating that high levels of stress may contribute to increases in the prevalence or severity of illness (Aldridge, 1970; Dohrenwend & Dohrenwend, 1974; Kobasa, 1979). Exceptions to this trend have always existed and conclusions of directional causation have mostly been drawn from theoretical models rather than directly from data, contributing to criticism within the professional literature (House, 1974; McCalister, Dolbier, Webster, Mallon, & Steinhardt, 2006). A common critique of stress-illness research has been that both stress and illness are difficult to define as universal variables and that each has been defined differently when applied to different settings to answer different kinds of research questions (Freeman, 1960; House, 1974; Selya, 1956).

Development of perceived work stress. House (1974) argued that stress research comprised a paradigm of research rather than a specific construct and that further refinement of the variable of stress was necessary to elucidate results that would be useful in health promotion and disease prevention initiatives. He advocated for examining different forms of stress as separate constructs that were loosely tied together by the intentions of researchers rather than the universal nature of stress itself. One refinement of the stress construct was spearheaded by Lazarus (1966), who recognized

that the standards used to define stress often relied on life events or conditions deemed objectively stressful by researchers. Lazarus noted that the ability of research participants to recognize and report stress, however, is contingent upon their personal, subjective standards for what qualifies as stressful. The use of an objective measure of stress also presupposes that the life events or conditions themselves represent apodictic causes for whatever outcome variables are being measured (Lazarus).

Following Lazarus' lead, Cohen, Kamarck, and Mermelstein (1983) sought to develop an instrument to measure the subjective appraisal of stress. They noted that stress scales based on stressful life events carried the potentially erroneous assumption that levels of perceived stress were correlated with the number of stressful events a participant had experienced and that it was advantageous to develop global measures of stress. The global measure of perceived stress that emerged was the Perceived Stress Scale (PSS, Cohen et al., 1983), which became the most widely used instrument for the measurement of perceived stress (Cohen, 1994).

The application of stress research to more specific populations such as those in occupational settings led to further innovation for how stress could be measured. Individuals who work under stressful conditions are at an increased risk for developing a host of physiological and psychosocial illnesses and other complications (Cooper & Marshall, 1976; Figley, 1995; Freudenberger, 1974; Maslach & Jackson, 1982; Rahe, Biersner, Ryman, & Arthur, 1972; Stamm 2010). Stress that results from work conditions has been variously referred to as *occupational stress, job stress,* and *work stress*, and has been shown to influence the health behaviors, physiological wellbeing, mental health, and professional competence of a myriad of professionals working in wide

variety of settings (Cooper & Marshall, 1976; Hinkle & Wolf, 1957; Mechanic & Volkart, 1961; Schaufeli, Leiter, & Maslach, 2008). Mackie, Holahan, and Gottlieb (2001) modified the PSS to apply specifically to work stress. They developed several new items and modified others from the PSS in order to target the appraisal of work-related stress. The resulting instrument was the Perceived Work Stress Scale (PWSS), a 7-item measure of the subjective appraisal of work stress, which represents a far more specific and targeted measure of stress than those used in early stress-illness research.

Evolution of the construct of professional quality of life. Like the stress construct, the illness construct has seen a variety of interpretations throughout the literature. Though illness was conceived as a universal construct in early stress-illness research, it was operationally defined by illness behaviors such as seeking out medical treatment or endorsing a certain number or type of symptoms (Hinkle & Wolf, 1957; Rahe, Biersner, Ryman, & Arthur, 1972) or by particular physiological indicators of health such as the responses of the autonomic nervous system or fluctuations in heart rate (Contrada, 1989; Selye, 1956). Mechanic and Volkart (1961) exposed a limitation in this method of defining illness by demonstrating that when illness was defined in terms of the number of visits to a medical care facility, a personal tendency to adopt the "sick" role was a better predictor of visits than was stress. Their findings were consistent with previous research on the consistent but moderate link between stress and illness overall, but revealed a significant confound in the process of researching the effects of stress on illness: illness was a far too general and abstract construct to measure consistently. Findings such as these compelled researchers to constrict the scope of illness as an outcome variable in order to better understand its link to stress.

One offshoot of illness research concerned the development of psychological difficulties in response to stress experienced in the context of caregiver relationships. Though research concerning the psychological consequences of working in human service professions has seen unprecedented growth in the past decade, it has been slowly developing in various forms since the 1970s (Stamm, 2010). Freudenberger (1974) first introduced the construct of Burnout into professional literature to describe a syndrome of depressive symptoms and low morale that he observed among volunteers at St. Mark's Free Clinic in New York City. Burnout, which was later defined by Maslach and Jackson (1981) as "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment" (p. 3), served as an alternative outcome measure for illness resulting from exposure to occupational stress.

The related constructs of Secondary Traumatic Stress and vicarious traumatization emerged in parallel to research on Burnout, highlighting the specific occupational hazards of working in human service professions where workers are charged with caring for people who are suffering from the effects of traumatic events. Both constructs represented particular negative effects resulting from this type of work, but differed slightly in their original conceptual definitions. The concept of Secondary Traumatic Stress, which was developed by Figley (1982; 1995), originally referred to the behavioral and emotional consequences of exposure to the trauma of others. Figley noted that individuals who cared for or provided helping services to traumatized patients, clients, or significant others sometimes developed a syndrome that mirrored the symptoms evident in Posttraumatic Stress Disorder. These symptoms include intrusive recollections of hearing about or seeing the consequences of the trauma, hypervigilance,

emotional numbing, and the active avoidance of triggers and reminders of the trauma (1995, p. 4). Figley named this syndrome Secondary Traumatic Stress Disorder and carefully distinguished it from Burnout by noting that Burnout was a cumulative and progressive syndrome characterized by emotional exhaustion that results from prolonged exposure to stress, whereas Secondary Traumatic Stress Disorder can result from a single exposure to secondary trauma and is characterized by fear and avoidance.

McCann and Pearlman (1990) defined the related notion of vicarious traumatization, characterizing it in terms of the cognitive disruptions that exposure to secondary trauma can cause rather than its emotional or behavioral consequences as highlighted in Secondary Traumatic Stress Disorder. The central features of vicarious traumatization are disruptions in a caregiver's beliefs, cognitive schemas or worldview resulting from prolonged exposure to the trauma of clients or significant others. Pearlman and Saakvitne (1995) note that vicarious traumatization differs from Secondary Traumatic Stress Disorder in that it is defined by its developmental process rather than its symptoms, and they distinguish it from "soul sadness" and Burnout by specifying that it results specifically from exposure to secondary trauma and not from general stress or the emotional demands that are required of all helping professionals (p. 153).

Clear differentiation between vicarious traumatization and Secondary Traumatic Stress in research was short-lived. After Figley (1995) identified the term *Compassion Fatigue* as a more “friendly term" (p. 14) for Secondary Traumatic Stress Disorder, the scope of Secondary Traumatic Stress Disorder and its defining features became broader and less distinct. Eventually, he made explicit statements equating vicarious traumatization with Secondary Traumatic Stress Disorder and Compassion Fatigue in his

research (Adams, Figley, & Boscarino, 2008; Boscarino, Figley, & Adams, 2004). The term "Compassion Fatigue" was originally used by Joinson (1992) to describe a form of caregiver Burnout among helping professionals, including nurses, emergency medical personnel, and counselors. Figley's (1995) use of the term Compassion Fatigue constricted its meaning substantially to situations involving secondary exposure to trauma, but his description of Compassion Fatigue evolved over time to eventually mean something significantly more general than Secondary Traumatic Stress Disorder (Figley, 2002a).

Figley's (2002a) etiological model of Compassion Fatigue does not explicitly include secondary trauma and shifts the etiological focus from the client's trauma to the helper's empathic response and subsequent emotional vulnerability. Though Figley continues to cite Secondary Traumatic Stress elsewhere in his presentation of the etiological model, Secondary Traumatic Stress is not included as a contributing factor. His etiological model details how someone who is able to feel empathy and who is invested in helping someone who is suffering can retain some residual emotional effects from encounters with the suffering person, which he calls compassion stress. Helpers or caregivers can prevent the onset of Compassion Fatigue if they maintain a sense of achievement about helping encounters and have the ability to use disengagement to emotionally separate from difficult or stressful encounters. If a helper cannot make effective use of these prevention strategies, then prolonged exposure to stressful empathic encounters can worsen the psychological impact of compassion stress. Coupled with other disruptions in a helper's life that create stress and sap coping resources, Compassion

Fatigue is likely to develop. This etiological model presents prevention measures and strategies as essential to maintaining psychological health as a helping professional.

Figley (1995) developed the Compassion Fatigue Self Test (CFST) to measure both Compassion Fatigue and Burnout, reflecting his initial conceptual distinction between the two conditions. In the late 1990s, Figley began collaborating with B. H. Stamm, a fellow trauma researcher, in order to improve the CFST and raise its profile in the research literature. He handed primary authorship and control of future development for the instrument to Stamm (Stamm, 2010), who sought to create a scale complementary to Compassion Fatigue that measured the ability of helpers to find meaning and fulfillment despite the stress inherent to the caregiver role (Stamm, 2002). She named this complementary scale the Compassion Satisfaction scale on Figley's recommendation.

The construct of Compassion Satisfaction was influenced by Stamm's experiences working with a variety of humanitarian aid efforts in stressful and often war-torn locations where humanitarian workers were exposed to innumerable stressors but maintained a sense of satisfaction and fulfillment in their work (Stamm, 2002). Stamm cited King, King, Fairbank, Keane, and Adams' (1998) findings that the disposition of Hardiness moderated the impact of stress on the development of PTSD among combat veterans, arguing that hardy individuals may be more likely to find satisfaction and fulfillment in stressful work. After piloting the Compassion Satisfaction scale, it was included in the instrument, which was renamed the Compassion Satisfaction and Fatigue Test (CSFT; Stamm & Figley, 1996). Stamm eventually renamed the instrument the Professional Quality of Life Scale (ProQOL) and made several significant conceptual revisions regarding the relationships among its subscales.

The ProQOL 5 (Stamm, 2010) no longer measures Compassion Fatigue and Burnout separately (see Figure 1). Rather, Compassion Fatigue is treated as an umbrella term that refers to all of the negative aspects of working in a helping profession. Secondary Traumatic Stress and Burnout represent subscales of Compassion Fatigue, which reflects this conceptual shift. Compassion Satisfaction comprises the second of the ProQOL 5's two main subscales. Because of this change, prior research on Professional Quality of Life and Compassion Fatigue must be interpreted in a new light, and new research on the relationship between Compassion Fatigue and other protective or risk factors is necessary in order to further this body of research.

Hardiness. Hardiness, which is also known as dispositional resilience, is a style of functioning that distinguishes people who remain healthy in response to stress from those who develop stress-related health problems (Bartone, 2008; Kobasa, 1979). Bartone (2006) describes hardy individuals as those who have "a high sense of life and work commitment, a greater feeling of control, and are more open to change and challenges in life" than others (p. 137). Kobasa (1979) named these three characteristics Commitment, Control, and Challenge, respectively.

Research has shown that Hardiness is negatively correlated with physiological and psychological stress or impairment (Contrada, 1989; Nowack, 1986; Pengilly & Dowd, 2000) and that it is positively correlated with general mental health status among immigrant populations (Kuo & Tsai, 1986). Hardiness has been shown to have a negative relationship with work stress in multiple settings and professions, including hospital staff nurses (Collins, 1996), critical care nurses (Topf, 1989), manufacturing and health insurance employees (Manning, Williams, & Wolfe, 1988), university employees

(Sharpley, Dua, Reynolds, & Acosts, 1995), and computer company employees (Steinhardt, Dolbier, Gottlieb, & McCalister, 2003). Hardiness has been found to be a significant predictor for resistance to professional burnout (Alarcon, Eschleman, & Bowling, 2009; McCalister et al., 2006; McCranie, Lambert, & Lambert, 1987; Rich & Rich, 1987). Hardiness has also been found to be positively correlated with job satisfaction and reduced tensions at work (Manning, Williams, & Wolfe, 1988; McCalister, et al., 2006).

Since its introduction into professional literature, Hardiness has been theorized to represent what Pascal (1951) referred to as a "resistant X factor" to the deleterious health effects of exposure to stress (p. 175). Some research has shown that Hardiness can play a moderating role in the relationship between stress and illness, though findings have been equivocal (Funk, 1992). Bartone (2006) found that leaders can influence Hardiness among subordinates, indicating that Hardiness may be something that a clinical supervisor could help foster in supervisees if it is shown to serve as a protective factor. In the course of her development of the Compassion Satisfaction scale, Stamm (2002) hypothesized that Hardiness may allow individuals who perceive high levels of stress to nevertheless find meaning and fulfillment in their work, though this specific hypothesis has not yet been tested.

Emergency services and assessment clinicians. Emergency Services and Assessment Clinicians (ES clinicians) constitute one population that has not been studied in relation to either Hardiness or Professional Quality of Life. ES clinicians are mental health professionals employed by Virginia's Community Services Boards (CSBs), which are the regional state mental health authorities in Virginia, and certified by the Virginia

Department of Behavioral Health and Developmental Services (DBHDS) as Certified Preadmission Screening Evaluators. Since 1988, Virginia code § 37.2-809 has mandated that CSBs be responsible for performing preadmission screening assessments during psychiatric emergencies to facilitate involuntary psychiatric hospitalization of clients who either 1) present a risk of harm to themselves or to someone else, or 2) are unable to meet their own basic needs or protect themselves from harm due to either mental illness or substance abuse (Institute of Law, Psychiatry, & Public Policy, 2013; Virginia Department of Behavioral Health and Developmental Services, 2012). It is the responsibility of ES clinicians to respond to psychiatric emergencies in order to conduct preadmission screening assessments for involuntary hospitalization, as well as to provide mobile crisis intervention and referrals for appropriate outpatient treatment services (Bonnie, Reinhard, Hamilton, & McGarvey, 2009).

There are three elements necessary to qualify as an ES clinician in Virginia. The first is an educational requirement. ES clinicians must have attained a master's degree in a human services field and must be either licensed or license-eligible as a Licensed Clinical Social Worker, a Licensed Professional Counselor, a Licensed Substance Abuse Treatment Practitioner, or a Licensed Marriage and Family Therapist or be licensed as a Registered Nurse with a minimum of 36 months of professional work experience with a psychiatric population (Reinhard, 2008). The second element is successful completion of the curriculum developed and approved by DBHDS to certify ES clinicians as Preadmission Screening Evaluators. The curriculum consists of 25 training modules completed through the DBHDS External Entities Knowledge Center, which is accessible online to CSB employees (Reinhard, 2009). The third element consists of each

individual CSB's training and orientation procedures (Reinhard, 2008). Supervisors give ES clinicians official approval once they have completed these procedures, which include becoming familiar with agency policies and procedures as well as local mental health, healthcare, and law enforcement services and agencies. This training may include activities such as observations or shadowing of emergency calls conducted by other ES clinicians, participation in police "ride-alongs", observation of hospital emergency rooms, or participation in hotline or other telephone crisis counseling.

The findings associated with Professional Quality of Life among related mental health, health care, and emergency and crisis-oriented professions are enough to suggest that ES clinicians can benefit from similar research, but those findings cannot be reliably generalized to this population for several significant reasons. Each of the major professional groups that have been studied differs from ES clinicians in some dimension that is relevant to the study of Professional Quality of Life.

ES clinicians differ notably from trauma treatment therapists in that ES clinicians respond to emergent crises and are not subject to the same prolonged exposure to a client's trauma to which a trauma therapist is exposed (Figley, 1995). ES clinicians also do not have the primary responsibility to elicit trauma-related material in the course of treatment. While ES clinicians are often exposed to various elements of their clients' trauma, it is the resolution of the immediate crisis rather than the client's trauma history (which may or may not be present) that is the ES clinician's primary responsibility (Bonnie et al., 2009; Jones, 2003). Though ES clinicians may be exposed to primary trauma and may participate in a crisis event that exacts trauma on the client, their therapeutic focus separates them from trauma treatment therapists.

Disaster responders provide services in response to crisis, but typically not until the crisis event itself has concluded and represents a potential traumatic stressor for individuals dealing with its effects (Boscarino et al,, 2004; Culver et al., 2011). In this sense, disaster responders differ from ES clinicians in many of the same ways that trauma treatment professionals do. ES clinicians respond to emergent crises as they are happening and are focused on the resolution of the emergency. The emergencies to which ES clinicians respond are also typically individual in nature and are not associated with large-scale disasters, which require different forms of intervention and the use of different therapeutic resources than do immediate, emergent crises (Jones, 2003).

Though ES clinicians do respond to emergencies as they are occurring, ES clinicians are unlikely to encounter life-threatening situations or to bear direct witness to others' suffering in the way that a first responder such as a police officer, EMT, or firefighter would (such as seeing a friend die, being shot or seriously injured, failing to save the life of a child, etc.). First responders are at risk of both primary and Secondary Traumatic Stress as well as general occupational stress resulting from being in a high-pressure job (Beaton, Murphy, Johnson, Pike, & Corneil, 1998). ES clinicians do not usually directly encounter clients in immediate physical danger that threatens them as well as the client.

Finally, ES clinicians differ significantly from health care providers exposed to occupational hazards. Though often involved in situations where there is a risk of harm or death, ES clinicians are not in the direct kind of control over factors determining that risk in the same way that health care providers are. ES clinicians do not have the ability to assess clients or make any kind of treatment decision with the kind of precision that a

medical professional can (by conducting physical exams, running medical tests, and administering very carefully controlled treatments). The responsibilities of health care providers and the consequences for success and failure are too different to generalize to the experience of ES clinicians. In order to provide guidance for training, hiring practices and gatekeeping, and effective supervision for ES clinicians, it is necessary to investigate Perceived Work Stress, Hardiness, and Professional Quality of Life with this population.

Statement of the Problem

Existing empirical and theoretical literature indicates there is a correlation between a variety of forms of stress and components of Professional Quality of Life such as Burnout and Compassion Fatigue (Figley, 1995, 2002a; Lauvrud, Nonstad, & Palmstierna, 2009; Rossi et al., 2012; Sprang, Clark, & Whitt-Woosely, 2007; Stamm, 2002). Researchers have demonstrated that Hardiness can serve as a protective factor against the development of Burnout in multiple professions (Kobasa, 1979; Kobasa et al., 1982; McCalister et al., 2006; Roth et al., 1989; Williams & Lawler, 2003) and can promote job satisfaction (McCalister, et al., 2006). ES clinicians are exposed to forms of work stress that prior research has shown to be associated with components of Professional Quality of Life, including frequent exposure to severe psychopathology (Pines & Maslach, 1978; Sprang et al., 2007). Stamm (2002) theorized that Hardiness may moderate the relationship between stress and Compassion Satisfaction, but this hypothesis has not yet been tested. Neither Hardiness nor Professional Quality of Life have been studied in relation to Perceived Work Stress among ES clinicians. The aim of this study was to investigate whether Hardiness and Perceived Work Stress predict Compassion Satisfaction, Secondary Traumatic Stress, and Burnout among ES clinicians

and to examine any interactions among variables that might better explain those relationships. The following research question and sub-question provided direction to this study.

Research Question

Do Hardiness and Perceived Work Stress predict Compassion Satisfaction, Burnout, and Secondary Traumatic Stress among ES clinicians?

Sub-question: Are there interactions among the variables that better explain the relationship?

Significance

By investigating the relationships among the predictors of Perceived Work Stress, Hardiness, and the outcome variables of Compassion Satisfaction, Burnout, and Secondary Traumatic Stress among ES clinicians, this study contributes to the body of literature on Professional Quality of Life by studying a previously unexamined population (see Figure 1). Findings can inform hiring practices, supervision, and training for mental health professionals entering work as ES clinicians and could be valuable to clinical supervisors and educators in mental health fields.

Delimitations

One of the delimitations of this study is the choice to use only ES clinicians working for CSBs in the Commonwealth of Virginia in the sample. The results of this study are generalizable to ES clinicians working in Virginia, but caution should be used if applying implications of this study to other emergency mental health populations. Another delimitation of this study is that it is exploratory in nature rather than confirmatory, which precludes a research hypothesis. The significance of this study is

premised on the argument that prior research is not generalizable to ES clinicians due to specific attributes of work in this occupation that differ from those that have been studied in the past. In keeping with this premise, data from prior research cannot inform a hypothesis about specific relationships among variables. An exploratory approach increased the risk of a Type I error, which must be considered when interpreting results.

Definitions of Terms

- **Burnout** is a cumulative and progressive condition characterized by emotional exhaustion, reduced feelings of personal accomplishment and a lack of existential meaning in relation to one's work resulting from prolonged exposure to work-related stressors (Maslach, Jackson, & Leiter, 1996; Maslach, Schaufeli, & Leiter, 2001).
- **Compassion Fatigue** is a measure of the effects of Burnout or Secondary Traumatic Stress, either individually or in combination, that result in an impairment in one's ability to serve as a caregiver or helping professional (Joinson, 1992; Stamm, 2010).
- **Compassion Satisfaction** is a measure of the degree to which one's work as a caregiver or helping professional engenders feelings of personal fulfillment, pleasure, accomplishment, and meaning (Stamm, 2002; 2010).
- **Emergency Services and Assessment Clinicians** are mental health professionals in Virginia who respond to psychiatric emergencies to perform crisis intervention services and conduct the prescreening assessments necessary to facilitate the involuntary civil commitment or temporary detention of clients to psychiatric hospitals. They are qualified as Certified Preadmission Screening Evaluators by

Virginia's Department of Behavioral Health and Developmental Services and are the only individuals in Virginia qualified to conduct prescreening assessments (Bonnie, Reinhard, Hamilton, & McGarvey, 2009; Reinhard, 2008).

- **Hardiness** or dispositional resilience is a style of functioning that distinguishes people who remain healthy in response to stress from those who develop stress-related health problems (see Figure 2). Hardy individuals tend to believe they can deliberately influence events (Control), often have feelings of deep involvement in what they are doing (Commitment), and tend to respond to challenges as opportunities for learning and growth (Challenge) (Bartone, 2008; Kobasa, 1979).
- **Perceived Work Stress** is the subjective appraisal of the demands of one's work environment as exceeding one's ability to respond to them with available social, material, cognitive, emotional, or other resources (Cohen, Kamarck, & Mermelstein, 1983; Lazarus & Folkman, 1984; Mackie, Holahan, & Gottlieb, 2001).
- **Professional Quality of Life** is the quality one feels in relation to work as a caregiver or helping professional, consisting of both the positive and negative aspects of that work (Stamm, 2010). It is comprised of Compassion Satisfaction and Compassion Fatigue, the latter of which consists of Burnout and Secondary Traumatic Stress (see Figure 1).
- **Secondary Traumatic Stress** consists of the behaviors and emotions that result from serving as a caregiver or helper to someone who is suffering from the effects of a traumatizing event (Figley, 1995; Stamm, 2010).

Chapter 2: Literature Review

Introduction

In this chapter, the history and findings of research concerning the constructs of stress, Hardiness, and Professional Quality of Life and their relationships are reviewed. The chapter begins with a developmental history of stress-illness research. Theoretical and conceptual development of stress and related research provide context for understanding the role and evolving conceptual nature of Hardiness and Professional Quality of Life. Findings from research on Hardiness and Professional Quality of Life are presented. The chapter concludes with an overview of the implications of past research and an explanation for the role of this study in the body of research literature concerning these variables.

The Stress-Illness Relationship

A substantial amount of research in medical, mental health, and occupational disciplines supports the theory that stress plays an important role in bringing about both physiological and psychological illnesses or other significant problems (Aldridge, 1970; Dohrenwend & Dohrenwend, 1974). The body of literature concerning the relationship between stress and illness is large and quite varied. Its diversity is a consequence of the variety of illnesses and other conditions that have been studied in connection to stress, the different populations and settings in which the stress-illness relationship has been identified and measured, and, perhaps most significantly, the lack of conceptual clarity around the constructs of stress and illness themselves.

Research concerning the relationship between stress and illness has a history dating back to World War II. Kardiner's (1941) *The Traumatic Neuroses of War* is

arguably the first comprehensive work concerning a causal link between stress or stressful life events and the etiology and presentation of illness. Kardiner notes the relationship between stress and illness follows a progressive developmental course, and that the degree and nature of exposure to stress influences health outcomes for affected individuals. For this work, the experience of combat served as the first conceptual definition of stress and connected that experience with both somatic and mental disturbance.

In an effort to clarify this relationship for the sake of psychiatric study, Pascal (1951) posited a mathematical formula for the development of neurosis, describing psychological deficits as a function of stress moderated by some unknown "resistant X factor" (p. 175). While conceding that such a formula is an oversimplification, he argued that psychiatric research at the time could not afford to wait for evidence that would inform a more complex and predictive model for the etiology of psychiatric illness and that research must begin to examine what resistant factors prevent the onset of neurosis. Following Maslow's (1943) theories of human motivation, Pascal (1951) noted that different forms of stress exact different tolls on health, and that the nature of stress is linked to which of an individual's needs are being threatened by a stressful event or situation. This assertion contributed to the possibility that stress as a construct was not universal and should serve as an umbrella term for more specific etiological factors that depend upon context and the outcome being measured. Nevertheless, researchers persisted in treating stress as a universal construct.

As interest in the relationship between stress and illness spread to other health disciplines and stress became increasingly vague, appearing as a loosely coalesced term

for a variety of adjustment demands that different kinds of situations exert on people and their bodies. Hans Selye (1956) argued that, though difficult to define as a construct in its own right, many different forms of what could be generally referred to as "stress" consistently produce the same variety of bodily responses in the autonomic nervous system. These responses include changes in adrenal and digestive function, heart rate, blood pressure, and resistance to inflammation. Prolonged periods in which the body is functioning under these conditions can result in an overall reduced capacity to resist illness, what Selye called diseases of adaptation (1956, p. 83). This conceptualization stretched the boundaries of what kinds of measurable events might result from "stress" since the definition depended more upon the body's reactions than the actual material existence of something called stress. While providing a means for stress to be measured as a contributing factor in a wider variety of research programs, Selye's definition represented a double-edged sword for researchers. This conceptualization of stress could only be measured in terms of its symptoms, which divorced the effects of stress from its causes and limited the ability of researchers to understand how stress is manifested and in what manner it acts negatively upon people. In effect, Selye had temporarily sidestepped the problem of finding the best way to define "stress".

Freeman (1960) further conceptualized the relationship between stress and illness as one of environmental stressors resulting in strains experienced by human beings. Freeman provides the example of a drought (stressor) resulting in decreased food production and consequent starvation (strain). Freeman distinguishes between what he calls physical, biologic, and social stressors in the stressor-strain relationship, noting that stresses coming from multiple sources often contribute to multiple strains that, when

taken together, constitute illness. To illustrate his point that stress is systemic and environmental, Freeman (1960) offers the example of coronary disease, noting that a high fat diet presents a biologic stress on the heart, but that the physical stress resulting from shoveling snow and the socio-emotional stress resulting from interpersonal conflicts also play a significant role in bringing about negative health consequences such as a heart attack. His overarching point is to insist that multiple, complex forms of stress must be considered if disease prevention and health promotion efforts are to succeed. He also laments that the term "stress" had rapidly come to mean many different things in medical and other academic research, resulting in semantic confusion that continues to dog stress researchers to the present day.

The outcome variable of illness experienced its own problems with clarity in research. Hinkle and Wolff (1957) examined the health status of thousands of workers exposed to work-related and social stress, finding a strong correlation between the occurrence of stress and the presentation of illness in general as measured by the number of visits to medical personnel. Mechanic and Volkart (1961), however, note that there is a difference between the presentation of actual biomedical illness and the act of accessing medical treatment. They argue that the measurement of the stress-illness relationship is complicated by innumerable confounding variables. Their study of 614 college freshman compared the variables of stress and the tendency to adopt the 'sick' role on their relationship with the frequency of visits to a student health center. Findings concurred with previous research on the general link between stress and illness, but showed the tendency to adopt the sick role was a better predictor of health center visits than was the experience of stress. These findings signified a shift in the way the stress-illness

relationship would be measured in the future, blurring the lines between medical and sociological constructs and challenging stress researchers to diversify and specify their efforts to understand the nature and effects of stress in more applied contexts.

Perceived work stress. Prior to the mid-sixties, stress had commonly been measured in terms of its physiological effects, the incidence of stress-related behaviors, or the experience of stressful events deemed to be objectively stressful (Cohen, Kamarck, & Mermelstein, 1983). Lazarus was among the first researchers to suggest that the subjective appraisal of stress and the influence of coping ability provided other viable options for researchers to measure stress (Lazarus, 1966; Lazarus & Folkman, 1984). From the perspective of subjective appraisal, stress could be viewed as an individual's inability to cope with or respond to environmental demands with available resources, which acknowledges that different people experience and resist the effects of stress differently. Cohen et al. (1983) were the first to develop a psychometric instrument for the measurement of the subjective appraisal of stress.

The Perceived Stress Scale (Cohen et al., 1983) had several advantages over objective measures of stress, including that the developers did not have to assume that certain events were objectively stressful. Be redefining stress as a subjective variable, it also became possible to test for what kinds of factors contribute to the ability to resist the deleterious health effects of stress. Mackie et al. (2001) adapted Cohen et al.'s (1983) instrument to measure the appraisal of stress at work specifically, resulting in the development of the Perceived Work Stress Scale (2001). The application of stress-illness research to work settings allowed researchers to understand how work stress contributed to a variety of health complaints, but this research would be dependent on the

development of more specific and sophisticated measures of illness that pertained specifically to work stress. Work stress has subsequently been shown to have a significant correlation with negative affectivity among metalworkers in Italy (Falco, Girardi, Marcuzzo, De Carlo & Bartolucci, 2013) and with seeking treatment for mental or emotional disorders (Szeto & Dobson, 2013).

Professional Quality of Life

Professional Quality of Life is a construct that has seen considerable development over the past two decades, influenced principally by the work of Charles Figley and Beth Hudnall Stamm on Compassion Fatigue and Compassion Satisfaction as well as Christina Maslach's research on Burnout (Maslach, 2003; Stamm, 2010). Despite their concerted efforts to advance clarity and improved measures for Compassion Fatigue and related constructs, the history of literature on this topic has been complicated by ambiguous and overlapping definitions of Burnout, Secondary Traumatic Stress, Compassion Fatigue, and other related concepts such as vicarious traumatization (Bride, Radey, & Figley, 2007; Craig & Sprang, 1997; Figley, 1995). Multiple researchers have adopted some or all of these terms with varying definitions to describe divergent and competing models of the effects of exposure to occupational stress and secondary trauma among helping professionals and the supporters of trauma victims. Because the majority of research on Compassion Fatigue, Compassion Satisfaction, and Burnout has been conducted with older, theoretically divergent instruments, a critical review of the development of Professional Quality of Life and its subscales is imperative to understanding how it can be measured and applied to new research (see Figure 1).

Burnout. Freudenberger (1974), a psychoanalyst working with volunteers at St. Mark's Free Clinic in New York City, was the first to introduce the term Burnout into professional literature. He borrowed the term from the 1970s drug culture colloquialism describing an individual suffering from the long-term deleterious effects of drug use (Schaufeli, Leiter, & Maslach, 2009). The condition Freudenberger was describing, however, referred to the tendency of free clinic volunteers to develop depressive and depersonalizing symptoms coupled with a sense of meaninglessness in relation to their work, despite the fact that "nothing drastic had gone wrong" (1977, p. 26). Volunteers who had begun their work with passion and a strong sense of purpose seemed to buckle under the pressure of dealing with chronic health issues that were endemic to often-intractable social problems that no amount of passion or idealism could ameliorate. The selection of the term Burnout*,* then, represented the metaphorical exhaustion of fuel that would otherwise keep a fire burning, resulting in incomplete combustion and an inefficient use of the little fuel that was available (Schaufeli et al., 2009).

Freudenberger was careful at the time to clarify that the people who were suffering from Burnout were not naïve, spoiled or rebellious, but had been gradually worn down by stressful work conditions and that Burnout was a costly and widespread problem among those working in human service professions (1977). The early literature that followed Freudenberger's work consisted mostly of conceptual, theoretical, or case study representations of Burnout (Jayaratne & Chess, 1984), which limited Burnout's profile in professional literature. Early conceptualizations noted behavioral symptoms such as job attrition and truancy, physical symptoms such as fatigue and sensitivity to

illness, cognitive symptoms such as stereotyping and blaming of clients, and emotional symptoms such as feelings of helplessness (Savicki & Cooley, 1982).

Maslach (1976) also began using the term Burnout in her Social Psychology research on human services workers. She conducted interviews in order to gather insight into the emotional consequences of dealing with the stress of human service work and discovered several common symptoms, including feelings of emotional exhaustion, negative perceptions of the consumers of services, and impairments or other disruptions in the ability to function effectively as a professional. Maslach discovered that human services workers were using the term Burnout to describe this condition.

Maslach and Jackson (1981) were the first to develop a psychometric instrument with a clearly defined theoretical framework for Burnout. According to the Maslach Burnout Inventory (MBI), Burnout consists of "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment" (p. 3). The MBI's three scales (emotional exhaustion, depersonalization, and reduced personal accomplishment) parallel this conceptualization and frame much of the early empirical research on Burnout (Ceslowitz, 1989; Jayaratne & Chess, 1984; McCarthy, 1985; Savicki & Cooley, 1982). Almost all of the research using the MBI through the 1980s was conducted on human services professionals, but work by some researchers such as Pines and Aronson (1983) explored the role of Burnout in other types of professions. Pines and Aronson (1988) characterized Burnout as a universal phenomenon of mental, physical, and emotional exhaustion. Kahill (1988) argued that Burnout could be manifested in five different domains: physical, emotional, behavioral, work-related, and interpersonal. As more diverse conceptualizations of Burnout developed in order to meet the demands for

studying it among different populations, the body of literature became fractured and less distinct. Through the 1990s, a growing body of work that used the MBI to study Burnout in other occupations compelled Maslach to issue a revised definition of Burnout as "a state of exhaustion in which one is cynical about the value of one's occupation and doubtful of one's capacity to perform" (Maslach, Jackson, & Leiter, 1996, p. 20) and later as ''a prolonged response to chronic emotional and interpersonal stressors on the job'' (Maslach, Schaufeli, & Leiter, 2001, p. 397).

Though interest in the topic of professional Burnout grew in response to popular and academic awareness of the problem, research on Burnout was not without its critics. The primary critique leveled against Burnout research has been its lack of conceptual and theoretical clarity (Pines & Keinan, 2005). In particular, critics have noted an unclear relationship between Burnout and the construct of stress. Depending on the author, *stress* has been conceived as an environmental factor contributing to Burnout (Hobfoll & Shirom, 2000), as the sole causal factor of Burnout (Cooper, Dewe, & O'Driscoll, 2001), or as a super-ordinate construct of which Burnout is a specific type (Schaufeli & Enzmann, 1998). In addition, the myriad definitions and applications of the term Burnout have contributed to difficulty establishing a unified research agenda, with significant amounts of research endeavoring merely to clarify the rest.

These inconsistencies are due in part to competing demands for the scope of the term Burnout. Schaufeli et al. (2009) note that many researchers and human service practitioners around the world consider Burnout to be a universal phenomenon that can arise anywhere and in any occupation. A universal scope makes Burnout easier to identify and to discuss in general terms, they argue, but it comes at the cost of specificity

in understanding etiology, treatment, and prevention, as well as the relationship of Burnout to other similar constructs. A universal definition also runs into difficulties when researchers attempt to study it cross-culturally, as Burnout is considered a medical diagnosis in multiple European countries, with implications for compensatory services such as time off, financial assistance, and counseling. Burnout is also variously referred to as overstrain or exhaustion in the Netherlands, as well as being categorized as work-related, client-related, or personal Burnout in Denmark (Kristensen, Borritz, Villadsen, & Christensen, 2005; Schaufeli et al., 2009).

Proponents of universal Burnout research, however, argue for the preservation of Burnout as a singular construct because it persists as a problem due to a variety of widespread social, cultural, economic, and political forces that have emerged all over the world (Schaufeli et al., 2009). Hemingway and Maclagan (2004) argue that the evolution from small, tradition-based human service agencies into larger corporate- or state- funded organizations has resulted in incongruence and even conflict between the values and intentions of individual workers and the official missions of large organizations. Such a disconnect results in individual workers having to adjust personal values to justify employment under the auspices of alternative or conflicting values. Aiken, Clarke, Sloane, Sochalski, and Silber (2002) note that the shift towards larger, impersonal agencies also creates economic and organizational demands that exceed available resources and supply.

Without an individual "calling" or buy-in for workers, the pressure to be ever more productive with fewer and fewer resources can result in the perception of limited accomplishments towards value-compromised goals, which can contribute to the belief

that one's exhaustive efforts at work do not ultimately matter. Pines (1993) describes Burnout as a form of existential crisis that disrupts workers' ability to find meaning in their lives. A lack of meaning in work has been shown to contribute more to Burnout than to strain, another related construct, as well as contributing more to Burnout than do specific work stressors (Pines & Keinan, 2005). The existential perspective on Burnout may provide the key to distinguishing it from other similar constructs, but its value as an umbrella term in other research serves as a competing research initiative with its own benefits.

One major benefit of conceiving of Burnout as a collection of more specific syndromes is the potential to uncover effective prevention and treatment options that are directly applicable to the contexts in which they are measured. The ability to distinguish Burnout's potential derivative constructs from constructs with more empirical specificity ensures that related but relevant information concerning the negative consequences of work stress are not ignored or excluded for the sake of unity with a universal construct. In the ProQOL 5, general exhaustion from work stress is captured within a measure of Burnout and can be distinguished from Secondary Traumatic Stress and Compassion Satisfaction, which can contribute to recommendations for future research on the work stress factors for which these constructs do not account. For the ProQOL 5, Stamm (2010) characterizes Burnout as "feelings of hopelessness and difficulties in dealing with work or in doing your job effectively" that has a gradual onset and results in feelings that "your efforts make no difference" (p. 13). Burnout may be experienced by workers in any occupational setting that places emotional demands upon workers and follows a course of gradual, cumulative, and progressive impairment (Figley, 1995). The costs of

Burnout are shared among workers, organizations providing human services, and consumers of those services through reduced personal investment resulting in lower quality and less consistent services (McCarthy, 1985).

Secondary traumatic stress. Figley (1995) defines Secondary Traumatic Stress as "the natural consequent behaviors and emotions resulting from knowing about a traumatizing event experienced by a significant other" (p. 7). He further refines his definition for Secondary Traumatic Stress by specifying a general etiological pathway of "helping or wanting to help a traumatized or suffering person" (p. 7). Figley developed the construct of Secondary Traumatic Stress over the course of more than a decade of research on trauma, Vietnam veterans, and their families (1995). His work on trauma emerged during a rich period of research on trauma in the years leading up to the inclusion of Posttraumatic Stress Disorder as a formal psychiatric diagnosis in DSM-III (American Psychiatric Association, 1980). In his work with families and supporters of traumatized veterans, Figley noted the consequences of trauma were often systemic, with posttraumatic stress symptoms seeming to emanate from the trauma victim, spreading amongst those with whom the victim had close relationships. Figley first described a condition he called a "secondary catastrophic stress reaction" in a 1982 presentation, later elaborating on this concept in the context of families coping with trauma (1995, p. 4). Figley (1985) identified four distinct ways trauma can affect family systems, including a) simultaneous trauma, in which an entire family is affected by a traumatic event at once; b) vicarious trauma, in which a single family member is affected by trauma independently of the family; c) intrafamilial trauma, in which one family members perpetrates trauma against another; and d) chiasmal or secondary trauma, in which the

entire family system suffers the effects of a trauma that originally appeared in a single family member. Among these four types, secondary trauma has the unique feature of appearing to be infectious through the conduit of caring family relationships.

Figley (1989) noted that trauma literature had for years documented phenomena similar to secondary trauma in which the supporters of trauma victims endured many of the same symptoms as the victims themselves, including mental health professionals working to treat PTSD in clinical settings. Some of these similar phenomena include mass psychogenic illness (Colligan & Murphy, 1979), the complexities of sympathetic and empathic reactions in relationships and systems of relationships (Veith, 1965), and the proposition of the existence of a so-called emotional contagion that could transmit emotional responses from one person to an observer of that person (Miller, Stiff, & Ellis, 1988).

Most notable among researchers developing similar bodies of work were McCann and Pearlman (1990), who defined and conceptualized the term vicarious traumatization to describe a syndrome of traumatic stress symptoms experienced by helping professionals working with trauma victims. Central to vicarious traumatization are the disruptions to sense of meaning and worldview that may result from vicarious or secondary exposure to trauma, the consequences of which represent an occupational hazard to mental health professionals (Pearlman & Saakvitne, 1995). In the decades since the introduction of the term, Figley and several collaborators have explicitly treated vicarious traumatization as synonymous with Secondary Traumatic Stress in numerous studies in order to unify their parallel and often shared research histories (Adams, Figley, & Boscarino, 2008; Boscarino, Figley, & Adams, 2004). Other researchers have noted a

conceptual distinction between the cognitive disruptions characteristic of vicarious traumatization and the emotional and social dimensions of Secondary Traumatic Stress (Jenkins & Baird, 2002).

Secondary Traumatic Stress is the etiological precursor in the development of what Figley (1995) calls Secondary Traumatic Stress Disorder. He describes Secondary Traumatic Stress Disorder as having a nearly identical presentation to PTSD, consisting of symptoms that include recollection or intrusive memories of the traumatic event, avoidance or numbing behaviors in response to reminders of the event, and hyperarousal or hypervigilance. The main difference between Secondary Traumatic Stress Disorder and PTSD is that the traumatic event is not perpetrated against the individual with Secondary Traumatic Stress Disorder, but against someone for whom the individual affected by Secondary Traumatic Stress Disorder is caring.

Figley (1995) makes an effort to distinguish Secondary Traumatic Stress Disorder from countertransference and Burnout, which share several key features. Countertransference, argues Figley, represents all of a therapist's reactions to clients' transference. From this perspective, Secondary Traumatic Stress Disorder could be considered a specific form of countertransference since it represents a reaction to clients' trauma, but Figley notes that countertransference has traditionally been thought to exist only in therapeutic relationships in which transference is thought to occur. Secondary Traumatic Stress Disorder, conversely, can appear in anyone serving in a helping or caregiver role for a victim of trauma, whether as part of a therapeutic relationship or not. He concludes that countertransference and Secondary Traumatic Stress Disorder are therefore related but distinct constructs. Figley (1995) differentiates Secondary

Traumatic Stress Disorder from Burnout by noting that Burnout is a gradual, cumulative, and progressive process that results in the erosion of idealism as noted by Freudenberger (1974, 1986). It is possible for Secondary Traumatic Stress Disorder to result from a single exposure to Secondary Traumatic Stress, and it does not share the central feature of exhaustion (Figley, 1995). Instead, Secondary Traumatic Stress Disorder is typified by fear in relation to work (Figley, 2002b).

The single distinguishing feature between Posttraumatic Stress Disorder and Secondary Traumatic Stress Disorder is the presence of a mediating, secondary victim between the sufferer and the actual traumatic stressor (Figley, 1995). In other words, people with Secondary Traumatic Stress Disorder will experience traumatic recollections, nightmares, and intrusive thoughts of people they have helped enduring a traumatic event instead of recalling the traumatic event in the first person. It appears that the actual symptoms of the syndrome Figley describes are identical to Posttraumatic Stress Disorder, but that the content and etiology of those symptoms differs slightly.

Figley's motive for identifying a whole new syndrome that is distinct from Posttraumatic Stress Disorder likely serves his professional interests as much as those of the sufferers of Secondary Traumatic Stress Disorder. The de facto definition of a traumatic stressor offered in the DSM-IV does not include bearing witness to a report of trauma as a potential traumatic stressor, so Figley is forced to offer some form of revision in order to argue that Secondary Traumatic Stress Disorder is, in fact, a legitimate disorder on par with Posttraumatic Stress Disorder (American Psychiatric Association, 1994). However, Figley could have simply argued for a change in the language used in the DSM-IV to define a traumatic stressor so that it would include Secondary Traumatic

Stress. Instead, he advanced an entirely separate term and syndrome, which may reflect his efforts at securing a professional profile in the world of trauma research as much as it does his effort to highlight the significance of Secondary Traumatic Stress. The likelihood that a partially self-serving professional motive played a role in this decision is further supported by Figley's (1995) choice to rename the syndrome and further distinguish it from Posttraumatic Stress Disorder.

Due to concern that Secondary Traumatic Stress Disorder would carry a significant stigma, especially among mental health professionals, Figley (1995) adopted the terms Compassion Fatigue and Compassion Stress to serve as substitutes for Secondary Traumatic Stress Disorder and Secondary Traumatic Stress, respectively. He stated that Compassion Fatigue was "the most friendly term" he felt he could use to accurately describe the condition of Secondary Traumatic Stress Disorder as he had conceptualized it (p. 14). However, Figley did not coin the term Compassion Fatigue. He borrowed the term from Joinson (1992), who had first used the term to describe a loosely defined syndrome found among nurses.

Compassion fatigue. Carla Joinson (1992) first introduced the term Compassion Fatigue into professional literature to describe the loss of the "ability to nurture" that is often experienced by nurses working under stressful conditions (p. 119). She attributed the origin of the term to Doris Chase, a crisis counselor, who described Compassion Fatigue to Joinson as a form of professional Burnout (differing notably from Figley's use of the term) that was specific to helping professions, including Nursing as well as Counseling and other mental health professions. Joinson does not include a clear definition for Compassion Fatigue in her original article other than to say that it is a

response to stress that makes one "ineffective as a caregiver" (p. 119). She elects, instead, to illustrate the qualities of Compassion Fatigue through several brief case examples, all of which represent pathological responses to work stress in caregiver roles. Despite the conspicuous absence of a clear and concise definition, Joinson notes several etiological factors she views as central to the development of Compassion Fatigue among nurses.

Joinson (1992) argues that the central feature of being a caregiver is the use of oneself as a whole person to respond to those in need. As a result, successful helping requires that caregivers be willing to put themselves at risk for the sake of being genuinely and authentically helpful to patients or clients. She also notes that this form of caring for others has no definable limit, leaving caregivers with a persistent feeling that they could have done more to help. In the nursing profession specifically, Joinson highlights the multiple roles that nurses often occupy in the course of caring for patients, explaining that administrative, team-oriented, patient-centered, and treatment-centered roles often conflict, resulting in distress about how to best respond to the needs of patients.

According to Joinson (1992), caregivers such as nurses have a tendency to over-identify with the caregiver role by assuming it in both the professional and the personal realms of their lives. As a result, teams of nurses often bear the burden of caring not only for their patients, but for their colleagues as well. Joinson argues that, in an era when hospital administrators rarely take stress into account when creating work assignments for nurses, the tendency to identify strongly with the caregiver role makes potentially debilitating work stress a chronic problem among nurses. Moreover, Joinson notes that

nurses often maintain the same caregiver role in their families that they occupy at their jobs, limiting the effectiveness of time away from work to restore the capacity to manage stress and respond effectively to patients' needs.

Figley's (1995) adoption of Compassion Fatigue as a synonym for Secondary Traumatic Stress Disorder changed its meaning slightly, primarily in terms of etiology. Rather than a form of Burnout that gradually develops over time, Figley specifically defined Compassion Fatigue as resulting from secondary exposure to trauma through a caregiver role. Though Joinson's (1992) conception of Compassion Fatigue certainly could have included secondary trauma as a component of its etiology, Joinson did not explicitly define it or offer a fully developed etiological model. Following Figley's (1995) adoption of the term, Compassion Fatigue would be defined by the etiology of Secondary Traumatic Stress Disorder, which necessitates secondary exposure to trauma.

Shifting role and definition of trauma. Though it is not clear from the literature exactly why, Figley (2002a) ceased to explicitly define Compassion Fatigue as just another name for Secondary Traumatic Stress Disorder when presenting his modified etiological model and instead defined it in terms of the empathic reaction of the helper. Figley maintained that trauma is an essential component in the etiology of Secondary Traumatic Stress Disorder, but no clear definition for trauma was offered (p. 1435). Because of its prior close association with and comparison to PTSD (Figley, 1995), it appeared that the de facto definition of psychological trauma presented as the stressor in the diagnostic criteria of the DSM-IV-TR served as Figley's definition of trauma:

> The person has experienced, witnessed, or been confronted with an event or events that involve actual or threatened death or serious injury, or a threat to the

> physical integrity of oneself or others. The person's response involved intense fear, helplessness, or horror. (American Psychiatric Association, 2000, p. 468)

However, he presents his etiological model with an accompanying case example in which the client does not appear to have endured such a trauma at all, but rather had been dealing with guilt over her role as a daughter and her separation from her mother while at college (Figley, 2002a). In the case example, it was the counselor's impairment in her ability to respond to the client's needs that defined her condition as Compassion Fatigue. Figley defends his diagnosis of Compassion Fatigue against hypothetical accusations that she might be suffering from simple countertransference or Burnout. He differentiates Compassion Fatigue from countertransference by noting that countertransference is a function of attachment and internal conflict on the part of the counselor whereas Compassion Fatigue is a function of empathy for the client. He differentiates Compassion Fatigue from Burnout by noting that the counselor in the case example is experiencing impairment in her clinical skill rather than emotional or mental exhaustion, as would be the case for Burnout. Nevertheless, Figley offers a definition of Compassion Fatigue that maintains criteria parallel to those of PTSD, defining Compassion Fatigue as "a state of tension and preoccupation with the traumatized patients by re-experiencing the traumatic events, avoidance/numbing of reminders, and persistent arousal (e.g., anxiety) associated with the patient" (p. 1435).

Figley (1995) originally defined Compassion Fatigue in terms of the role of secondary trauma in its etiology. By 2002, however, it appears that Figley may have shifted from defining Compassion Fatigue in terms of trauma to defining it in terms of the presentation of feelings of hopelessness and isolation and the role of the empathic

reaction of the helping professional (2002a). It is also possible that Figley assumed a much broader definition of "trauma" from the beginning. In a book edited by Figley, Beaton and Murphy (1995) claim that exposure to trauma can be direct, indirect, or secondary. It is unclear exactly what is meant by "indirect" and what differentiates it from "secondary" trauma, but it appears that multiple authors in the same book may be talking about trauma in different ways.

Etiology of compassion fatigue. Between 1995 and 2002, Figley developed an etiological model for Compassion Fatigue that conceived of empathic ability and the desire to help others who are suffering as the "driving force" behind the development of Compassion Fatigue (Figley, 2002a, p. 1436). It is important to note that empathy and a desire to help are necessary attributes of a successful helping professional and these attributes are precisely what puts a helping professional at risk for exposure to compassion stress as well as for developing Compassion Fatigue. Therefore, Figley's description of Compassion Fatigue as the result of a "chronic lack of self-care" is apt (p. 1433).

The development of Compassion Fatigue begins with a helper's empathic ability and empathic concern. These two terms refer to the skill or the capacity to recognize the suffering of others and the motivation to intervene in some way to help, respectively (Figley, 2002a, p. 1436). Without the aptitude for empathy and the will to intervene, there is no risk of exposure to compassion stress and Compassion Fatigue cannot and will not develop. With both empathic ability and concern, exposure to the client is possible, which is defined as the direct interaction with the suffering of another person in a helping context (p. 1437). Figley does not distinguish between cognitive and affective empathy

when describing empathic ability, thereby broadening the scope of empathic encounters that make a helper vulnerable to the development of Compassion Fatigue (Cox, Uddin, Di Martino, Castellanos, Milham, & Kelly, 2012). The degree to which the helper makes an effort to reduce or soothe the suffering of a client is referred to as empathic response. All four of these etiological factors are necessary for successful helping to occur in a therapeutic context and the development of Compassion Fatigue is in no sense inevitable (p. 1437). The progression towards Compassion Fatigue occurs with the occurrence of compassion stress, which is the "residue of emotional energy" that a helping professional personally experiences following an empathic response to a client (p. 1437). If a helping professional is unable to manage compassion stress at this stage, it can begin to impair the helper's ability to function in a professional role.

Figley (2002a) includes two preventive coping actions in his model that represent ways that helpers are often able to lower the impact of compassion stress and manage its consequences. First, a helper's sense of achievement, or feeling of success at functioning in the helper role, can help provide a protective layer against the effects of compassion stress (p. 1438). Helpers who feel a sense of achievement are able to evaluate their own performance as a professional independently from their clients' current level of functioning, maintaining a boundary between helpers' responsibilities to clients and clients' responsibilities to themselves. The second coping action identified by Figley is disengagement. The degree to which a helper is able to separate or disengage from the ongoing suffering of a client between sessions and during personal time outside of work (p. 1438). If helpers can maintain boundaries between clients and between professional and personal roles, compassion stress has less of an opportunity to exact a psychological

toll. If a helper is unable to perform either of these coping actions effectively or if compassion stress so greatly overpowers the protective layer that they offer, the risk of Compassion Fatigue will increase.

Prolonged exposure refers to the ever-present feelings of responsibility that a helper feels towards clients and can result in a reduced resistance to the harmful effects of compassion stress (Figley, 2002a, p. 1438). If a helper is unable to get time off or negotiate a balanced caseload, prolonged exposure can contribute to the development of Compassion Fatigue. Traumatic recollections constitute a primary symptom of Compassion Fatigue and consist of memories that evoke emotional reactions in the helper. Traumatic recollections may be triggered by experiences with clients or experiences outside a professional context that evoke feelings first experienced in the role of the helper. Additional life disruptions present the final etiological component to Compassion Fatigue, characterized by unexpected crises or adjustments in a helper's personal life that disrupt the ability to function normally in a professional role (p. 1438). It is the failure or inability of mental health professionals to intervene in the aforementioned developmental path that results in the development of Compassion Fatigue (Figley, 2002a).

Compassion satisfaction. Figley (1995) developed the Compassion Fatigue Self Test (CFST), which was one of the first instruments developed to measure Compassion Fatigue. The CFST consisted of two subscales, Compassion Fatigue and Burnout, which reflected Figley's conceptual distinction between the two. The CFST has been widely used to measure these constructs among a multitude of populations (Bride et al., 2007). In the mid-1990s, Figley began collaborating with B. H. Stamm, a fellow stress and

trauma researcher. Together, they worked to improve the CFST to produce a clearer and more complete picture of the cost of caring.

In her work with Figley, Stamm noted that low scores on the CFST, indicated by a high frequency of "no" responses, could not be meaningfully interpreted (Stamm, 2002). Stamm argued that the majority of individuals working in settings that placed them at risk for the development of Compassion Fatigue and Burnout managed to do their jobs successfully despite the occupational hazards. She argued that helping professionals who remained psychologically and physically healthy enough to sustain employment in these settings must be developing some counterbalancing condition that she tentatively named Compassion Satisfaction on Figley's recommendation. She also argued that Compassion Fatigue could be more precisely defined and comprehensively understood if the benefits of caring were studied in parallel to the costs. In her personal experience as a consultant for the South African KwaZulu-Natal Programme for Survivors of Violence, Stamm witnessed humanitarian service workers exposed to innumerable instances of secondary trauma who were motivated to continue their work not by avoiding stress or dissociating from it, but through "a celebration of hope" (Stamm, 2002, p. 110). Stamm cited the work of King, King, Fairbank, Keane, and Adams (1998), which found that Hardiness represented a resilience factor that had a moderating effect on the relationship between primary exposure to trauma and the development of PTSD among veterans. She theorized that Hardiness might play a significant role in the ability of helping professionals working in stressful conditions to develop an ability to find satisfaction under stressful conditions (Stamm, 2002).

The primary dilemma for the CFST from a psychometric standpoint was that a "no" response to an item such as "I feel estranged from others" could indicate a connection with others, but it could also indicate apathy or exhaustion resulting from Burnout (Figley, 1995; Stamm, 2002). Stamm previously attempted to address this concern in her own research by coupling the CFST with other, positively worded instruments, but found the process cumbersome due to difficulty establishing conceptual correspondence between the different measures. Stamm created a separate scale of positively worded items that represented the inverse of those in the Compassion Fatigue scale of the CFST and piloted them (Rudolph, Stamm, & Stamm, 1997). The resulting combined instrument was renamed the Compassion Satisfaction and Fatigue Test (CSFT; Stamm & Figley, 1996).

There remained several conceptual problems with the compiled CSFT (Stamm, 2002), the most significant of which was the relationship between Compassion Satisfaction and Compassion Fatigue. For example, it was not clear if it was possible to have both high Compassion Satisfaction and high Compassion Fatigue or high Compassion Satisfaction and high Burnout. Stamm proposed that individuals with these scores had worked out a sort of internal balance in which they believed the work they did was important and they valued their participation in it, but through which they had acquired an impairment in the ability to feel empathy. Though it was included in the CSFT, Stamm originally defined Compassion Satisfaction only as "satisfaction with ability as a caregiver" (2002, p. 112). She described other symptomatic features, including finding pleasure in helping others, maintaining fulfilling relationships with

colleagues, and the ability "to press on, often with joy" despite hazardous work conditions (p. 110).

Professional quality of life. In the late 1990s, Figley handed authorship for the CSFT and its future development entirely to Stamm (Stamm, 2010). In order to better encompass the conceptual grouping of Compassion Satisfaction, Compassion Fatigue, and Burnout, Stamm renamed the instrument the Professional Quality of Life Scale (ProQOL) and established the umbrella term for the scales as Professional Quality of Life. She kept the same three scales and maintained their theoretical relationship to one another through two revisions of the instrument.

Due to its history of taxonomical problems, Professional Quality of Life and its scales have endured criticism in professional literature. Kadambi and Ennis (2004) offered one major critique of the related construct of vicarious traumatization. These authors cited inconsistent findings, validity concerns, a lack of controls for confounding variables, and a lack of conceptual clarity as persistent problems in research on vicarious traumatization. In their discussion of the similarities between vicarious traumatization and Compassion Fatigue, Kadami and Ennis note that Compassion Fatigue represents a more generalizable construct than vicarious traumatization when conceived as a possible, but not inevitable, consequence of bearing empathic witness to emotional suffering that does not necessarily require actual trauma or cruelty. The open-ended nature of how trauma was understood as a component of Compassion Fatigue by these authors reflected Figley's (2002) migration away from the equation of Compassion Fatigue and Secondary Traumatic Stress Disorder that he had originally made explicit (Figley, 1995).

Similarly, Coetzee and Klopper (2010) critiqued Figley's (1995) use of the term Compassion Fatigue to describe a syndrome with such a specific etiology that was difficult to generalize. They noted that Joinson's (1992) original use of the term Compassion Fatigue referred to a form of Burnout and developed a new definition for Compassion Fatigue in nursing, the central feature of which depended upon the symptom of an impairment in compassionate or empathic ability (Coetzee & Klopper, 2010). These authors also presented a simplified alternative etiological model that depicted Compassion Fatigue as the cumulative result of compassion discomfort and compassion stress, mirroring its association with earlier conceptions of Burnout and distinguishing it from Secondary Traumatic Stress Disorder (Figley, 1995).

For the sake of clarity in research, Stamm made a theoretical refinement and redefined each of the scales for the ProQOL 5 in response to critiques and new research data that emerged in professional literature (2010). For the ProQOL 5 and for the present study, Professional Quality of Life is defined as a measurement of both the positive and negative psychological aspects of working in the helping professions (Stamm, 2010). The ProQOL 5 conceptualizes Professional Quality of Life as consisting of two primary components that comprise its two scales: Compassion Satisfaction and Compassion Fatigue. Compassion Satisfaction is a measure that represents the "good stuff" about being a caregiver, including feelings of emotional fulfillment and purpose in being able to effectively do the work of a helper (2010, p. 12). Compassion Fatigue, conversely, is a measure that represents the "bad stuff" (p. 12) about serving as a caregiver in a helping profession and is comprised of two subscales: Burnout and Secondary Traumatic Stress. Burnout is a condition characterized by emotional exhaustion, depression, and feelings of

hopelessness that accumulate as a result of working under stressful conditions (2010). Secondary Traumatic Stress is a related construct, but has the distinct characteristic of inducing fear responses and other symptoms related to Posttraumatic Stress Disorder (PTSD) that result from exposure to secondary workplace trauma (2010). Compassion Fatigue is no longer conceived as synonymous with Secondary Traumatic Stress Disorder, but rather as an umbrella term for negative consequences of helping that include Burnout and Secondary Traumatic Stress Disorder.

Professional quality of life findings. The body of literature on Professional Quality of Life, Compassion Satisfaction, Compassion Fatigue, and Burnout is tied together by a shared history of research, but its findings must be interpreted in light of the co-evolution of each construct and the findings related to them. As with *stress* and Burnout, there has been tension between tendencies to think about Professional Quality of Life and its component scales as universal constructs and more loosely defined paradigms for research on similar conditions that vary based on setting and occupation or profession. A relatively small proportion of research on Professional Quality of Life and its subscale constructs of Compassion Satisfaction, Compassion Fatigue, and Burnout has been conducted across mental health settings and professions in an attempt to understand risk factors, protective factors, and worker characteristics associated with them. A review of several significant studies and their findings can provide an introduction to research focused on more specific settings and professional populations.

General mental health professionals. Early research into the behavioral health consequences of exposure to stress in mental health professions focused on Burnout. Pines and Maslach (1978) examined the characteristics of mental health professionals

suffering from Burnout and found multiple significant results. The authors categorized the variables significantly associated with Burnout across settings as either institutional or personal in nature. Institutional variables contributing to Burnout included low staff-to-patient ratios, high percentages of psychotic patients or clients, poor or strained work relationships with colleagues, poor or strained relationships with patients or clients, high frequencies of staff meetings, inadequate opportunities to take breaks, long work hours, high proportions of time spent doing administrative work, and unfairly shared workloads. From an institutional perspective, these findings create a picture of a Burnout-resistant workplace as one with more direct, meaningful work with a clientele with low to moderate symptom severity and effective intra-agency social support. Personal variables contributing to Burnout included lower education or training, higher rank within the organization, a longer work history in the mental health field, lack of a sense of influence over agency policy, and non-humanistic attitudes towards mental health. The personal variables contributing to Burnout create a more confusing picture of a Burnout-resistant mental health professional, as certain variables (e.g., low education and high rank) appear contradictory. Personal factors contributing to a mental health professional's quality of life would remain a major interest of researchers in the coming decades.

More recent research on general mental health professional populations has provided more instructive conclusions, reflecting the advances made in the measurement and conceptualization of Professional Quality of Life since Pines and Maslach's (1978) work. Sprang, Clark, and Whitt-Woosely (2007) examined the incidence of Compassion Fatigue, Compassion Satisfaction, and Burnout among rural and urban mental health professionals using the ProQOL III (Stamm, 2002). Both Compassion Fatigue and

Burnout had incidences of approximately 13% of the study sample and Compassion Satisfaction had an incidence of 48.7%. Females were shown to be at an increased risk for Compassion Fatigue and Burnout, which is consistent with previous literature that has found the females represent a more vulnerable population to the effects of exposure to trauma (Kassam-Adams, 1999; Meyers & Cornille, 2002). Mental health professionals working in inpatient care and public agencies had the two highest mean scores for both Burnout and Compassion Fatigue and the lowest mean scores for Compassion Satisfaction compared to other types of work settings, including private practice, private nonprofit settings, and community mental health (Sprang et al., 2007). The authors theorized that high caseloads and high percentages of clients suffering from PTSD and other severe psychopathology contributed to this difference in means. Another significant finding from this study is that participants who identified themselves as having specialized training in treating trauma issues had a significantly lower incidence of Compassion Fatigue and Burnout, indicating that training and education about trauma can serve to protect mental health professionals from the occupational hazards of secondary trauma. Rural providers were found to be at greater risk for Burnout than their urban counterparts, who were found to be at a greater risk for Compassion Fatigue. The authors attributed this finding to chronic understaffing and underfunding in rural mental health agencies, which contributes to high caseloads associated with Burnout.

Rossi et al. (2012) measured the impact of stressful events as well as sociodemographic and occupational characteristics on psychological distress and Professional Quality of Life. The authors used the ProQOL III to measure Professional Quality of Life, which retained the original three scales measuring Burnout, Compassion

Fatigue, and Compassion Satisfaction and their original conceptual relationships. The sample was taken from multiple professions, including psychiatrists, psychologists, social workers, general mental healthcare employees, rehabilitation therapists, but excluding counselors. The data indicated that psychiatrists as a group had the highest incidence of Compassion Fatigue and social workers had the highest incidence of Burnout. The authors suggested the relatively higher proportionate responsibility for medical care versus psychosocial care that psychiatrists retain could contribute to the development of Compassion Fatigue. They suggested the high caseloads served by social workers contributed to the elevated incidence of Burnout in that population. Compassion Satisfaction was highest among psychologists professionally, but the most significantly elevated Compassion Satisfaction scores were among the grouping of participants who had fixed-term contracts with clients rather than open-ended durations of treatment. The institutional and commercial situation of psychologists may account for their elevated Compassion Satisfaction scores, since psychologists are less often employed in community mental health managing chronic mental illness. The results also confirmed Figley's (2002a) and Stamm's (2002) hypothesized negative relationship between Compassion Satisfaction and Compassion Fatigue as well as between Compassion Satisfaction and Burnout. Results also confirmed that individual negative life events were more likely to contribute to the development of Compassion Fatigue, whereas multiple negative life events were more likely to contribute to Burnout, supporting Figley's (2002a) contention that Burnout is cumulative and progressive.

Newell and MacNeil (2011) conducted a study comparing the Professional Quality of Life of health care administrators and clinical mental health providers in a VA

Medical Center. The clinical mental health providers included psychiatrists, social workers, counselors, nurses, clinical pharmacists, vocational rehabilitation specialists, and other employees working directly with patients in the course of clinical mental health treatment. The researchers used the ProQOL IV-Revised to measure Professional Quality of Life, which included three separate subscales for Compassion Satisfaction, Compassion Fatigue, and Burnout, but described Professional Quality of Life using the ProQOL 5 theoretical model that includes Burnout and Secondary Traumatic Stress as components of Compassion Fatigue. They supplemented the Burnout subscale from the ProQOL IV-Revised with the MBI (Maslach, 2003). The split between administrative and clinical staff was roughly equal (47% administrative, 52% clinical). The age, ethnicity, and gender distributions were roughly equal between groups (Newell & MacNeil, 2011). Contrary to the researchers' hypotheses, no significant differences were found between the two groups on any measure. Overall, most (94%) participants in the sample reported high Compassion Satisfaction, with roughly one half of each group indicating at least moderate levels of Burnout and Compassion Fatigue. The authors caution that generalizing these findings outside a VA hospital setting may not be appropriate, and suggest that the similarity of the two groups that they sampled may have resulted from using a convenience sample within a single institution. The results of this study serve as an example of a major limitation of Professional Quality of Life research, which is that it is difficult to generalize findings from one profession or work setting to another because the stresses, supports, and training for each profession or setting are different.

Findings from Professional Quality of Life research on general mental health practitioner populations indicate that Compassion Satisfaction and Compassion Fatigue have an inverse relationship among mental health providers, as do Compassion Satisfaction and Burnout. Both exposure to severe psychopathology and a high proportion of administrative work that removes providers from direct client or patient contact present risks for Compassion Fatigue and the ability to find work meaningful promotes Compassion Satisfaction. In order to examine more specific risks and protective factors relevant to Professional Quality of Life, it is necessary to examine research that has been conducted on more specific populations, including trauma treatment providers, disaster responders, first responders, health care providers, and other occupations that are exposed to the hazards of being a helper.

Trauma workers and disaster responders. Mental health providers who specialize in the treatment of trauma are exposed to the classic conditions theorized to contribute to the development of Compassion Fatigue, namely that they bear witness to the stories and consequences of trauma endured by their clients (Figley, 1995). A substantial proportion of research has been conducted on the incidence of Secondary Traumatic Stress in this population (Brady, Guy, Poelstra, & Brokaw, 1999; Stamm 2010), but not all of it supports the old theoretical assumption that the etiology of the cost of caring is inextricably tied to exposure to secondary trauma. Ghahramanlou and Brodbeck (2000) examined predictors of Secondary Traumatic Stress among sexual assault trauma counselors, using multiple instruments to measure the contribution of exposure to secondary trauma on psychological distress, which the authors argue may be a precursor to the development of Secondary Traumatic Stress Disorder. These authors

found that personal factors accounted for the majority of susceptibility to psychological distress, including having a personal trauma history, being of younger age, and having less satisfaction in work. The findings were echoed by Craig and Sprang (2010), who found that age and years of experience accounted for variation in Burnout and Compassion Satisfaction, with older and more experienced trauma therapists showing less Burnout and more Compassion Satisfaction. Ghahramanlou and Brodbeck (2000) noted that the stressful work conditions of exposure to secondary trauma, direct emergency room work, and level of education did not have a significant impact of psychological distress. These findings indicate that personal vulnerabilities towards the effects of exposure to Secondary Traumatic Stress account for higher scores of Burnout and Compassion Fatigue among trauma therapists than early etiological models suggested (Figley, 1995, 2002a).

Though they are employed in different kinds of settings, disaster responders are exposed to many of the same hazards as trauma treatment therapists. Disaster responders provide short-term mental health interventions following large-scale catastrophes, serving to triage need for mental health intervention and provide trauma treatment to survivors and those affected. Theoretically, the element of secondary trauma presents the primary hazard that threatens Professional Quality of Life. Boscarino, Figley, and Adams (2004), who studied social workers in New York City following the September 11 terrorist attack on the World Trade Center (WTC), found that personal factors such as a personal trauma history accounted for some variation in the development of Burnout and Secondary Traumatic Stress symptoms. They found that Secondary Traumatic Stress was positively related with providing mental health interventions to people directly involved in the WTC

attacks, but found that Burnout was not affected by WTC involvement, supporting the notion that Burnout and Secondary Traumatic Stress are distinct syndromes among disaster responders. Culver, McKinney, and Paradise (2011) studied social workers who served as disaster responders in New Orleans following Hurricane Katrina, and found that 73% of participants reported increased negative psychological symptoms after working with victims of the disaster. Both Boscarino et al. (2004) and Culver et al. (2011) found that a supportive work environment, effective supervisory intervention, and specific training in the treatment of trauma were negatively associated with negative psychological symptoms following work with disaster survivors.

First responders. First responders such as police officers, firefighters, and paramedics are exposed to a huge number of stressors and risks in the course of their work, including but not limited to being injured, witnessing the injury or death of a coworker, encountering severely injured people, the handling of dead bodies and body parts, witnessing suicides, killing criminal perpetrators in the line of duty, and dealing with the horror and pain of survivors or others affected (Beaton, Murphy, Johnson, Pike, & Corneil, 1998). A large proportion of these stressors constitute exposure to primary trauma where the threat of harm is experienced directly by the first responder, but first responders also constitute a primary support system for one another and an immediate source of support for survivors of trauma encountered on the scene. Cicognani, Pietrantoni, Palestini, and Prati (2009) used the ProQOL IV to measure Professional Quality of Life among emergency workers and examined its relationship with several other variables hypothesized to serve as protective factors. These factors included coping strategies, sense of community, self-efficacy, and collective efficacy, each measured with

a different instrument. Their results confirmed previous findings regarding the inverse relationship of Compassion Satisfaction and Burnout as well as Compassion Satisfaction and Compassion Fatigue (Figley, 2002a; Stamm, 2002). Contrary to studies on other populations, years of experience and age were not significantly related to Professional Quality of Life measures, although professional emergency workers were less susceptible to Burnout than were volunteers. Coping strategies, sense of community, self-efficacy, and collective efficacy were all found to be significantly related to Professional Quality of Life measures. Avoidant coping strategies were associated with higher Burnout scores, whereas greater collective efficacy was associated with lower Burnout scores, suggesting that the belief in and use of others as a support can lessen the impact of stressors and reduce the likelihood of Burnout for first responders.

Health care professionals providing psychosocial intervention. The Professional Quality of Life of health care professionals has been examined in a number of different contexts, highlighting the cost of caring for the physical as well as psychosocial needs of patients. Jenkins and Elliot (2004) examined stressors contributing to Burnout among acute mental health nurses, finding that the primary stressors in this population were understaffing and difficult or combative patients, with nurse workload showing the strongest contribution to emotional exhaustion as a component of Burnout. Lauvrud, Nonstad, and Palmstierna (2009) also cited combative patients as a significant stressor among psychiatric nurses, noting that although the incidence of primary traumatic stress symptoms was low, nurses with some traumatic stress symptoms were likely to be low on Compassion Satisfaction. The authors found that emotional distance was found as a protective factor against traumatic stress symptoms, but such distance be considered a

similar condition to the depersonalization element of Burnout and represent and additional threat to Professional Quality of Life among nurses.

Hardiness

Suzanne Kobasa (1979) introduced the construct of Hardiness into research on the relationship between stress and illness. Rather than focusing on the role of stress in the etiology of illness as previous researchers had done, Kobasa endeavored to study individuals who were both stressed and healthy in order to better understand how people can resist illness despite working or living under stressful conditions. She proposed that differences in personality structure modulate the stress-illness relationship and serve as protective factors against the deleterious effects of stress. Drawing upon the existential psychology research of Maddi (1975), Kobasa proposed that a hardy personality represents one example of the individual differences cited by Seyle (1956) as accounting for variation in illness response despite exposure to and experience of the same degree of stress, akin to Pascal's "resistant X factor" (1951, p. 175).

According to Kobasa (1979), Hardiness consists of three characteristics: the belief that one can control or influence events, a feeling of deep involvement or commitment to what one is doing, and a tendency to regard difficult challenges as opportunities for growth and learning. Kobasa later conceptualized these three characteristics as Control, Commitment, and Challenge, respectively (see Figure 2). Kobasa's initial establishment of the construct of Hardiness resulted from a landmark study that collected a large amount of data from a sample of executives working in stressful jobs using well-established concurrent instruments to measure each component of Hardiness. She also employed measures to examine stress and illness in order to

assess the potential modular effects of Hardiness on the relationship between stress and illness.

Kobasa (1979) used modified versions of the Schedule of Recent Life Events and the Social Readjustment Rating Scale (Holmes & Rahe, 1967) to measure the incidence of stressful events and the experience or perception of stress, respectively. These instruments were modified in order to clarify items whose outcomes could not necessarily be determined to be negative or positive. Kobasa replaced each of these ambiguous items with two similarly worded items, one representing a negative outcome and one representing a positive outcome. To measure illness, Kobasa used select items from the Seriousness of Illness Survey (Wyler, Masuda, & Holmes, 1968). The Control component of Hardiness was measured using a composite instrument consisting of items from the Internal-External Locus of Control Scale (Rotter, Seeman, & Liverant, 1962) as well as the Nihilism versus Meaningfulness and Powerlessness versus Personal Control scales from the Alienation Test (Maddi, Kobasa, & Hoover, 1977). The Alienation versus Commitment scale from the Alienation test (Maddi et al., 1977) was used to assess Commitment in multiple areas of functioning, with the Role Consistency Test, which had been adapted from the Self-Consistency Test (Gergen & Morse, 1967), being used to assess each respondent's consistency in Commitment across multiple life roles.

Different aspects of the Challenge component were measured using several different instruments. The orientation to seek out stimulation was measured using the Preference for Interesting Experiences scale of the Hahn test from the California Life Goals Evaluation Schedules (1966) and the Vegetativeness versus Vigorousness scale of the Alienation Test (Maddi et al., 1977). Hahn's scale of Security Orientation was used

to measure the degree to which participants were willing to endure risk or threat of harm in the pursuit of challenging experiences. Cognitive flexibility was assessed with the Need for Cognitive Structure scale from the Personality Research Form (Jackson, 1974) and endurance in the face of challenge was assessed through the Need for Endurance scale, also from the Personality Research Form. The tendency to pursue challenge due to a need for thrilling excitement versus a feeling of duty was assessed using the Adventurousness versus Responsibility scale from the Alienation Test (Maddi et al., 1977).

The major findings of this study were threefold. First, the data concurred with the relatively low but very dependable relationship between stress and illness that had been established in previous research (Rabkin & Struening, 1976) with a Pearson product-moment correlation of .24 ($p < .025$) between total stress scores and total illness scores (Kobasa, 1979). Second, the data served to establish which measureable personality variables represent the theoretical qualities and functions of each component of Hardiness. The component of Control was best represented as the presence of strong coping ability and an internal locus of control coupled with low levels of both nihilism and feelings of powerlessness. Commitment was only significantly represented by low levels of alienation of self, which indicates that hardy individuals with high Commitment will, even in situations that have isolated them from other people and resources, hold firm to their own values, beliefs, and sense of self-efficacy. Finally, Challenge was represented by high levels of adventurousness and low levels of vegetativeness. The third of Kobasa's (1979) significant findings was that the results provided the information

necessary to begin developing theories for how Hardiness moderates the stress-illness relationship.

Unlike stress and Burnout, the construct of Hardiness was developed with substantial conceptual and theoretical clarity, but it continued to undergo a gradual evolution in response to new data from ongoing research on the influence of Hardiness on the stress-illness relationship in a variety of occupations. Kobasa and her frequent collaborator Salvatore Maddi applied a modified version of the composite instrument they developed to study executives to a sample of middle- and upper-level managers of a utility company (Kobasa, Maddi, & Courington, 1981). In this study, they included the variable of constitutional predisposition, which refers to an individual's biological tendency towards illness and was measured by participants' parents' illness histories. They measured illness and stressful life events at three regular points spanning two years overall to render illness change as a dependent variable. Results indicated that both Hardiness and constitutional predisposition showed main effects on illness outcomes, but had no significant correlation with one another, which reinforced the theoretical conception of Hardiness as a quality of personality rather than a reflection of the absence of the general tendency towards illness. The authors also began referring to Hardiness as a form of "personality disposition" (p. 376) rather than a personality trait or personality variable. The preference for the word "disposition" reflected a shift in thinking akin to Allport's (1961) personal disposition theory of personality, which treats personality as an individually constructed and unique style rather than an exemplar set of universal and permanent traits. Such a shift in thinking implies that Kobasa et al. (1981) considered

Hardiness to be something that may have multiple forms of expression and that may reflect a potentially learnable style for interpreting life.

Kobasa, Maddi, and Kahn (1982) continued preference for the term "disposition" in a study reflecting a five-year follow up on the middle- and upper-level managers studied previously (Kobasa et al., 1981). Results reinforced theoretical assumptions, demonstrating main effects for stress and Hardiness on illness outcome, as well as an interaction effect between stress and Hardiness (Kobasa et al., 1982). Hardiness presented a greater buffering or protective effect against illness when stress was high, indicating that Hardiness may play a role in encouraging self-care and other health behaviors in high stress situations and highlighting the value of a hardy disposition when coping with stressful life events. Maddi and Kobasa (1984) subsequently expanded their theoretical conception of Hardiness, noting that it usually emerges in childhood and remains relatively stable across the lifespan.

Following Kobasa and Maddi's early research on the protective role of Hardiness against occupational stress-induced illness, multiple researchers sought to test its effects on stress, physiological indicators of health, and emotional and behavioral health. Contrada (1989) measured the effect of Type A personality disposition and Hardiness on cardiovascular indicators of stress, noting that Hardiness significantly predicted resistance to stress. Roth, Wiebe, Fillingim, and Shay (1989) studied the effects of Hardiness, exercise participation, and self-perceived fitness level on stress resistance and found that the Commitment component of Hardiness had the greatest impact on health outcomes. Wiebe (1991) examined the effect of Hardiness on both the appraisal of stress and physiological stress response as measured by heart rate when completing a difficult

task and being threatened with a harsh evaluation. She found that high hardy participants showed increased frustration tolerance and lower heart rate elevation than low hardy participants and that high hardy participants perceived the task as less stressful than low hardy participants. The growing body of literature on Hardiness contributed to a broadening research scope that demonstrated the impact of Hardiness on a variety of health outcome measures.

Dispositional resilience. After Kobasa and Maddi, Paul Bartone had the biggest impact on the development of Hardiness as a construct and its effects on health outcomes. Bartone (Bartone, Ursano, Wright, & Ingraham, 1989) developed an instrument for his doctoral dissertation to address some of the psychometric limitations of Kobasa et al.'s (1981) modified Hardiness composite measure and tested it on a population of city bus drivers in Chicago. This 50-item measure was further refined to a 30-item version on a sample of United States Army family assistance workers providing support to the families of the victims of an Army jetliner crash that killed 248 soldiers in 1985 (Bartone et al., 1989). Bartone (1995) later reduced the instrument to 15-items, titling the resulting instrument the Dispositional Resilience Scale (DRS-15).

Bartone (2006) has used the terms dispositional resilience and Hardiness interchangeably throughout much of his research, noting a preference for the former due to a theoretical refinement that views Hardiness as a generalized style of functioning that is not fixed and that cannot be contained within a measure of personality. Bartone notes that dispositional resilience contains emotional, cognitive, and behavioral components and it can be influenced and fostered by leadership and cognitive interventions. The majority of Bartone's research has been conducted on military populations including

West Point cadets (Bartone, 2000; Bartone 2001), special forces (Bartone, Roland, Picano, & Williams, 2008), and Gulf War veterans (Bartone, 1999).

Hardiness findings. Hardiness has been found to have significant effects on both physical and mental health outcome variables. Early research demonstrated main effects between a variety of forms of stress and stress appraisal and both illness outcomes and physiological indicators of stress (Contrada, 1989; Kobasa, 1979; Kobasa, Maddi, & Kahn, 1982; Kobasa, Maddi, & Puccetti, 1982; Kobasa & Puccetti, 1983; Roth, Wiebe, Fillingim, & Shay, 1989; Williams & Lawler, 2004). Research also demonstrated significant relationships between Hardiness and mental and behavioral health outcomes. Kuo and Tsai (1986) found Hardiness to be a significant predictor of immigrants' general mental health status. Both Nowack (1986) and Contrada (1989) found significant relationships between Hardiness and general psychological distress. Several studies have found a significant negative relationship between Hardiness and the development of PTSD following stressful life events (Bartone, 1989; King et al., 1998). Pengilly and Dowd (2000) found a significant main effect relationship between Hardiness and depression, a relationship that was found to be significant even after controlling for the effects of stress.

Hardiness and stress. In his meta-analysis of stress-Hardiness research, Funk (1992) suggested that Hardiness is related to unknown mediating variables that may affect health outcomes. Roth, Wiebe, Fillingim, and Shay (1989) suggested that Hardiness might have an indirect effect on health by influencing the appraisal or the experience of stressful life events. This hypothesis was supported by Hasel, Besharat, Abdolhoseini, Nasab, and Niknam (2013) who found that Control and Commitment

predicted perceptions of stress in Iranian participants suffering from oral lichen planus. Multiple studies have concluded that the relationship between Hardiness and stress is inseparable from research on Hardiness and health outcomes, with several studies suggesting that Hardiness plays a buffering or moderating role in the relationship between stress and health (Contrada, 1989; Kobasa et al., 1981; Kobasa et al., 1982).

Within the realm of stress-Hardiness research, the relationship between work stress and Hardiness has been examined in multiple occupational settings. Among critical care nurses, occupational stress was found to be negatively associated with cognitive Hardiness (Topf, 1989). Collins (1996) found that Hardiness was negatively associated with work stress among full-time nurses. Sharpley, Dua, Reynolds, and Acosts (1995) found a significant negative relationship between Hardiness and work stress among a sample of Australian university employees. Manning, Williams, and Wolfe (1988) compared samples of employees from a health insurance company and a manufacturing plant and found that Hardiness was negatively associated with work stress in both settings. In their study of employees at a computer company, Steinhardt, Dolbier, Gottlieb, and McCalister (2003) also found that Hardiness was significantly negatively associated with work stress. Across settings, professions, and geographic regions, the negative relationship between work stress and Hardiness is well supported.

Hardiness and burnout. As noted above, work stress is theorized to be the primary contributing factor to the development of professional Burnout. Low Hardiness has been shown in multiple studies to be a significant predictor of the incidence of Burnout. McCranie, Lambert, and Lambert (1987) found significant relationships between stress, Hardiness, and Burnout among hospital staff nurses. Burnout was found

to be associated with high stress and low Hardiness and both stress and Hardiness were found to be significant predictors of Burnout. Rich and Rich's (1987) research on female staff nurses showed a significant inverse relationship between Hardiness and Burnout, even after controlling for the variable of age, which was also found to be an independent significant predictor of Burnout in this sample. McCalister, Dolbier, Webster, Mallon, and Steinhardt (2006) found a negative relationship between Hardiness and work stress in a sample comprised of employees at a high-tech company and those at a government agency. In a meta-analysis of the relationship between Burnout and personality, Alarcon, Eschleman, and Bowling (2009) found that Hardiness was a significantly stronger predictor of Burnout than other personality variables.

Hardiness and job satisfaction. Complementing the data suggesting that hardy employees are resistant to work stress and Burnout are studies demonstrating the relationship between Hardiness and overall job satisfaction. Manning et al.'s (1988) research on health insurance and manufacturing employees found direct negative relationships between Hardiness and work stress as well as between Hardiness and general illness and somatic complaints. They also found that individuals scoring high on Hardiness reported greater job satisfaction and reduced tensions at work. Berwick (1992) studied university student affairs administrators on multiple variables, finding that stress was inversely related with both job satisfaction and Hardiness. Rush, Schoel, and Barnard (1995) found that Hardiness had an inverse relationship with stress and a direct positive relationship with job satisfaction among upper-level government employees. Following the conclusions of King et al. (1998) regarding stress and Hardiness, McCalister et al. (2006) tested a model that predicted Hardiness and social support would

serve as protective factors against work stress and that both would contribute to job satisfaction. Their results confirmed the hypotheses that Hardiness was a strong predictor of both work stress and job satisfaction, providing evidence that job satisfaction and work stress have an inverse relationship.

Hardiness as a moderator of stress-illness relationships. Research into the moderating or buffer effects of Hardiness on stress-illness relationships has yielded equivocal results. Numerous studies have found evidence supporting a protective moderating role for Hardiness between stress and negative physical, mental, or occupational health outcomes (Abdollahi, Abu Talib, Yaacob, & Ismail, 2014; Contrada, 1989; Kobasa, 1979; Kobasa et al., 1982; Lo Bue, Taverniers, Mylle, & Euwema, 2013; McCalister et al., 2006; Roth et al., 1989; Williams & Lawler, 2003). Still, other researchers failed to find any hypothesized moderating effect for Hardiness on health outcomes (Blaney & Ganellen, 1990; Carver, 1989; Funk & Houston, 1987; Hull, Van Trueren, & Virnelli, 1987; Manning et al., 1988; Rowe, 1997; Rowe, 1998), though direct relationships among stress, Hardiness, and health outcomes were supported. Possible explanations for the diversity of findings include the variety of conditions under which workers experience stress in different occupations and settings, differing operational definitions and instruments for measuring stress, and qualitative differences among outcome variables identified as forms of "illness" or "health".

Future directions for hardiness research. One area of research that has not been thoroughly explored is the possibility that Hardiness may play a moderating role in positive relationships between stress and health (rather than between stress and illness or other negative outcomes). According to Stamm (2002), many individuals working in

high stress situations are able to make meaning and find satisfaction in the hazardous nature of their work, resulting in Compassion Satisfaction. She also specifically theorized that Hardiness might be a moderating variable between stress and Compassion Satisfaction. Because stress has a negative relationship with job satisfaction and Hardiness has a positive relationship with job satisfaction and a negative relationship with stress, it is possible that Hardiness moderates the stress-satisfaction relationship such that hardy individuals working in high stress occupations are more likely to experience Compassion Satisfaction. Future research should supplement existing research on Hardiness as a protective factor against negative health outcomes with research on Hardiness as a factor that encourages positive health outcomes under stress.

Emergency Services and Assessment Clinicians

There has not been any published empirical research on the Professional Quality of Life of Emergency Services and Assessment Clinicians (ES clinicians). Bonnie, Reinhard, Hamilton, and McGarvey (2009) published an article regarding changes to Virginia's mental health code following the mass shooting at Virginia Tech in 2007. In the article, the authors review the history of Virginia's four-decade-long process of deinstitutionalization and concurrent development of community-based mental health services, including those involved in facilitating involuntary commitments for inpatient psychiatric treatment. They note that Virginia has a relatively high number of public psychiatric hospitals (ranking 11th in the country) and that Virginia spends a far greater proportion of service tax dollars on psychiatric inpatient treatment (58%) than the nation as a whole (27%). Virginia spends a relatively small amount of service tax dollars per capita on community outpatient services, ranking the 11th lowest in the country. It was

in this environment that the position of ES clinicians developed, creating a vital gatekeeping mechanism for the costliest aspect of Virginia's mental health system.

In 1988, the Virginia General Assembly passed a revision of mental health code that mandated that CSB emergency services be responsible for conducting prescreening assessments for involuntary commitments to public hospitals, and in 1994 that responsibility was expanded to private hospitals as well (Bonnie et al., 2009). Throughout the 1990s, efforts to shift the proportion of state funding from inpatient to outpatient services were blocked by legislators seeking to protect jobs of employees at state psychiatric facilities. Those funding initiatives for outpatient community mental health treatment that succeeded were relatively small and served to pay for specific supplemental services rather than overall improvements in community mental health systems. As a result, the role of ES clinicians in community mental health expanded and the scope of their involvement with clients in their respective communities steadily grew. The original gatekeeping function of ES clinicians became a more comprehensive means for accessing public mental health services, particularly for the segment of the population that lacked access to private mental health treatment.

Legal policy surrounding involuntary commitments has undergone multiple revisions, both before and after the Virginia Tech tragedy (Bonnie et al., 2009). Many of the revisions, such as changes to the commitment hearing process or changes to mandatory outpatient services following discharge from a psychiatric hospital, did not directly affect the work of ES clinicians. Others, such as the inclusion of crises resulting from substance abuse in addition to mental illness as a pretext for involuntary commitment, reduced the threshold necessary for ES clinicians to pursue Temporary

Detention Orders (TDOs) and potentially increased the number of situations in which ES clinicians were bound to be involved. The authors suggest that the volume of emergency calls in Virginia may be inversely proportional to the amount of funding available for ongoing, preventive community outpatient services. As such, current efforts to reform and expand available funding for community outpatient services stand to influence the work of ES clincians greatly.

Summary of Chapter

Research on the relationship between stress and health-related outcomes has a long and varied history. Much of the diversity of findings in this body of literature can be attributed to the loose, general nature of the constructs used and the wide variety of applications for which researchers have employed them. Hardiness or dispositional resilience has emerged as a relevant factor in the moderation of stress and Burnout. The gradual refinement of the psychological constructs of Burnout, Secondary Traumatic Stress, Compassion Fatigue, and Compassion Satisfaction has resulted in the research paradigm of Professional Quality of Life research, which has come to encompass all the costs and benefits of serving in a helping profession or caregiver role and has been applied to a wide variety of professional settings. Stamm (2010) associated the development of the Compassion Satisfaction scale with the construct of Hardiness, theorizing that hardy individuals may endure high levels of stress but remain satisfied in their work. This hypothesis has not yet been tested. ES clinicians have not been studied in this regard and can benefit from research into the role that Hardiness plays in moderating Compassion Fatigue and promoting Compassion Satisfaction amid stressful occupational conditions.

Chapter 3: Methodology

Introduction

Chapter 2 included a review of the historical and theoretical context necessary for understanding the hypothesized relationships among the variables, Perceived Work Stress, Hardiness (see Figure 2), and Professional Quality of Life, which is comprised of Compassion Satisfaction, Burnout, and Secondary Traumatic Stress (see Figure 1). This context frames the significance of these relationships to the empirical study of Emergency Services and Assessment (ES) Clinicians. This chapter details the methods for the present study, including the research question, a description of the participants, an overview of each instrument used, and the data collection procedures used. Due to the exploratory nature of this study, there was no specific research hypothesis. The rationale for conducting an exploratory study is that past research is not generalizable to ES clinicians as a population, so there are no data from which to induce a hypothesis for a confirmatory, deductive investigation of ES clinicians. The findings from this study provide the data necessary for generating hypotheses for future confirmatory research.

Research Question

Do Hardiness and Perceived Work Stress predict Compassion Satisfaction, Burnout, and Secondary Traumatic Stress among ES clinicians?

Sub-question: Are there interactions among the variables that better explain the relationship?

Participants

The researcher used a purposeful sampling approach to collect data for analysis. The sample is purposeful in the sense described by Patton (2002), where ES clinicians in

the Commonwealth of Virginia represent a "critical case" (p. 236) that provides more relevant data than a sample drawing from multiple states. Mental health statutes and code detailing the detention and commitment procedures for mental health treatment vary significantly from state to state. Some states, such as Ohio, employ professionals who work in full-time, non-emergency positions to work individual shifts as preadmission screening evaluators for involuntary commitments to ensure 24-hour coverage. The Ohio Revised Code ch. 5122, § 5122.01-C (1998) indicates that a variety of professionals may perform prescreening assessments, including physicians, psychologists, or anyone appointed by a regional behavioral health authority as a "health officer". There are no state-wide standards for what qualifications are necessary to be appointed as a health officer, and regional behavioral health authorities typically defer to the agencies hiring these health officers to determine who is qualified to perform prescreening assessments, conferring health officer status to individuals deemed qualified by the hiring agencies (C. Henry, personal communication, January 30, 2013). As a result, professionals performing preadmission screening assessments in Ohio are extremely diverse and lack sufficient proximal similarity to one another to constitute a population appropriate for research on Professional Quality of Life (Trochim, 2001).

In order to study the Professional Quality of Life of prescreeners without confounding variables such as variation in the level of stress in participants' primary, non-emergency occupations, it was necessary to sample from a population of prescreeners for whom emergency work is a primary occupation. The Commonwealth of Virginia has required that prescreening assessments for involuntary commitments to psychiatric hospitals be conducted by emergency services staff at regional mental health

authorities called Community Services Boards (CSBs) since 1988 (Bonnie, Reinhard, Hamilton, & McGarvey, 2009; Virginia code § 37.2-809, 1988). As such, ES clinicians in Virginia represent a distinct, primary occupational group from which to gather data to examine the Professional Quality of Life of this population.

Participants were 101 ES clinicians currently working in Virginia, 78 of whom were female and 23 of whom were male. Of the sample, 86.1% identified as Caucasian, 5.9% as Black or African American, 4% as Hispanic, 2% as Asian, and 2% as Multiple or Other race or ethnicity. Only 45 participants identified their age, which had a mean of 43.44 years with a minimum of 25 and a maximum of 68. With regard to hours worked weekly in ES, 24.8% reported working 20 or fewer hours per week, 41.6% reported working 21 to 40 hours per week, and 33.7% reported working more than 40 hours per week. The majority of participants (69.3%) had been working in ES for more than 36 months, with 5.9% having worked between 24 and 36 months, 14.9% having worked 12 to 24 months, 6.9% having worked six to 12 months, and 3% having worked one to six months.

Instrumentation

Three instruments were selected to measure the variables being studied and were presented to participants in an electronic survey developed using Qualtrics software. Perceived Work Stress was measured using the Perceived Work Stress Scale (PWSS; Mackie et al., 2001). Compassion Satisfaction, Burnout, and Secondary Traumatic Stress were assessed using the Professional Quality of Life Scale 5 (ProQOL 5; Stamm, 2010). Hardiness was measured using the Dispositional Resilience Scale-15 Revised (DRS-15-

v3; Bartone, 2013). The instruments were presented in this order in the survey. The final section of the survey contained demographic questions (see Appendix A).

Perceived work stress scale (PWSS; Mackie et al., 2001). The PWSS is a tool developed by Mackie, Holahan, and Gottlieb (2001) that measures the global subjective appraisal of stress at work, termed *Perceived Work Stress.* Perceived Work Stress can be defined as the subjective appraisal of the demands of one's work environment as exceeding one's ability to respond to them with available social, material, cognitive, emotional, or other resources (Cohen, Kamarck, & Mermelstein, 1983; Lazarus & Folkman, 1984; Mackie, Holahan, & Gottlieb, 2001). Though several work stress scales existed prior to the PWSS, they measured stress in terms of the frequency of certain stressful events or physiological indications of stress rather than global perceptions of stress, which presented limitations to work stress research. After confirmation from the National Institutes of Occupational Safety and Health (NIOSH) that no instrument existed to measure perceived stress at work, Mackie et al. (2001) developed an 8-item scale to measure it. The items on the PWSS were either adapted from the Perceived Stress Scale (PSS; Cohen, Lamarck, & Mermelstein, 1983), which measures the global appraisal of multiple specific forms of stress, or created to assess overall perceptions of work stress. The original 8-item instrument was piloted on a sample of 38 employees at a Texas community mental health agency. After data collection, developers removed one item because it contributed a minimal amount to the reliability of the scale. The resulting 7-item instrument had a Cronbach alpha reliability estimate of .87.

A second pilot study with the 7-item instrument was conducted at a similar community mental health agency with a sample size of 443, resulting in a Cronbach

alpha of .83. The developers assessed criterion validity by correlating the data from the second pilot study with subscales of the Generic Job Questionnaire (Hurrell & McLaney, 1988) and found significant correlations with seven subscales, including Total Hazards ($r = .45$; $p < .01$), Role Ambiguity ($r = .42$; $p < .01$), Total Mental Demands ($r = .38$; $p < .01$), Intragroup Conflict ($r = .37$; $p < .05$), Total Conflict ($r = .36$; $p < .05$), Quantitative Work Load ($r = .59$; $p < .01$), and Variance in Work Load ($r = .75$; $p < .01$). Subsequent use of the scale by the developers in a study that investigated the relationships among management practices, Perceived Work Stress, and depression among employees at a human services residential facility yielded a Cronbach alpha of .88 (Mackie et al., 2001). Participants indicate their levels of Perceived Work Stress in the preceding month using a five-point Likert scale where (1) represented "never" and (5) represented "very often". Examples of items on the instrument include questions such as "In the last month, how often have you felt that you had too much stress at work?" and "In the last month, how often have you been upset because of something that happened unexpectedly at work?" The instrument yields a single, full-scale score and has no separate subscales. High scores on the instrument indicate high levels of Perceived Work Stress.

Steinhardt, Dolbier, Gottlieb, and McCalister (2003) studied Perceived Work Stress, Hardiness, supervisor support, and group cohesion as predictors of job satisfaction among computer company employees and found that Perceived Work Stress was negatively correlated with the other three predictors and was associated with low job satisfaction. McCalister, Dolbier, Webster, Mallon, and Steinhardt (2006) used the PWSS in a study aimed at testing a model linking Hardiness and social support with job satisfaction and Perceived Work Stress among high-tech company employees and

government agency employees, demonstrating negative correlations between Perceived Work Stress and Hardiness and Perceived Work Stress and job satisfaction. The authors also found a positive correlation between Perceived Work Stress and negative affectivity.

Professional quality of life scale (ProQOL 5; Stamm, 2010). The ProQOL 5 is an instrument that measures the quality one feels in relation to work as a caregiver or helping professional, consisting of both the positive and negative aspects of that work (Stamm, 2010). The instrument contains two main scales: Compassion Satisfaction and Compassion Fatigue. Compassion Fatigue contains the subscales of Burnout and Secondary Traumatic Stress. The instrument contains 30 items scored on a five-point Likert scale from 1 ("Never") to 5 ("Very often"). The Compassion Satisfaction scale contains 10 items and the Compassion Fatigue scale contains 20 total items with 10 items corresponding to Burnout and 10 corresponding to Secondary Traumatic Stress. For each item, participants indicate how frequently they have experienced the statement in that item within the past 30 days. Examples of items include "I have beliefs that sustain me", "I find it difficult to separate my personal life from my life as a helper", and "I jump or am startled by unexpected sounds".

The ProQOL or one of its earlier versions has been used in nearly half of the more than 100 published research articles on Compassion Fatigue, Secondary Traumatic Stress, or vicarious traumatization, supporting good construct validity with this instrument (Stamm, 2010). Shared variance between the Secondary Traumatic Stress and Burnout scales is 34%, but the theoretical relationship between these scales can explain the shared variance. Both Secondary Traumatic Stress and Burnout involve negative psychological consequences associated with work in a helping profession and both entail emotional

distress, but the two scales differ in that Secondary Traumatic Stress is typified by fearful reactions to work-related trauma while Burnout is typified by emotional exhaustion.

The precursor to this instrument was developed by Figley (1995) as the Compassion Fatigue Self Test (CFST). The instrument was renamed the Compassion Satisfaction and Fatigue Test (CSFT) with the addition of the Compassion Satisfaction subscale (Stamm, 2002). Further conceptual development of the instrument resulted in the name being changed to the Professional Quality of Life Scale (ProQOL; Stamm, 2005). Early versions of the ProQOL consisted of three subscales: Compassion Satisfaction, Compassion Fatigue, and Burnout. In these earlier versions, Compassion Fatigue was considered to be synonymous with Secondary Traumatic Stress and distinct from Burnout, but subsequent revisions resulted in an instrument with only two subscales: Compassion Satisfaction and Compassion Fatigue. Compassion Satisfaction is the degree to which one's work as a caregiver or helping professional engenders feelings of personal fulfillment, pleasure, accomplishment, and meaning (Stamm, 2002, 2010). Burnout and Secondary Traumatic Stress are considered subscales of Compassion Fatigue, which now refers to the totality of negative reactions resulting from work as a helper or caregiver (Stamm, 2010).

Dispositional resilience scale 15 version 3 (DRS-15-v3; Bartone, 2013). The Dispositional Resilience Scale 15 version 3 (DRS-15-v3, Bartone, 2013) measures the construct of Hardiness. Items are based on a four-point Likert scale ranging from 0 ("Not at all true") to 3 ("Completely true"). Participants respond to each item by indicating their level of agreement with statements such as "Most of my life gets spent doing things that are meaningful" and "I don't think there is much I can do to influence my own

future". The instrument's three subscales are Control, Commitment, and Challenge. Each subscale is comprised of five items and yields an independent score, though the instrument also yields a full-scale score for Hardiness drawn from the sum of the scores from all three subscales.

The first attempt to measure Hardiness as a stress resistance factor consisting of the components of Control, Commitment, and Challenge was conducted by Kobasa (1979). She developed a composite instrument composed of 53 items drawn from eight different instruments to measure each of the three components of Hardiness as well as stressful events, perceived stress, and illness symptoms (1979). Bartone's conceptual definiton of Hardiness, which he refers to as dispositional resilience, is slightly different than that of Kobasa in that he treats Hardiness as an overall style of functioning or disposition that can be influenced and can change over time rather than a fixed personality trait. Bartone (1989) adapted Kobasa's instrument into a 50-item instrument by testing its reliability on a population of city bus drivers. Using samples of military personnel, Bartone further refined the instrument into a 45-item and then a 30-item instrument (Bartone 1991; Bartone et al., 1989). In 1995, Bartone developed a 15-item version that he tested on 700 Army reservists assigned to medical units in the first Gulf War (Bartone, 1995).

The resulting instrument, the DRS-15, demonstrated good psychometric properties. In the sample of Army reservists, the Cronbach alpha coefficient for the entire instrument was .83 (Bartone, 1995). Cronbach alphas for the Commitment, Control, and Challenge scales were .77, .71, and .70, respectively. Criterion and predictive validity were supported by findings demonstrating a negative relationship

between Hardiness and several stress and illness indicators including symptoms of depression and a positive relationship between Hardiness and performance under stressful conditions (Bartone).

Several authors have cautioned against the use of a full-scale composite Hardiness score calculated from the sum of scores on each of the three subscales (Control, Commitment, and Challenge) due to weak associations among the subscales (Carver, 1989; Funk 1992). Carver (1989) considered Hardiness a latent variable, which is a variable that is difficult to measure directly and whose scale components are thought to represent different "surface manifestations" of the variable (p. 579). From this perspective, it is not essential that an individual endorse all components (surface manifestations) of Hardiness to be considered hardy. Because of the weak associations between subscales, it is possible for three individuals with high full-scale Hardiness scores to have vastly different subscale scores, which creates conceptual problems for what constitutes high or low Hardiness. To protect against this conceptual problem and ensure the most precise understanding of the role that Hardiness plays, the three subscales of Hardiness were treated as separate predictor variables.

Demographics questionnaire. The final component of the survey was a demographics questionnaire, which included questions regarding each participant's biological sex, race or ethnicity, age in years, level of experience as an ES clinician (measured in months), average number of hours worked as an ES clinician per week, professional licensure(s), highest degree earned, and the discipline(s) of all graduate degrees earned.

Data Collection Procedure

Prior to beginning data collection, the researcher obtained approval from Ohio University's Institutional Review Board for the use of human subjects in research (see Appendix B). The researcher then pursued approval to distribute the electronic survey to Virginia's ES clinicians through the Virginia Association of Community Services Boards (VACSB) by providing a description of the study and the survey to the chairpersons of the Emergency Services Council and the Data Management Committee. The chair of the Emergency Services Council informed the researcher that there is no statewide master list of ES clinicians. Individual CSBs maintain the certifications of the ES clinicians they employ. Therefore, current ES clinicians' e-mail addresses could only be accessed by contacting each of the 40 CSBs individually. The chair of the Data Management Committee consented to the researcher contacting each of the 40 CSBs by e-mail and phone to request ES clinicians' e-mail addresses on the condition that their cooperation was entirely at their discretion.

Initial contact was attempted with all 40 CSBs by sending a form e-mail message (see Appendix C) to directors or supervisors of emergency services departments at each CSB. Those that did not respond were contacted by phone and additional e-mails. Of the 40 CSBs, 15 never responded despite repeated attempts to contact multiple individuals within each agency by phone and e-mail. Three CSBs responded but declined to participate. The remaining 22 CSBs agreed to participate, providing the researcher with the work e-mail addresses of their currently working and certified ES clinicians.

The primary researcher sent an individual e-mail to each of the 283 potential participants that included a link to an electronic survey along with a brief description of

the study and contact information for the researcher and the researcher's committee chair. The electronic survey included a consent form for participation in the study, the PWSS, the ProQOL 5, the DRS-15-R-v3, and the demographics questionnaire. Of the 283 contacted, 101 participants completed the survey, which constitutes a response rate of 35.69%. No information was collected or retained electronically that could identify the individual participants or their affiliated CSBs.

Field's (2013) standard for determining minimal sample size for regression analyses is to include at least 10 participants for each predictor variable. Following extensive efforts to secure participation from CSBs using the methods approved by the VACSB, the researcher decided to close data collection with a sample of 101 cases or approximately 25 participants per predictor. The researcher screened data for missing values, outliers, and normality. Of the 101 cases, 24 were missing at least one piece of data. Based on the recommendation of Parent (2013), mean-value imputation was used to impute data to complete each of the 24 cases with missing data. An independent samples *t*-test was conducted to assess for difference between the 77 complete cases and the 24 with imputed data, but no difference on any variable were detected. Data analysis proceeded including all 101 participants in the sample.

Data Analysis Procedure

This exploratory study employed multiple regression to test whether the predictor variables of Perceived Work Stress, Control, Commitment, and Challenge predict the outcome variables of Compassion Satisfaction, Burnout, and Secondary Traumatic Stress. To answer the research question, the researcher sought to construct significant regression models for each of the three outcome variables using only those variables that predicted a

significant proportion of the variance for each outcome. By limiting the number of predictors in each model, statistical power could be preserved to detect interactions when answering the research sub-question. The regression models for Compassion Satisfaction and Burnout each included Perceived Work Stress, Control, and Commitment as their significant predictors. The regression model for Secondary Traumatic Stress included Perceived Work Stress and Control as its significant predictors.

The researcher employed seven additional multiple regressions in order to test the research sub-question investigating interactions among predictors, such as mediating or moderating effects. Each of these regression models included two significant predictors and an interaction term created by multiplying those two predictors. These regression models did not reveal any significant contributions by interaction terms in addition to the main effect relationships detected in the original three regression models. A detailed explanation of the data analyses can be found in Chapter 4.

Summary of Chapter

This chapter included an overview of the methods for the present study, which included the research question, an explanation of the population being studied, a description of the sample, a review of the history and psychometrics for each instrument used, the procedure for data collection, and the plan for analyzing data to answer the research question.

Chapter 4: Results

Introduction

Chapter 3 provided the blueprint for the methods employed in the present study, including the plan used to analyze the data. This chapter presents the results of the study, giving a detailed explanation of the data analysis process, including tests of assumptions, data screening, preliminary analyses, and the main analyses used to answer the research question and sub-question. A rationale is presented for the use of mean-value data imputation in 24 of the 101 cases. The preliminary analyses employed to determine which predictors would be included in each regression model are reviewed. Three multiple linear regression models were developed to predict each of the three outcome variables. The models for Compassion Satisfaction and Burnout included the predictors of Perceived Work Stress, Control, and Commitment. The regression model for Secondary Traumatic Stress included the predictors of Perceived Work Stress and Control. Interaction terms were created from each pair of predictors and were included in seven additional multiple regressions to test for interaction effects among predictors. No significant interactions were detected. Tables are included to supplement the data presented in each section of the chapter.

Tests of Assumptions

The assumptions of linearity, independence of the errors, homoscedasticity of the errors, and normality of the error distribution were tested. A Pearson correlation matrix of all the variables revealed linear relationships between each dependent variable and all independent variables except for Challenge (see Table 1). Compassion Satisfaction, Burnout, Secondary Traumatic Stress, Perceived Work Stress, Commitment, and Control

were were significantly correlated at the .01 level with the exception of the correlation between Perceived Work Stress and Control (r = -.235), which was significant at the .05 level. The correlation matrix also showed that no independent variables were highly correlated (i.e. r > 0.9), and Durbin-Watson, Tolerance and VIF statistics were all within limits to indicate independence of the errors (see Table 2). Though Challenge and Commitment were significantly correlated (r = 0.232, n = 101, p = 0.019), they were not highly correlated. Scatterplots of standardized residuals and predicted values and probability-probability plots of expected and observed cumulative probabilities for each regression model did not violate the assumption of homoscedasticity. Histograms indicated that error distributions were normally distributed.

Table 1

Pearson Correlations of Predictor and Outcome Variables

	CS	Burnout	STS	PWS	Control	Commitment	Challenge
CS							
Burnout	-.745**						
STS	-.503**	.708**					
PWS	-.420**	.630**	.490**				
Control	.460**	-.460**	-.400**	-.235*			
Commitment	.727**	-.660**	-.369**	-.291**	.429**		
Challenge	.166	-.182	-.179	-.187	.095	.232*	

Note. CS = Compassion Satisfaction, STS = Secondary Traumatic Stress, PWS = Perceived Work Stress, *$p < .05$, **$p < .01$

Table 2

Summary of Durbin-Watson, Tolerance, and VIF Statistics for Multiple Regressions Predicting Compassion Satisfaction, Burnout, and Secondary Traumatic Stress

Outcome Variable	Predictors	Durbin-Watson	Tolerance	VIF
Compassion Satisfaction	Overall Model	2.055		
	PWS		.901	1.110
	Control		.803	1.246
	Commitment		.778	1.286
Burnout	Overall Model	2.107		
	PWS		.901	1.110
	Control		.803	1.246
	Commitment		.778	1.286
Secondary Traumatic Stress	Overall Model	2.383		
	PWS		.945	1.058
	Control		.945	1.058

Note. PWS = Perceived Work Stress, *$p < .05$, **$p \leq .01$, ***$p \leq .001$

Data Screening

Data were downloaded from Qualtrics software into PASW Statistics (v. 18) for analysis. Reverse-scored items were transformed and full-scale variable scores were calculated. Prior to conducting any analyses to answer the research question, descriptive statistics were calculated for each variable, including means, standard deviations, alpha reliability coefficients, minimums, and maximums (see Table 3). The values presented in Table 3 are representative of raw scores from each instrument. Frequencies for each variable were also calculated in order to screen for missing data. Cronbach alpha scores

indicate strong reliability for each outcome variable. Each predictor variable has a score above .70 except for Control, which has a relatively low reliability score of .58.

Table 3

Means, Standard Deviations, Cronbach Alpha Coefficient Scores, Minimums, and Maximums for Each Predictor and Outcome Variable

	Mean	Standard Deviation	Cronbach Alpha	Minimum	Maximum
Perceived Work Stress	22.91	4.19	.71	11.00	32.00
Control	10.93	1.89	.58	6.00	15.00
Commitment	10.84	2.18	.75	3.00	15.00
Challenge	9.22	2.54	.72	1.00	15.00
Compassion Satisfaction	40.09	5.53	.90	22.00	50.00
Burnout	22.14	5.29	.80	14.00	38.00
Secondary Traumatic Stress	19.19	4.63	.78	11.00	33.00

Of the 101 participants who completed the survey, 24 cases contained missing data, which left 77 cases of complete data. Of those cases with missing data, 22 were missing data for only one item each, one was missing data for two items, and one was missing data for three items. In the latter two cases, none of the missing items were from the same scale within each case. Because missing data represented a small proportion of overall data to be used in analyses (0.51%) and increased the relatively small sample size (n=77) by 31.03%, thereby increasing statistical power, it was determined appropriate to use mean-value imputation to impute data for the 27 missing pieces of data (Parent, 2013).

Mean-value imputation involves substituting the mean score among all other cases of an item for each instance of missing data (Parent, 2013). This method was chosen for several important reasons. First, the missing data represented a very small proportion of the survey data collected. Second, the missing data were item-level rather than scale- or subscale-level (i.e., missing data points corresponded to individual scale items rather than a full-scale score), so the mean value for each item would impose minimal bias on the distribution of the full-scale scores used in the main analyses. Third, this is an exploratory study, so imputation methods that rely on past research (e.g., cold-deck imputation) could potentially bias results to appear consistent with previous findings, which would undermine the primary rationale for the research design (Schlomer, Bauman, & Card, 2010, p. 4). Fourth, imputation methods that rely on trends and relationships among cases without missing data (e.g., hot-deck imputation, regression-based imputation methods) would be subject to the same limitations of sample size as the overall analyses and could further distort results (Schlomer et al., 2010, p.4). Parent (2013) found that in cases with low levels of missing data, simpler methods of imputation such as mean-value imputation produced similar results as more advanced methods typically used in large samples with high levels of missing data.

In order to ensure that data imputation had not significantly biased the full-scale variable scores for the 24 cases with missing data, an independent-samples t-test was conducted to compare the original 77 cases of complete data with the 24 cases with imputed data on all predictor and outcome variables. The results of that t-test can be found in Table 4. With p-values all greater than .05, it was found that there were no significant differences between the two groups on any variable. These results indicate

that the cases with imputed data were not significantly biased by data imputation. It was determined to proceed with analyses utilizing both original and imputed cases (n = 101).

Table 4

Summary of Independent Samples t*-Test Comparing Cases with Complete Data and Cases with Imputed Data*

	Cases with Complete Data		Cases With Imputed Data			
	Mean	SD	Mean	SD	*t*	*p*
Perceived Work Stress	22.09	4.21	22.93	4.14	-.86	.39
Control	10.99	1.89	10.76	1.92	.51	.61
Commitment	11.00	2.08	10.33	2.43	1.32	.19
Challenge	9.49	2.50	8.36	2.53	1.94	.06
Compassion Satisfaction	40.51	5.48	38.76	5.59	1.35	.18
Burnout	21.77	5.26	23.34	5.31	-1.27	.21
Secondary Traumatic Stress	18.84	4.55	20.29	4.83	-1.34	.19

Note. SD = Standard Deviation, *$p < .05$, **$p < .01$

Data were also screened for potential outliers. Boxplots identified 10 cases as having potential outliers on at least one variable (see Figure 3). Tukey's revised outlier labeling rule (Hoaglin, Iglewicz, & Tukey, 1986) was used to determine cutoffs for the normal distribution for each variable. The cutoffs revealed that four of the original ten cases contained outliers, all within the variable of Commitment. Following the main analyses, these four cases were removed and analyses were rerun to test whether the outlying cases had exerted undue influence on results. The deletions of those four cases

did not alter the results of the analyses, so results reported henceforth are those which include the four cases initially identified as outliers.

In order to ensure that the regression models to be used to answer the research question retained as much statistical power as possible, Pearson correlations (see Table 1) were calculated to examine linear correlations between the predictors of Perceived Work Stress (PWS), Control, Commitment, and Challenge and the outcome variables of Compassion Satisfaction, Burnout, and Secondary Traumatic Stress (STS) to assess the minimum number of predictor variables in the model for each of the outcome variables. With the exception of Challenge, all predictor variables showed significant linear correlations with each of the outcome variables.

Because the variable of Challenge showed no linear relationship with any outcome variables, its inclusion in the main analyses could reduce statistical power without contributing to the regression model. Before excluding Challenge as a predictor in further analyses, nine forced-entry linear regressions were calculated to predict each of the three outcome variables from Challenge and each of the other predictors in order to confirm that it did not explain significant variance in any of the outcome variables after controlling for each of the other predictors. Challenge showed no significant contribution to any of those nine regression models. Three additional two-step hierarchical regressions were conducted with Compassion Satisfaction, Burnout, and STS as the dependent variables, respectively. In each of these regressions, PWS, Control, and Commitment were entered in the first step. Challenge was entered in the second step in order to assess whether adding Challenge would predict a significant amount of the variation in any of the outcome variables after controlling for the other predictors.

Challenge did not predict a significant amount of variation in any of the outcome variables, so it was excluded as a predictor from further analyses. In the third of the hierarchical regressions, it was noted that Commitment also did not predict a significant amount of the variation in STS after controlling for PWS and Control in either the first step, $F(3,97) = 16.89$, $p>.05$, or the second step $F(4,96) = 12.68$, $p > .05$. As a result, Commitment was excluded from analyses predicting STS using PWS and Control.

Main Analyses

Main research question. The primary aim of this study was to determine whether Hardiness and Perceived Work Stress predict Compassion Satisfaction, Burnout, and Secondary Traumatic Stress among ES clinicians. Following the recommendations of Carver (1989) and Funk (1992), Hardiness was treated as a latent variable, so the three subscales of Control, Commitment, and Challenge were used in data analyses rather than full-scale Hardiness scores. Following the results of preliminary analyses, Challenge was excluded as a predictor for all outcome variables and Commitment was excluded as a predictor for STS. To answer the research question, three multiple linear regressions were conducted.

The first multiple linear regression was conducted to predict Compassion Satisfaction from PWS, Control, and Commitment (see Table 5). All three independent variables were significant predictors of Compassion Satisfaction ($F(3,97) = 47.665$, $p < .000$) with an R^2 of .596. Each participant's predicted Compassion Satisfaction score is equal to 24.742 - .277 (PWS) + 1.518 (Commitment) + .463 (Control) where each variable is coded using raw scores from the respective measures. These results are presented in the uppermost field of Table 5. The adjusted R^2 value indicates that

Perceived Work Stress, Control, and Commitment accounted for 58.3% of the variance in Compassion Satisfaction. Of the three predictors, Commitment accounted for the most unique variance in Compassion Satisfaction with a partial correlation of .638.

Table 5

Summary of Forced-Entry Multiple Regressions for Variables Predicting Compassion Satisfaction, Burnout, and Secondary Traumatic Stress

Outcome Variable	Predictors	*B*	*SE B*	*t*	*β*	*p*	*F*	*df*	Adj.R^2
Compassion Satisfaction	Overall Model					.000***	47.665	3, 97	.583
	PWS	-.277	.090	-3.083	-.210	.003**			
	Control	.463	.211	2.196	.158	.030*			
	Commitment	1.518	.186	8.167	.598	.000***			
Burnout	Overall Model					.000***	63.376	3, 97	.652
	PWS	.575	.079	7.329	.456	.000***			
	Control	-.441	.184	-6.880	-.157	.019*			
	Commitment	-1.118	.163	-2.390	-.460	.000***			
Secondary Traumatic Stress	Overall Model					.000***	23.684	2, 98	.312
	PWS	23.684	.094	4.838	.413	.000***			
	Control	-.758	.209	-3.623	-.309	.000***			

Note. PWS = Perceived Work Stress, *$p < .05$, **$p \leq .01$, ***$p \leq .001$

The second multiple linear regression was calculated to predict Burnout from PWS, Control, and Commitment (see Table 5). All three independent variables were significant predictors of Burnout ($F(3,97) = 63.376$, $p < .000$) with an R^2 of .662. Each participant's predicted Burnout score is equal to 26.257 + .575 (PWS) - .441 (Control) – 1.118 (Commitment) where each variable is coded using raw scores from the respective measures. These results are presented in the middle field of Table 5. The adjusted R^2 value indicates that Perceived Work Stress, Control, and Commitment accounted for 65.2% of the variance in Burnout. Of the three predictors, Perceived Work Stress accounted for the most unique variance in Burnout with a partial correlation of .597.

The third multiple linear regression was calculated to predict STS from PWS and Control (see Table 5). Both independent variables were significant predictors of STS ($F(2,98) = 23.684$, $p < .000$) with an R^2 of .326. Each participant's predicted STS score is equal to 17.3 + .457 (PWS) - .758 (Control) where each variable is coded using raw scores from the respective measures. These results are presented in the bottom field of Table 5. The adjusted R^2 value indicates that Perceived Work Stress and Control accounted for 31.2% of the variance in Secondary Traumatic Stress. Of the two predictors, Perceived Work Stress accounted for more unique variance in Burnout than Control, with a partial correlation of .439.

Research sub-question. The secondary aim of this study was to determine if any interactions among predictors better explained any relationships identified in the analyses conducted to answer the main research question. To test for interactions, PWS, Control, and Commitment were all centered at zero by subtracting each of their respective means from each score. The resulting centered variables (C_PWS, C_Control,

and C_Commitment) are more robust to multicollinearity when assessing for interactions using multiple regression (Field, 2013). Interaction terms were then created by multiplying centered scores for one predictor by centered scores of another, resulting in three interaction variables: C_PWS_Control, C_PWS_Commitment, and C_Control_Commitment. Interactions were then tested using seven multiple linear regressions. Each model included three predictors: two of the original centered predictors and their respective interaction term (e.g., C_PWS, C_Control, and C_PWS_Control). Interactions could then be assessed by examining whether the interaction term explained a significant amount of the variance in the outcome variable in addition to the two original predictors.

The first three multiple linear regressions were conducted to assess for interactions among PWS, Control, and Commitment when predicting Compassion Satisfaction (see Table 6). No significant interactions were detected for PWS and Control ($p = .332$), PWS and Commitment ($p = .424$), or Commitment and Control ($p = .310$) in predicting Compassion Satisfaction.

Table 6

Summary of Multiple Regressions Testing for Interaction Effects Among Centered Predictor Variables When Predicting Compassion Satisfaction

Interaction Tested	Predictors	*B*	*SE B*	*β*	*t*	*p*
PWS and Control	PWS	-.431	.113	-.327	-3.801	.000***
	Control	1.066	.260	.364	4.100	.000***
	PWS_Control	.061	.063	.085	.975	.332
PWS and Commitment	PWS	-.299	.091	-.227	-3.292	.001**
	Commitment	1.667	.175	.657	9.512	.000***
	PWS_Commitment	.036	.044	.053	.803	.424
Commitment and Control	Commitment	1.615	.191	.636	8.457	.000***
	Control	.490	.225	.167	2.179	.032*
	Commitment_Control	-.074	.073	-.073	-1.020	.310

Note. Predictor variables centered at 0, PWS = Perceived Work Stress, *$p < .05$, **$p \leq .01$, ***$p \leq .001$

The second three multiple linear regressions were calculated to assess for interactions among PWS, Control, and Commitment when predicting Burnout (see Table 7). No significant interactions were detected for PWS and Control (p = .565), PWS and Commitment (p = .068), or Commitment and Control (p = .668) in predicting Burnout.

Table 7

Summary of Multiple Regressions Testing for Interaction Effects Among Centered Predictor Variables When Predicting Burnout

Interaction Tested	Predictors	*B*	*SE B*	*β*	*t*	*p*
PWS and Control	PWS	.690	.093	.547	7.388	.000***
	Control	-.901	.214	-.322	-4.207	.000***
	PWS_Control	-.030	.052	-.043	-.578	.565
PWS and Commitment	PWS	.595	.079	.471	7.545	.000***
	Commitment	-1.251	.152	-.515	-8.241	.000***
	PWS_Commitment	-.071	.038	-.111	-1.846	.068
Commitment and Control	Commitment	-1.364	.200	-.562	-6.837	.000***
	Control	-.588	.235	-.210	-2.503	.014*
	Commitment_Control	.033	.076	.034	.431	.668

Note. Predictor variables centered at 0, PWS = Perceived Work Stress, *$p < .05$, **$p \leq .01$, ***$p \leq .001$

The final multiple linear regression was calculated to assess for interactions between PWS and Control when predicting STS (see Table 8). PWS and Control did not have a significant interaction effect in predicting STS (p = .467).

Table 8

Summary of Multiple Regression Testing for Interaction Effects Among Centered Predictor Variables When Predicting Secondary Traumatic Stress

Interaction Tested	Predictors	*B*	*SE B*	*β*	*t*	*p*
PWS and Control	PWS	.454	.095	.410	4.794	.000***
	Control	-.717	.217	-.293	-3.307	.001**
	PWS_Control	-.038	.052	-.063	-.730	.467

Note. Predictor variables centered at 0, PWS = Perceived Work Stress, *$p < .05$, **$p \leq .01$, ***$p \leq .001$

Summary of Chapter

This chapter reviewed the results of the present study. Tests of assumptions, data screening procedures, and a data imputation method were presented. Three multiple linear regression models were used to answer the main research question. The models for Compassion Satisfaction and Burnout included the predictors of Perceived Work Stress, Control, and Commitment as significant predictors. The regression model for Secondary Traumatic Stress included the predictors of Perceived Work Stress and Control as significant predictors. Interaction terms were created from each pair of significant predictors and were included in seven multiple regressions testing for interaction effects among predictors. Chapter 5 includes a discussion of the findings presented in this chapter, including their relationships with past research, the implications of the findings for clinical and academic settings, direction for future research in this area, and the limitations of this study.

Chapter 5: Discussion

Introduction

The primary purpose of the present study was to investigate whether Hardiness and Perceived Work Stress could predict Compassion Satisfaction, Burnout, and Secondary Traumatic Stress among Emergency Services and Assessment (ES) Clinicians in the Commonwealth of Virginia. The secondary aim of this study was to investigate whether any interactions better explained the relationships between predictor and outcome variables. Overall, findings indicate that Perceived Work Stress and Hardiness are significant predictors of Compassion Satisfaction, Burnout, and Secondary Traumatic Stress for this population, but not all components of Hardiness made significant contributions to the regression model for each outcome variable. No interaction effects were detected among the predictor variables when predicting each outcome. Implications for clinical and academic application of the findings are discussed. Directions for future research in this area are presented, as are the limitations of the present study.

Predicting Compassion Satisfaction

Compassion Satisfaction represents the degree to which one's work as a caregiver or helping professional engenders feelings of personal fulfillment, pleasure, accomplishment, and meaning (Stamm, 2002; 2010). Perceived Work Stress, Control, and Commitment were significant predictors of Compassion Satisfaction, which is consistent with past research on these variables among student affairs administrators (Berwick, 1992), manufacturing and health insurance employees (Manning, Williams, & Wolfe, 1988), community-based mental health staff (Rossi et al., 2012), and state government employees (Rush, Schoel, & Barnard, 1995). Perceived Work Stress was

inversely related to Compassion Satisfaction, which supplements findings from Rossi et al. (2012) who found that stressful negative life events were negatively correlated with Compassion Satisfaction. This relationship is inconsistent with theoretical conclusions from Newell and MacNeil (2011), where differences in the types and degrees of stress to which clinical and administrative staff at a VA hospital are exposed did not result in differences in Compassion Satisfaction. The present findings may indicate that ES clinicians who work in lower-stress environments are better able to derive satisfaction from their work because they are less encumbered by stress. It is also possible that other variables, including personality traits other than Hardiness, could influence how ES clinicians perceive stress and therefore make certain ES clinicians more resistant to stress than others, which would mirror findings in other populations and work settings (Falco, Girardi, Marcuzzo, De Carlo, & Bartolucci, 2013). Some ES clinicians may also be inherently more satisfied with ES work, which in turn leads them to perceive the work as less stressful.

The predictor variable Control was found to have a positive relationship with Compassion Satisfaction. This finding is consistent with Rush, Schoel, and Barnard (1995) and Manning, Williams, and Wolfe (1988) who found that overall Hardiness has a positive relationship with the similar variable of Job Satisfaction among upper-level government employees and health insurance and manufacturing employees, respectively. The present findings may indicate that a belief in one's ability to influence the outcomes of emergency encounters provides the opportunity to find satisfaction in ES work. If ES clinicians believe that good outcomes resulted from their actions, they can take some "ownership" over the end result and derive satisfaction from their accomplishment. As

with Perceived Work Stress, it is also possible that people who find ES work more satisfying actually do exert more control over the outcomes of their client encounters, which serves as evidence of their own influence.

The predictor variable Commitment was also positively related to Compassion Satisfaction. As another component of Hardiness, this finding also supplements the findings of Rush et.al (1995) and Manning et al. (1988). Commitment represents the presence of feelings of deep involvement and sincere interest in a task and the determination to persist with it until its conclusion (Bartone, 2006; Kobasa, 1979). Client encounters in ES are decidedly "conclusive" events in that there is a short-term period of intervention and assessment followed by a disposition (e.g., involuntary commitment, referral to outpatient treatment, voluntary admission to a residential treatment program, etc.) that concludes the encounter. The stakes are high in cases of homicidal, suicidal, or psychotic clients, so the investment necessary for ES clinicians to ensure an appropriate disposition is proportionately high. An ES clinician who cannot commit for the duration of a few hours may lack the overall job satisfaction to view their mental and emotional investment in a client as sufficiently rewarding. It is also likely that such a clinician would be less effective doing ES work and therefore would have fewer accomplishments with which to feel satisfied.

From these findings, it may be inferred that ES clinicians who maintain the belief that their actions influence outcomes of client encounters, who are willing to engage clinical problems directly and persist until those problems are resolved, and who tend not to perceive their work as stressful are the most likely to be satisfied with serving in the helping role in which they work. Because causal models were not tested, it is not clear

whether these qualities actually cause greater Compassion Satisfaction, whether Compassion Satisfaction causes those qualities, or whether they arise mutually through some more complex set of relationships. This uncertainty informs directions for future research on predicting Compassion Satisfaction in this population.

Predicting Burnout

Burnout is a cumulative and progressive condition exemplified by emotional exhaustion, reduced feelings of personal accomplishment and a lack of existential meaning in relation to one's work resulting from prolonged exposure to work-related stressors (Maslach, Jackson, & Leiter, 1996; Maslach, Schaufeli, & Leiter, 2001). Perceived Work Stress, Control, and Commitment were significant predictors of Burnout, which is consistent with past research (Alarcon, Eschleman, & Bowling, 2009; McCranie, Lambert, & Lambert, 1987; Rossi et al., 2012). These three predictors each had the opposite relationship with Burnout that they had with Compassion Satisfaction. This finding suggests that Burnout and Compassion Satisfaction represent opposite ends of a continuum of Professional Quality of Life, though existing theory acknowledges the possibility that they are not mutually exclusive (Stamm, 2002).

Perceived Work Stress was found to have a positive relationship with Burnout, which mirrors the consistent-though-moderate relationship between stress and illness (the illness in this case being the condition of professional Burnout) noted by Mechanic and Volkart (1961). This finding is also consistent with existing theory on Burnout (Figley, 1995), which identifies prolonged exposure to stress as a key etiological factor and defining feature of Burnout. Perceived Work Stress is therefore a likely contributor to the development of Burnout, but may also result from its onset in a snowball-like cascade

that is characteristic of the cumulative and progressive nature of Burnout. If ES clinicians are highly stressed, they may begin to experience exhaustion and a loss of meaning and sense of accomplishment, which then might intensify perceptions of work as stressful.

The predictor variable Control was found to have an inverse relationship with Burnout. This finding is also consistent with existing theory on the components of both Hardiness (Bartone, 2008; Kobasa, 1979) and Burnout (Freudenberger, 1974; Maslach & Jackson, 1981), as Control (a sense that your actions have meaningful influence) and the lack of sense of accomplishment and meaning inherent to Burnout are nearly perfect opposites. Logically, it is impossible to believe in the meaningful influence of your actions while also believing that your actions do not accomplish anything meaningful. If ES clinicians accept little or no ownership over the consequences of their actions, they may be less likely to recognize those consequences, which could contribute to a loss of meaning and sense of accomplishment. As may also be the case with Perceived Work Stress, Control may play a "snowballing" role in the development of Burnout, where each factor intensifies the other in sequence until Burnout becomes professionally debilitating.

The predictor variable Commitment was also found to have an inverse relationship with Burnout, which is consistent with past research on female staff nurses (Rich & Rich, 1987) and hospital staff nurses in general (McCranie et. Al, 1987). Commitment sits in theoretical opposition to the elements of exhaustion and loss of existential meaning found in Burnout (Maslach, Jackson, & Leiter, 1996). Low Commitment scores may be the result of ES clinicians being less likely to invest themselves in their work due to the loss of accomplishment or meaning that comes with

Burnout. Also, given that Commitment is a significant predictor of Compassion Satisfaction and Compassion Satisfaction is negatively correlated with Burnout, it is possible that Compassion Satisfaction is a mediating variable, where low Commitment contributes to low Compassion Satisfaction, which then increases the likelihood of Burnout.

The nature of Burnout as a cumulative and progressive condition supports the theorized etiological roles of high stress and low Control and Commitment in the development of Burnout despite having tested no causal models. Because of their respective relationships with Burnout, it is likely that all three predictors exert an ongoing influence on the development of Burnout over time. It is also possible that the development of Burnout intensifies the experience of all three predictor variables. This hypothesis could be tested through future longitudinal research.

Predicting Secondary Traumatic Stress

Secondary Traumatic Stress, which refers to the appearance of symptoms such as avoidance, hyperarousal, and hypervigilance following exposure to secondary trauma, differs from the previous two outcome variables in one significant way (Figley, 1995; Stamm, 2010). Where Compassion Satisfaction and Burnout describe qualities or conditions that result from the typical, day-to-day experience of working in a helping role, Secondary Traumatic Stress requires an additional etiological event in order to occur—namely, at least one instance of being exposed to the traumatic memories and traumatic stress-related symptoms of others (Figley, 2002a). Past research on Secondary Traumatic Stress has focused on populations that, by the very nature of their work, have necessarily been exposed to secondary trauma, such as social workers responding to

victims of the September 11, 2001 terrorist attacks on the World Trade Center (Adams, Figley, & Boscarino, 2008; Boscarino, Figley, & Adams, 2004), mental health professionals providing services in New Orleans in the aftermath of Hurrican Katrina (Culver, McKinney, & Paradise, 2011), and sexual assault trauma counselors (Ghahramanlou & Brodbeck, 2000). ES clinicians, however, are not necessarily exposed to the secondary trauma of their clients in the course of an emergency. Their primary responsibility is to resolve the crisis rather than to process trauma. As a result, Secondary Traumatic Stress is harder to predict from the variables tested without also having assessed for exposure to secondary trauma. Therefore, the present findings do not necessarily contradict past research even though Commitment was found not to contribute significantly to the regression model after controlling for Perceived Work Stress and Control.

Perceived Work Stress was found to have a positive relationship with Secondary Traumatic Stress where Control was found to have a negative relationship. These findings are consistent with theory on Secondary Trauma Stress Disorder (Figley, 1995), as exposure to trauma may result in a stress reaction and loss of a sense of control. It is also possible that high-stress participants who scored low on Control could be more sensitive to threats and therefore more susceptible to traumatization. Though these factors may play a role in determining an individual's sensitivity to the effects of exposure to trauma, they are unlikely to contribute at all to the likelihood that exposure to secondary trauma will actually occur. As a result, the predictive relationship may serve more of a diagnostic role than a prevention role.

Interactions

The analysis did not detect any interaction effects among predictors that better explained the relationships among variables. With respect to the components of Hardiness, this finding is consistent with past research that failed to find a hypothesized moderating effect of Hardiness between stress and various behavioral and psychological outcome measures (Blaney & Ganellen, 1990; Carver, 1989; Funk & Houston, 1987; Hull, Van Trueren, & Virnelli, 1987; Manning et al., 1988; Rowe, 1997; Rowe, 1998). It is inconsistent with those studied that did find such an interaction (Abdollahi, Abu Talib, Yaacob, & Ismail, 2014; Contrada, 1989; Kobasa, 1979; Kobasa et al., 1982; Lo Bue, Taverniers, Mylle, & Euwema, 2013; McCalister et al., 2006; Roth et al., 1989; Williams & Lawler, 2003). It is likely that differences in the way that Hardiness has been measured and included in analyses in the past has contributed to these mixed findings. Additionally, the outcome measures used in past studies likely account for some of the differences. For example, the majority of those studies that found a moderating effect for Hardiness used psychological and behavioral outcome measures such as distress, job satisfaction, and happiness. Those that did not find a moderating effect tended to use physiological outcome measures such as heart rate, cardiovascular health, or more general measures of biomedical health. Given this tendency, one would expect to have detected interaction effects in the present study due to the use of psychological outcome measures. Therefore, the absence of any detectable interactions in this study represents a departure from past research.

With respect to Perceived Work Stress, it is possible that no interactions were detected because only subjective stress was measured. Objective measures of stress, such

as surveys of stressful life events or data from physical indicators of stress (e.g., heart rate) may have shown a different relationship between stress and Hardiness in which interactions could be detected.

Exclusion of Challenge

The Hardiness subscale of Challenge was not highly correlated with any of the other variables and was found not to significantly predict any of the outcome variables. This finding reflects past reviews of Hardiness research, which noted that Challenge was often not significantly correlated with health outcomes even when Control and Commitment were (Carver, 1989; Funk, 1992). Carver (1989) noted that Challenge typically does not correlate highly with Control and Commitment. In the present study, the lack of predictive power demonstrated by Challenge is consistent with Carver's suggestion that Hardiness is not a synergistic variable, but is instead a latent variable in which subscales represent surface manifestations of an underlying construct that is difficult or impossible to measure directly. Therefore, an individual would not need to score highly on all three subscales in order to be considered hardy, but simply being "hardy" in this way would not be as meaningfully predictive of health outcomes as would individual scale scores for Commitment and Control.

Challenge refers to an individual's tendency to respond to problems as opportunities for learning and growth (Bartone, 2008; Kobasa, 1979). As a quality or style of functioning, Challenge differs from Control and Commitment in one important way. Control and Commitment both refer to some aspect of how an individual acts upon a problem. High-Control individuals act upon a problem in the belief that they can influence its outcome. High-Commitment individuals act upon a problem with deep

involvement, self-discipline, and persistence. Challenge, on the other hand, refers to how a problem acts upon the individual. High-Challenge individuals are open to what a problem can teach them and therefore allow the problem to act upon them in some way. This difference may, in part, explain why Challenge tends not to predict the same health outcomes as Control or Commitment (Carver, 1989; Funk, 1992). .

A series of linear regressions predicting Challenge from each demographic variable revealed that a participant's age in years was a significant predictor of Challenge ($F(1,43) = 9.816$, $p < .01$). No other demographic variables significantly predicted Challenge, and age in years was not a significant predictor of any other variable, including the other two components of Hardiness. The regression model demonstrated a positive relationship between age and Challenge in the present sample, where higher age predicted higher Challenge. It is therefore possible that, within this population, Challenge as a surface manifestation of Hardiness develops more fully with age. Older ES clinicians may be more secure in their personal identity or their interpersonal skills and may be less threatened by opportunities to learn than are their younger counterparts. It is noteworthy that a participant's amount of experience working in ES did not significantly predict Challenge, indicating that it is life experience rather than professional experience that has an impact on Challenge. Craig and Sprang (2010) found that age predicted low Burnout and high Compassion Satisfaction among trauma therapists. The absence of predictive relationship between either age or Challenge and these outcome variables among ES clinicians suggests that age may play a unique role in shaping Hardiness in this population versus other mental health specialties. For example,

it is possible that older, high-Challenge individuals seek out ES work later in life in pursuit of greater opportunities to learn from challenging work.

Practical Implications

The results of the present study hold important implications for both clinical work in ES and training and education in mental health professions. In the clinical setting, it may be of value to assess candidates for hiring or promotion on the components of Hardiness, either through the use of survey instruments or through questions and case vignettes in the context of an interview. There are countless variables to assess in order to determine an applicant's fitness for ES work, but the results of the present study indicate that Hardiness in particular deserves careful consideration. Community Services Boards (CSBs) invest time and energy into the supervision and training of ES clinicians. If those individuals have greater Control and Commitment, they may be less likely to burn out and more likely to derive satisfaction from ES work, which could prevent turnover and better ensure a high proportion of experienced clinicians coming into contact with clients. For those ES clinicians who are already working, implementation of stress management practices or training may reduce the likelihood of Burnout and promote Compassion Satisfaction. Udo, Danielson, Henoch, and Melin-Johansson (2013) found that educational intervention was successful at significantly reducing the work-related stress of nurses working with severely or terminally ill patients. Educational interventions aimed specifically at the concerns of ES clinicians may also be successful at reducing stress related to the severe presentations of clients in emergency work.

Instituting policies designed to enhance Hardiness among ES clinicians may have a similar effect. For example, if some information feedback mechanism allowed ES clinicians to track the long-term treatment progress of a client they served during a crisis, they may develop a greater sense of Control by witnessing the ongoing impact of their initial intervention. Bartone (2006) suggested that hardy leaders can enhance the Hardiness and group cohesion of their subordinates, so incorporating opportunities to model Hardiness and healthy stress management practices into supervision could further enhance these positive effects on ES clinicians.

In the academic setting, changes or additions to existing coursework may help to enhance the likelihood of deriving satisfaction from ES work and decrease the likelihood of Burnout. Including instruction on Hardiness and its impact on Burnout in courses on crisis intervention or stabilization would familiarize students with those concepts and potentially better prepare them to cope with the stress inherent to work in a helping profession. In other coursework, introducing the concept of Compassion Satisfaction early and emphasizing it as an important component of professional identity development could encourage students to explore and better understand their reasons for entering a helping profession. Bartone's (2006) suggestions about leadership are also applicable to the academic setting. Instructors, advisors, and practicum and internship supervisors who model Hardiness for students may promote its development in students' professional identities.

It is noteworthy that the one positive outcome variable, Compassion Satisfaction, was best predicted by Commitment, while both negative outcome variables, Burnout and Secondary Traumatic Stress, were best predicted by Perceived Work Stress. These

results indicate that an ES clinician's disposition or style of functioning is more significant in promoting positive outcomes than in preventing negative ones. On the other hand, stress does more to contribute to negative outcomes than it does to detract from positive ones. Therefore, for an ES clinician, Compassion Satisfaction is most affected by what you take with you when you walk into a crisis. Burnout and Secondary Traumatic Stress are most affected by how well you are able to leave the crisis behind once it is over. In order to foster a healthy Professional Quality of Life overall, the clinical and academic settings must provide instruction and guidance for how an ES clinician approaches problems as well as how that clinician departs from them.

Future Directions for Research

The results of the present study hold implications for the future of research in multiple domains. Since Challenge was not predictive of the same outcomes as Control and Commitment, Hardiness researchers should seriously consider the recommendations of Carver (1989) and Funk (1992) to treat subscales of Hardiness as separate variables when predicting health outcomes. In order to determine how to promote Hardiness in stressful work conditions, Bartone's (2006) hypothesis about the influence of leadership over the development of Hardiness should be tested empirically. A longitudinal study of supervisors' Hardiness as a predictor of Hardiness among subordinates could reveal the extent to which his suggestion is correct and may provide more understanding of how Hardiness develops as a disposition or style of functioning. Professional Quality of Life researchers should note that a history of exposure to trauma should accompany measurement of Secondary Traumatic Stress when studying populations where contact with primary or secondary trauma is not inevitable or undeniable.

The present findings suggest direction for future efforts to study ES clinicians and other similar mental health professionals who provide mobile or short-term crisis intervention services. Perceived Work Stress, Control, and Commitment predict Compassion Satisfaction, Burnout, and Secondary Traumatic Stress in the present, but it is unclear if the predictor variables predict the likelihood of developing the outcome variables in the future. Longitudinal research that assesses for Perceived Work Stress and Hardiness at the time of hire and measures changes in the outcome variables over time could clarify what etiological role, if any, the predictor variables play in developing satisfaction or fatigue with ES work. Findings could aid in determining which ES clinicians are, for example, likely to burn out in the first 6 months of employment. Other longitudinal research could assess whether stress management training influences Professional Quality of Life outcomes among ES clinicians. It would also be instructive to study what aspects of ES work contribute to clinicians' stress. Kath, Stichler, Ehrhart, and Sievers (2013) found that factors such as institutional pressures, organizational constraints, case overload, and conflict between or within professional roles held implications for nurse managers' level of stress. If a CSB were taking measures to address ES clinicians' work stress, each of the main contributing factors might need to be addressed separately. It would be useful to identify the greatest risk factors for ES clinicians' work stress in order to address the problem efficiently.

Research investigating how to actively promote Hardiness among ES clinicians could assist in preventing Burnout and promoting Compassion Satisfaction. Such research could consist of the development and implementation of Hardiness training workshops coupled with pre- and post-measures assessing health and work stress

outcomes. Finally, future research could seek to generalize the present findings to other similar professionals in Virginia such as mobile crisis counselors, emergency case managers, or crisis stabilization clinicians, and to professionals who perform prescreening assessments in other states.

Finally, it is likely that other variables also have an impact on ES clinicians' Professional Quality of Life. The variables of Perceived Work Stress, Control, and Commitment predicted 58.3% of the variance in Compassion Satisfaction, which means that other variables may account for the remaining 41.7% of the variance. A remainder of 34.8% of the variance in Burnout and 68.8% of the variance in Secondary Traumatic Stress cannot be explained by the predictor variables in this study. Past research provides some guidance in studying what other variables could predict these outcomes among ES clinicians. Jenkins and Elliott (2004), King, King, Fairbank, Keane, and Adams (1998), McCalister et al. (2006), Pengilly and Dowd (2000), and Pines and Maslach (1978), all found that social support moderates the effects of stress, indicating that social support may play a role in moderating the effects of Perceived Work Stress among ES clinicians. The variable of work engagement bears similarities to both Hardiness and Compassion Satisfaction and may capture important information about ES clinicians not measured in this study (Lo Bue et al., 2013). Personality variables such as extraversion or negative affectivity that predict perceptions of stress and correlate significantly with Control and Commitment could also be useful to include in future studies (Hasel et al., 2013). Qualitative research on how ES clinicians perceive their own strengths in the face of work-related stress could illuminate other important variables to measure when predicting Professional Quality of Life.

Limitations

There are several important limitations to this study that must be noted. First, the sample size (n = 101) may have resulted in insufficient power to detect interaction effects among predictors. Second, the generalizability of findings is limited to ES clinicians in Virginia due to significant differences in state codes regarding involuntary commitment procedures and training and certification requirements for individuals performing prescreening assessments. Third, since no causal models were tested in this exploratory study, directionality of any effects that the variables may have on one another cannot be conclusively determined.

Finally, the reliability coefficient for Control was relatively low (Cronbach's Alpha = .582). If the eighth item on the DRS-15 were removed, the reliability coefficient would rise to .692 and the mean scale score for Control would drop from 10.9337 to 8.2574, a greater change than if any other item were removed. The mean score for item eight was relatively high (2.6762 on a Likert scale of 0 to 3), indicating general agreement with the statement "I don't think there is much I can do to influence my own future." It is possible that a significant number of participants misinterpreted this item due to order effects. The items from the DRS-15 were presented last in the survey following the Perceived Work Stress Scale and the Professional Quality of Life Scale, both of which explicitly ask questions pertaining to the work environment and work life. After responding to 37 items regarding work, it is possible that some participants continued to assume that the 15 items on the DRS-15 also pertained to work. Some participants may have responded "Quite True" or "Completely True" to item eight because they cannot greatly influence what will happen to them *at work* due to the

unpredictable and response-oriented nature of emergency services. Given that Control was a significant predictor of all three outcome variables, consideration of this possibility is necessary when interpreting findings.

Summary of Chapter

The present study investigated whether Perceived Work Stress, Control, Commitment, and Challenge could predict Compassion Satisfaction, Burnout, and Secondary Traumatic Stress among Emergency Services and Assessment (ES) Clinicians in the Commonwealth of Virginia. Three significant regression models were developed to predict the outcome variables, but no significant interaction effects were detected. The findings of this study indicate that managing stress and promoting a hardy, resilient disposition among ES clinicians could improve their Professional Quality of Life, which could enhance the quality of emergency mental health services in Virginia. The results also imply that better and more deliberate instruction on the costs and rewards of caring in the graduate programs of professions that qualify for ES certification in Virginia may better prepare novice clinicians to cope with the reality of emergency mental health work. The findings and the limitations of this study give direction to future research on the management of stress, the role of Hardiness in emergency mental health, Professional Quality of Life, and emergency mental health in general.

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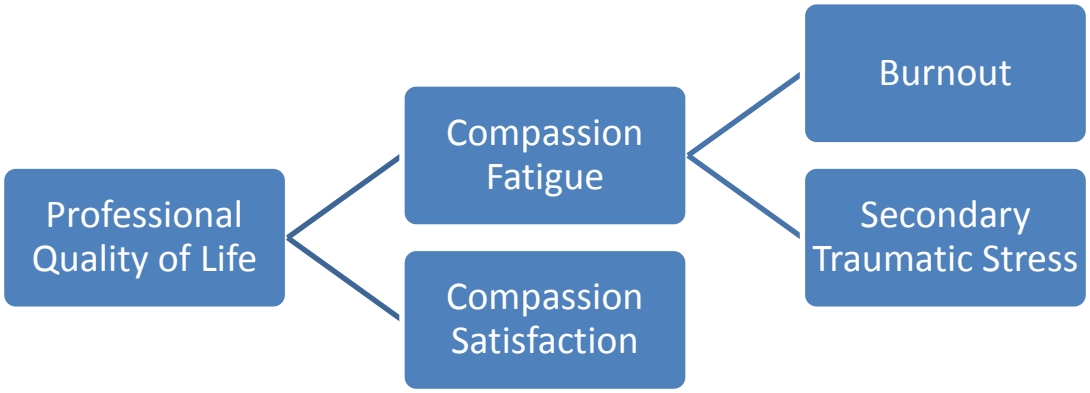

Figure 1. Professional Quality of Life as Conceptualized by Stamm (2010) and as Measured by the Professional Quality of Life Scale 5 (ProQOL 5, Stamm, 2010).

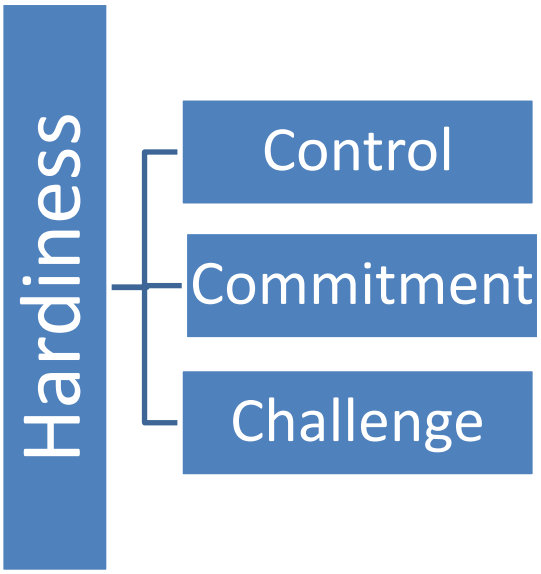

Figure 2. The disposition of Hardiness as Conceptualized by Kobasa (1979) and as Measured by the Dispositional Resilience Scale-15 Revised (DRS-15-v3; Bartone, 2013).

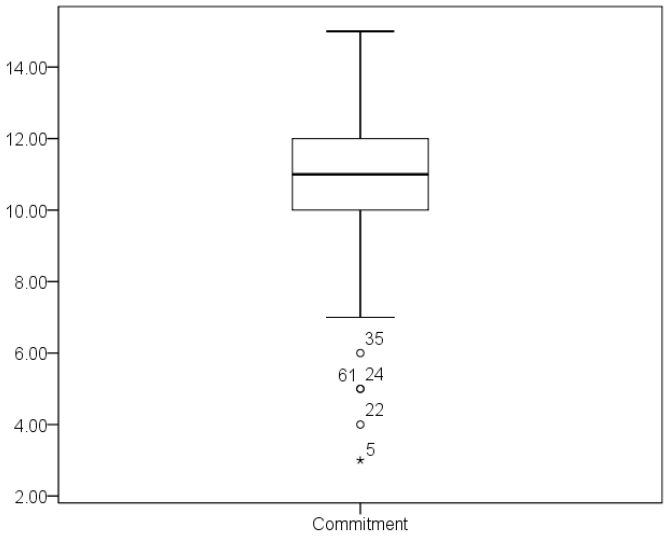

Figure 3. Boxplot for the Variable Commitment. This figure identifies five potential outliers prior to the application of Tukey's revised outlier labelling rule.

Appendix A: Text from Electronic Survey

The next few items are concerned with stress at work. Sometimes people feel like they have too much stress at work. Please circle how often you have experienced the following:

Never	Almost Never	Sometimes	Fairly Often	Very Often
1	2	3	4	5

In the last MONTH, how often have you:

1.	felt that you had too much stress at work?	1	2	3	4	5
2.	been upset because of something that happened unexpectedly at work?	1	2	3	4	5
3.	felt nervous or "stressed out" at work?	1	2	3	4	5
4.	had to deal with irritating hassles at work?	1	2	3	4	5
5.	felt that things were going your way at work?	1	2	3	4	5
6.	had to deal with stressful events at work?	1	2	3	4	5
7.	had to deal with ongoing problems at work that just never seem to go away.	1	2	3	4	5

When you help people you have direct contact with their lives. As you may have found, your compassion for those you help can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as a helper. Consider each of the following questions about you and your current work situation.

Select the number that honestly reflects how frequently you experienced these things in the last 30 days.

1=Never 2=Rarely 3=Sometimes 4=Often 5=Very Often

1. I am happy.

2. I am preoccupied with more than one person I help.

3. I get satisfaction from being able to help people.

4. I feel connected to others.

5. I jump or am startled by unexpected sounds.

6. I feel invigorated after working with those I help.

7. I find it difficult to separate my personal life from my life as a helper.

8. I am not as productive at work because I am losing sleep over traumatic experiences of a person I help.

9. I think that I might have been affected by the traumatic stress of those I help.

10. I feel trapped by my job as a helper.

11. Because of my helping, I have felt “on edge” about various things.

12. I like my work as a helper.

13. I feel depressed because of the traumatic experiences of the people I help

14. I feel as though I am experiencing the trauma of someone I have helped.

15. I have beliefs that sustain me.

16. I am pleased with how I am able to keep up with helping techniques and protocols.

17. I am the person I always wanted to be.

18. My work makes me feel satisfied.

19. I feel worn out because of my work as a helper.

20. I have happy thoughts and feelings about those I help and how I could help them.

21. I feel overwhelmed because my work load seems endless.

22. I believe I can make a difference through my work.

23. I avoid certain activities or situations because they remind me of frightening experiences
of the people I help.

24. I am proud of what I can do to help.

25. As a result of my helping, I have intrusive, frightening thoughts.

26. I feel "bogged down" by the system.

27. I have thoughts that I am a "success" as a helper.

28. I can't recall important parts of my work with trauma victims.

29. I am a very caring person.

30. I am happy that I chose to do this work.

Below are statements about life that people often feel differently about. Please show how much you think each one is true. Give your own honest opinions . . . There are no right or wrong answers. Response options are as follows:

0. Not at all true 1. A little true 2. Quite true 3. Completely true

1. Most of my life gets spent doing things that are meaningful.

2. By working hard you can nearly always achieve your goals.

3. I don't like to make changes in my regular activities.

4. I feel that my life is somewhat empty of meaning.

5. Changes in routine are interesting to me.

6. How things go in my life depends on my own actions.

7. I really look forward to my work activities.

8. I don't 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 a 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 for me.

14. I like having a daily schedule that doesn't change very much.

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

1. What is your age (in years)?
2. What is your sex?
    1. Male
    2. Female
3. What is your race/ethnicity?
    1. African American/Black
    2. Asian
    3. Caucasian
    4. Hispanic
    5. Native American

4. How long have you worked as an ES clinician? Note: If you have worked as an ES clinician in Virginia at multiple different points in your life, use your cumulative total amount of time working as an ES clinician.

1. Less than 1 month
2. 1 month to 6 months
3. 6 months to 12 months
4. 12 months to 24 months
5. 24 months to 36 months
6. More than 36 months

5. What is the average number of hours per week that you currently work as an ES clinician?

1. 0 to 20 hours
2. 21 to 40 hours
3. More than 40 hours

6. What professional licensure, if any, do you hold?

1. Licensed Professional Counselor
2. Licensed Clinical Social Worker
3. Licensed Substance Abuse Treatment Practitioner
4. Licensed Marriage and Family Therapist
5. Registered Nurse
6. Licensed Clinical Psychologist
7. Other Licensure: Name of License _____
8. No professional licensure.

7. What is the highest academic degree you have earned?

    1. Bachelor's-level (e.g., B.A., B.S., B.S.N.)
    2. Master's-level (e.g. M.A., M.S., M.Ed., M.S.W., M.S.N.)
    3. Specialist-level (e.g. Ed.S.)
    4. Doctoral-level (e.g. Ph.D., Ed.D, Psy.D., D.N.P.)

8. In what academic disciplines have you earned graduate degrees? (Check all that apply. If highest degree earned is bachelor's-level, select "None" and indicate discipline of bachelor's degree)

    1. Counselor Education
    2. Counseling Psychology
    3. Social Work
    4. Marriage and Family Therapy
    5. Nursing
    6. Clinical Psychology
    7. Other discipline: Name of discipline or field: _____
    8. None (Bachelor's level): Name of discipline or field: _____

Appendix B: IRB Approval Form

OHIO UNIVERSITY
Office of the Vice President for Research

13E199

Office of Research Compliance
RTEC 117
Athens, OH 45701-2979

T: 740.593.0664
F: 740.593.9838
www.research.ohiou.edu

A determination has been made that the following research study is exempt from IRB review because it involves:

Category 2 - research involving the use of educational tests, survey procedures, interview procedures or observation of public behavior

Project Title: Hardiness and Perceived Work Stress as Predictors of Professional Quality of Life Among Emergency Services and Assessment Clinicians

Primary Investigator: David Michael Yost

Co-Investigator(s):

Advisor: Christine Suniti Bhat
(if applicable)

Department: Counseling and Higher Education

Jo Ellen Sherow, MPA
Office of Research Compliance

1-5-13
Date

The approval remains in effect provided the study is conducted exactly as described in your application for review. Any additions or modifications to the project must be approved (as an amendment) prior to implementation.

Appendix C: E-mail to Directors or Supervisors at Community Services Boards

Dear _____,

My name is David Yost, and I am a Ph.D. Candidate in Counselor Education and Supervision at Ohio University as well as a former emergency prescreener for New River Valley Community Services in Blacksburg, Virginia. I am writing to you regarding my dissertation study, in which I am examining the relationships among perceptions of work stress, hardiness as a personality disposition, and professional quality of life among emergency prescreeners in Virginia. Results from this research will inform hiring practices, supervision, and training for mental health professionals entering work in emergency services and will be valuable to clinical supervisors and educators across mental health disciplines. I have obtained IRB approval for my dissertation study from Ohio University, as well as approval from the VACSB Emergency Services Council (contact Shirley Jamison: sjamison@piedmontcsb.org) and the Data Management Committee (contact Karen Rifkin: karen.rifkin@regionten.org).

In order to pursue my research, I would like to request your cooperation in obtaining e-mail contact information for the emergency prescreeners working for your agency. If you are amenable to providing me with this information, I will contact the prescreeners from your agency by e-mail and include a hyperlink to an online survey that takes approximately 5 to 10 minutes to complete. Participation by those contacted is completely voluntary and there will be a thorough informed consent process at the beginning of the electronic survey. You may contact me via e-mail (dy108810@ohio.edu) or phone (540-355-6598) with questions. You may also contact my dissertation chair and academic advisor Dr. Christine Bhat at bhatc@ohio.edu with

any questions or concerns about my study. I appreciate your time and consideration and hope for your help in pursuing research on what I believe to be a powerful tool and indispensible resource for community mental health care in Virginia. Thank you very much.

Sincerely,

David M. Yost, Ed.S., PC

Appendix D: Form E-mail Requesting Participation

Dear Sir or Madam,

My name is David Yost, and I am a Ph.D. Candidate in Counselor Education and Supervision at Ohio University as well as a former emergency prescreener for New River Valley Community Services in Blacksburg, Virginia. I am currently conducting my dissertation study on emergency prescreeners in Virginia and would greatly appreciate your help in learning more about the important work that you do. Below is a link to an anonymous survey that only takes 5-10 minutes to complete. Your participation is completely voluntary and you are free to quit the survey at any time. If you have any questions about this survey, you may contact me via e-mail at dy108810@ohio.edu. Thank you so much for your time and consideration.

Link to survey: http://ohed.qualtrics.com/SE/?SID=SV_51jau9crl9sRUmV

Sincerely,

David M. Yost, Ed.S., LPC

Doctoral Candidate

Counselor Education and Supervision

Ohio University

Thesis and Dissertation Services