VALIDATION OF THE PROFESSIONAL QUALITY OF LIFE MODEL AMONG CORRECTIONAL OFFICERS

by

Tiffany D. Arrows

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

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ABSTRACT

Stress has significant effects on correctional officers' physical and mental health. Given the risks involved in a career in corrections, development and implementation of preventive programs to address work-related stress has become a recognized need, and subsequently a call for increased research using standardized, established, and theoretically-driven models and instruments. This study sought to establish the Professional Quality of Life model as a valid and reliable measure among correctional officers, linking the population to the greater literature base of first responders and health care workers along the constructs of compassion fatigue, burnout, secondary traumatic stress, and compassion satisfaction. Research questions to validate the model's fit within the population and validity of the constructs were analyzed using a confirmatory factor analysis with a structural equation model approach. Correlations of the expected variable relationships of variables were also evaluated. Results support a moderate model fit of the ProQOL model among correctional officers.

Keywords: professional quality of life, correctional officer, compassion fatigue, compassion satisfaction, burnout, secondary traumatic stress.

Dedication

This is dedicated to my loves who have sacrificed greatly to allow this work to take place: Dawson, Elle, Joshy, Lillibeth, and William.

Acknowledgments

There have been many who have contributed to this work being possible. Most notably, my children and husband have supported, comforted, cheered, and encouraged me throughout my educational journey. The support provided by Dr. Volk truly shaped this study in a way not possible without him, and further is a testament to his dedication to the field, to research development, and to the growth and success of his students. Dr. Jenkins and Dr. Pride both provided encouragement and perspectives that contributed to the improvement of this dissertation. This study would not have been possible without the support of the administration at Fayette County Detention Center, specifically Director Ballard and Director Haney. Thank you Major Capillo for believing in and advocating for this endeavor; Peter Taylor for encouraging my development and involvement as an extension of our program; to Major Hall for helping me navigate and continue through administration changes, and to Major Kammer for your enthusiasm and insights. Thank you to Captain Jones, Captain Campbell, Sergeant J. Price, Corporal M. Gaines, and Corporal Wyngate, for your tireless efforts toward officer wellness initiatives. I am also grateful to the Bluegrass team within FCDC who supported and encouraged my work with the officers: Tatiana Skorka, Heather Lakes, Tim Brigmon, Thomas Camilleri, Alexandria Carlos, Stephanie Childers-McMullen, Jayme Farris, Maryann Franco, Jess Glines, Tonya Jones, Tiffany Shepherd, Crystal Harstad, Finally, thank you to all the correctional officers at FCDC who participated and made this study possible. Please know that the completion of this study is not the end of our efforts, but the beginning of advocacy efforts for correctional officers. Finally, I would like to express my gratitude for the work of correctional officers and the sacrifices paid every day by these fine men and women as well as their families. No amount of effort is too great to advocate for effective support for you and your families.

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List of Abbreviations

Bureau of Labor Statistics (BLS)

Burnout (BO)

Compassion Fatigue (CF)

Composite Reliability (CR)

Confirmatory Factor Analysis (CFA)

Corrections Fatigue (CF)

Compassion Satisfaction (CS)

Department of Justice (DOJ)

National Institute of Corrections (NIC)

Office of Justice Programs (OJP)

Police Compassion Fatigue (PCF)

Post-Traumatic Stress Disorder (PTSD)

Professional Quality of Life (ProQOL)

Secondary Traumatic Stress (STS)

Standardized Root Mean Residual (SRMR)

Structural Equation Modeling (SEM)

Root Means Squared Error of Approximation (RMSEA)

Vicarious Traumatization (VT)

CHAPTER 1: INTRODUCTION

Correctional officers work within a highly stressful and potentially dangerous environment, (Bureau of Labor Statistics, 2017), and as a result, face numerous challenges - both personally and professionally (Brower, 2013; Denhof, Spinaris, & Morton, 2014). Corrections is a unique facet of law enforcement tasked with continual management of an "unwilling and potentially violent population" (Armstrong & Griffin, 2004, p. 577). Such an unpredictable and often hazardous work environment has resulted in the profession ranking among the highest in non-fatal job-related injuries and illnesses of all professions according to the Bureau of Labor Statistics (BLS) (2017).

Confrontations with inmates and exposure to contagious disease are leading causes of injuries and illnesses for correctional officers (BLS, 2017), although these do not cover the full scope of job-related hazards (Griffin, Hogan, Lambert, Tucker, & Baker, 2010). In addition to potentially violent inmates, correctional officers also manage others with high risk - including those with gang involvement, mental illness, suicide risk, substance abuse, and trauma victimization (Brower, 2013). Officers usually work a unit of 90 inmates alone and therefore experience isolation in addition to the need to maintain prolonged hypervigilance throughout their shift (Brower, 2013; Denhof et al., 2014). Administrative investigations, disciplinary processes, and scrutiny from the public and media take a toll on morale (Brower, 2013). Correctional officers also juggle shift work with mandatory overtime, staffing shortages, and high rates of peer absenteeism (Gilmartin, 2003; Trounson, Pfeiffer, & Critchley, 2016; Violanti, Burchfiel, Hartley, Mnatsakanova, Fekedulegn, & Andrew, 2009). The stress associated with the job results in higher than average turnover rates in comparison to other government agency jobs

(BLS, 2017; Bonham & Crews, 2007). As a result, despite slower than average job growth projections, many departments are finding it difficult to maintain stable staffing levels (BLS, 2017; Bonham & Crews, 2007).

Stress has significant effects on correctional officers' physical and mental health (Anderson, Litzenberger, & Plecas, 2002; Arial, Gonik, Wild & Danuser, 2010; Brower, 2013; Denhof et al., 2014; Spinaris, Denhof & Kellaway, 2012; Violanti et al., 2009). Correctional officers have higher rates of heart disease, hypertension, hyperlipidemia, diabetes, gastrointestinal disorders, and obesity than the general population (Brower, 2013; Dowden & Tellier, 2004; Violanti et al., 2009). The impact on overall health is significant; by age 59 the lifespan of a correctional officer is 16 years lower than the national average of their working peers (Brower, 2013; Cheek, 1984). Correctional officers are reported to have rates of "mental disorders, depressive symptoms, anxiety, stress, and job dissatisfaction" (Tiesman, Hendricks, Bell & Amandus, 2010, p.941) that are higher than any other occupation, with reported depression rates between 24 to 33% (Denhof, 2013). Relatedly, Posttraumatic Stress Disorder (PTSD) symptoms have been shown in 27 to 35% (Brower, 2013; Denhof, 2013; Spinaris et al., 2012). These findings highlight the need for effective intervention, as the combination of depression and PTSD symptoms is correlated with an increased risk for suicide (Denhof et al., 2013). Studies reveal that correctional officers are four times more likely to die by their own hands than by a felonious act (Tiesman et al., 2010). Due to the unique hazards of correctional law enforcement, the suicide rate among correctional officers is 39% higher than others in the working age population and twice that of police officers (New Jersey Police Suicide Task Force, 2009; Stack & Tsoudis, 1997). The toll on those who take the oath to "serve and protect" is substantial.

Background of the Problem

Given the identified risks involved in a career in corrections, development and implementation of preventive programs to address work-related stress among correctional officers has become a recognized need (Denhof et al., 2013; Keinan, 2007; Trounson et al., 2016). However, there has been limited success in identifying effective strategies to address the risks involved in a career in corrections, resulting in a call for increased research to help inform best practices (Dowden & Tellier, 2004; Trounson et al., 2016; Webster, 2013). The research to date has not been targeted toward an established model that can help direct future research or interventions, which is a major limitation to the field progressing toward a unified approach for providing assistance to correctional officers (Brower, 2013; Griffin, Hogan & Lambert, 2012; Trounson et al., 2016). There is a clear and identified need to organize the research regarding correctional officers' risk using standardized, established, and theoretically-driven models and instruments (Dowden & Tellier, 2004; OJP, 2015; Trounson et al., 2016; Webster, 2013).

The Culture of Correctional Interventions

The problems experienced by correctional officers have been recognized within the field of law enforcement, resulting in an increased interest in research and intervention strategies (Morgan, 2009). The Department of Justice (DOJ) published a review of stressors affecting correctional officers citing hypervigilance, threats of violence, media scrutiny, understaffing, organizational issues, and work/family conflicts as primary sources of stress (Brower, 2013). In 2014, the National Institute of Corrections (NIC) initiated a special project area devoted to officer wellness (NIC, n.d.). The collaborative effort resulted in a call for increased research and information sharing regarding the promotion of health and safety among correctional officers,

particularly toward a goal of developing and testing the effectiveness of wellness programs (Elliot et al., 2015).

Research highlighted through the NIC's directives for officer wellness focuses on the importance of prevention and intervention for officers' mental health concerns mostly through a lens of burnout, traumatic stress, and the need for increased emphasis on overall wellness (Brower, 2013; Denhoff et al., 2014). Denhoff and colleagues (2014) in partnership with the NIC proposed the Corrections Fatigue Process Model, which includes six components: (a) organizational stressors, (b) operational stressors, (c) traumatic stressors, (d) declined health and functioning, (e) dysfunctional ideology/behavior, and (f) negative personality changes. Including organizational and operational factors, the model accounts for many job-related stressors commonly referenced in existing research such as interpersonal conflict, role conflict, supervisory concerns, shift work, physical challenges, and heavy workload (Brower, 2013; Denhof et al., 2014). This model also accounts for the impacts of trauma which contribute to one's development of burnout and subsequent dysfunction (Denhof et al., 2014). The model is depicted in figure 1.

The Corrections Fatigue model (Denhof, 2014) includes a proposed six-stage intervention model: inform, assess, evaluate, plan, implement, and re-assess. This proposal calls for psychoeducation, assessment, targeted interventions based upon assessment, and a continual reassessment monitoring program (Denhof, 2014). Denhof and colleagues' (2014) proposal would be strengthened by first demonstrating that such a model is valid in the correctional officer population. Further support for the model could be obtained by validating a commonly recognized model with similar constructs that has been empirically demonstrated in similar

professions such as helping professions and first responders (Office of Justice Programs, 2015; Webster, 2013).

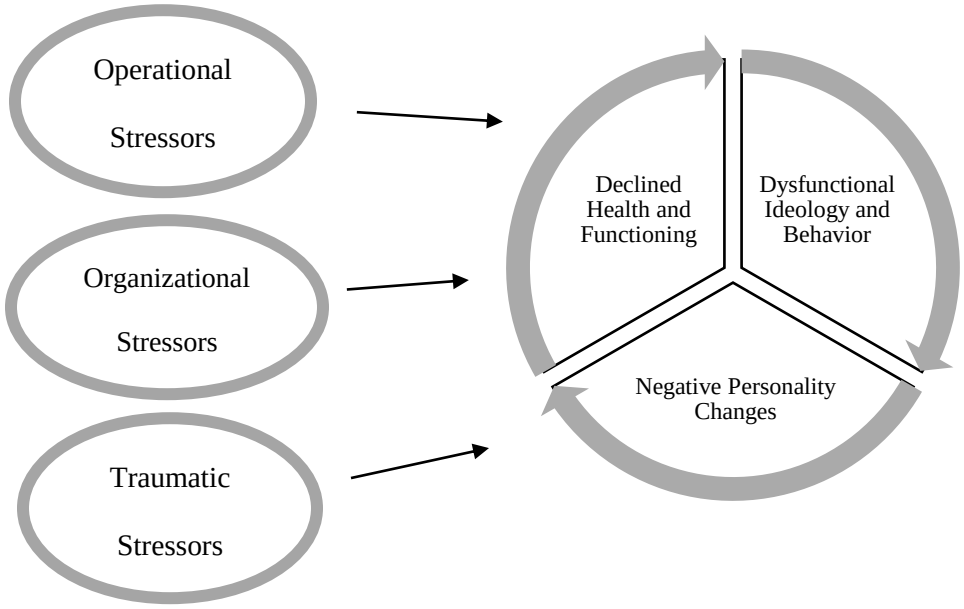


Figure 1. Corrections Fatigue Process Model. Reprinted from *Occupational stressors in corrections organizations: Types, effects, and solutions,* by M. Denhof, C. Spinaris, & G, Morton, (2014). U.S. Department of Justice National Institute of Corrections.

Despite the lack of a validated theoretical model, localized efforts have resulted in recommended best practice interventions being promoted within the correctional profession (Elliot, Kuehl, Ghaziri, & Cherniack, 2015; OJP, 2015). Commonly used and recommended evidence-based programs include peer support programs, training programs, employee assistance programs, critical incident response teams, and a variety of organizational practices that reduce the impact of organizational stress (OJP, 2015). While recognized as beneficial in the field, evidentiary support is lacking for these interventions. Staff training programs have been considered the first-step intervention among administrators and the most widely accepted among officers (Pasciak & Kelley, 2013; Trounson et al., 2016). Yet, there is no industry standard to

support uniformity of approach, nor evidence to support positive outcomes (OJP, 2015; Trounson et al., 2016). Despite being recognized as promising and described as evidenced-based by the Office of Justice Programs (2015), there are no published research studies demonstrating the effectiveness of peer support teams (Watson, 2012). Further, the debriefing strategy, Critical Incident Stress Debriefing (CISD), commonly used in law enforcement since the mid-1990s has little empirical evidence demonstrating effectiveness, countered by other empirical evidence cautioning that CISD-like approaches could exacerbate trauma response for those who participate in the intervention (Pasciak & Kelly, 2013). In sum, the industry of correctional law enforcement lacks uniformity in development and administration of interventions and has not engaged adequate research to demonstrate the effectiveness of frequently utilized and recommended interventions.

Current Research Remains Inconclusive

There is a limited, yet growing literature base of research attempting to explain and predict job-related stress, job satisfaction, physical and psychological well-being, turnover, burnout, and the impact of organizational and individual factors on correctional officers (Dowden & Tellier, 2004; Webster, 2013). However, the complex interaction of the elements of the job tasks, exposure to the correctional environment, organizational impact, personal stressors, and individual characteristics of the officer have proven difficult to explain in the literature (Dowden & Tellier, 2004; Webster, 2013). The research to date remains inconclusive or contradictory regarding many of the researched factors, individual and organizational, that serve as correlates or predictors of job satisfaction, job stress, officer well-being, organizational commitment, retention, or burnout (Dowden & Tellier, 2003; Griffin et al., 2012; Tewksbury & Higgins, 2006; Webster, 2013). Weaknesses in the literature include: inconsistency of

measurements used or lack of standardized instruments; lack of standardized, operationalized, and theoretically-driven variables or constructs; and an overall lack of theoretical guidance in rationale and methodology (Dowden & Tellier, 2004; Webster, 2013). The inconsistent findings suggest that attempting to encapsulate vocational outcomes among correctional officers through correlational research has not resulted in the ability to predict outcomes or to confidently suggest a model of intervention in a population that is in desperate need. Any proposed prevention or intervention strategy must be predicated by a demonstration of need (Trounson et al., 2016), and furthermore, it must be theoretically driven with standardized instruments (Dowden & Tellier, 2004; Webster, 2013).

Establishing a theoretically sound model with validated instruments and constructs within the correctional officer population is the foundation upon which ethical and effective intervention strategies can be developed and validated. Such an approach was recommended by the Office of Justice Programs Diagnostic Center (2015), “Limited research exists for CO wellness and safety in a jail environment. Adaptation of successful strategies used by other public safety organizations can lead to positive change” (p.4). Utilizing a cross-occupational approach has two advantages toward the efforts of the correctional community to address officer wellness: (a) it would provide a useful comparison between correctional law enforcement and other similar professions on established variables with an instrument validated in those professions, and (b) it would help form a foundation of an evidence-based rationale for implementation of interventions that are likely to be effective based upon demonstrated and shared underlying characteristics within the populations (Trounson et al., 2016). One model that has been well established in other public safety and helping professions to address

organizational, personal, and secondary traumatic work-related experience is the Professional Quality of Life (ProQol) model (Stamm, 2010).

Theoretical and Conceptual Framework

The ProQol assesses the organizational, personal, and helping-related aspects of the job on an individual's propensity toward burnout, compassion fatigue, or compassion satisfaction (Stamm, 2010). Denhof's (2014) model of Correctional Fatigue and the proposed six-stage approach toward addressing it is based in part on Figley's (1995) model of compassion fatigue and secondary traumatic stress, the model that later developed into the ProQol model (Stamm, 2010). Validating that Compassion Satisfaction, Compassion Fatigue, Secondary Traumatic Stress, and Burnout are relevant to the correctional professional establishes the model in the population. This demonstrates shared occupational outcomes in comparison with other first responders and health professionals. It also provides foundational empirical support for the theoretical basis of Denhof's (2014) proposal. Additionally, establishing the validity of the ProQol model in a correctional population allows for expanded research in corrections that is empirically validated, theoretically driven, cross-occupationally linked, and relevant to the wellness approach currently being sought throughout the profession. Establishing a baseline for the population using the ProQol also supports the rationale to use intervention strategies focused on prevention and wellness regarding constructs of burnout, secondary traumatic stress, compassion fatigue, and compassion satisfaction. An established baseline also offers the ability for ongoing assessment of these constructs to monitor for effectiveness.

Professional Quality of Life Model

"Professional quality of life" is the quality one feels as a result of their work in a helping role (Stamm, 2010). Professional quality of life includes two outcomes: the positive Compassion

Satisfaction, the negative Compassion Fatigue, and the negative Compassion Fatigue's two constructs - Burnout and Secondary Traumatic Stress (Stamm, 2010). This model has been widely used in research with various helping professions that provide care to individuals in time of crisis or trauma are exposed to secondary trauma as a result (Stamm, 2010). The theory provides structure by which to conceptualize how characteristics of one's work environment (organizational and operational), along with exposure to work-related trauma, can individually or interactionally influence Compassion Satisfaction and Compassion Fatigue through a theoretical path analysis (Stamm, 2010). The Professional Quality of Life (ProQOL) scale offers many benefits for use within the corrections profession, as it is specifically targeted to and validated among other helping professions. It is firmly established in hundreds of published research articles, is a freely available resource, and can be used to both assess for symptoms of burnout and compassion fatigue as well as to monitor the effects of employee wellness programs (Dooley, 2013; ProQOL.org, 2016). Given that the profession of corrections seeks to address the issues pertaining to officer wellbeing by pursuing assessment and interventions from a wellness perspective, establishing the ProQOL model among the correctional officer population is an advantageous step from which to proceed to further research into effective interventions, as well as to link correctional officers to other related research among other helping professions. See the model depicted in Figure 2.

Definition of Terms

Outcome Variables: Compassion Fatigue and Compassion Satisfaction

The ProQOL model contains three outcome variables (Stamm, 2010). Compassion Satisfaction is the outcome variable that encompasses the positive effects of the job (Stamm). The opposite of Compassion Satisfaction is Compassion Fatigue, which contains two

subcategories of Burnout and Secondary Traumatic Stress (Stamm). A brief overview will immediately follow with a more thorough examination of these constructs contained in Chapter 2.

Compassion Fatigue: Burnout. Burnout is one of the two elements comprising Compassion Fatigue (Stamm, 2010). It is associated with feelings of hopelessness and difficulty with job performance, heavy workload, feelings of ineffectiveness at work, or a non-supportive work environment. Burnout is typically a gradual process but can contribute to eventual depression if it persists (Stamm, 2010).

Compassion Fatigue: Secondary Traumatic Stress. Secondary Traumatic Stress (STS) is the second component of Compassion Fatigue and is in response to work-related exposure to individuals who have experienced traumatic or extremely stressful events (Stamm, 2010). STS has similar symptomatology to Posttraumatic Stress Disorder (PTSD), including fear, intrusive images, avoidance, and sleep difficulty (Stamm, 2010). These symptoms usually develop rapidly and can be associated with a single event or emerge from a cumulative effect of multiple trauma inputs (Stamm, 2010).

Compassion Satisfaction. Compassion satisfaction is the pleasure experienced as a result of doing one's job well and valuing the positive aspects of the work performed (Stamm, 2010). Positive feelings about colleagues, personal competency, or promoting the greater good of society are all aspects that can be included in Compassion Satisfaction (Stamm, 2010).

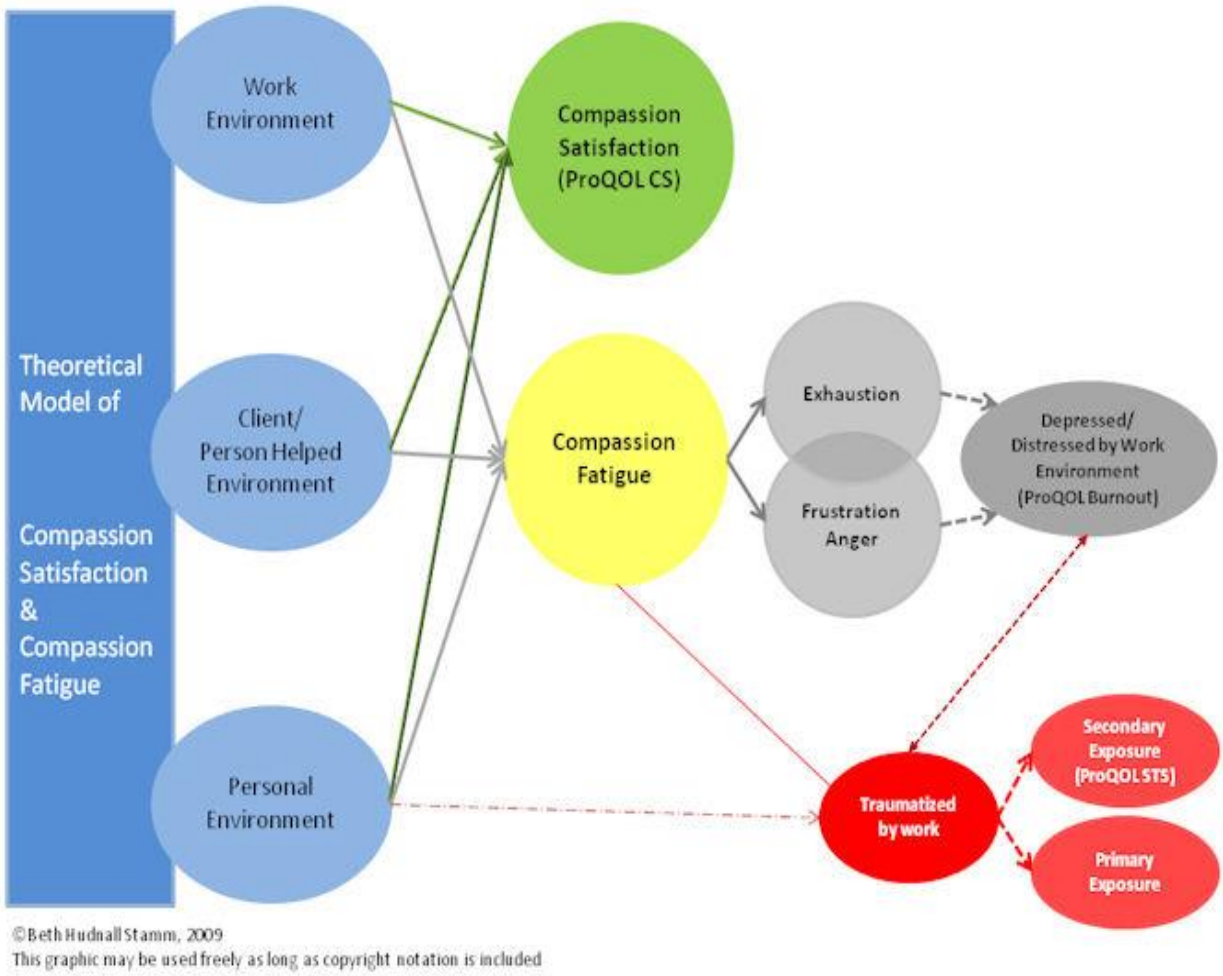


Figure 2. ProQOL Theoretical Path Analysis. Reprinted from ProQol.org, by H. Stamm, (2009), Retrieved from http://www.proqol.org/Full_CS-CF_Model.html.

Purpose of the Study

This research attempts to establish the validity of a theoretically-driven model, the Professional Quality of Life model (Stamm, 2010), within the specific population of correctional law enforcement officers. This study uses a self-report survey (ProQOL) to obtain data from Correctional Officers employed in a single county detention center, along with a Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) approach, to examine the model's fit within the vocational-specific context of corrections. This approach validates the

ProQOL measure by demonstrating that the observed data show expected consistency among the constructs.

Research Questions

The present study examines whether the constructs of Compassion Fatigue, Burnout, Secondary Traumatic Stress, and Compassion Satisfaction are relevant to individuals employed as Correctional Officers. Using Confirmatory Factor Analysis (CFA) with a Structural Equation Modeling (SEM) approach, this study seeks to determine if the data obtained from correctional officers fit the ProQOL (Stamm, 2010) model in theory and structure. Specifically, the following research questions are investigated:

Research Question 1: Using responses obtained from Correctional Officers on the ProQOL 5, does the theoretical model replicate in this vocational-specific population?

Research Question 2: Does the observed data obtained from the Correctional Officers best fit the three-factor ProQOL model as opposed to a modified model-fit?

Research Question 3: Will the internal consistency of the scores for each of the factors including Compassion Satisfaction, Burnout, and Secondary Traumatic Stress continue to be at least .70?

Research Question 4: Will the correlations among the factors remain consistent with the ProQOL model expectations for variance?

Research Question 5: Among Correctional Officers, as Compassion Satisfaction increases, will Burnout decrease, consistent with the ProQOL model?

Research Question 6: Among Correctional Officers, as Compassion Satisfaction increases, will Secondary Traumatic Stress decrease, consistent with ProQOL model?

Research Question 7: Among Correctional Officers, as Burnout increases, will Secondary Traumatic Stress increase, consistent with the ProQOL model?

Research questions 1-4 were analyzed utilizing a CFA with an SEM approach in order to examine the model's fit and validity of the constructs within the population. Research questions 5-7 showed the relationships between the variables using Pearson's correlation tests.

Assumptions and Limitations

This study has several assumptions. One assumption is that most of the correctional officers will consent to complete the survey and answer in a truthful manner, yet it is also assumed that some may be suspicious of psychological content and either refuse or alter their assessment. A second assumption is that the ProQol model and measurement tool will be applicable to the correctional officer population. Third, it is assumed that correctional officers, by virtue of performing their job, experience poor outcomes regarding their health and mental functioning. Lastly, it is assumed that the conductor of the research will ensure participant confidentiality, follow all procedures and regulations regarding the research entirely, and ensure precise and accurate collecting and reporting.

This study also has potential limitations. One limitation is that the study will take place in one correctional facility, limiting generalizability to the greater correctional population. The design of the study is non-experimental, includes analysis of hypothesized causal connections and correlations, and is not appropriate to form causal statements. Further, self-report results include validity concerns, as respondents may choose to alter their responses due to suspiciousness or desire to produce a positive appraisal.

The scope of this study is to establish the ProQol model as applicable to the correctional officer population. Participants in this study were correctional officers employed at Fayette

County Detention Center, a publicly run county detention center in Kentucky that employs approximately 290 sworn officers. Additionally, comparisons between population characteristics such as gender, age, race, length of tenure, or assigned shift were not considered, although are areas for future consideration.

Significance of the Study

This study seeks to establish the ProQol model (Stamm, 2010) as a valid and reliable measure among correctional officers, linking the population to the greater literature base of first responders and health care workers along the constructs of compassion fatigue, burnout, secondary traumatic stress, and compassion satisfaction. Once established, the difficulties faced by correctional officers will be linked to a greater research base of similar professions, expanding the knowledge of risk and intervention strategies. This provides advantages for future research and normalizes the correctional officer experience to workers in other similar fields. Opportunities to grow upon this research are rich, as the measure can be used as an ongoing assessment for outcome measures following added interventions or organizational change that is targeted for reduction of these variables and to promote officer wellness. Of added benefit is the ease of use and accessibility of the measure, which is free for use and available online to both organizations and individuals (Stamm, 2010). This accessibility maximizes the potential for regular and consistent use in a population that traditionally has rigid budgetary and time constraints in addition to historical resistance to engaging in personal mental health services.

Organization of Remaining Chapters

In Chapter 2, a thorough review of the theoretical and conceptual constructs is discussed, including a review of systems theories, trauma theories, and context-specific applications of these theories within law enforcement populations. Critiques of existing theories and

comparisons to the ProQOL model are reviewed. Chapter 3 describes the method utilized in this study, including the research design, psychometric properties of the ProQOL instrument, plan for data collection and analysis, as well as the population included in this study. Chapter 4 reviews the research questions and the analysis of the results. Finally, Chapter 5 explores the conclusions drawn from the results, implications for practice, limitations of the study, and recommendations for future research.

Summary

The potential risks of a career in correctional law enforcement include a variety of physical, mental, and interpersonal outcomes, prompting a call for increased research and intervention strategies to improve officer wellness. The ProQol model has been established in many first responder and helping professions, which offers an advantageous link to a body of existing theoretically-based research if validated among correctional officers. In order to validate the model, a confirmatory factor analysis through structural equation modeling can explore the theoretical and structural fit and function of the data as compared to the expectations of the model.

CHAPTER 2: REVIEW OF THE LITERATURE

There is a need to unify existing research regarding correctional officers' risk using a standardized, established, and theoretically-driven model and instrument. This present study attempted to establish the validity of the theoretically-driven model, the Professional Quality of Life model (ProQOL) (Stamm, 2010), within the specific population of correctional law enforcement officers. The ProQOL model takes occupational and personal experiences into account, along with trauma inputs experienced through the work of a helping profession (Stamm, 2010). The outcome variables of this model include a theoretical basis for the diverse symptom presentation that remains elusive in existing research. It is the diversity of problems experienced by officers, along with the complex way these problems interact throughout an officer's life, family, and social functioning, that makes the ProQOL uniquely suited for such a population. In order to fully appreciate the nature of these diverse and complex presentations among officers, it is beneficial to first have a foundational understanding of systems theories, social-cognitive theory, trauma theories, and applicability to the law enforcement culture.

Research for this study included reviewing literature from online databases of academic journals about psychology, counseling, social sciences, occupational science, traumatology, criminal justice, and law enforcement. As scholarly research pertaining specifically to correctional officers is underdeveloped, resources available through national law enforcement agencies and publications were also utilized to understand better the occupational context and the scope of current research as it pertains to correctional law enforcement. Hundreds of articles exist that attempt to demonstrate, define, and correlate the risks of organizational and task-related aspects of working as a correctional officer, demographic characteristics, and many

outcome variables of interest that include job stress, burnout, job satisfaction/ dissatisfaction, PTSD, depression, anxiety, suicide, family stress, health risks, etc. Overall, the literature substantiates that a career in corrections correlates to a variety of negative impacts in officers' lives (Brower, 2013; Denhof et al., 2014; Griffin et al., 2012). Researchers, as well as national law enforcement agencies, are calling for additional research to unify the existing literature and to help identify and develop effective and evidence-based interventions (OJP, 2015; Trounson et al., 2016). A theory that incorporates occupational stressors, personal factors, and the experiences unique to the vocation is needed (Denhof et al., 2014; Figley, 1999; Violanti, 1999). Further, such a theory must be linked to viable intervention strategies to provide maximum benefit to the industry (Denhof et al., 2014; Dooley, 2013; OJP, 2015; Trounson et al., 2016). The Professional Quality of Life Model (ProQOL) fits these needs, as will be demonstrated in this review (Stamm, 2010).

The strength of the ProQOL model is best understood through the systemic impacts, vocational culture, and trauma-informed elements. Given the review of the current research on the stress origins and reactions among correctional officers in Chapter 1, the consensus is that correctional officer outcomes are found to be highly varied yet systemically pervasive to an officer's life, affecting not only work performance, but also a variety of physical, mental, social, and relational problems (Brower, 2013; Denhof et al., 2014). Therefore, a review of systems theories and trauma theories is first examined and reviewed as applicable to law enforcement officers. A literature review to expound upon secondary traumatic stress, compassion fatigue, and burnout will clarify the theoretical and historical development of these variables, particularly in the context of law enforcement vocations. Two previously proposed industry-specific models including Police Compassion Fatigue (Figley, 1999) and Corrections Fatigue (Denhof et al.,

2014) are explored and critiqued. Finally, an overview of the ProQOL model will demonstrate an over-arching theory to accommodate the interactions present in the literature review as well as imply potentially theoretically-driven interventions.

Conceptual Framework

Systems Theory

A system refers to a dynamic set of interconnected units that interact with each other according to organized, predictable, and reciprocal rules or patterns that promote the homeostasis of the greater system's status quo through cyclical reinforcement (Bowen, 1978; Jackson, 1965). Commonly recognized in family therapy theories, systems theory purports that families tend to construct beliefs about themselves that serve to organize, interpret, and shape their lives through cognitive processes and development of reinforcing interpersonal relationships (Real, 1990)). Constructivist self-development theory describes this process on an individual level, supporting that each person develops mental maps of the world and themselves based upon the culmination of their personal experiences in life (McCann & Pearlman, 1990). These perceptions serve as a basis for perceptions and interpretations of subsequent experiences, serving a circular process of adaptation, assimilation, and reinforcement of cognitive, behavioral, and social processes (Denhof, 2014; McCann & Pearlman, 1990). Individual experiences of one member within the system will also be filtered through the constructs of the system; and due to the nature of interpersonal functioning may have an influence on the system as a whole (Bowen, 1978; Real, 1990). As such, there is a constant push and pull of each member's individual experiences and autonomous motivations, which must then find a balance within the unified rules of the whole system (Bowen, 1978).

Widening the lens, individuals and family systems are nested within multiple independent systems that include outside relationships, community systems, and cultural and social forces, each of which has an influence on the individual (Brofenbrenner, 1986). Understanding the role of systems theories on the correctional officer allows for greater understanding of the cognitive, behavioral, and social implications of work experiences, both in relation to the officer's family as well as the organizational work system as a whole. Given the circular and reinforcing nature of systems' impact on individuals in combination with the complex systemic influences surrounding law enforcement officers, discussion or exploration of outcome research among correctional officers absent of a systems context is incomplete and insufficient to address the full scope of the relevant issues.

Systemic Applications Within Law Enforcement Context

It is necessary to examine the impact of a career in law enforcement within the larger organizational and social contexts, particularly given that so many negative outcomes for officers present within social contexts (Brower, 2013; Denhof et al., 2014; Gilmartin, 2002; Violanti & Patton, 1999). Social cognitive theories provide an understanding of the impact of repeated exposure to direct and indirect traumatic events, including how this affects social interactions and functioning (MacLeod & Paton, 1999). Assimilation into the officer role also affects interactions within social groups and interpersonal functioning, both in protective and destructive ways (Gilmartin, 2002; Violanti, 1999). Finally, the residual impact on an officer's family is an important consideration for both research and potential intervention strategies (Danielli, 1999).

Social Cognitive Theory. Social cognitive theories may prove to be a beneficial application to understanding an officer's response to trauma (MacLeod & Patton, 1999). Correctional officers are often the targets of violence, must respond to violent acts as they occur,

and also bear the burden of supporting and protecting victims of violence. Whether exposure to the criminal violence is direct or indirect, exposure elicits a variety of reactions and associated cognitive processes that result in an initial threat to the officer's psychological integrity and the need to regain a sense of control and meaning through cognitive, behavioral, and social adjustments (MacLeod & Patton, 1999). Relevant attributions regarding causation include self-blame, avoidability, and helper stereotype (MacLeod & Patton, 1999). Environmental factors such as the correctional organization, family system, and societal influences play important roles in how each officer processes individual work experiences within each system (MacLeod & Patton, 1999).

Assimilation into the officer role. Initiation into the role of an officer involves the process of strict resocialization (Gilmartin, 2002; Violanti, 1999). Socialization into the police role begins early in academy training process and is perpetuated throughout the course of one's career through a mix of militaristic and bureaucratic organizational design that demands adherence to maintain the image and conduct of the officer role (Violanti, 1999). Assimilating into the officer role often results in dichotomized decision making, cognitive inflexibility, restricted interpersonal networks, emotional invulnerability and social detachment (Violanti). This appraisal initially implies complete dysfunction. However, a sense of unified group identity with strong cohesion is a recognized strength in law enforcement, often providing camaraderie and normalization of shared experiences that cannot be shared with other system groups (Foreman & Eranen, 1999). Additionally, when split-second decisions can result in life or death consequences, dichotomous thinking and emotional invulnerability often prove to be life-sustaining qualities (Gilmartin, 2002; Violanti, 1999). Therefore, the issue of role assimilation is a complex one. Conforming to the rules of the law enforcement system is beneficial for the role

and safety of the officers, yet usurps the rules and roles of other existing social systems, potentially creating discord within these systems (Gilmartin). The dynamic of the officer role warrants significant consideration both in understanding the impact of law enforcement work as well as potential avenues for effective intervention to improve psychosocial outcomes.

Intergenerational impact. Families carry values and beliefs unique to their shared experience, including the experiences that shaped preceding generations (Bowen, 1978). Intergenerational passing along of beliefs and behaviors may, therefore, include adaptive or maladaptive ways of defining and coping with stressors (Bowen). The reciprocal nature of relationships within a family presents the possibility that traumatic experiences of one member of a family may reverberate through the other members via pathogenic intergenerational processes (Danielli, 1999). In short, when the behavior of one family member is changed by an experience, so is the interaction with family members, therefore creating new patterns into the system that will continue to repeat (Danielli).

Trauma Within Systems

Interpersonal networks may serve as either powerful sources of support and recovery for the traumatized, or may secondarily be conduits of trauma experienced by one member through reciprocal relational functioning (Figley, 1995). Trauma within a system is characterized in various ways, which has evolved over the last twenty years in the literature (Figley, 1995; Figley, 1999; Stamm, 1999; Stamm, 2010; Violanti, 1999). Trauma may be directly experienced by an entire system simultaneously in the face of a traumatic event or disaster, but also through indirect trauma (Figley, 1995). Vicarious trauma is characterized by a member of the family or group experiencing a trauma individually that is later revealed to a member(s), such as occurs in cases of war or a hostage situation (Figley, 1995). Intrafamilial trauma refers to emotional injury or

abuse occurring between family members (Figley, 1995). Secondary trauma occurs when trauma that has been experienced by only one member has an effect on the entire system (Figley, 1995). A full review of trauma within systems is warranted and expounded upon further through a lens of trauma theory.

Trauma

Trauma is a significant and relevant construct to this study and the ProQOL model. Therefore, it is necessary to have a working knowledge of traumatic events, trauma responses, and the differences between primary trauma and indirect forms of trauma. The routine exposure to trauma experienced by law enforcement officers substantiates the need to explore these constructs in the context of the vocation.

Trauma defined. The Diagnostic and Statistical Manual of Mental Disorders (DSM-5), defines a traumatic event as exposure to, "actual or threatened death, serious injury, or sexual violence," (p. 271) that is experienced directly, witnessed happening to another, or informed of happening to a close family member or friend (APA, 2013). Repeated or extreme exposure to details of traumatic events, including electronic images if work-related, is also considered a qualifying criterion of trauma for PTSD diagnosis (APA, 2013).

Trauma responses. According to the DSM-5, responses to trauma are characterized as intrusive or avoidant in nature and result in alterations in cognitions, mood, arousal, and reactivity (APA, 2013). Symptoms of intrusion include recurrent, involuntary, and intrusive distressing memories of the event; recurrent distressing dreams; dissociative reactions, or flashbacks; intense or prolonged distress with internal or external cues related to the trauma, and marked physiological reactions to internal or external cues symbolizing the event (APA, 2013). Symptoms of persistent avoidance include avoidance or efforts to avoid distressing memories,

thoughts, feelings, or external reminders related to the trauma (APA, 2013). Negative alterations in cognitions and mood can include inability to remember key aspects of the trauma, exaggerated negative beliefs about self or others, inappropriate blame of self or others, persistent negative emotional state, diminished interest or participation in key activities, detachment from others, or inability to experience positive emotions (APA, 2013). Arousal and reactivity alterations include largely unprovoked irritability or angry outbursts, reckless or self-destructive behavior, hypervigilance, exaggerated startle response, concentration difficulty, and sleep disturbance (APA, 2013).

Posttraumatic stress disorder. To meet diagnostic criteria for PTSD, there must be evidence of at least one symptom of intrusion, one symptom of avoidance, two symptoms of negative alterations in cognitions and moods, and two symptoms of altered arousal and reactivity in relation to the trauma (APA, 2013). These symptoms must have a duration of at least one month and cause clinically-significant levels of impairment that is not attributable to the effects of a substance or other medical or mental health condition (APA, 2013). To clarify, the focus of this study does not include the diagnosis of PTSD, and neither is the ProQOL model associated with or appropriate for diagnostic purposes of any disorder, including PTSD. Discussion of trauma and PTSD is not intended to imply causation or association of this model or this study to the diagnosis of PTSD. However, it is notable that the literature across theories involving indirect traumatic exposure supports that symptom presentation includes parallel similarities to those seen in PTSD, including intrusions, avoidance efforts, negative cognitive and mood alterations, and altered arousal and reactivity (Figley, 1995; Pearlman & Mac Ian, 1995; Stamm, 1995; Stamm, 2010; Violanti & Paton, 1999).

Indirect trauma models. Research has shown that individuals who work with victims of

traumatic events are at risk for developing a variety of negative outcomes including but not limited to burnout, depression, interpersonal difficulties, substance use, and posttraumatic stress disorder (Figley, 1995; Stamm, 2010). A variety of terms to describe these negative outcomes have been identified in the literature, with the most prominent including vicarious traumatization (Pearlman & Mac Ian, 1995), secondary traumatic stress (Figley, 1995; Stamm, 1995), and compassion fatigue (Figley, 1995). Between the Figley (1995), Stamm (1995), and Pearlman and Mac Ian (1995) models, significant research regarding these constructs across international cultures and multiple types of traumatic events has resulted in over 500 papers, books, and articles, nearly half of which are peer-reviewed (Stamm, 2010). As a result, there are three converging literature streams each using a different construct name, yet with no apparent significant delineation between them substantial enough to differentiate the constructs (Stamm, 2010). For the purpose of review, the theory behind each will be explicated.

Vicarious trauma. Vicarious traumatization (VT) is a term used to describe the effects that trauma can have on an individual who is commonly exposed to others' stories of traumatic experiences (Stamm, 2010). Specifically, VT refers to the negative effects that trauma work can have on mental health or other first-responder professionals (Pearlman & Mac Ian, 1995). Conceptualized within the constructivist self-development theory (CSDT), it borrows concepts from self-psychology, object relations theory, and social cognition theories to frame a developmental approach to understanding a survivor's experience of traumatic events (Pearlman & Mac Ian, 1995). CSDT purports that individuals will process trauma as an interaction between their own personal characteristics and the unique aspects of the trauma, while also in the context of systemic social and cultural expectations (Pearlman & Mac Ian, 1995). Vicarious traumatization extends this process to the caregiver, as a transformation occurs as a result of

empathic engagement and continuous exposure to the details of the traumatic event experienced by the survivor (Pearlman & Mac Ian, 1995). Effects of VT include changes in perspectives, worldviews, relationships, and personal coping styles, as the traumatic material is processed by the caregiver as an interaction between personal and vocational variables over time (Pearlman & Mac Ian, 1995).

Secondary traumatic stress. Secondary Traumatic Stress (STS) refers to work-related secondary exposure to traumatic events such as working in an emergency room, with child protective services, or a rape crisis center (Stamm, 1995; Stamm, 2010). For STS to apply, the traumatic event did not directly happen to the worker, but rather the worker was exposed indirectly through responding to the aftermath of the crisis and providing care to the survivor (Stamm, 2010). Symptoms of STS are typically rapid onset, without warning, and may be associated with one particular event or the accumulation of multiple events (Stamm, 2010). Symptoms will be similar in function to those experienced in response to trauma, including fear, hypervigilance, persistent arousal, intrusive thoughts or images regarding the unpleasant event, numbing or detachment from others, and efforts to avoid anything that serves as a reminder (Stamm, 2010; Figley, 1995). STS differs from VT, as STS is specific to the exposure occurring only in the context of work, although VT can occur through work exposure as well (Stamm, 2010). STS is an element of Compassion Fatigue and a part of the Professional Quality of Life model, which developed initially as a collaboration between Figley and Stamm before finally shifting exclusively to Stamm (Stamm, 2010). The other element in Compassion Fatigue is Burnout (Stamm, 2010). The symptoms associated with STS differ from Burnout, as STS is a rapid onset and includes fear, helplessness, confusion, a sense of isolation from support systems, with symptoms often disconnected from real causes (Figley, 1999).

Compassion fatigue. Compassion Fatigue (CF) as a construct refers to the negative consequences, or "cost of caring," (Figley, 1995, p. 2) of working with individuals who have experienced trauma or suffering. Figley argues that symptom presentation and the systemic effect on the family members of those affected are similar to PTSD, with the only notable difference being that PTSD requires direct trauma exposure whereas CF is a result of indirect trauma exposure (Figley, 1995). Significant overlap between CF and cognitive schema associated with low morale in one's personal and professional life has been found (Figley, 1995; Stamm, 1995). Figley reports initial evidence that CF is linked with cognitive schemas related perceptions about self-worth personally and professionally; and the value of family, friends, community, and other social resources (Figley, 1995). This relationship between exposure to trauma, CF, and cognitive processes as it relates to functioning across various life systems is consistent with the theory of VT and CSD (Figley, 1995; Pearlman & Mac Ian, 1995). Further, the similarity to traditional thought on trauma theory and PTSD symptomatology described by Figley in relation to CF echoes the theoretical basis for Stamm's (1995) STS.

Burnout: Relevance, Review, and Role

Relevance. The construct of burnout is not an element of traumatology, nor is it included as a byproduct of indirect trauma in the literature (Figley, 1995; Figley, 1999; Stamm, 2010). However, a brief review of burnout is relevant to this study for three distinct reasons. First, any discussion of work-related stress and the resulting problems experienced by workers usually includes some exploration of the construct of burnout, which is relevant to the subject matter of this study (Malach-Pines & Keinan, 2004; Maslach & Jackson, 1981; Pines & Aronson, 1988). Further, the literature regarding Secondary Traumatic Stress emphasizes the contrasts between STS and Burnout, highlighting the importance of understanding each construct individually and

their respective relationship to Compassion Fatigue (Figley, 1995; Figley, 1999; Stamm, 1995; Stamm, 2010). Finally, the Professional Quality of Life model includes Burnout as one of the contributing constructs to Compassion Fatigue, along with Secondary Traumatic Stress (Stamm, 2010). Therefore, a brief review of the literature regarding Burnout is included in this section.

Review of burnout literature. The term "burnout" was coined by Freudenberger (1974) and expounded upon largely by Maslach and Jackson (1981) and Pines and Aronson (1988), both developing instruments to measure burnout. Pines and Aronson (1988) defined burnout as, "a state of physical, emotional and mental exhaustion caused by long term involvement in emotionally demanding situations" (p. 9). Pines and Aronson (1988) developed the Burnout Measure based upon their definition to measure physical exhaustion, such as fatigue and lack of energy; emotional exhaustion, such as hopelessness and depressed feelings; and mental exhaustion, such as disillusionment or resentment. The most widely used burnout measure is the Maslach Burnout Inventory, which also measures three aspects of burnout: emotional exhaustion, such as feeling emotionally drained; depersonalization, such as feeling hardened emotionally; and reduced personal accomplishment, such as feeling that one's work has a positive impact (Maslach & Jackson, 1981). The overlap between the two measures is emotional exhaustion and is evident in associated characteristics of burnout, which supports that burnout is a gradual process that worsens over time with exposure to job strain and intensive contact with clients, resulting in erosion of idealism and lack of personal achievement (Freudenberger, 1974; Maslach & Jackson, 1981; Pines & Aronson, 1988; Figley, 1995). Through research review, Kahill (1988) identified five categories of burnout symptoms involving physical, emotional, behavioral, vocational, and interpersonal functioning. Physical symptoms included fatigue, sleep disturbance, and various somatic complaints (Kahill, 1988). Emotional symptoms included

irritability, depressed mood, anxiety, hopelessness, and guilt (Kahill, 1988). Aggression, cynicism, defensiveness, callousness, and substance abuse were among the behavioral symptoms (Kahill, 1988). Vocational symptoms included voluntary termination, poor work performance, absenteeism, poor productivity, and theft (Kahill, 1988). Finally, interpersonal symptoms included diminished communication, poor concentration, social withdrawal, and dehumanizing or intellectualizing clients (Kahill, 1988). Overall, burnout occurs gradually due to exhaustion; includes feelings of discouragement and ineffectiveness; and is associated with chronicity, acuity, and complexity of client contact that is perceived to be beyond the ability of the service provider to address adequately (Maslach & Jackson, 1981).

Relevance to current study. Burnout and STS are both included in the Compassion Fatigue construct in the ProQOL model, each representing a different set of outcomes with different etiology (Figley, 1995; Stamm, 2010). After review of both STS and burnout, the differences are clear and most evident in the differences in onset and qualitatively different stressors that contribute to the outcome (Figley, 1995; Kahill, 1988; Malach-Pines & Keinan, 2005; Maslach & Jackson, 1981; Stamm, 2010). STS has a rapid onset, includes helplessness and fear, and is prompted by stressors that are traumatic in nature, resulting in symptom presentation that tends to parallel symptoms associated with trauma responses (Figley, 1995; Figley, 1999; Stamm, 2010). In contrast, burnout has a gradual onset associated with exhaustion and feelings of inadequacy that result in a variety of physical, emotional, behavioral, vocational, and interpersonal symptoms (Figley, 1995; Kahill, 1988; Maslach & Jackson, 1981). Both STS and burnout are pervasive in nature; they may affect various aspects of an individual's functioning; and they may be simultanously applicable to an individual and yet have different pathways and symptom presentation.

Compassion Fatigue Models Adapted for Law Enforcement

Police Compassion Fatigue

Police Compassion Fatigue relates the traumatology concepts of Compassion Fatigue and Secondary Traumatic Stress to the context of the law enforcement organizational and vocational culture while recognizing interfamilial and social systems influences (Figley, 1999). The constructs of CF and STS apply to law enforcement in similar ways to other first responders (Figley, 1999; Violanti & Patton, 1999; Denhof, 2014). However, Figley (1999) argues that the additional stress caused by law enforcement's unique organizational structure and culture results in a much higher likelihood of developing symptoms of CF that are pervasive, severe, and self-perpetuating. Law enforcement professions are more of a way of life than other traditional jobs and involve unique and isolating stressors including shift work, unpredictable assignments, need for confidentiality, danger, public apathy or scrutiny, isolation from family and non-law enforcement friends, and boredom (Figley, 1999). These factors contribute to significant family and marital discord, largely attributed to the way that an officer interacts with three sources: the law enforcement agency, peer and social influences, and the law enforcement officer role in general (Figley; Violanti, 1999).

Socially, when officers initially join a law enforcement agency a certain comradery develops, which provides for the benefits of support, protection, and professional uniformity (Figley, 1999). The values and characteristics of officers often change during their initial phase of police training to incorporate shared values of rigidity, authority, competition, autonomy, rationality, and rule-adherence; all of which contrast to the ideal characteristics of a sensitive, loving, responsive, flexible spouse (Figley, 1999; Gilmartin, 2002). The spouse and children at home do not experience the same changes, and as such the divide begins. Adopting the officer

role requires constant shifting between a peacemaker and enforcer while working and an equal partner and/or sensitive parent at home - contrasting roles for someone also exposed to challenging vocational stressors. The social impact of the officer role is not only a one-sided influence brought in by the officer; children and spouses of officers also report social adjustment difficulties related to the family's affiliation with law enforcement (Figley, 1999). These impacts include being treated differently by peers or community members, expectations of serving as examples for others, and public scrutiny regarding personal life as well as law enforcement issues publicized in media (Figley, 1999; Violanti, 1999). There is growing evidence that family adjustment problems may be more significant regarding an officer's wellbeing than job-related problems; moreover, the family system remains one of the strongest resiliency resources (Danielli, 1999; Figley, 1999). As such, this presents an avenue to address and prevent some negative consequences affiliated with law enforcement work through attending to the interaction within the family. The impact within an officer's family systems is also tied to Secondary Traumatic Stress (Figley, 1999).

As established, the nature of law enforcement includes exposure to primary and secondary trauma (Brower 2013; Denhof et al., 2014; Figley, 1999). Therefore, officers are at risk to experience the effects of Secondary Traumatic Stress due to exposure to others' trauma and wanting to help those individuals (Figley, 1999). In Police Compassion Fatigue (PCF) model, Figley (1999) argues that since the officer is in contact with trauma over time, the family is at risk of developing STS symptoms as well. He terms this as family burnout, yet abandons this term in later work, along with reference to the construct itself. In Figley's (1999) PCF model, he differentiates between what he terms as compassion stress, which is the equivalent of secondary traumatic stress response cited in later work; and compassion fatigue, which he

describes as the long-term effect of residual stress that accumulates through engaging in stressful empathetic interactions over time. Later work developing the Professional Quality of Life model with colleague Stamm, Secondary Traumatic Stress and Burnout are clearly differentiated as two distinct, yet related, constructs contributing to Compassion Fatigue (Stamm, 2010).

Figley's early work on Compassion Fatigue and the PCF model laid the foundation for the development of the constructs of BO, STS, and Compassion Fatigue (Figley, 1995; Figley, 1999; Stamm, 2010). The work and research behind this model is well established, and due to being foundational to the development of the constructs, is indirectly tied and theoretically compatible with other theories and models related to these constructs. A major critique of Figley's (1999) Police Compassion Fatigue model is simply that it was not reviewed or updated since its publication in 1999 to reflect the ongoing development, terminology changes, and validation efforts made toward distinguishing the constructs of Burnout, STS, or Compassion Fatigue. The PCF model is therefore no longer relevant due to organizational model changes in Figley and Stamm's later work further developing the Professional Quality of Life model, particularly the inclusion of both BO and STS into the greater Compassion Fatigue construct (Stamm, 2010). Further, Figley's PCF model contains significantly more inputs into the theory's pathway and model of the ProQOL, whereas the recent ProQOL model is a more concise and updated model with a single validated measurement tool, as opposed to a series of separate measures used to identify the same constructs in Figley and Stamm's earlier work (Stamm, 2010). Therefore, Figley's PCF model is outdated and not reflective of a current understanding of the constructs of STS and CF. Figure 3 is a depiction of Figley's Police Compassion Fatigue model.

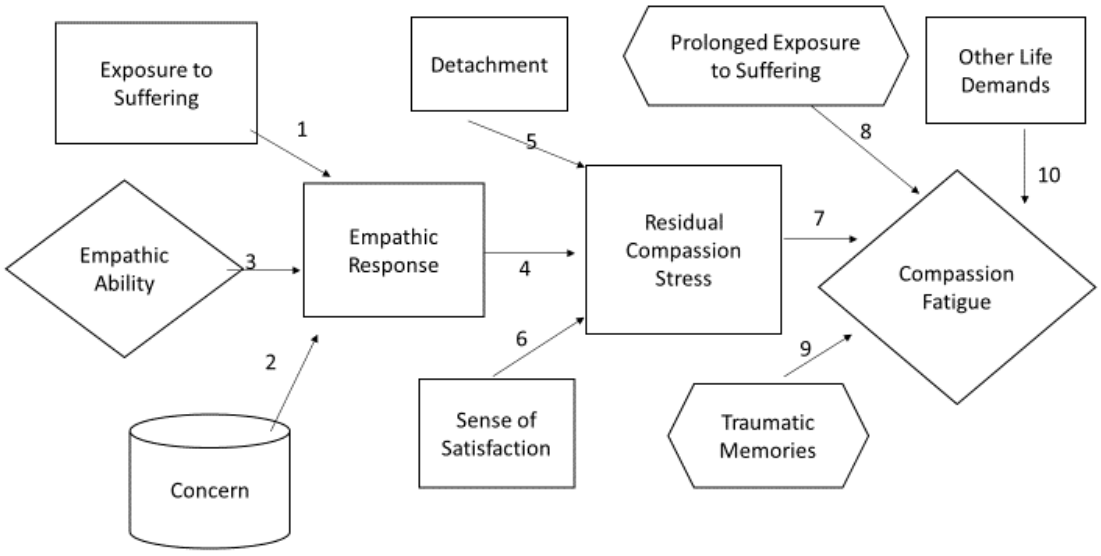


Figure 3. A Model for Police Compassion Fatigue (PCF). Reprinted from *Gift from Within,* by C. Figley (2001) Retrieved from http://www.giftfromwithin.org/html/What-is-Compassion-Fatigue-Dr-Charles-Figley.html

Corrections Fatigue

Corrections Fatigue is a model proposed by Denhof and colleagues through work with the National Institute of Corrections (2014). Corrections Fatigue is described as, "a collection of negative and inter-related consequences upon the health and functioning of corrections professionals and the workplace culture due to exposure to traumatic, operational, and organizational stressors and their interacting consequences" (Denhof et al., 2014, p. 6). The Corrections Fatigue theory draws from Constructivist Self-Development theory (McCann & Pearlman, 1990) as well as Vicarious Trauma theory (Pearlman & MacIan, 1995) to propose that the combination of organizational and operational stressors, along with traumatic experiences of officers have potentially negative impacts that include declined health and functioning, negative

changes in personality, and dysfunctional ideology or behavior (Denhof et al., 2014). As Corrections Fatigue develops, the manifestations tend toward a self-reinforcing and self-perpetuating cycle (Denhof et al., 2014).

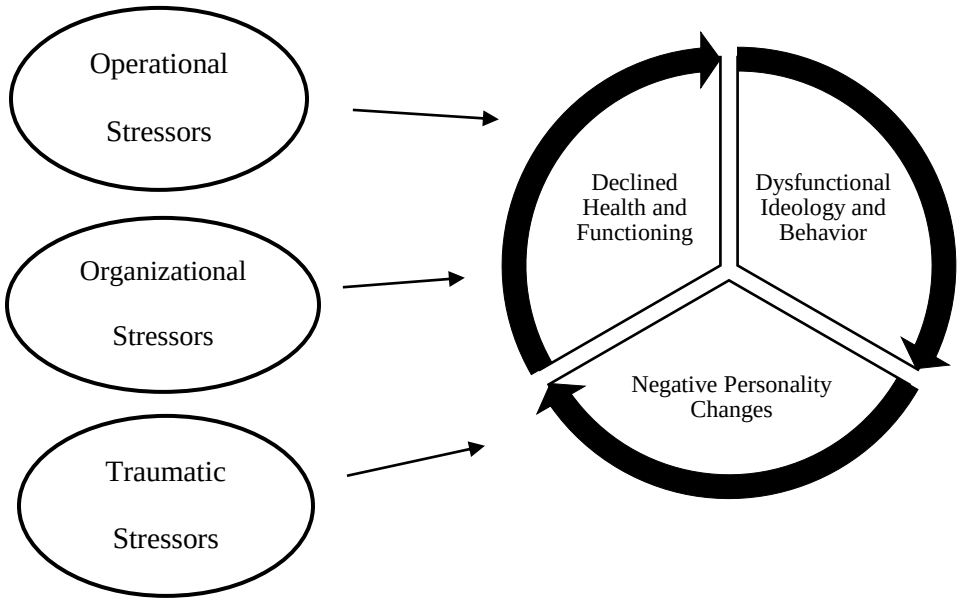
In this model, there are three categories of stressors and three components of Corrections Fatigue (Denhof et al., 2014) Organizational stressors include dual role conflict, difficult social interactions, lack of organizational support, and insufficient education on coping strategies (Denhof et al., 2014). Operational stressors include high workload, mandatory overtime, low autonomy, and harsh physical working environment (Denhof et al., 2014). Traumatic stressors include both direct and indirect exposure to violence, injury, and death (Denhof et al., 2014). Denhof and colleagues (2014) define dysfunctional ideology and behavior as dualistic thinking, "us versus them" perspective, cynicism, workplace alienation, and indifference. Negative personality changes include a negative emotional disposition, declined empathy, social isolation, substance use and experiencing increased negative emotions such as shame, guilt, and anger (Denhof et al., 2014). Finally, declining health and functioning in the Correctional Fatigue model include depressed mood, PTSD, anxiety, anhedonia, increased suicide risk, reduced life satisfaction, physical health problems, and declined performance on the job, in relationships, in caregiving to others, and in attending to personal responsibilities (Denhof et al., 2014).

The Correction Fatigue model (Denhof et al., 2014) combines theory from Vicarious Trauma (Pearlman & Mac Ian, 1985), consistent with Secondary Traumatic Stress theory (Stamm, 1985), and Compassion Fatigue theory (Figley, 1985) to address the impact of trauma in working in law enforcement. It then incorporates organizational and operational stressors as equally contributing factors to Corrections Fatigue that results in outcomes across health, worldview and behavior, and personality (Denhof et al., 2014). A strength of the model is that it

combines the major constructs and outcomes most commonly addressed in the literature relating to correctional officers, providing a holistic model that is relevant to the vocational culture. However, there are also limitations to the model.

The Corrections Fatigue (Denhof et al., 2014) model has disadvantages in comparison to the ProQOL (Stamm, 2010) model in areas including research support, theoretical support, construct development, organization of the model, and measurement utility. Denhof and colleagues (2014) report significant research support for the Corrections Fatigue model, which is based solely upon a literature review of published research regarding organizational, operational, and traumatic stressors; and negative impacts to correctional officers' health, personality, and behavior. While the model has a research-supported rationale, it lacks independent research to support the proposed path analysis specific to the Corrections Fatigue model (Denhof et al., 2014). The organization of the model indicates an equal and collective impact from the three categories of stressors that result in a person experiencing aspects of each of the outcome categories in Corrections Fatigue, which then interact and reinforce each other (Denhof et al., 2014). The outcome variables are generalized categories of various possible outcomes, as opposed to clearly defined constructs justified through identified theory. This is a significant difference between the Corrections Fatigue (Denhof et al., 2014) model and the existing foundational theories of Vicarious Trauma (Pearlman & Mac Ian, 1995), Secondary Traumatic Stress (Stamm, 1995; Stamm, 2010), and Compassion Fatigue (Figley, 1995), which provide detailed theoretical explanations for etiology and symptomatology related to the intersection of vocational and traumatic stress. There is little explanation in this model to help differentiate between the possible outcomes, whereas the ProQOL (Stamm, 2010) model clearly differentiates between acute STS-related outcomes and chronic Burnout-related outcomes. Finally, this model

suggests the use of eight separate assessment tools to measure the presence, severity, and specific problematic areas of Corrections Fatigue (Denhof et al., 2014), including three scales developed by Denhof and available via Desert Waters, his non-profit organization's website: Corrections Fatigue Status Assessment-v5 (Denhof, 2014a); Depression Danger Scale (Denhof, 2014b); and the Violence, Injury & Death Exposure Scale (Denhof, 2014c). Additional suggested assessments include Depression, Anxiety, and Stress Scale-21 (Henry & Crawford, 2005), Life Events checklist for DSM-5 (Weathers et al., 2013), Maslach Burnout Inventory (Maslach et al., 1996), Post-Traumatic Checklist-Civilian (Weathers et al., 1994), PTSD Checklist for DSM-5 (Weathers et al., 2013). Measuring Corrections Fatigue using eight assessments creates significant practicality barriers due to the time and expense involved in assessing, scoring, and interpreting. There are numerous variables across these assessments, which significantly complicates the results and an organization's ability to have a response plan for each scenario. In contrast, the ProQOL's model has a research-validated 30-item inventory with three clearly defined variables that theoretically imply applicable intervention strategies (Stamm, 2010). The model depicting the Corrections Fatigue process can be seen below in Figure 4.



Corrections Occupational Stressors **Corrections Fatigue**

Figure 4. Corrections Fatigue Process Model. Reprinted from *Occupational stressors in corrections organizations: Types, effects, and solutions,* by M. Denhof, C. Spinaris, & G. Morton. U.S. Department of Justice National Institute of Corrections. Copyright 2014.

Professional Quality of Life Model

Professional quality of life for caregivers has been a growing topic of interest for over twenty years, with substantial research corroborating that providing care to individuals affected by traumatic events may have negative effects on the caregivers (Figley, 1995; Pearlman & Mac Ian, 1995; Stamm, 1995, 2010). Compassion fatigue (Figley, 1995), vicarious traumatization (Pearlman & Mac Ian, 1995), and secondary traumatic stress (Stamm, 1995) are the three terms most frequently cited and researched to describe the negative effects associated with caregiving. Figley developed an initial measure, the Compassion Fatigue Self Test in the late 1980s, and shortly after began collaborating with Stamm (Stamm, 2010). In 1993, Stamm added the concept of Compassion Satisfaction to the model, restructuring Figley's initial measure to the Compassion Satisfaction and Fatigue test (Stamm, 2010). After several revisions, the model shifted entirely to Stamm in the late 1990s and was renamed the Professional Quality of Life Scale (Stamm, 2010). It is important to understand that both Figley and Stamm's initial work on the constructs of Compassion Fatigue and Secondary Traumatic Stress evolved over the years, and therefore may be theoretically explained with slight differences depending on the year of the publication. In the following review of the constructs relative to the ProQOL model, the theory is explained from the most recent version of the ProQOL model (Stamm, 2010).

Compassion Satisfaction

Compassion satisfaction is the pleasure experienced as a result of doing one's job well and valuing the positive aspects of the work performed (Stamm, 2010). Positive feelings about colleagues, personal competency, or promoting the greater good of society are all aspects that can be included in Compassion Satisfaction (Stamm, 2010).

Compassion Fatigue

Compassion Fatigue incorporates the negative aspect of one's work in a helping role (Stamm, 2010). The construct has two parts: Burnout (BO) and Secondary Traumatic Stress (STS) (Stamm, 2010). BO concerns experiences of exhaustion, frustration, depression or anger, while STS is fear-driven due to work-related trauma (Stamm, 2010).

Burnout. Burnout is one of the two elements comprising Compassion Fatigue (Stamm, 2010). It is associated with feelings of hopelessness and difficulty with job performance, heavy workload, feelings of ineffectiveness at work, or a non-supportive work environment (Stamm, 2010). Burnout is typically a gradual process but can contribute to eventual depression if it persists (Stamm, 2010).

Secondary Traumatic Stress. Secondary Traumatic Stress (STS) is the second component of Compassion Fatigue and is in response to work-related exposure to individuals who have experienced traumatic or extremely stressful events (Stamm, 2010). STS has similar symptomatology to Post Traumatic Stress Disorder (PTSD), including fear, intrusive images, avoidance, and sleep difficulty (Stamm, 2010). These symptoms usually develop rapidly and can be associated with a single event, or emerge from a cumulative effect of multiple trauma inputs (Stamm, 2010).

Theoretical Path Analysis

The two major constructs in the ProQOL model are Compassion Satisfaction (CS), or the positive aspects of helping others, and Compassion Fatigue (CF), or the negative aspects (Stamm, 2010). Three environments contribute to a worker's overall CS and CF: the work environment, the environment of the person helped, and the personal environment of the worker (Stamm, 2010). CS may help moderate these environments' effects toward CF outcomes (Stamm, 2010). CF contains two distinct constructs: Burnout (BO), which is characterized by exhaustion and frustration; and Secondary Traumatic Stress (STS), characterized by fear as a result of exposure to the trauma of those helped (Stamm, 2010). This model is depicted in Figure 5.

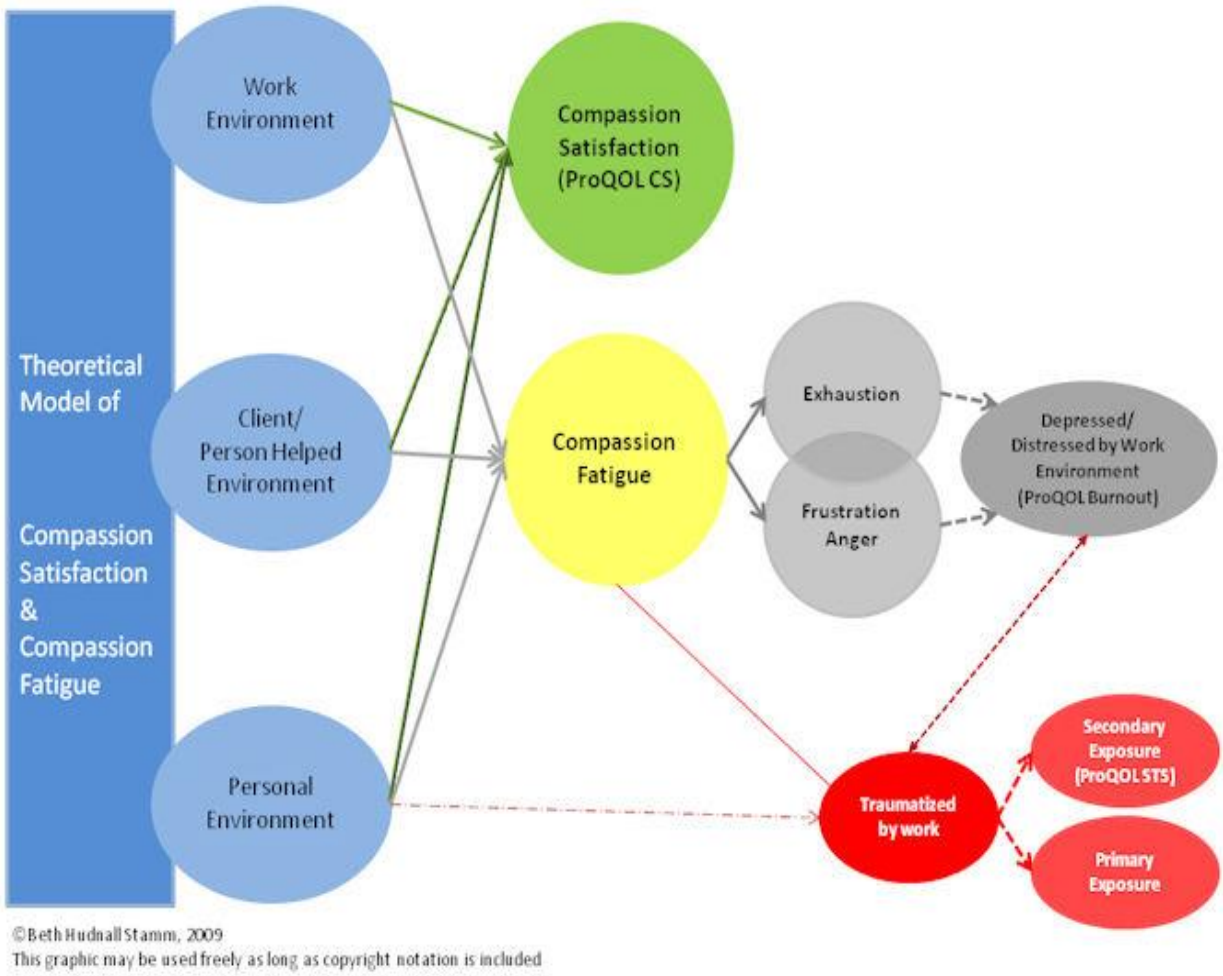


Figure 5. ProQOL Theoretical Path Analysis. Reprinted from ProQol.org, by H. Stamm, (2009), Retrieved from http://www.proqol.org/Full_CS-CF_Model.html.

Interventions

A strong advantage to the ProQOL model is that it provides a platform for positive change and intervention approaches (Stamm, 2010). With consideration for both what is going right and can be made better, as well as what is going wrong and may or may not be made better, there is an opportunity for each worker to create a personalized plan individually, with family, or with a professional (Stamm, 2010). Changes within a work group are also a consideration.

Organizational prevention programs help maximize CS and reduce BO and STS by addressing the potential for the work to affect the worker from the onset of employment (Stamm, 2010). Such programs are considered both prevention and intervention strategies to be employed at the group and organizational level (Stamm, 2010). The ideal environment would be one that promotes high CS with low BO and STS throughout the workforce, as is the goal of the prevention programs. However, even in environments that do not meet the ideal outcomes, certain combinations of scores imply targeted interventions (Stamm, 2010). For example, with groups that tend toward high CS and high STS, there tends to be a strong sense of altruism and effectiveness on the job (Stamm, 2010). Such environments tend to respond well to short STS interventions to address fear-based symptoms which can be achieved in vivo in addition to building their sense of altruism by encouraging the idea that they are contributing to the greater good in their work (Stamm, 2010). Organizations that tend toward high BO with moderate to low CS and STS should consider organizational strategies to support workers' goals, change routines, and encourage work-life balance (Stamm, 2010). When high STS and low BO and CS are present, the problems tend to be more fear-based and respond well to immediate treatment interventions for traumatic stress that focuses specifically on fear-related work experiences (Stamm, 2010). The most problematic combination is low CS and high BO and STS, which is high risk for the individual and the work setting (Stamm, 2010). In such cases, individualized interventions are recommended, particularly working toward increasing personal efficacy by building skills and strengthening systems (Stamm, 2010).

Summary

It is firmly established that a career in corrections involves substantial risk for negative outcomes, and subsequently, the development and implementation of preventative programs has

become a recognized need (Denhof et al., 2013; Keinan, 2007; Trounson et al., 2016). Despite significant research to establish risk, there has been limited success in identifying effective strategies, resulting in a call for increased research to help inform best practices (Dowden & Tellier, 2004; Trounson et al., 2016; Webster, 2013). Any proposed intervention strategy must not only be predicated by a demonstration of need (Trounson et al., 2016), but must also be theoretically-driven with standardized instruments (Dowden & Tellier, 2004; Webster, 2013). Establishing a theoretically sound model with validated instruments and constructs within the correctional officer population is the foundation upon which ethical and effective intervention strategies can be developed and validated. The ProQOL (Stamm, 2010) model has been established cross-occupationally among helping professions and first responders, but not yet among corrections professionals. Utilizing a cross-occupational approach has two advantages toward the efforts of the correctional community to address officer wellness: (a) provides a useful comparison between correctional law enforcement and other similar professions on established variables with an instrument validated in those professions, and (b) forms a foundation of an evidence-based rationale for implementation of interventions that are likely to be effective based upon demonstrated and shared underlying characteristics within the populations (Trounson et al., 2016). Therefore, there is significant benefit to establishing the ProQol model (Stamm, 2010), a valid and reliable measure, among correctional officers, linking the population to the greater literature base of first responders and health care workers along the constructs of compassion fatigue, compassion satisfaction, burnout, and secondary traumatic stress (Stamm, 2010).

CHAPTER 3: METHODS

This study was conducted to determine the model-fit and validity of the Professional Quality of Life model among correctional law enforcement officers and includes the constructs of Compassion Fatigue, Burnout, Secondary Traumatic Stress, and Compassion Satisfaction (Stamm, 2010). By collecting data from surveys among tenured correctional officers, a Confirmatory Factor Analysis (CFA) with a Structural Equation Modeling (SEM) approach may be used to verify the model's function and fit within this specific population. The expected relationship between the variables will also be evaluated to demonstrate consistency within the population.

Research Design and Approach

To establish the ProQOL model in the Correctional Officer population, this study seeks to demonstrate replication through Confirmatory Factor Analysis of the model's factors including Compassion Satisfaction, Burnout, and Secondary Traumatic Stress. Next, this study seeks to demonstrate that the relationship of the outcome variables among correctional officers are consistent with the expected relationships per the ProQOL model. The data were also examined for fitness to the expected model's factors through Structural Equation Modeling.

Selection of Participants

The participants in this study are comprised of the entire staff of correctional officers currently employed at Fayette County Detention Center in Lexington Kentucky at the time of the study. Therefore, the population includes male and female; African American, Caucasian, Hispanic, and Asian; active military, veteran, and non-military; of ages between 21 – 68; and various levels of education, tenure, and previous law-enforcement experience. The total number

of employees at the time of the study was reported as 282 with 235 officers scheduled to participate in annual block-training and initial survey administration. Staff excluded from annual block training are newly hired officers and administrative non-sworn employees. A follow-up survey administration was completed that included the entire workforce again, including the those previously not surveyed, which resulted in an additional 62 officers completing the first-time survey, and 229 surveys completed in total. Due to active employment status, it is assumed that no participants had active psychosis, a debilitating cognitive disorder, or intellectual deficiency that hindered full participation in this study. There are no researcher-enforced exclusions or exemptions on participation. However, participants were permitted to refuse completion of the survey if they so chose.

Instrumentation

ProQOL

The instrument used in this study, the Professional Quality of Life scale, ProQOL, is a 30-question self-report survey with three subscales: compassion satisfaction (CS), burnout (BO), and secondary traumatic stress (STS), the latter two comprising the construct of Compassion Fatigue (Stamm, 2010). The items are answered on a 5-point Likert scale: 1= Never, 2= Rarely, 3= Sometimes, 4= Often, 5= Very often (Stamm). The compassion satisfaction (CS) scale measures the satisfaction one gains from being able to do one's work well, with an average score of 37, a standard deviation of 7, and alpha reliability of .87 (Stamm, 2005). The range of scores considered typical of Compassion Satisfaction fall between 42 and 33, with higher scores reflective of greater satisfaction (Stamm). The Burnout (BO) scale measures feelings of hopelessness, ineffectiveness, high workload, or unsupportive work environment, with higher scores meaning a greater risk of burnout (Stamm). The typical range of Burnout is between 27

and 18, with the average being 22, a standard deviation of 6, and alpha reliability of .72 (Stamm). The Secondary Traumatic Stress (STS) scale measures one's response to being exposed to others' traumatic events, with an average score of 13, a standard deviation of 6, and alpha reliability of .80 (Stamm). The range of scores considered typical for STS fall between 17 and 8, with higher scores indicative of fearful responses (Stamm). In the latest revision of the ProQOL-IV to the ProQOL-5, the nearly identical versions promote a transition to converting raw scores to t-scores (means=50; SDs=10, alpha reliabilities for CS .88, BO .75, and STS .81) to promote equilibration of mean scores across the scales and versions (Stamm, 2010). This study includes both the initial raw data calculated per the scoring instructions available in the manual as well as transitioned t-scores obtained from the conversion table as found in the manual (Stamm). To score, first reverse items 1,4,15,17, and 29; then sum the items for each subscale (Stamm). CS includes items 3, 6, 12, 18, 20, 22, 24, 27, and 30 (Stamm). BO includes items 1, 4, 8, 10, 15, 17, 19, 21, 26, and 29 (Stamm). STS includes items 2, 5, 7, 9, 11, 13, 14, 23, 25, and 28 (Stamm). A programmed excel sheet was used to manually enter each survey and calculate output scores for each of the subscales. These scores were recorded on a separate excel sheet, referenced by the participant's randomly assigned number.

Construct validity has been established with over 200 published papers (Stamm, 2010). At the time of the manual's publication, of 100 published research papers on Compassion Fatigue, Secondary Traumatic Stress, and Vicarious Traumatization, nearly half utilized one of the versions of the ProQOL (Stamm). The Compassion Fatigue scale has two distinct subscales of Burnout and SecondaryTraumatic Stress, which while both measure negative affect and distress common to both conditions, only the STS scale includes fear (Stamm). The shared variance between BO and STS is 34% (r= .58, n= 1187). The Compassion Fatigue inter-scale

correlations show 2% shared variance (r=.23) with STS and 5% shared variance (r= -.14) with Burnout (Stamm).

Research Procedures

Survey administration occurred in two contexts: tenured staff through block training participation, and facility-wide follow-up survey six months after the conclusion of block training. Tenured correctional staff members were assigned a block-week of educational training which took place over 14 weeks until all assigned staff had completed their training, with a total of 235 officers assigned to block training over the 14 weeks. Initial survey administration took place during these 14 weeks of block training. A follow-up survey administration was completed by this researcher six months after the conclusion of the block training by visiting shift-briefings for all departments and all shifts on two non-consecutive days per each over a two-week time period until all employed staff members were offered the survey. For most staff, this was the second administration. However, staff who were not originally assigned to block training for the 14 weeks were able to complete their first survey at this time. This second-round administration resulted in 62 additional first-time surveys collected. All administrations were facilitated by this researcher; and included the same informed consent, survey administration instructions, explanation of voluntary participation, and of means to ensure confidentiality and anonymity.

The researcher was responsible for teaching a self-care class for officers each of the 14 weeks of block training. At the beginning of the researcher-led self-care training for each week, the survey was provided to the correctional staff in attendance, along with an informed consent for participation, and the option to complete the survey or not. Training credit for attending the class was awarded regardless of survey completion, with no penalty or reward contingent upon participation. All staff members were instructed regarding the randomized number list to use,

with confidentiality and anonymity explained. A randomized number list of the officers was created by a major within the facility that listed each employee number of any active employee along with a unique randomized number. This document was printed and provided to the researcher without any electronic copy maintained by the facility. The researcher did not have access to employee numbers, therefore maintaining a blind study with anonymous data entries. The randomized number list was used in order to create a unique identity for each participant in the event of repeated or continued surveys to be administered in the future. The researcher was the only person who administered, collected, stored, and entered the surveys. Survey data were entered into a pre-programmed Excel sheet by the researcher and saved on a flash drive to which only the researcher had access. Following the conclusion of the study, a back-up copy of the survey data were saved to the researcher's secure cloud drive and secured with a two-step verification - with no other individual having access to passwords or the verifying method. Original surveys and informed consents are maintained in separate folders at the researcher's residence under lock. At no time did any detention center or county government employee ever have access to, or request access to, individual scores. If an individual requested his or her own scores, he or she could choose to provide the researcher with his or her employee number, at which time the randomized number list was referenced, and scores were obtained via the spreadsheet and provided to the staff member.

Data Processing and Analysis

Each survey was initially entered into a programmed Excel sheet to record all survey item scores and calculate each factor's total score in raw data format. Confirmatory Factor Analysis and Structural Equation Modeling is completed using the SPSS computer program.

The first four research questions pertain to analyzing replication of the ProQOL model among correctional officers were explored using CFA and SEM processes for the factors of Compassion Satisfaction, Burnout, and Secondary Traumatic Stress. In addition, the internal consistency of the scores for each of the factors was confirmed for adequacy. Intercorrelations among the factors to determine shared variance were assessed. Finally, an examination of model-fit was completed.

A Pearson-r correlation will be used to evaluate research questions 4-6, that among correctional officers, that as compassion satisfaction increases, burnout will decrease (research question 4), that as compassion satisfaction increases, secondary traumatic stress will decrease (research question 5), that as burnout increases, secondary traumatic stress will increase (Research question 6). The Pearson-r correlation is suited for these hypotheses due to the need to compare the relationship between two variables measured on interval scales (Kaufman & Kaufman).

Summary

To establish the ProQOL model in the Correctional Officer population, this study seeks to demonstrate replication of the model's factors including Compassion Satisfaction, Burnout, and Secondary Traumatic Stress. This study has also sought to demonstrate that the relationship of the latent variables among Correctional Officers are consistent with the expected relationships per the ProQOL model. This study was conducted by collecting ProQOL surveys from correctional officers employed at the Fayette County Detention Center. Results from the surveys were then analyzed utilizing a CFA with SEM approach in order to assess for replication of the theoretical model's fit and function within this specific population.

CHAPTER 4: RESULTS

Purpose of the Study

This research is an attempt to establish the validity of a theoretically-driven model, the Professional Quality of Life model (Stamm, 2010), within the specific population of correctional law enforcement officers. Using Confirmatory Factor Analysis (CFA) with a Structural Equation Modeling (SEM) approach, this study sought to determine if the data obtained from correctional officers fit the ProQOL (Stamm, 2010) model in theory and structure through an examination of the constructs of Burnout, Secondary Traumatic Stress, and Compassion Satisfaction.

This chapter provides the results as analyzed using SPSS-AMOS © for each research question posed. Research questions 1-4 were analyzed utilizing a CFA with an SEM approach in order to examine the model's fit and validity of the constructs within the population. Research questions 5-7 analyze the relationships between the variables using Pearson's correlation coefficient, also obtained through SPSS.

Research Question 1: Replication of the Theoretical Model

The first research question of this study asked if the theoretical ProQOL model would be replicated in this vocational-specific population of correctional officers. A confirmatory factor analysis (CFA) with an SEM approach was conducted in order to confirm that the ProQOL theory would demonstrate its three-factor structure as well as show minimal difference between the estimated population covariance matrix and the observed covariance matrix in this specific vocational population. Figure 6 depicts the structural model to illustrate the relationships

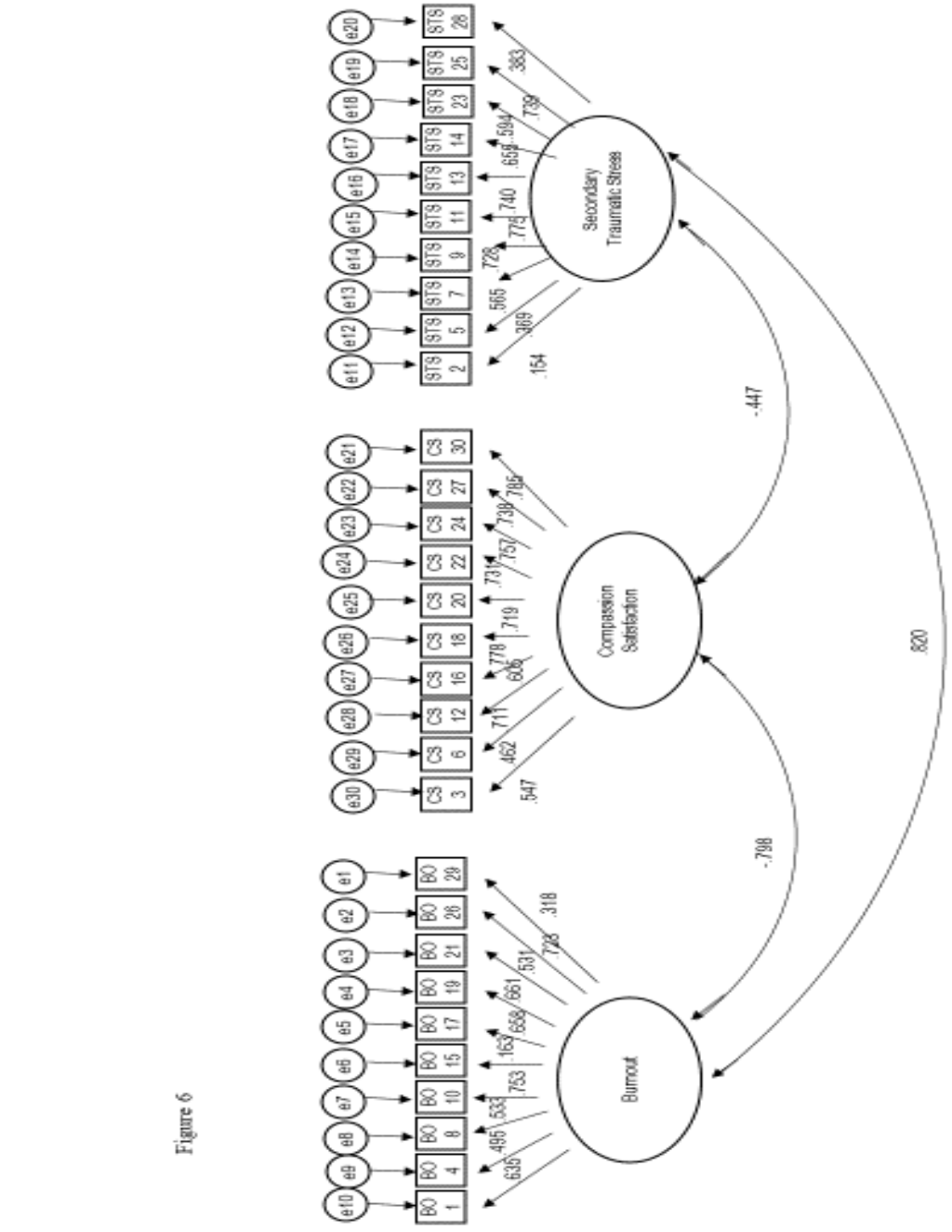


Figure 6. Structural Model

Table 1
Maximum Likelihood Estimates for the Three Factor ProQOL Model

	Unstandardized (Standardized)					
Indicators	Estimate	SE	Observed variance		Estimate	SE
	Regression coefficients				Error variances	
BO29	1 (**0.318**)		0.101	e1	0.663***	0.047
BO26	3.026*** (0.723)	0.496	0.523	e2	0.624***	0.049
BO21	2.326*** (0.531)	0.412	0.282	e3	1.026***	0.075
BO19	2.57*** (0.661)	0.429	0.437	e4	0.634***	0.048
BO17	2.341*** (0.658)	0.392	0.433	e5	0.534***	0.041
BO15	0.682** (**0.163**)	0.24	0.027	e6	1.268***	0.09
BO10	3.163*** (0.753)	0.515	0.567	e7	0.57***	0.046
BO8	1.717*** (0.533)	0.304	0.254	e8	0.551***	0.04
BO4	1.581*** (0.495)	0.286	0.245	e9	0.573***	0.042
BO1	1.863*** (0.635)	0.314	0.403	e10	0.383***	0.029
STS2	1 (**0.154**)		0.024	e11	1.254***	0.089
STS5	1.896** (**0.369**)	0.69	0.136	e12	0.695***	0.05
STS7	3.238** (0.565)	1.126	0.319	e13	0.68***	0.051
STS9	3.944** (0.728)	1.351	0.53	e14	0.421***	0.034
STS11	4.833** (0.775)	1.652	0.601	e15	0.475***	0.041
STS13	3.515** (0.74)	1.204	0.548	e16	0.311***	0.026
STS14	2.925** (0.655)	1.007	0.429	e17	0.347***	0.027
STS23	3.467** (0.594)	1.201	0.353	e18	0.672***	0.051
STS25	3.985** (0.739)	1.365	0.546	e19	0.401***	0.033
STS28	1.882** (**0.383**)	0.681	0.147	e20	0.627***	0.045
CS30	1 (0.785)		0.616	e21	0.394***	0.032
CS27	0.801*** (0.738)	0.051	0.545	e22	0.339***	0.027
CS24	0.855*** (0.757)	0.053	0.573	e23	0.345***	0.028
CS22	0.913*** (0.731)	0.059	0.534	e24	0.459***	0.036
CS20	0.851*** (0.719)	0.056	0.517	e25	0.429***	0.033
CS18	0.903*** (0.778)	0.054	0.605	e26	0.337***	0.028
CS16	0.588*** (0.605)	0.047	0.366	e27	0.379***	0.028
CS12	0.76*** (0.711)	0.051	0.506	e28	0.357***	0.028
CS6	0.505*** (0.462)	0.055	0.213	e29	0.596***	0.043
CS3	0.521*** (0.547)	0.047	0.3	e30	0.401***	0.029
	Factor variances/ covariances		Factor correlations			
BOTOT	0.074**	0.024				
STS1	0.03	0.021				
CS1	0.634***	0.069				
BOTOT <-> STS1	0.039**	0.015	0.82			
BOTOT <-> CS1	-.173***	0.031	-0.798			
STS1 <-> CS1	-0.062**	0.023	-0.447			

Note. Indicators with weak regression weights are in bold, including 5 of 30 indicators.

*p < .05, **p <.01, ***p < .001

between the factors and indicators, including factor loadings and correlations. As seen in the figure, of the 30 factor loadings, all but five show moderate to strong correlations with the expected indicators, all of which were positive and significant. These correlations are also shown in Table 1, providing both unstandardized and standardized regression coefficients, error variances, standard errors, factor variances and covariances, and observed variance. The model is expected to show correlations between the factors, which is replicated in this study, with burnout (BO) and secondary traumatic stress (STS) found to have a correlation of .820, BO and compassion satisfaction (CS) a negative correlation of -.798, and STS and CS to have a negative correlation of -0.447. Structurally, the model has been replicated.

From a measurement stance, the interrelationships and covariation must be considered in reference to model replication (Shreiber, Stage, Nnora, Barlow & King, 2006). Figure 7 depicts the standardized residual covariance matrix. Of 465 scores, 56 were greater than 1.96, which is over the ideal threshold of 5% for model of good fit (Field, 2013). It is plausible that this misfit is localized to a few indicators, rather than a depiction of overall model misrepresentation. Despite this deviation from model prediction, the overall structural components and factor loadings show acceptable model replication overall. Some error among indicators is expected, to which evaluation of the latent variability and error may identify possible modifications. Before model modification is recommended, assessment of model fit and reliability need to be considered (Kline, 2016; Shreiber et al., 2006).

Figure 7

Standardized Residual Covariances																															
	CS3	CS6	CS12	CS16	CS19	CS20	CS22	CS24	CS27	CS30	STS28	STS25	STS23	STS14	STS13	STS11	STS9	STS7	STS5	STS2	BO1	BO4	BO8	BO10	BO15	BO17	BO19	BO21	BO26	BO29
CS3	0																													
CS6	**2.761**	0																												
CS12	0.081	0.468	0																											
CS16	1.084	-0.389	-0.427	0																										
CS19	-0.985	-0.226	-0.148	-0.076	0																									
CS20	1.241	1.098	-0.816	0.607	-0.019	0																								
CS22	-0.182	-0.839	0.089	-0.809	-0.512	0.098	0																							
CS24	-0.068	-0.918	0.57	0.076	-0.966	0.27	1.035	0																						
CS27	-0.206	0.882	-0.908	0.789	-0.443	0.613	0.877	1.235	0																					
CS30	-1.192	-0.958	1.666	-0.48	0.982	-0.725	-0.187	-0.472	-1.243	0																				
STS28	0.297	-0.055	0.406	-1.549	0.362	0.252	-0.175	-1.074	-0.293	-0.605	0																			
STS25	0.255	-0.128	-1.425	0.36	-1.089	0.718	0.076	-0.157	0.269	-1.522	1.544	0																		
STS23	-0.123	-0.185	-1.4	1.278	-1.445	0.125	-0.768	-1.618	-0.589	-1.388	1.703	1.189	0																	
STS14	**2.45**	0.858	0.179	**2.383**	1.195	**3.305**	1.171	0.896	1.94	0.986	0.348	-0.065	1.473	0																
STS13	0.096	-0.065	-0.196	0.311	0.219	1.829	1.586	0.303	0.359	0.11	0.782	-0.398	-0.382	**2.557**	0															
STS11	-0.759	-0.849	-0.518	-0.133	**-2.673**	-0.688	-0.887	-0.297	-0.469	**-2.421**	-1.901	0.078	-0.887	-1.613	-0.6	0														
STS9	0.378	-0.978	-0.284	1.705	0.1	1.438	1.135	1.658	1.069	-0.638	-0.125	-0.003	-0.918	1.26	0.813	-0.098	0													
STS7	0.78	0.743	0.822	-0.675	-1.762	1.506	-0.108	1.007	-0.711	-0.147	-0.176	-0.427	-0.679	-1.031	-0.68	0.985	-1.324	0												
STS5	1.481	0.079	1.258	1.934	-0.948	-0.193	-0.029	-0.794	-1.307	0.026	-0.255	-1.16	1.15	-0.318	-1.24	0.533	0.601	**2.014**	0											
STS2	**3.734**	0.964	1.719	1.651	0.523	**2.777**	1.853	**2.934**	1.816	0.731	-1.746	-0.504	0.497	-0.431	-1.788	0.223	1.282	1.559	**2.086**	0										
BO1	-1.322	-0.671	0.141	-1.497	**-2.102**	-0.535	-0.321	-0.777	-0.557	-1.749	-0.596	-1.113	-0.688	**-2.961**	-1.517	-0.738	**-2.146**	-0.221	-1.638	**-2.492**	0									
BO4	**-2.773**	**-2.516**	-0.866	-1.748	**-2.309**	**-2.484**	-1.093	-1.265	**-2.532**	**-2.551**	-1.579	-1.109	-1.612	**-4.325**	-1.949	-1.052	-2.3	-1.159	-1.117	-0.348	**3.508**	0								
BO8	1.834	**2.515**	-0.068	1.182	1.913	**3.111**	1.283	**2.566**	**2.904**	0.172	**2.344**	**3.024**	**2.272**	**4.357**	**3.057**	**2.223**	**5.137**	**2.603**	-0.139	1.463	-1.377	**-2.475**	0							
BO10	0.464	0.823	0.497	1.506	-0.699	2.208	0.996	1.549	1.187	-0.605	-0.726	1.021	-0.077	-0.712	-0.077	**3.145**	0.961	1.724	0.574	-0.675	-0.97	-1.295	0.55	0						
BO15	-0.95	**-3.608**	-0.038	**-3.382**	-0.805	-0.421	-0.445	-0.796	**-2.202**	0.721	-1.092	-0.395	0.199	-0.806	-0.83	-0.202	-1.286	-0.591	-0.894	0.294	-0.415	0.498	-0.008	-0.794	0					
BO17	-0.361	0.635	0.969	-1.493	**-2.599**	-1.029	-0.666	-0.407	-1.416	-1.767	-0.689	-0.549	-0.023	**-2.599**	-1.556	0.605	-1.866	1.423	-0.764	-1.526	1.206	1.913	-1.075	-0.471	0.961	0				
BO19	1.642	-0.767	1.558	1.875	-0.718	0.94	1.149	1.26	1.154	0.382	-0.425	-0.317	0.53	-1.575	-0.43	1.95	-0.449	1.807	1.684	1.497	0.692	-1.337	-0.669	0.127	-0.102	-0.812	0			
BO21	-0.047	-0.668	1.751	0.723	0.573	0.808	**2.071**	1.557	1.598	1.029	0.833	-0.221	0.85	-0.309	-0.348	1.25	-0.926	1.099	0.743	1.317	0.124	-0.096	-0.821	-0.285	-0.099	-1.251	**3.257**	0		
BO26	0.581	0.667	0.575	0.673	-1.232	1.681	0.126	1.017	0.912	-0.604	-0.849	-0.373	-0.698	-1.646	-0.287	**2.083**	-1.256	0.308	-0.33	-0.197	0.097	-0.835	-1.031	0.822	-0.402	-0.445	1.357	1.794	0	
BO29	**-6.42**	**-2.356**	**-3.133**	**-3.744**	-1.251	**-4.048**	-1.787	**-4.056**	**-2.719**	**-3.546**	-0.033	-0.81	-1.002	**-2.393**	-1.525	-1.939	-1.865	**-2.801**	-1.575	**-3.684**	0.667	**2.188**	-1.774	-0.826	0.549	0.851	**-2.958**	-0.8	-1.492	0

Figure 7. Standardized Residual Covariance Matrix

Research Question 2: Three-Factor Model Fit

The second research question asks if the observed data obtained from the Correctional Officers best fit the three-factor ProQOL model as opposed to a modified model-fit. Before a model modification may be proposed, evaluation of the fit of the theorized three-factors in the ProQOL model should occur. Assessing model fit includes considering model fit indices as well as standardized residual covariances. Model fit indices were calculated through SPSS and summarized in Table 2.

The Chi-Square results were 1212.105 with 402 df with $p < .001$, therefore rejecting the fit of the model. However, the Chi-Square test has limitations. Chi-Square test is highly powered and tends to reject studies with a high sample size (Field, 2013). Therefore, other model-fit indices should be considered. In general, Hu and Bentler (1998, 1999) suggest a 2-index presentation strategy that includes always reporting the Standardized Root Mean Residual (SRMR) and one other of the following: Comparative Fit Index (CFI), Relative Noncentrality Index (RNI), Incremental Fit Index (IFI), or Root Means Squared Error of Approximation (RMSEA). Of these, the CFI, RNI, and IFI are incremental fit indexes, which assumes all covariances are zero without relationships among variables. The ProQOL model contains expected relationships between the variables; therefore the RMSEA, an absolute fit index that follows a noncentral distribution, is more appropriate (Kline, 2016).

The Standardized Root Mean Residual (SRMR) is an effect size measure. The SRMR measure for this study was .0728, which is below the cut-off of .08 and is considered an indication of a good fit (Hu & Bentler, 1998). Hu and Bentler (1998) recommend always reporting the SRMR, as it is considered the most sensitive fit index to simple model misspecification.

The RMSEA is an absolute fit index, which evaluates misfit in an absolute sense in relation to the model fit alone by utilizing the non-centrality parameter similar to Chi-Square but is calculated per degree of freedom without respect to an arbitrary baseline model (Kline, 2016). This makes it an absolute estimate, which provides a more relevant and accurate model-fit calculation in comparison to the Chi-Square test, given the sample size of this study. The RMSEA in this study is .071, falling within the accepted range of .05-.08, indicating a moderate model-fit (Browne & Cudeck, 1993).

When evaluating model fit, one must also consider residual covariances. Covariance among factors is assumed in CFA models, with the expectation that the correlations should be stronger between the factors and the indicators proposed to measure them (Kline, 2016). It is preferable to have standardized residual covariances to remain less than the absolute value of 1.96 with 95% consistency overall (Field, 2013). However, more liberal thresholds have been suggested, including absolute value of 3 or even 4 to assist in identifying localized areas of misfit (Byrne, 1998). As previously stated, of 465 residual covariances, 52 were greater than 1.96, which is over the ideal threshold of 5%, or 23 items, for a model of a good fit. However, using the more liberal level of 3, this number dropped to 16, and at four was dropped to six, three of which are related to a single indicator. Considering the residual covariance outliers under both a strict and a more liberal lens, the model fit is best described as moderate in relation to residual covariance.

In sum, the ProQOL three-factor model was evaluated for fit in the correctional officer population using model fit indices of Chi-Square, SRMR, and RMSEA, followed by an evaluation of the standardized residual covariance matrix. The model fit indices suggest a moderate fit. The standardized residual covariance matrix also suggests a moderate model fit.

Therefore, it can be concluded that this model adequately reproduces the characteristics of the sample observed.

Table 2
Values of Fit Statistics

Fit Index	Result	Cut off	Interpretation
χ^2 [df,p]	1212.105 [402, p <.001]	Ratio χ^2 to df < 2 or 3	Rejected
df	402		
p	p < .001	p not significant	
RMSEA [90% CI]	.071 [.066, .076]	.06-.08	Moderate model fit
SRMR	.0728	.05-.08	Moderate model fit

Note: CI = confidence interval, df = degrees of freedom, RMSEA= root mean square error of approximation, SRMR = standardized root mean square

Research Question 3: Internal Consistency of Factors

The third research question asked if the internal consistency of the scores for each of the factors of Compassion Satisfaction, Burnout, and Secondary Traumatic Stress would continue to be at least .70. Evaluation of internal consistency is necessary to determine the reliability of the measure's latent variables, or composite factors. In CFA models in which reflective measurement is specified, the composite reliability (CR), also called factor rho coefficient, calculates the ratio of explained variance over total variance (Kline, 2016). This measures scale reliability and internal consistency of the measure, estimating the extent to which a set of indicators share in their measurement of the construct (Fornell & Larcker, 1981). This is a better reliability test to use in CFA than a Cronbach alpha, which does not directly measure whether the indicators rely on a single factor (Kline). The CF should be equal to or greater than .7 to demonstrate good reliability of the scale. Composite reliability for BO, STS, and CS was respectively .817, .828, and .903, indicating good scale reliability for each factor. The CR scores are reflected in Table 3.

Table 3
Reliability of Factor Measurement

Reliability Test	BO	STS	CS
CR	0.817	0.828	0.903

Note: CR = Composite reliability

Research Question 4: Correlations Among Factors

The fourth research question asked if the correlations among factors remain consistent with the ProQOL model expectations for variance. The ProQOL manual reports shared variance between STS and BO of 34% (r = .58, n = 1187) (Stamm, 2010). Stamm offered a possible rationale for this shared variance, stating that the two scales both measure negative affect and therefore may reflect the distress that is common to both conditions, yet concluded that the scales are clearly distinguished as the BO scale does not address fear, while the STS does. In this study's sample the shared variance between STS and BO is 67% (r = .82, n = 402). While the relationship between expected shared variance and positive correlation is consistent with the theory, it is much higher than what has been shown in the model's manual. Such a high shared variance between these two factors could suggest that a two-factor model should be explored as opposed to the three-factor model. It could also suggest that BO and STS are highly related in this population, more so than in other first-responder populations with which this instrument has been normed. An additional consideration is that the initial model was normed on a more diverse population of first responders of various professions, as opposed to this study focusing on one specific population. There were no shared variance expectations reported between other factors in the ProQOL model.

Research Question 5: Relationship Between CS and BO

The fifth research question asked as CS increases, would BO decrease, which is consistent the ProQOL theory. While this relationship was not explicitly tested and reported in the ProQOL

model, the theory implies that CS is a protective factor against Compassion Fatigue, which is comprised of the two constructs of burnout and secondary traumatic stress. This research question was evaluated by review of the correlation factor calculated between CS and BO, which was found to be -0.798, a strong negative correlation. This implies that as CS increases, BO decreases.

Research Question 6: Relationship Between CS and STS

The sixth research question asked as CS increases, would we expect STS to decrease, which is consistent the ProQOL theory. As with the BO construct, this relationship is theoretically implied. This research question was evaluated by review of the correlation factor calculated between CS and STS, which was found to be -0.447, a moderate negative correlation. This result does imply that as CS increases, STS can be expected to decrease.

Research Question 7: Relationship Between BO and STS

The sixth research question asked as BO increases, would STS increase, which is consistent the ProQOL theory. This research question was evaluated by review of the correlation factor calculated between BO and STS, which was found to be 0.820, a very strong positive correlation. This result does confirm that as BO increases, we would expect that STS would increase. Due to this being a correlation, we would also expect the relationship to be reflexive, meaning that as STS increases, BO is likely to increase as well.

Summary

Overall, the results of the CFA confirm that the ProQOL model adequately fits the population of correctional officers. The theorized model containing three separate factors of burnout, secondary traumatic stress, and compassion satisfaction, along with thirty indicators, was shown to be reproduced well structurally, with regression coefficients statistically significant

to the factors of which they should be loaded, and moderate to strong loading in all but five indicators. The fit indices of SRMR and RMSEA both indicate a moderate fit of the observed data. There is some concern over the standardized covariance residuals, given the numbers of outliers, which is dependent upon which significance cut-off score is used to make the determination. With more strict cut-offs, the model implies that the residuals could suggest model-rejection, which is countered by more liberal cut off standards which would not. The factor reliabilities are strong for each factor, strengthening the case that the model does moderately fit as a three-factor model, despite some higher variances among a few indices. The expected shared variance between STS and BO is found to be stronger than found in the ProQOL manual. All theoretically-implied correlations between the three factors were found to be replicated in this study. Overall, a determination can be made that the ProQOL model has been moderately reproduced in this study sample.

CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The potential risks of a career in correctional law enforcement include a variety of physical, mental, and interpersonal outcomes, prompting a call for increased research and intervention strategies to improve officer wellness. This study sought to establish the ProQol model (Stamm, 2010) as a valid and reliable measure among correctional officers, linking the population to the greater literature base of first responders and health care workers along the constructs of compassion fatigue, burnout, secondary traumatic stress, and compassion satisfaction. Validation of the model was sought by conducting a CFA with an SEM approach to explore the theoretical and structural fit and function of the data as compared to the expectations of the model. Once established, the difficulties faced by correctional officers can be linked to a greater research base of similar professions, expanding the knowledge of risk and intervention strategies. This provides advantages for future research and normalizes the correctional officer experience to workers in other similar fields. Opportunities to grow upon this research are rich, as the measure can be used as an ongoing assessment for outcome measures following added interventions or organizational change that is targeted for reduction of these variables and to promote officer wellness.

In the evaluation of the model's fit and replication in the population of correctional officers, evaluation of factor loadings on the indicators revealed adequate fit with most indicators of moderate to strong correlation to the factors, all of which were found significant. The fit indices of SRMR and RMSEA both indicate a moderate fit of the observed data. The factor reliabilities are strong for each factor, well over the minimum cut-off. Residual covariance was a consideration in overall model-fit, but not significant enough to override other indictors in

support of model replication. Theoretically, there is expected shared variance between STS and BO, which is confirmed in this study with a significantly stronger shared variance. All theoretically-implied correlations between the three factors were found to be replicated in this study. Overall, a determination can be made that the ProQOL model has been moderately reproduced in this study sample, validating the model in the population.

Conclusions

Replication of the ProQOL Model among Correctional Officers

In consideration of the data overall, the ProQOL model is found to be replicated in the correctional officer population. However, it needs to be understood that it is a moderate or adequate fit to the model, not a close fit. There is the need to consider the source of variance in the observed data, particularly as it appears to be encapsulated mostly in a few interactions. Exploring these outliers may also help explain the moderate fit of the model with some variance concern among the indicators, while the CF scores supported strong factor reliability. There are two main interactions that contain a majority of the problematic variance. See Table 5 for survey items corresponding to indicators.

Caregiving role. The indicator in the residual covariance matrix with the greatest number of elevated scores and the largest outlier score was on indicator BO29, which is the survey item "I am a very caring person." The largest outlier scores on BO29 are associated respectively with indicators/ survey items: CS03, "I get satisfaction from being able to help people"; CS24, "I am proud of what I can do to [help]"; and CS20, "have happy thoughts and feelings about those I [help] and how I could help them". These indicators having elevated residual covariance could be explained by the effect of role conflict or role ambiguity that is present in this profession (Denhof et al., 2014, Brower, 2013). The dual roles of a correctional

officer include both being charged with providing for the safety and care of the inmates while also tasked with controlling and managing those same individuals. Literature remarks that this role ambiguity, also referred to as role conflict, creates cognitive dissonance among officers as they balance two conceptually opposing tasks (Brower, 2013). Adding to this potential conflict is the culture of law enforcement, which tends to discourage any appearance of weakness, or anything that can be perceived as weakness, which could include identifying oneself as "caring" (Figley, 1999). The values and characteristics of officers often change during their initial phase of police training to incorporate shared values of rigidity, authority, competition, autonomy, rationality, and rule-adherence; all of which contrast to characteristics of a sensitive, caring, responsive caregiver (Figley, 1999; Gilmartin, 2002). Given these cultural considerations of the vocation, it is possible that this variance could be attributable to the law enforcement culture.

Trauma acknowledgement. The indicator in the residual covariance matrix with the second greatest covariance residuals in number and magnitude is BO8, "I am not as productive at work because I am losing sleep over traumatic experiences of a person I [help]", which has large covariance scores in relation to STS 9, "I think that I might have been affected by the traumatic stress of those I [help]," and STS 14, "I feel as though I am experiencing the trauma of someone I have [helped]." These items ask the officer to acknowledge that he or she thinks or feels as though he has been personally affected by the trauma of the inmate or job and that he feels that it is affecting his work performance. Again, it is contrary to the culture of law enforcement officers to admit to any perceived weakness and also potentially problematic to admit that stress is affecting one's job performance (Gilmartin, 2002). According to literature, organizational stressors affecting officers include lack of organizational support and insufficient education on

coping strategies, coupled with low autonomy and high accountability (Denhof et al., 2014). This culture could make it more difficult to admit to these items consistently.

Table 4
ProQOL Indicators and Survey Items

ProQOL Indicators	Survey Items
BO1(R)	I am happy.
BO4(R)	I feel connected to others.
BO8*	**I am not as productive at work because I am losing sleep over traumatic experiences of a person I [help].**
BO10	I feel trapped by my job as a [helper].
BO15(R)	I have beliefs that sustain me.
BO17(R)	I am the person I always wanted to be.
BO19	I feel worn out because of my work as a [helper].
BO21	I feel overwhelmed because my case [work] load seems endless.
BO26	I feel "bogged down" by the system.
BO29(R)^	**I am a very caring person.**
STS2	I am preoccupied with more than one person I [help].
STS5	I jump or am startled by unexpected sounds.
STS7	I find it difficult to separate my personal life from my life as a [helper].
STS9*	**I think that I might have been affected by the traumatic stress of those I [help].**
STS11	Because of my [helping], I have felt "on edge" about various things.
STS13	I feel depressed because of the traumatic experiences of the people I [help].
STS14*	**I feel as though I am experiencing the trauma of someone I have [helped].**
STS23	I avoid certain activities or situations because they remind me of frightening experiences
STS25	As a result of my [helping], I have intrusive, frightening thoughts.
STS28	I can't recall important parts of my work with trauma victims.
CS3	I get satisfaction from being able to [help] people.
CS6	I feel invigorated after working with those I [help].
CS12	I like my work as a [helper].
CS16	I am pleased with how I am able to keep up with [helping] techniques and protocols.
CS18	My work makes me feel satisfied.
CS20^	**I have happy thoughts and feelings about those I [help] and how I could help them.**
CS22	I believe I can make a difference through my work.
CS24^	**I am proud of what I can do to [help].**
CS27	I have thoughts that I am a "success" as a [helper].
CS30	I am happy that I chose to do this work.

Note: Items with strong residual covariance outlier scores are bold. ^ = Strong residual covariance interaction between BO29, CS20, and CS24; * = Strong residual covariance interaction between BO8, STS9, STS14

Reproduction of the ProQOL Factor Relationships

Replication of the model in the correctional officer population was the primary purpose of this study, and secondarily to confirm that the model factors of burnout, secondary traumatic stress, and compassion satisfaction held to their expected relationships of correlations in this population. The correlations are reported in Table 1 and were found to be significant and as expected. Burnout and secondary traumatic stress were found to be heavily correlated with a *Pearson r* of 0.82. Burnout and compassion satisfaction were found to be strongly negatively correlated with a *Pearson r* of -0.798. Secondary traumatic stress and compassion satisfaction were moderately negatively correlated, with a *Pearson r* of -0.447. These relationships are important to understand, because if it can be shown that compassion satisfaction is protective of burnout and/or secondary traumatic stress, then there are implications for interventions and prevention measures. Currently, the research is still inconclusive about the relationship between the three factors but is theorized that compassion satisfaction could serve as a moderator or mediator of secondary traumatic stress (Stamm, 2010). It is also reported that burnout rarely exists in the presence of compassion satisfaction and that a combination of burnout and secondary traumatic stress suggests the most negative outcome (Stamm). Further research to define these relationships in this population, especially given the very high correlations found could prove to be valuable stepping stones into theoretically sound intervention possibilities.

Implications for Practice

This study has demonstrated that the ProQOL model is valid in the correctional officer population and verified the expected correlational relationships between the factors of burnout, compassion satisfaction, and secondary traumatic stress. The implications for clinical practice stem from having a validated theoretical foundation from which to base an understanding of the

occupational risks, symptom presentations, protective factors, and possible interventions. Any proposed prevention or intervention strategy must be predicated by a demonstration of need (Trounson et al., 2016), further, one that must be theoretically driven with standardized instruments (Dowden & Tellier, 2004; Webster, 2013). This study provides such a demonstration of need, showing that the effects that other first responder and helping professions experience are applicable to this population. Finally, the correctional officer population has a theoretically-demonstrated model that applies to them to help guide the development of interventions. For example, individuals with high compassion satisfaction and low to moderate burnout and secondary traumatic stress may benefit from engagement, opportunities for continuing education, and other opportunities for professional growth (Stamm, 2010). Individuals with high burnout, and moderate/low compassion satisfaction and secondary traumatic stress are often experiencing high workload and poor system functioning, which may benefit from support on an organizational level (Stamm). High secondary traumatic stress with low burnout and compassion satisfaction is more indicative of having exposure to distressing work-related trauma and could benefit more from immediate treatment for traumatic stress (Stamm). High secondary traumatic stress and compassion satisfaction with low burnout is usually associated with high-risk working environments in which the person is highly effective and values their work due to intrinsic motivation of the job and yet is also showing the effects of traumatization (Stamm). These individuals can benefit from an approach that builds on their feelings of altruism for their work, while simultaneously addressing their fears (Stamm). These suggestions are found in the ProQOL and serve as examples of possible approaches to various individual or group trends. Table 5 outlines suggested strategies based upon results.

Another possible implication for practice is to incorporate the concepts of compassion fatigue and compassion satisfaction into approaches that are already integrated into the correctional law enforcement culture. Examples include incorporating psychoeducation into academy level, annual, and supervisor training regarding trauma awareness, stress management, stress inoculation (Loo, 1999), and problem-focused coping skills (Patterson, 1999) in an effort to increase posttraumatic growth and raise resiliency factors (Dunning, 1999; Rothberg & Wright, 1999). Given the responsiveness to the factors in the ProQOL in this population, targeting the risks of burnout and secondary traumatic stress while fostering compassion satisfaction may prove an effective strategy. Of additional consideration is the ability to establish a baseline as well as ongoing follow-up levels using the ProQOL.

Table 5
Results-Driven Approaches and Interventions

BO	STS	CS	Approach
Low/Mod	Low/Mod	High	Continuing education, professional growth
High	Low/Mod	Low/Mod	Organizational support, work-life balance goals, work load considerations
Low/Mod	High	Low/Mod	Trauma interventions are first priority
Low/Mod	High	High	Emphasize intrinsic motivation, in-vivo trauma interventions
High	High	Low/Mod	Individualized interventions: skill-building, strengthen systems

Note: intervention suggestions as found in Stamm (2010)

Implications for Research

Demonstration of a moderate model fit in the correctional officer population is a starting point to further research in this population using the ProQOL model. Given the limitations in this study, reproducing the study in a larger and more diversified correctional officer population may be of benefit to further clarify the model fitness as well as some of the residual covariance deviations in this study's results. Further, the ProQOL model allows for word substitution of all bracketed words in the survey in order to better fit the language to the specific work context, including the words help, helper, helping, and work (Stamm, 2010). Word modifications were not done in this study but could be utilized in future studies as an attempt to offset potential cognitive dissonance. Given the prominence of cognitive dissonance in the literature combined in this present study's proposed interaction involving it, controlling for such effects could be of benefit to clarifying the model fit to this population.

The strong correlation and shared variance between burnout and secondary traumatic stress in this population is higher than expected. While this could suggest that these two factors are not distinct in this population, consideration is also made for the findings that compassion satisfaction was negatively correlated very strongly to burnout and not as strongly to secondary traumatic stress. This further supports that there is a distinctiveness between these two factors in this population. The theory would suggest that the presence of fear is a prominent distinguishing characteristic between the two. Future research could further explore the nature and function of fear in this population, particularly as related to the model's constructs.

The ProQOL literature identifies ongoing research regarding the relationship between the three factors of burnout, secondary traumatic stress, and compassion satisfaction, postulating about the possible moderation or mediation role of compassion satisfaction (Stamm, 2010).

Considering the strong negative correlation between compassion satisfaction and burnout, and the moderately negative correlation with secondary traumatic stress, evaluating the role that compassion satisfaction plays regarding each other factor is important. If compassion satisfaction may be considered as a protective factor to one or both of the other factors, then there is a benefit in developing the understanding of compassion satisfaction further.

Implications for Counselor Educators

This study has implications for counselor educators both by adding cultural competence in relation to trauma-informed care and crisis counseling as well as serving as a call to action for counseling advocacy in this underserved population. Counselor educators are tasked with promoting cultural competence and advocating for social justice (Lee, 2007). Law enforcement officers have a very high rate of PTSD, suicide, substance use, depression, and residual effects within their family functioning (Anderson, Litzenberger, & Plecas, 2002; Arial, Gonik, Wild & Danuser, 2010; Brower, 2013; Denhof et al., 2014; Spinaris, Denhof & Kellaway, 2012; Violanti et al., 2009). Yet, officers and their families are historically underserved by counselors due to resistance to seek treatment for mental health concerns. Augmenting the resistance is the "cop culture" and perception that mental health workers cannot understand or relate to the unique problems that officers face due to their jobs (Gilmartin, 2002). These dynamics result in a disconnect between an extremely high risk and under-served population and counselors who traditionally are without the training needed to provide an ethical, competent, evidence-based, and culturally relevant level of care. This study adds to this call by seeking to understand better the vocational stressors affecting correctional officers in order to provide more effective treatment for them as well as support services for their families. In a population that has historically been underserved, exhibits need, and has limited ability to self-advocate due to

professional culture, the counseling community has a unique opportunity to extend social advocacy efforts to raise awareness and offer assistance in a culturally-relevant manner.

The counselor educators' call for leadership and advocacy in research, aligned with the vision to promote best practice through research, includes the process of deeply knowing a population to be served, carefully evaluating the problem, and critically evaluating existing best practices within the population (Hays, Wood, & Smith, 2012). In cases in which there is no current research supporting best practice within a specific population, then the counselor educator is tasked with engaging in such an analysis in order to determine best practice (Hays, Wood & Smith). This is the vision of counselor education leadership and advocacy: ensuring ethical, culturally relevant, and effective best practice care for all people. This study contributes to this establishment of best practices in the correctional officer population, congruent with the values and perspective of the counseling profession (Chang, Minton, Dixon, Myers, & Sweeney, 2012). The ProQOL is a wellness-based model, therefore is compatible with the wellness foundation of the counseling tradition (Chang et al.). Therefore, the act of validating the model in this population, particularly a model utilizing a wellness approach, provides an ideal springboard for further counseling research of best practices to follow. In sum, "the end goal of advocacy is not only to remove client barriers and other forms of oppression; rather, client advocacy must seek a positive end goal of wellness and human dignity, understood and driven from the client's perspective." (Brubaker & Goodman, 2012, p.141)

Summary of Recommendations

The study has demonstrated the ProQOL model in the correctional law enforcement population, linking this population to other similar vocations that experience secondary traumatic stress in a helping role. This model, while showing a moderate fit, is not without some need for

clarity about the sources of variance and the possible impact of the correctional law culture on the engagement with the survey. Further examination of the role of compassion satisfaction as a protective factor would serve to inform prevention and intervention strategies. As a vocation, awareness of the risk factors and coping strategies is recommended for agencies in order to protect and support their correctional officers. Awareness and interventions are sparse in the correctional law enforcement community a whole, which are clearly needed and arguably likely to be of benefit.

Limitations of the Study

This study was conducted in one detention center over the course of 6 months, which could limit generalizability. A larger scale survey collection including correctional officers in different states, various sized detention centers, both urban and rural, would be of benefit to confirm these results with more generalizability. This study also did not include an analysis comparing demographic characteristics such as race, gender, age, military history, or tenure. The design of the study is non-experimental, includes analysis of hypothesized causal connections and correlations, and is not appropriate to form causal statements. Further, self-report results include validity concerns, as respondents may choose to alter their responses due to suspiciousness or desire to produce a positive appraisal.

Summary

Validation of the Professional Quality of Life Model among correctional officers establishes a theoretical basis from which the profession may develop effective prevention and intervention strategies as well as pursue additional research. This model contains clear relevance to the population with strong correlations among the factors that are consistent with the model's expectations. There is a strong possibility that further research clarifying the role of compassion

fatigue could offer additional benefit. The future research possibilities are vast, as this study provides the foundation needed to pursue research involving this model and measurement further.

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Appendix A: Professional Quality of Life (ProQOL) Scale

Professional Quality of Life Scale (ProQOL)

Compassion Satisfaction and Compassion Fatigue
(ProQOL) Version 5 (2009)

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 case [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.