Charting the unknown: examining the prevalence and correlates of secondary traumatic stress in Kentucky probation and parole officers.

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CHARTING THE UNKNOWN: EXAMINING THE PREVALENCE AND CORRELATES OF SECONDARY TRAUMATIC STRESS IN KENTUCKY PROBATION AND PAROLE OFFICERS

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A Dissertation Approved on

November 3, 2021

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Heather Ouellette, Ph.D.

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DEDICATION

This dissertation is dedicated to my husband (Andrew), my children (Louella, Sy, and Max), my grandmother (Linda Minton).
ACKNOWLEDGEMENTS

I would like to begin by thanking my dissertation committee (Dr. Bradley Campbell, Dr. Heather Ouellette, and Dr. Patrick Brady) for their support throughout this process. I am grateful for every one of your comments and suggestions, each of you brought something unique and important to this project and I cannot thank you enough for aiding me on this journey.

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Many thanks to my parents-in-law (Kim & Tim Slayton, and Mike Roberts) for not only your unwavering support and faith in my ability to accomplish this goal, but also for your unyielding, eternal support of me as an individual. You opened your hearts to me and have shown me through countless acts and words, the incredible person you see me to be, and that has been life changing. There are no words to thank you for the gift of family that you have given me.
Thank you to my late grandmother (Linda “Mimaw” Minton). Though you are not here to celebrate this day with me, you are never far from my mind. Your memory and influence remain eternally etched on my soul.

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Last, but certainly not least, my children (Louella, Sy, and Max) deserve a huge thank you. When we started this journey, you were all “young” children in elementary school. People would often comment on how difficult it must be to attempt graduate school with three small children. Of course, at times it made things more complex, challenging. However, I know that I could not have made it through this journey without the three of you by my side. You three are my anchor in the storm and my reason to keep getting back up when life knocks me down. Being your mother is the greatest joy and purpose of my life and I am so grateful for our friendship. No one knows better than you three what a consummate professor you mother is, so let me leave you with a little lesson. When you all were born, I dreamed of a kinder, gentler world for the three of you to live in, perhaps someday raise your own children in. I see this dissertation as my first official attempt to try to create that world for you. So, this lesson is simple: be the change you wish to see in the world. Plant the seed, even if you know with certainty you will never live long enough to sit under the shade of the tree that grows from it. Because all great change has to start somewhere small, and we all need to do our part to create a better tomorrow. I promise you it is worth it. I love you, my sweet little baby angels, to infinity and beyond.

Finally, to the Kentucky Department of Corrections Probation and Parole officers and staff, those proud brothers and sisters in blue, thank you for your service. I quite literally could not have done this research without all of you, and it is my goal that this dissertation be the first step in making big improvements to your quality of life. I appreciate each and every one of you.
ABSTRACT

CHARTING THE UNKNOWN: THE PREVALENCE AND CORRELATES OF VIOLENT AND TRAUMATIC EXPERIENCES, AND THEIR RELATIONSHIP TO SECONDARY TRAUMATIC STRESS IN KENTUCKY PROBATION AND PAROLE OFFICERS

Amanda Marie Roberts

August 9, 2021

The purpose of this dissertation was to discern the prevalence and magnitude of both exposure to traumatic events and Secondary Traumatic Stress (STS); as well as potential correlates of STS in a group of Probation and Parole officers in the state of Kentucky Department of Corrections (KY DOC). Participants (N=302) completed a written survey which asked them to indicate demographic variables (age, gender, and ethnicity), as well as several important occupational variables, namely years of experience in the KY DOC, caseload volume, prison work experience, and whether or not they are responsible for a sexual offender caseload. Participants were also asked a series of questions related to violent and traumatic events they may have experienced in the workplace; information regarding frequency and recency of these events was collected. Further, participants were asked to complete Bride et al. (2004) Secondary Traumatic Stress Scale (STSS). Results of this study indicted 46.1% of the sample is at risk for Secondary Traumatic Stress Disorder (STSD). Participants were exposed to a variety of traumatic events in the workplace, results indicate exposure to indirect trauma was higher
than exposure to direct trauma in this group. Analysis indicated that younger staff
group. Analysis indicated that younger staff
experienced higher rates of symptomology. Exposure to trauma, whether it was direct or
indirect, significantly increased STS symptomology. However, when both direct and
indirect traumas were included in regression models together, indirect trauma became
insignificant. Implications of this study, as well as directions for future research, are
discussed.
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CHAPTER 1. INTRODUCTION TO THE PROBLEM

HERE BE DRAGONS¹

Within the intersection of criminal justice and trauma research there is a plethora of studies which examine the effects of trauma on survivors of crime (Herman, 1992), experiences of trauma by law enforcement officers who apprehend suspected criminals (Bourke & Craun, 2014a, 2014b; Brady, 2017; MacEachern, Dennis, Jackson, & Jundal-Snape, 2019; Perez et al., 2010; Turgoose, Glover, Barker, & Maddox, 2017), and even the experiences of trauma for offenders themselves (Berg et al., 2012; Jennings et al., 2014; Pizarro, Zgoba, & Jennings, 2011). Yet, research which investigates the effects of traumatic workplace experiences in correctional contexts is less robust (French, 2017). Further, research which examines workplace trauma for community correctional officers, who may have contact with both offenders and victims throughout every stage of the criminal justice process, is even more sparse (Lewis, Lewis, & Garby, 2013). What research exists indicates that these officers may at times face directly traumatic events in

¹ The term “Here be dragons” refers to the use in historical maps of depictions of dragons, sea monsters, leviathans, and other mythological creatures to represent potentially dangerous, uncharted areas which had yet to be explored. While the use of the English term “Here be dragons” on maps is in fact a historical myth, a similar Latin phase, *hic sunt dracones* (‘here are dragons’) is found on some historic maps and globes. However, as science and technologies like the printing press began to advance our knowledge, these creatures and phrases started to disappear from our maps, replaced instead with factual information about these areas (Van Duzer, 2013; Waters, 2013).
their work with offenders in the form of assaults, threats, or intimidation (Lewis, Lewis, & Garby, 2013; Lowry, 2000; National Center for Victims of Crime, 1998; Parsonage & Bushey, 1987). However, their professional roles are diverse, and potentially exposes these officers to indirect, or secondary trauma, on a repeated and regular basis (Lewis, Lewis, & Garby, 2013).

Community corrections is a broad umbrella that encompasses pre-trial, diversion, probation and parole, as well a variety of correctional programs that take place outside of an institution. While some research refers to the officers working with offenders in these programs as community corrections officers, in the state of Kentucky, these officers are called Probation and Parole officers. Probation and parole officers hold a unique position within the criminal justice system. Indeed, these professionals are in contact with offenders throughout each stage of the criminal justice process. From pre-sentence investigations involving reading police reports, interviews of victims, discussions with offenders about crime events and their own past traumas; to parole services involving home visits, interactions with the offenders’ family, and incidents of violent re-offending; these officers are exposed to a variety of potentially traumatic experiences (Lewis, Lewis, & Garby, 2013). Yet, research regarding the experiences of probation and parole officers’ workplace victimizations and experiences of both primary and secondary trauma is virtually nonexistent. Indeed, national statistics concerning the incidence of victimization of probation and parole officers in the United States do not currently exist (Lindner & Bonn, 1996). The extant research on probation and parole officer victimization is also dated, with the majority of studies addressing this issue occurring prior to the 21st century. Yet these few studies have provided us a glimpse inside the dangerous work of
community corrections. For example, according to surveys conducted in four States (Pennsylvania, Texas, New York, and Virginia), between 39 and 55 percent of probation and parole officers have been the victim of work-related threats or violence during the course of their career (National Center for Victims of Crime, 1998). In Pennsylvania, 38% of the community corrections staff reported at least one victimization in their career (threat, intimidation, assault), and half of the officers who supervise cases were victimized. Further, 24% of the sample reported being victimized within the last year. Of those reporting an event, 48% reported a physical assault and 74% reported an intimidation event. Additionally, nearly 38% of the officers who reported being victimized, also reported being emotionally shaken by the event, and 11% reported physical symptoms like stomach and headaches (Parsonage & Bushey, 1987).

More recently utilizing a mail-in survey of 300 United States probation and pre-trial officers, Lowry (2000) found 9% of their sample reported having experienced a physical victimization on the job and 60% reported an intimidation during the course of their career. Finally, Lewis, Lewis, & Garby, (2013), utilizing a sample of 309 probation officers, administrators, and supervisors across three states reported on experiences of both primary and secondary trauma across their career. Regarding secondary trauma, findings revealed 32% of the sample had an offender on their caseload violently re-offended with a child victim, 12% had an offender violently re-offend resulting in death of the victim, 33% had an offender sexually re-offend, and 38% had an offender commit suicide. In regards to primary or direct trauma 41% reported an offender had threatened them (or their family), 20% reported an offender had threatened them (or their family)
with death, and 10% reported having been attacked by an offender (Lewis, Lewis, & Garby, 2013).

Officers may experience primary traumatic stress symptoms when they are faced with, or witness, a life-threatening situation. Examples include being assaulted by an offender or witnessing an offender overdose (Lewis, Lewis, & Garby, 2013). However, secondary traumatic stress (STS), referred to by some researchers as caregiver fatigue or vicarious traumatization, has been used to describe the development of trauma symptoms in professionals who are repeatedly exposed to trauma indirectly through their work with traumatized populations (Figley, 2002b). As previously discussed, examples of STS in community corrections may include things like having a client on your caseload violently or sexually reoffend. Further, probation and parole officers are also tasked with listening to and recording the offender’s crime stories for Pre-Sentence investigations and other reports, offenders who were often once victims themselves (Berg, Stewart, Schreck, & Simmons, 2012; Jennings, Zgoba, Maschi, & Reingle, 2014; Pizarro, Zgoba, & Jennings, 2011). Thus, the probation and parole officer may have a double exposure to a client’s trauma, first when the crime story is revealed and again when the offender’s history of victimization is discussed (Rhineberger-Dunn, Mack, & Baker, 2016). Further, potential exposure to secondary trauma through listening to crime stories or writing Pre-sentence investigative reports is not uncommon for community corrections officers. For example, Kentucky’s Division of Probation and Parole had 716 sworn officers at the end of 2018, who were responsible for the supervision of 50,066 offenders. Within the year 2018 the Division’s officers were responsible for completing over 30,000 pre-sentence...

Helping professionals, like probation and parole officers, are faced with chronic, repeated exposure to client trauma, which may lead to cynicism about the motivations of others, as well as a pessimistic attitude, and an overall challenge to an individual’s basic faith in humanity (Herman, 1992). In response to this type of trauma exposure these professionals may also experience anger, depression, social and/or emotional isolation, may exhibit escape or avoidant behaviors, and may also experience disruptions to their relationships, worldview, and trust (McCann & Pearlman, 1990). Further, helping professionals faced with chronic trauma exposure commonly report desensitization, chronic exhaustion, deduced empathy, diminished creativity, hypervigilance, and an inability to listen to and/or avoidance of traumatic information (Herman, 1992; Lipsky & Burk, 2009; McCann & Pearlman, 1990).

STS has negative consequences for the professional who is experiencing symptoms; however, research has also found STS symptoms to produce negative consequences for the clients under their care (Morran, 2008; Pearlman & Saakvitne, 1995). For example, depression has been found in research to both increase absenteeism and reduce effectiveness at work (Kessler, White, Birnbaum, Qiu, Kidolezi, Mallett, & Swindle, 2008). Thus, those helping professionals whose STS symptoms manifest as depression, may find themselves unable to engage in an effective relationship with clients (Morran, 2008). Yet while research has consistently shown those working in helping professions are impacted by the trauma of their clients (Figley, 2002b; Lipsky & Burk, 2009; Pearlman & Mac Ian, 1995), scant research exists which addresses the impact of
trauma exposure on probation and parole officers (Lewis et al., 2013; Rhineberger-Dunn, Mack, & Baker, 2016).

STS has been documented in a wide range of helping professionals, such that it is now considered to be an occupational hazard of work with traumatized populations (Figley, 1999; Munroe et al., 1995; Pearlman, 1999). For example, secondary trauma in the workplace has been explored in helping professions such as the medical field (Peltzer, Matseke, & Louw, 2014), mental health (Bride, 2007; Schauben & Frazier, 1995; Pearlman & Mac Ian, 1995; Ortlepp & Friedman, 2002; Elwood, Mott, Lohr, & Galovski, 2011; Shoji, Bock, Cieslak, Zukowska, Luszczyńska, & Benight, 2014), 911 telecommunicators (Peirce & Lilly, 2012), attorneys and their administrative staff (Levin, Albert, Besser, Smith, Roesnkranz, & Neria, 2011), television journalists (Weidmann & Papsdorf, 2010), funeral directors, and law enforcement officers (Brady & Hofstra, 2009). While probation and parole officers are not exclusively law enforcement agents, social workers, or clinicians, their job duties encompass a bit of each of these roles. Further, probation and parole officers share the burden of exposure to vivid recollections of violence and victimization with these groups, as well as exposure to both victims and perpetrators of these traumas. Regardless of which source this information comes from, the negative personal and sometimes visceral effects of exposure to these types of trauma have also been documented (Catanese, 2010; Severson & Pettus-Davis, 2013). However, scant research has addressed trauma in criminal justice correctional professionals. Specifically, probation and parole officers, who are in contact with both victims and offenders in the criminal justice process, often at the same time, have been particularly understudied (Rhineberger-Dunn, Mack, Baker, 2016).
THE PRESENT STUDY

More than 4.5 million offenders nationwide are supervised in the community under probation and parole officers. Among these offenders, nearly 20% of probationers and 30% of parolees have been convicted of a violent offense (Bureau of Justice Statistics, 2018). Further, research has shown that many offenders under correctional supervision have experienced trauma and victimization themselves (Berg et al., 2012; Jennings et al., 2014; Pizarro, Zgoba, & Jennings, 2011). Yet, while research has found probation and parole officers to be at risk for exposure to both direct (Lewis, Lewis, & Garby, 2013; Lowry, 2000; National Center for Victims of Crime, 1998; Parsonage & Bushey, 1987) and indirect trauma (Lewis, Lewis, & Garby, 2013), in their occupational duties, very little research exists examining their exposure to trauma, that is most studies have not included their exposure to trauma in the workplace and STS symptoms together, and those that do have relied upon minimal measures of trauma. Further, while research has documented the occurrence of STS symptomology in related professions (e.g., law enforcement officers, social workers, substance abuse counselors), research has only begun to examine the incidence of STS in probation and parole officers (Lewis, Lewis, & Garby, 2013; Rhineberger-Dunn, Mack, & Baker, 2016). Finally, studies which measure both exposure to violence and trauma in the workplace and STS are practically nonexistent. Exposure to trauma in most STS studies is assumed, due to the nature of one’s job role (e.g., crimes against children detective, child welfare worker, sexual assault survivor counselor, social worker). Instead, researchers focus on caseload volume, or time spent on cases as proxy measures of exposure to trauma. This dissertation is
unique, in that it will compare measures of exposure to a range of direct and indirect traumas, to STS scores.

This dissertation addresses some of the gaps in the body of research regarding criminal justice professionals’ trauma exposure and the consequences of this trauma, advancing the body of literature in the following ways. First, research in this area of STS is relatively new and has been largely focused on professions outside of criminal justice. More specifically, the study of STS among correctional staff, and particularly community correctional staff, is in its infancy. Thus, there is a need for research which focuses on trauma broadly, and STS specifically, in the correctional field.

Second, the prevalence rates of experiences of workplace violence and trauma, both direct and indirect, is presented, information which does not currently exist for the KY DOC Probation and Parole Department. Indeed, studies which address STS often do not measure exposure to trauma in this way, rather studies focus on caseload volume or time spent on cases as proxy measures for potential exposure to trauma, which is assumed do to their professional roles.

Third, the instrument which was used to survey the staff as to the frequency and recency of their violent and traumatic workplace events was created specifically for this population to better capture the vast range of potentially traumatic events which may be encountered in the course of one’s role as a probation and parole officer. For example, while a few prior studies, which largely did not address STS have asked probation and parole officers about their experiences of threats, intimidation, and physical assaults (e.g., Lowry, 2000), these broad terms fail to capture the details of these events. Further, limiting the survey respondents to these narrow categories may cause us to lose
information on the officer’s experiences of learning or hearing about child rape, animal abuse, or domestic violence, incidences which may constitute indirect trauma. This instrument asked the probation and parole officers about a range of both direct and indirect traumatic experiences.

Fourth, this study uses a large representative sample of the Kentucky Department of Corrections Probation and Parole staff to determine the prevalence rates of STS symptomology. Currently no data exists for probation and parole officers on the prevalence rates of STS, thus this study provides a first glimpse at that information. Fifth, the assessment tool used to determine STS symptomology Bride et al.’s (2004) Secondary Traumatic Stress Scale, (STSS) is one which has been used by other researchers in the field of criminal justice when assessing STS in law enforcement (Bourke & Craun, 2014a, 2014b; MacEachern, Dennis, Jackson, & Jundal-Snape, 2019; Perez et al., 2010; Turgoose, Glover, Barker, & Maddox, 2017) and community correctional samples (Rhineberger-Dunn, Mack, & Baker, 2016; Rhineberger-Dunn et al., 2016). While the STSS was used in the Rhineberger-Dunn, Mack, & Baker (2016) study of community correctional staff, prevalence rates for this sample were not reported. The STSS is an accepted measure of STS in the criminal justice field and allows for more direct comparison between studies.

Sixth, this study explores the potential influence of demographics (i.e., age, race, gender) and their relationship to STS symptomology, advancing the body of literature in this area. Seventh, this dissertation examines the effect of occupational characteristics (months of service, prison work experience, caseload volume, and sexual offender caseload) on STS. Seventh, this dissertation focuses not only on the prevalence of both
violent and traumatic experiences and STS, but also examines the relationship between these two variables. STS is examined in relationship to total trauma exposure, however the relationship between STS and specific types of trauma (i.e., indirect and direct), are also examined.

Finally, the focus of this study is unique. What little criminal justice research exists focusing on staff trauma exposure and related responses, most focus on community law enforcement officers (Brady, 2017), with a few researchers examining institutional correctional staff (French, 2017). Those studies which have examined trauma, and relatedly PTSD in correctional staff, have found high rates of this disorder in these populations. For example, utilizing a national sample of over 3,500 correctional staff, Spinaris, Denhof, and Kellaway (2012) found an overall PTSD rate of 27%. A later study by Denhof & Spinaris (2016), which utilized a sample of 991 institutional correctional staff in Michigan found a PTSD rate of 33.7%. Exceedingly few studies examine the experiences of probation and parole officers and staff, who are involved in the offenders’ case at every stage from presentence investigations to parole (Lewis, Lewis, & Garby, 2013). It is important for us to understand not only these officers’ level of STS, but also what types of trauma they are exposed to in the workplace, and if the type of trauma exposure has any effect on the experience of STS symptomology.

OVERVIEW OF CHAPTERS TO FOLLOW

Chapter 2 begins with a discussion of traumatic stress in the workplace for probation and parole officers. Next the chapter discusses the identification of STS, followed by a presentation of the history of the STS.
Chapter 3 focuses on the existing literature regarding the prevalence and correlates of STS in helping professionals. First, a description of research examining STS prevalence in professions which work therapeutically with traumatized populations (i.e., social workers, child welfare and protection workers, mental health workers), followed by a discussion of STS findings in criminal justice professions. Next, the effects of STS which have been documented in research are discussed, followed by a section regarding the literature on risk factors, both individual and occupational of STS. Finally, a detailed discussion of the literature about STS in community corrections is provided, which is the focus of this dissertation.

Chapter 4 provides a discussion of the sample, methods and research questions examined in this dissertation. The chapter also includes a description of the dependent and independent variables, as well as the analytic strategy. Chapter 5 offers a presentation of the results of the analyses. Included in the analysis are the prevalence rates of experiences of workplace trauma and STS as well as five logistic regression models, which examine the relationship between exposure to workplace trauma and demographics, occupational characteristics (caseload type and urbanicity), and the relationship between Secondary Traumatic Stress and the three afore mentioned variable groups (workplace violence/trauma exposure, demographics, and occupational characteristics. Chapter 6 concludes with a discussion of the results of the analysis as well as the limitations of this study, and suggestions for future research.
CHAPTER 2. THEORETICAL OVERVIEW: TRAUMA AND SECONDARY TRAUMATIC STRESS

Probation and parole officers have direct contact with more offenders than many other criminal justice professionals (Gayman & Bradley, 2013; Slate, Wells, & Johnson, 2003). Yet, compared to other “people-oriented” professions, research on work stress and health among probation and parole officers is limited (Gayman & Bradley, 2013; Sims, 2001; Whitehead, 1985). The occupational stress experienced by probation and parole officers can be divided into two categories—systemic workplace stress and traumatic workplace stress. Though traumatic workplace stress is the focus of this dissertation, it is important to understand the difference between these two concepts, as well as what factors may contribute to systemic workplace stress for probation and parole officers, as these factors may also correlate with STS symptomology.

Briefly, systemic workplace stress describes the organizational factors (supervisors, deadlines, excessive paperwork, role conflict, etc.) which may impact work outcomes like job satisfaction, inclination to quit, and professional burnout (Fisher, 2001). For example, prior research has identified a multitude of workplace stressors for probation and parole officer’s including excessive paperwork (Finn & Kuck, 2003;
Simmons, Cochran, & Bount, 1997; Thomas, 1988), time restraints (Finn & Kuck, 2003; Thomas, 1988), role confusion and conflict (White, Gasperin, Nystom, Ambrose, & Esarey, 2005), and high caseloads (Finn & Kuck, 2003). Criminologists have also examined probation and parole officer outcomes related to workplace stress, like job stress and inclination to quit (Simmons, Cochran, Bount, 1997) as well as characteristics which may predict workplace stress in probation and parole officer’s workplace stress like feelings of educational preparedness (Pitts, 2007), participation in workplace decision making, and differences in stress expression by gender (Slate, Wells, & Johnson, 2003; Wells, Colbert, & Slate, 2006).

In contrast, traumatic workplace stress, which is the focus of this dissertation, encompasses probation and parole officer’s experiences of both direct and indirect trauma experienced while on the job. Direct trauma may include experiences where the officer themselves felt their life, or the life of someone physically close to them was in danger. For example, a probation and parole officer may be directly traumatized if (s)he is required to pull their firearm on an offender, if (s)he is in a situation which requires them to administer Narcan or other life saving measures, or if they encounter a dangerous situation during a home visit. Indirect trauma involves situations where the officer himself is not present for the traumatic event, rather learns about it afterwards. Exposure to indirect trauma in probation and parole can come in a variety of forms including when reviewing information pertinent to presentence investigation reports, discussing the offender’s personal history of childhood trauma and/or recollections of the crime event, even by hearing the distressing details of cases that are not on their own caseload from co-workers.
This chapter presents the theory regarding STS, beginning with a section about
the identification of STS, followed by a discussion of the history of STS in the literature.

IDENTIFICATION OF SECONDARY TRAUMATIC STRESS

Trauma, from the Greek word for “wound” (Merriam-Webster’s collegiate
dictionary, 2020), occurs when an individual is faced with a situation in which their life
or integrity, or the life or integrity of someone around them is in danger (American
Psychiatric Association [APA], 2013). Trauma can be direct or indirect, meaning an
individual may experience or witness a traumatic event directly, or an individual may be
indirectly traumatized by simply hearing or learning about a traumatic event. Experiences
of indirect, or secondary trauma, are more prevalent in some occupations than others.
Those working in so called “helping professions,” social work, counseling, nursing, and
community corrections, may experience chronic exposure to indirect trauma, due to their
work with victimized and suffering populations (Figley, 1995b).

Secondary Traumatic Stress (STS) describes the behavioral and emotional
reactions to indirect exposure to trauma which mirror the symptoms of Post Traumatic
Stress Disorder (PTSD), including symptoms of avoidance, persistent arousal, sleep
disturbances, irritability, hypervigilance, difficulty concentrating, and intrusive thoughts
(Figley, 1995a). First coined by Figley (1995a, p. 1) to describe the “cost of caring” for
helping professionals, STS is also referred to in some literature as compassion fatigue
(Figley, 1995a, 1996, 2002a). However, other research presents STS and compassion
fatigue (CF) as two unique concepts (Brown, Ong, Mathers, & Decker, 2017; Newell et
al., 2016; Rauvola, Vega, & Lavigne, 2019); some research present STS as a potential
consequence of developing CF (Newell et al., 2016), while others present STS as a broad
typology of stress reactions which include CF (e.g., Brown et al., 2017) or as a
subcomponent of CF (Stamm, 2010). A related term, vicarious traumatization (VT)
describes a transformation in the belief systems and cognitive schemas as a result of
empathetic engagement and work with traumatized clients (McCann & Pearlman, 1990;
Pearlman & Saakvitne, 1995). While STS describes behavioral and emotional reactions to
emotional engagement and working with traumatized populations, all three terms (STS,
CF, and VT) refer to the negative impact of working with these special populations. STS
is now recognized by the DSM-5 as a form of PTSD, which manifests as a result of work-
related experiences of exposure to indirect trauma through working with traumatized
populations (American Psychiatric Association (APA), 2013). Research has established
the increased risk of developing STS symptomology for those working in helping
professions such mental health professionals (Hensel et al., 2015; Lim et al., 2010),
nurses (Beck, 2011; Dominguez-Gomez & Rutledge, 2009), social workers (Bride et al.,
2007), trauma therapists (Hensel et al., 2015), and military veteran caregivers (Bride &
Figley, 2009; Kintzle, Yarvis, Bride, 2013). More recently, scholars have begun to
examine the issue of STS in criminal justice professionals including judges (Jaffe,
Crooks, Dunford-Jackson, & Town, 2003), forensic interviewers (Perron & Hiltz, 2006),
attorneys (Levin, Albert, Besser, Smith, Zelenski, Rosenkranz, & Neria, 2011; Levin &
Greisberg, 2003; Piwowarzyzy, Ignatius, Crosby, Grodin, Heeren, & Sharma, 2009;
Vrlevski & Franklin, 2008), law enforcement officers (Andersen & Papazoglou, 2015;
Brady, 2017; Bourke & Caun, 2014), interpersonal violence/sexual assault advocates
Researchers have long examined the damaging effects of experiencing direct trauma on an individual in the form of PTSD. Indeed, the history of this research stretches back to symptoms experienced by WWI soldiers (Grinker & Speigel, 1945; Kardiner & Speigel, 1947). Studies have also recognized the need to examine the occurrence of PTSD symptomology in individuals whose occupation involves working in potentially traumatic situations like military personnel (Figley, 1995a), law enforcement officers (Carlier, Lamberts, & Gersons, 2000; Liberman, Best, Metzler, Fagan, Weiss, & Marmar, 2002; Malach-Pines & Keinan, 2007; Plaxton-Hennings, 2004) institutional correctional staff (Denhof & Spinaris, 2016; French, 2017; Spinaris, Denhof, & Kellaway, 2012), and other first responders (Fullerton, McCarroll, Ursano, & Wright, 1992; Gersons, 1989). Yet research has only more recently begun to explore the adverse effects of secondary trauma exposure on working professionals whose roles involve working with traumatized populations (Figley, 1995a). Working with traumatized populations requires the professional to spend a significant amount of time embedded in that person’s trauma through listening, discussing, or even collecting and reviewing evidence of the traumatic experience (Figley, 1995a; Pearlman & Saakvitne, 1995). Thus, professionals involved with both victims and offenders of traumatic experiences like trauma therapists (Hensel, Ruiz, Finnelly, & Dewa, 2015), social workers (Bride et al., 2007), and law enforcement officers (Andersen & Papazoglou, 2015; Brady, 2017; Bourke & Caun, 2014a, 2014b) have been found to be at risk of developing STS symptomology as a result of their emersion in traumatic material. One reason these professionals may be at risk for
STS is due to the repeated exposure to indirect trauma in the course of their job duties (Marshall, 2006). Thus, research suggests that just as those experiencing direct trauma may experience PTSD symptomology, those exposed to indirect trauma may experience STS symptomology, or Secondary Traumatic Stress Disorder (STSD, Figley, 1995a).

Though STSD and PTSD share the majority of their diagnostic criteria, STS is distinct from PTSD and warrants its own area of research for several reasons. First, while the diagnostic criteria for PTSD does include exposure to indirect trauma, the body of research which exists on PTSD largely focuses on direct trauma exposure. In this way exposure to indirect trauma becomes secondary in studies of PTSD, as experiences of direct trauma may appear to the observer to qualitatively outweigh indirect trauma experiences, no matter how significant. Second, STS focuses on exposure to indirect trauma in the workplace or job role, while PTSD makes no such distinction. Thus, it is an important area of study in its own right as it is specific to experiences of workplace trauma. Finally, the study of STS, while relatively new, does have an established body of research attached to it, which would benefit from the increased use of probation and parole samples, who are potentially exposed to both direct and indirect trauma on a repeated basis in their job roles, as they have seldom been the subject of STS research.

**Secondary Traumatic Stress Disorder**

The symptoms experienced by STSD sufferers are almost identical to PTSD symptomology (Bride et al., 2004; Figley, 1995a; 1995b; McCann & Pearlman, 1990). Thus, it is useful to our understanding of STS, to explore PTSD diagnostic criterion, and its parallels to STSD criterion. This section discusses STSD and the PTSD criterion used in the DSM-IV, as this was the version used by Figley (1995a; 1995b) to discuss and
describe STSD, and is the basis for one of the most commonly used measurement tools, 
Bride et al.’s (2004) Secondary Traumatic Stress Scale, which is the scale used for this 
dissertation. The DSM-V version is largely the same as the DSM-IV, with one distinct 
difference, the DSM-V divides the symptom clusters into four, not three categories, 
giving us an additional criteria component (APA, 2013). This difference is examined 
during the discussion of the symptom criterion categories B-D. 

According to the DSM-IV-R, a diagnosis of PTSD is indicated when an 
individual meets seven criteria, referred to as Criterion A-G. Criterion A describes what 
constitutes a traumatic event under the PTSD diagnosis (APA, 2000). While PTSD was 
not included in the DSM until the publication of the third version (DSM-III) (APA, 
1980), even in the DSM-III and DSM-III-R, Criterion A indicated simply knowing about 
another’s traumatic experience can be, in and of itself, traumatizing (Figley, 1995a; 
1995b). Further, the APA DSM-IV & DSM-V Criterion A do not require direct exposure 
to trauma for a PTSD diagnosis (APA 1994; 2013). Indeed, DSM-V includes 
“experiencing repeated or extreme exposure to aversive details of the traumatic event(s) 
(e.g., first responders collecting human remains; police officers repeatedly exposed to 
details of child abuse)” (APA, 2013). While the trauma may be direct, direct witness, or 
indirect for a PTSD diagnosis, to date most of the research regarding PTSD has examined 
this condition in those who have been exposed to direct, rather than indirect trauma. 
Thus, while both PTSD and STSD are seen to occur post trauma exposure, it can be 
helpful to think of PTSD as Primary Traumatic Stress Disorder, indicating the diagnosis 
is a result of primary or direct trauma, and further distinguishing it from Secondary 
Traumatic Stress Disorder, which occurs after exposure to indirect, or secondary trauma.
Symptoms of STS can be broken down into three categories: intrusion, avoidance, and arousal (Figley, 1995a). Each of these categories corresponds to criteria B-D of PTSD in the DSM-IV. Intrusion symptoms (Criterion B), include those which involve persistent re-experiencing of the traumatic event. Avoidance symptoms (Criterion C), include persistent avoidance of stimuli related to the trauma through restricting or avoiding certain feelings, thoughts, activities, people, or places which are associated with the traumatic event. Arousal symptoms (Criterion D) involve persistent anxiety and increased arousal symptoms that do not predate the trauma event. These include irritability and outbursts of anger, hypervigilance, exaggerated startle response, difficulty concentrating, and difficulty falling or staying asleep (APA, 2000; 2013; Figley, 1995a; 1995b). It is important to note that in the more recent DSM-V emotional numbing is separated from avoidance symptoms, each forming their own unique categories. Under this new structure, avoidance symptoms retain the title of Criterion C; emotional numbing, or negative thoughts and feelings, become Criterion D, and arousal symptoms
become Criterion E (APA, 2000; 2013). Table 2 offers a more detailed look at the symptomatology included in the PTSD Criterion B-D categories.

**Table 2: PTSD Criterion B-D**

<table>
<thead>
<tr>
<th>Subscale</th>
<th>PTSD Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intrusion</strong></td>
<td><strong>(Criterion B)</strong></td>
</tr>
<tr>
<td></td>
<td>Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions</td>
</tr>
<tr>
<td></td>
<td>Recurrent distressing dreams of the event</td>
</tr>
<tr>
<td></td>
<td>Acting or feeling as if the traumatic event were recurring (including a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes)</td>
</tr>
<tr>
<td></td>
<td>Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event</td>
</tr>
<tr>
<td></td>
<td>Physiological reactivity to exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event</td>
</tr>
<tr>
<td><strong>Avoidance</strong></td>
<td><strong>(Criterion C)</strong></td>
</tr>
<tr>
<td></td>
<td>Efforts to avoid thoughts, feelings or conversations associated with the trauma</td>
</tr>
<tr>
<td></td>
<td>Efforts to avoid activities, places, or people that arouse recollections of the trauma</td>
</tr>
<tr>
<td></td>
<td>Inability to recall an important aspect of the trauma</td>
</tr>
<tr>
<td></td>
<td>Markedly diminished interest or participation in significant activities</td>
</tr>
<tr>
<td></td>
<td>Feeling detachment or estrangement from others</td>
</tr>
<tr>
<td></td>
<td>Restricted range of affect</td>
</tr>
<tr>
<td></td>
<td>Sense of foreshortened future</td>
</tr>
<tr>
<td><strong>Arousal</strong></td>
<td><strong>(Criterion D)</strong></td>
</tr>
<tr>
<td></td>
<td>Difficulty falling or staying asleep</td>
</tr>
<tr>
<td></td>
<td>Irritability or outbursts of anger</td>
</tr>
<tr>
<td></td>
<td>Difficulty concentrating</td>
</tr>
<tr>
<td></td>
<td>Hypervigilance</td>
</tr>
<tr>
<td></td>
<td>Exaggerated startle response</td>
</tr>
</tbody>
</table>

Finally, Criterion E requires that the symptoms persist for more than one month, and Criterion F requires the disturbance from symptoms causes significant impairment in functioning or distress to the individual (APA, 2000). In the DSM-V there is also the addition of Criterion H for PTSD diagnosis, which specifies that the symptoms are not able to be attributed to the effects of substance use or any other medical condition. Further, the DSM-V asks that the disassociated symptoms be specified as either depersonalization (e.g., persistent feelings of being detached from others or oneself) or derealization (persistent feelings of unreality of one’s surroundings, experiencing the world as if in a dream, unreal, or distorted). The diagnosis is considered acute if
symptoms have been present for less than three months, and chronic if symptoms have been present for longer than three months (APA, 2013). While STS is symptomatically identical to PTSD, STSD requires exposure to indirect trauma, and PTSD diagnostic criteria allow for either exposure to direct, direct witness, or repeated/extreme exposure to indirect trauma. Further, STS has a development and history which is distinct from PTSD, which is the topic of the following section.

HISTORY OF SECONDARY TRAUMATIC STRESS

Empathy is defined in the Merriam-Webster dictionary as “the action of understanding, being aware of, being sensitive to, and vicariously experiencing the feelings, thoughts, and experience of another of either the past or present without having the feelings, thoughts, and experience fully communicated in an objectively explicit manner” (Merriam-Webster Collegiate dictionary, 2020). Within helping professionals like social work, emergency medicine, counseling, and law enforcement, empathy is a necessary trait. Yet, for those individuals working in professions which deal directly with traumatized people, empathy often comes at a price. Trauma research has long described the deleterious effects of direct trauma on an individual, beginning with the observation of PTSD symptomology in what was then referred to as “shell shock” in WWI and WWII veterans (Grinker & Speigel, 1945; Kardiner & Speigel, 1947). Yet while the formal classification of PTSD has existed in the US to describe the reactions of those individuals dealing with direct trauma since 1980 (Litz & Roemer, 1996), recognition of psychological, behavioral, and emotional reactions to indirect or secondary trauma exposure has taken longer to come to the academic forefront.
Compassion fatigue, secondary traumatic stress, and vicarious traumatization have been identified in the literature as concepts to capture the pernicious reaction of the helping professional’s exposure to indirect trauma. Beginning in the early 1990s a body of research was produced which attempted to identify and describe the effects these researchers were seeing in the field among helping professionals. Within this literature three common terms are cited describing the negative psychological reactions of helping professionals who are exposed to indirect trauma through working with traumatized clients: vicarious traumatization (VT), secondary traumatic stress (STS), and compassion fatigue (CF) (Rothschild & Rand, 2006; Newell & MacNeil, 2010). While each response is arguably unique, these terms have been used interchangeably within the literature (Newell & MacNeil, 2010). It has been suggested that these three terms are converging within the literature, as no clear delineations between the concepts have been established, beyond mere nuances (Craig & Sprang, 2010; Stamm, 2010).

Vicarious traumatization (VT) was first described by McCann and Pearlman (1990) in reference to psychotherapists working with clients who had survived trauma. VT is thought to be a process by which the trauma worker experiences changes in cognition due to their repeated empathetic engagement with traumatized clients. Pearlman and Mac Ian (1995, pp. 558) describe vicarious traumatization thusly,

Such [empathetic] engagement includes listening to graphic descriptions of horrific events, bearing witness to people’s cruelty to one another, and witnessing and participating in traumatic reenactments. VT is an occupational hazard for those who work with trauma survivors, and it reflects neither pathology in the therapist nor intentionality on the part of the survivor client.
Changes in cognition may include shifts in belief systems, disrupted spirituality, alterations in the sense of self, and changing world views about safety, humanity, control, and trust; which occur as a result of empathetic engagement with traumatized and suffering clients in their professional career (Levin, 2008; McCann & Pearlman, 1995; Pearlman & Mac Ian, 1995; Pearlman & Saakvitne, 1995).

Secondary Traumatic Stress (STS), also describes a response to indirect trauma exposure, however while VT describes a change in cognition, STS describes behavioral changes. The concept of STS and secondary traumatization was first described by Figley (1983), who proposed that those in close contact with trauma survivors may develop traumatic response symptoms, without having experienced the traumatic event themselves.

Symptoms of STS develop in the absence of sensory impressions of the event, and instead develop after repeated or extreme exposure to the details of the traumatic event experienced by another (Figley, 1995a; 1995b). Behavioral changes associated with STS mirror those of PTSD, including hyperarousal, avoidance, intrusive imagery, distressing emotions, and functional impairment (Stamm, 1995; Figley, 1995a, 1995b). As with VT, STS may occur when an individual engages in empathetic engagement with someone who has been traumatized (i.e., significant other, client, etc.), by having knowledge of the traumatic event (Figley, 1995a). While STS and VT can be seen as similar concepts, there are some distinctions between the two. VT focuses on covert, gradual, and permanent cognitive schema changes (McCann & Pearlman, 1990; Pearlman, 1998; Pearlman & Saakvitne, 1995), and is more theory-driven (Baird & Jenkins, 2003). Grounded in the traumatology field, STS emphasizes PTSD-based behavioral and
psychological symptoms, which can be clinically observed and have a sudden onset (Baird & Jenkins, 2003; Figley, 1995a). STS is also unique from ideas of the countertransference process, whereby a psychotherapist is seen to over-identify with the client(s), meet their own needs through the client(s), or see themselves in the client(s) (Figley, 1995b).

Compassion Fatigue (CF) first appeared in the literature regarding nurses and their experiences with burnout-like symptoms (Joinson, 1992). Later, the term was adopted by Figley (1995a, 1996, 2002b) as a more user-friendly term for STS. However, Stamm (1997) argued that the two are conceptually different concepts, where CF is a more general term which describes the overall psychological and emotional fatigue that is experienced by helping professionals due to the chronic use of empathy in the treatment and care of suffering clients (Figley, 1995a, 1995b, 1999). Under Stamm’s (1997) conceptualization, STS may be experienced by helping professionals who work with traumatized populations, which then may contribute to CF. However, helping professionals who work with non-traumatized populations like the mentally ill, may also develop CF in the absence of any STS (Newell, 2008). This broader definition of the term CF includes symptoms of both burnout and STS (Newell, 2008; Stamm, 1999; Stamm, 2010).

Today the term compassion fatigue is often used interchangeably in the literature with the terms STS and VT (Brady, 2017; Newell & MacNeil, 2010), and is conceptually different from professional burnout (Figley, 1995a, 1995b). CF presents as physical and emotional exhaustion and is viewed as a long-term result of the chronic use of empathy these helping professionals use with traumatized and/or suffering clients/patients (Figley,
Professional burnout is a state of emotional, mental, and physical exhaustion, resulting from chronic involvement with emotionally demanding populations and situations (Pines & Aronson, 1988). While burnout can be thought of as a process, compassion fatigue may occur suddenly (Figley, 1995b). Furthermore, burnout and STS can be differentiated by examining the cause. While STS is thought to be caused by work-related exposure to trauma, STS is not related to workplace organizational conditions (Figley, 1995a). While burnout is described by Figley (1995a) as a “collection of symptoms associated with emotional exhaustion” which occur in relationship to the workplace (p. 11). Burnout may occur when working with difficult clients or stressful working conditions including lack of control, isolation of work, unfairness, insufficient rewards, and large caseloads (Maslach & Leiter, 1997), while STS is developed in relationship to exposure to another’s traumatic experience (Figley, 1995a, 1995b). Further, STS describes an acute response to exposure to traumatic material, whereas burnout describes the end result of a gradual process, which may intensify over time (Figley, 1995a; McCann & Pearlman, 1989). Another major difference lies in the diagnostic concept of STS, which is based in PTSD symptomology. Many of the symptoms, like intrusive imagery, are not present in burnout (Pearlman & Saakvitne, 1995).

While research in the area of occupational indirect trauma exposure may differ in which terms are used to describe the effects, STS, CF, and VT all attempt to capture the adverse response of helping professionals’ exposure to human suffering (Figley, 1995a). This dissertation addresses this response through the lens of STS. For the purposes of this
dissertation the term “Secondary Traumatic Stress” is conceptualized using the definition provided by Bride and Kintzle (2011, pp. 22):

STS refers to the occurrence of posttraumatic stress symptoms following indirect exposure to traumatic events. The indirect exposure typically occurs via a close personal or professional relationship with one or more traumatized persons who recount, often repetitively, the traumatic experience.

Thus, STS is a display of PTSD symptomology in an individual who is professionally or personally engaged in a relationship with another individual(s) who is traumatized and recounts that trauma to them. Now that it is clear what STS is, in the next chapter the conversation will turn to the research to discover the prevalence and effects of STS.

SUMMARY

It is suggested by Pearlman and Mac Ian (1995) that psychological distress is a natural consequence for professionals exposed to “graphic descriptions of violent events, realities of people’s cruelty to one another, and trauma-related reenactments” (p. 31). While this description was initially created to describe the work of trauma therapists, one can easily see how this translates to the work performed by probation and parole officers. Interviewing victims and criminal offenders, listening to repeated tellings of crime stories and offenders’ personal trauma histories, and reading and writing the details of the Pre-Sentence Investigation Reports, probation and parole officers are engrossed daily in the trauma, suffering, and cruelty of others. Further, these officers are under tremendous
pressure to be effective and efficient in their duties, as mistakes may lead to new criminal offenses and victims.

Yet while probation and parole officers have significant direct contact with offenders in every stage of the criminal justice system, their experiences of traumatic stress, both direct and indirect, are less prominent in current research (Gayman & Bradley, 2013). Yet, probation and parole officers may be faced with instances of both direct and indirect trauma. When trauma is experienced directly, PTSD can develop. Similarly, when indirect trauma is experienced in the job role, particularly when it is chronic or repeated in nature, STSD can develop. STS symptomology mirrors that of PTSD including avoidance (persistent avoidance of anything reminding one of the trauma), arousal (persistent anxiety and arousal symptoms), and intrusion (persistent intrusive, invasive thoughts about the trauma) symptoms (Figley, 1995b). STS has been examined in “helping professionals,” who experience chronic exposure to indirect trauma through their traumatized clientele such as nurses (Beck, 2011; Dominguez-Gomez & Rutledge, 2009), social workers (Bride et al., 2007), mental health professionals (Hensel et al., 2015; Lim et al., 2010) and caregivers of military veterans (Bride & Figley, 2009; Kintzle, Yarvis, Bride, 2013). Researchers have also begun to examine STS in criminal justice professionals like law enforcement officers (Andersen & Papazoglou, 2015; Brady, 2017; Bourke & Caun, 2014), forensic interviewers (Perron & Hiltz, 2006), judges (Jaffe, Crooks, Dunford-Jackson, & Town, 2003), and attorneys (Levin, Albert, Besser, Smith, Zelenski, Rosenkranz, & Neria, 2011; Levin & Greisberg, 2003; Piwowarzyzy, Ignatius, Crosby, Grodin, Heeren, & Sharma, 2009; Vrlevski & Franklin, 2008).
While research indicates certain occupational groups may be at a higher risk for the development of STS symptomology, this body of research is far from complete. The next chapter provides a literature review of STS in occupational groups both within the criminal justice system, and in related fields like social work, child protective and welfare services, and other first responders. As previously mentioned, the extant research involving probation and parole officers and correlates of STS is quite sparse. Yet research findings in related occupational fields of trauma workers (e.g., domestic violence and sexual assault advocates, mental health professionals, forensic interviewers), taken together seem to support the hypothesis that certain occupational characteristics, specifically history of exposure to trauma, caseload type, weight, amount of exposure to trauma, and amount of time on the job, may be correlated with STS among probation and parole officers. Exploring these potential relationships is one of the focuses of this dissertation.
CHAPTER 3. PREVELANCE AND CORRELATES OF STS AND THE OCCUPATIONAL ENVIRONMENT

The study of secondary traumatic stress (STS) in the occupational environment, often through the lens of vicarious traumatization (VT) or compassion fatigue (CF), began outside of the field of criminal justice. Indeed, McCann and Pearlman (1990) first described VT in relationship to trauma therapists, and in Figley’s (1983; 1993) early work, he discusses STS in relationship to the families of military combat veterans who have suffered trauma. STS has not been studied in the general population; thus, this dissertation begins its examination of secondary traumatic stress and the occupational environment where the literature began, with a discussion of findings related to professions outside of criminal justice, namely those who work therapeutically with traumatized populations. With a longer history of research, STS has been more widely studied amongst these high-risk occupations, including social work, child welfare and protection service workers, and other mental health professionals. Further, while these occupations are distinct from the role probation and parole officers fulfill, the two may have aspects of their jobs which are similar in their potential for the exposure to trauma, specifically secondary trauma.

While the focus of this dissertation is STS, as has been discussed in the previous chapters, the diagnosis criteria of and symptomology related to STSD mirror those of
PTSD. Furthermore, while STSD is an established concept within the literature, PTSD remains the diagnostic term used in the DSM-V. Thus, some of the studies that are reviewed here discuss their results in terms of a respondent or samples’ risk of STSD, while others may discuss it in terms of PTSD risk. Further, as discussed in chapter two, some studies choose to focus on measures of CF or VT instead of STS. However, these concepts and terms are closely related, and often used interchangeably in the literature, thus it is important to recognize these findings here. Finally, even within those studies which utilize the Secondary Traumatic Stress Scale (STSS-Bride, 2007), which this dissertation also utilizes, not all studies use the same scoring method in their reporting.

The following section discusses findings related to the prevalence of STS in a series of high-risk occupational groups outside of the criminal justice system. Next, the research which has examined criminal justice professionals, including courtroom actors, law enforcement officers and other closely related professions is discussed. Risk factors associated with STS across occupations is discussed. Finally, the research findings related specifically to secondary traumatic stress (STS) and community corrections officers are presented.

STS AMONG HIGH-RISK OCCUPATIONS

Some of the highest rates of STS, and related CF, have been reported among clinicians who work with traumatized populations (Birck, 2001; Kadambi & Truscott,

2 Briefly, the STSS can be interpreted in three ways. The first two require a simple summing of responses. Using this total score, we can either 1) simply use a cutoff score of 38, where scores at or above 38 are considered at risk for STSD, or 2) use our total scores to create a series of STSD symptomology ranges. Finally, the STSS scores can be interpreted using the algorithm approach. This scoring method may be used to screen respondents for PTSD due to indirect trauma exposure. This method of scoring is based on the diagnostic criteria in the DSM-IV, and requires a respondent to endorse (at a level 3 or above on a Likert scale of 1-5) at least one intrusion item, at least two arousal items, and at least three avoidance items.
STS prevalence rates for this group range dramatically from a low of 8% among a sample of mental health and primary care providers to military members (Kintzle, Yarvis, & Bride, 2013), to a high of 75% of a sample of child protection and welfare workers (Caringi & Hardiman, 2012). Next, we will look at STS specifically among social workers.

**STS among Social Workers**

Social workers may be exposed to secondary trauma in their occupation in a variety of ways. Some of these circumstances may mirror those which probation and parole officers encounter in their job roles. For example, social workers are required to make home visits, where they may be exposed to inhumane living conditions or evidence of child, elder, or even animal abuse. The social worker may be secondarily exposed to trauma when hearing their client’s life histories or current situation. The social worker may even be exposed to secondary trauma, simply by reading over the casefile of a particularly traumatized client. STS among social workers has been documented in the United States and abroad, with some studies finding high prevalence rates within this occupational group. Indeed, studies using the STSS have found PTSD prevalence rates (using the algorithm scoring method) in licensed social worker samples from the low end of 15.2% in a United States sample (Bride, 2007), to 40.9% of a Norwegian sample (Bogstrønd et al., 2016).

In the first study to examine STS among social workers, Bride (2007) found 15.2% of the sample of licensed social workers (n=282) met the criteria for PTSD using the STSS. Additionally, within this sample 70.2% endorsed at least one STS symptom and 55% of the sample met the criteria for at least one core PTSD cluster of symptoms.
(Bride, 2007). Using a national sample of social workers in the United States (n=154) who worked with family and sexual violence survivors, Choi (2011) found 21% met the criteria for STSD. Further, 65% of this sample met the criteria for at least one core component of PTSD—Arousal, Avoidance, Intrusion (Choi, 2011).

Caringi, Hardiman, Weldon, Fletcher, Devlin, and Stanick (2017), found 35.7% of their sample of social workers in Montana (n=256) scored at or above 38, indicating based on symptomology that those individuals may qualify for a PTSD diagnosis. Within their sample, 25.2% met the criteria for mild STS, 12.9% were in the moderate category, 3.9% were in the high STS category, and 4.7% were in the severe category (Caringi et al., 2017).

Lee, Gottfried, and Bride (2018) examined STS symptomology in a large sample (N=539) of social workers surveyed from across the U.S. Within this sample, roughly 47% met some diagnostic criteria for STS, with intrusive thoughts being the most frequently reported symptom and about 15% of the sample were found to be above the clinically recommended cutoff for STS (Lee, Gottfried, Bride, 2018).

Finally, Quinn, Ji, and Nackerud (2019) using the algorithm method of scoring, reported 22% of their sample of social workers (n=107) demonstrated full severity (categories high and severe), 47% moderate severity (met the criteria for at least 2 subscales) and almost 80% indicated at least mild severity of STS symptomology (met criteria for at least one subscale) (Quinn, Ji, & Nackerud, 2019).

Overall, STS prevalence rates for the social worker occupation group ranged between 15% (Lee, Gottfried, & Bride, 2018) and 40.9% (Bogstrand et al., 2016). A summary of the findings related to STS and social work is provided below in Table 3.
Next, the findings related to STS prevalence and those who work in the child welfare and protection service field are discussed.

**Table 3: STS in Social Worker Occupations**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sample</th>
<th>Assessment/Scoring method Used</th>
<th>Main Findings</th>
<th>STS correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bride (2007)</td>
<td>N=282</td>
<td>STSS; algorithm method</td>
<td>15.2% met criteria for PTSD; 55% met criteria for at least one PTSD core component</td>
<td>(-)</td>
</tr>
<tr>
<td>Caringi, Hardimann, Weldon, Fletcher, Devlin, &amp; Stanick (2017)</td>
<td>N=256</td>
<td>STSS; cutoff scoring method</td>
<td>35.7% scored in the range which indicates PTSD; 4.7% severe, 3.9% high, 12.9% moderate, and 25.2% mild severity STS symptoms</td>
<td>(-)</td>
</tr>
<tr>
<td>Choi (2011)</td>
<td>N=154</td>
<td>STSS; cutoff scoring method</td>
<td>21% met criteria for STS; 65% met criteria for at least one PTSD core component</td>
<td>Female</td>
</tr>
<tr>
<td>Choi (2017)</td>
<td>N=154</td>
<td>STSS; mean sample score</td>
<td>Mean STSS score of 32.07</td>
<td>Prior trauma history</td>
</tr>
<tr>
<td>Lee, Gottfried, &amp; Bride (2018)</td>
<td>N=539</td>
<td>STSS; cutoff scoring method</td>
<td>15% scored above the cutoff for STSD; 47% met some criteria for STS</td>
<td>Exposure to ST</td>
</tr>
<tr>
<td>Quinn, Ji, &amp; Nackerud (2019)</td>
<td>N=107</td>
<td>STSS; algorithm and mean sample score</td>
<td>22% report full severity, 47% report moderate severity; mean score of 33.07</td>
<td>Caseload volume</td>
</tr>
</tbody>
</table>

**STS among Child Welfare and Protection Service Workers**

The prevalence rates of STS within child welfare and protection service workers, which sometimes fall under the umbrella of social work, ranges from 34% (Bride, Jones, & MacMaster, 2007) to 75% (Caringi & Hardiman, 2012), which is markedly higher than estimates among general social worker sample. However, there are two things that may help to explain this difference. First, there is less research which focuses on child welfare and protection service worker samples, thus more research is needed to understand the prevalence of STSD in this occupational group. Second, this occupation is qualitatively
different from social services. Figley (1995a; 1995b) identified exposure to the trauma of a child as one of the factors that may increase the risk than an individual would develop STSD. The child protection and welfare services worker may be exposed to secondary trauma when reviewing child abuse evidence, when talking with victims of child abuse, or even when interviewing potential offenders of child abuse. They may be called to testify in court, forcing them to relive the experience of the secondary trauma. Further, they may be reminded of the trauma they were exposed to every time they work with the child, as even this visual cue could be triggering. These situations and experiences are not unfamiliar to probation and parole officers. They may come face-to-face with child abuse when they are in the field conducting home visits. They may be exposed to stories of child abuse when the offender recounts his own life history. They may even be responsible for the supervision of an offender who has been convicted of committing child abuse. Because these similarities between the occupations exist, it is important that we discuss the research regarding STS and child welfare and protection service workers.

With some of the highest prevalence rates presented thus far, Bride, Jones, and MacMaster (2007) reported 34% of child protective workers in their study met core criteria for PTSD using the STSS. Further, 59% met the criteria for at least one PTSD symptom cluster, and 92% had experienced at least one STS symptom in the past week (Bride, Jones, & MacMaster, 2007). An earlier study by Cornille and Meyer (1999) found 37% of their sample of child welfare workers were experiencing clinical levels of emotional distress in relationship to STS using data from both the Impact of Event Scale-Revised (IES-R) (Weiss & Marmar, 1997) and the Brief Symptom Inventory (BSI) (Derogatis, 1975). In a later examination of child welfare workers and supervisors in
New York State, Caringi and Hardiman (2012) found an astonishing 75% of their sample indicated that they were experiencing significant STS symptomology at the moderate (score of 38) and above range. When using the PTSD criteria diagnosis, 76.7% of the sample were likely to be suffering from PTSD symptoms (Caringi & Hardiman, 2012). Other studies of child welfare workers which utilized measures of compassion fatigue (CF), have also found high prevalence rates within this occupational group. For example, Conrad and Kellar-Guenther (2006) found half of a group of child protection workers in their study (n=363) were at high risk for CF.

The child welfare and protection group saw a higher range of STS with studies finding anywhere from 34% (Bride, Jones, & MacMaster, 2007) to 75% (Caringi & Hardiman, 2012) of their samples found to be suffering from STS. Table 4, on the following page, offers a summation of these findings. Next, the STS prevalence findings regarding samples from the medical field, specifically substance abuse counselors, clinicians who treat sexual offenders and assault survivors, and military mental and primary health care providers is discussed.
<table>
<thead>
<tr>
<th>Source</th>
<th>Sample</th>
<th>Assessment/Scoring method used</th>
<th>Main Findings</th>
<th>STS Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bride, Jones, &amp; MacMaster (2007)</td>
<td>187</td>
<td>STSS; algorithm and mean sample score</td>
<td>34% met core criteria for PTSD</td>
<td>Peer support</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>92% experienced at least one STS symptom in the past week; mean STSS score 38.20</td>
<td>Personal history of trauma</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Caseload volume</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Intent to remain employed (-)</td>
</tr>
<tr>
<td>Caringi &amp; Hardiman (2012)</td>
<td>103</td>
<td>STSS; algorithm and cutoff methods</td>
<td>75% of sample were experiencing STS symptoms in moderate and above category</td>
<td>(-)</td>
</tr>
<tr>
<td>Conrad &amp; Kellar-Guenther (2006)</td>
<td>363</td>
<td>Compassion Satisfaction/Fatigue Self-test</td>
<td>Half of the sample was at high risk for CF</td>
<td>(-)</td>
</tr>
<tr>
<td>Cornille &amp; Meyers (1999)</td>
<td>161</td>
<td>Impact of Event Scale- Revised (IES-R) &amp; Brief Symptom Inventory</td>
<td>37% of sample experiencing emotional distress</td>
<td>Female</td>
</tr>
<tr>
<td>Nelson-Gardell &amp; Harris (2003)</td>
<td>166</td>
<td>Compassion Fatigue self-test for Psychotherapists</td>
<td>No prevalence rates reported</td>
<td>Personal childhood trauma</td>
</tr>
<tr>
<td>Sprang, Craig, &amp; Clark (2011)</td>
<td>669</td>
<td>Professional Quality of Life R-IV (ProQOL)</td>
<td>Higher CF levels in child welfare group</td>
<td>Younger age</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Males</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Those living in rural settings</td>
</tr>
<tr>
<td>Van Hook &amp; Rothenburg (2009)</td>
<td>N=164</td>
<td>ProQOL</td>
<td>Authors report generally higher CF in their sample than prior studies</td>
<td>Younger age</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Females</td>
</tr>
</tbody>
</table>

Note. *CF* Compassion Fatigue
STS among Health Care Professionals

STS has been documented across a variety of health care professions. For instance, research has found 4-13% of first responders (Greinacher, Derezza-Greeven, Herzog, & Nikendei, 2019), 28-40% of emergency workers (Hooper, Craig, Janvrin, Wetsel, & Reimels, 2010; Wee & Myers, 2003), 19.2% of mental health providers working with military patients (Cieslak et al., 2013), and up to 31% of substance abuse counselors (Adams & Riggs, 2008; Bride, Hatcher, & Humble, 2009) are at a high risk for developing STS symptomology. While probation and parole officers are not health care providers in the traditional sense, some health care professionals work with groups in a rehabilitative or counseling capacity, which probation and parole officers may also encounter in their work on a regular basis. It is these occupational groups, specifically those that work with military members, substance abuse counselors and sexual offender and abuse survivor clinicians, which are the focus of this section.

While the majority of these studies do not offer correlations between STS and other factors, they do give us some information about prevalence rates of STS among these specific occupational groups, by examining the groups clientele and the type of trauma they may present secondarily to the professional. Many of these studies report the results in terms of PTSD core criteria, as they used the algorithm method of scoring on the STSS.

STS among military primary and mental health care providers was the subject of research by Kintzle, Yarvis, and Bride (2013). Within this sample 59% endorses at least one STS symptom, 33% endorsed five or more, and 8% had total scores (50 or above) which indicate moderate to severe STS symptomology. The cutoff score of 38 was not
used in this study. The avoidance symptom of emotional numbing and the trouble sleeping (arousal) were the most commonly reported symptoms (34% each), thoughts about clients (intrusive) were experienced by 30%. The least frequently reported symptom was exaggerated startle (arousal). Finally, 54% of the sample reported no or little STS symptomology (Kintzle, Yarvis, & Bride, 2013).

Utilizing a sample of substance abuse counselors, Bride, Smith-Hatcher, and Humble (2009) found 19% met core criteria for PTSD diagnosis, 28% met the core criteria for 2 PTSD symptom clusters, 56% met the criteria for at least one PTSD symptom cluster, and 75% had experienced at least one STS symptom in the past week. In this study, indirect trauma exposure was measured using a series of seven questions, which asked the respondents what percentage of their caseload had experienced specific trauma (e.g., childhood physical abuse, childhood sexual abuse, combat trauma, adulthood physical assault or abuse, adult sexual assault, domestic violence, violent crime), as well as for what percentage of their clientele they provided trauma treatment. Only univariate statistics were presented in this study (Bride, Smith-Hatcher, & Humble, 2009).

Finally, utilizing a sample of clinicians who treat sexual offenders (n=252) and sexual abuse survivors (n=95), Way, VanDeusen, Martin, Applegate, & Jandle, (2004) found similar rates of VT symptoms between groups, overall, 52% of the sample scored in the clinical range for VT symptomology. Taken together, these findings illustrate the lower prevalence of STS within this occupation group, with ranges from 8% (Kintzle, Yarvis, & Bride, 2013) to 19% (Bride, Smith-Hatcher, & Humble, 2009). These findings are summarized in Table 5.
In summary, within these high-risk occupations we have seen studies which provide a range of STS prevalence rates. The lowest prevalence rates among these occupations were within the health care group. In this group, STSD rates ranged from 8% of a sample of primary and mental health care providers to military members (Kintzle, Yarvis, & Bride, 2013), to 19% of a sample of substance abuse counselors (Bride, Smith-Hatcher, & Humble, 2009). Within the social work group prevalence rates were slightly higher, ranging from 15% in the Lee, Gottfried, & Bride (2018) study, to 35.7% in the Caringi et al. (2017) study. STSD prevalence was highest in the child protection and welfare occupational group, with 34% in the Bride, Jones, & MacMaster (2007) study, and an incredible 75% of the sample in the Caringi & Hardiman (2012) study. Next, we will move to a discussion of STS among criminal justice professionals.
STS AMONG CRIMINAL JUSTICE PROFESSIONALS

STS among criminal justice professionals has been researched using a variety of samples including courtroom actors, law enforcement officers, and other criminal justice professionals, however these studies vary in their reporting, making comparisons between groups difficult. Among courtroom actors STSS scores are not typically reported, making comparisons to this group difficult. However, this line of research has conducted several comparison studies amongst different courtroom actors, reporting a variety of VT and STS symptomology in these groups. Studies utilizing law enforcement samples have largely used the STSS and experienced high rates of STS, with studies finding between 24.8% (Brady, 2017) and 43% (Bourke & Craun, 2014b) of their samples meeting the cutoff score of 38. Finally, among other criminal justice professionals STSS scores are often presented as sample means. Sample means among this group ranged from 34.2 in a sample of forensic interviewers (Perron & Hiltz, 2006), to 39.8 in a sample of victim advocates (Benuto et al., 2019). Further, within this group PTSD prevalence rates between 39% of a sample of teachers and staff in a juvenile justice facility (Hatcher et al., 2011) to 47% of a sample of domestic violence advocates (Slattery & Goodman, 2009).

STS among Courtroom Actors

A handful of studies have examined STS in courtroom actors, and while most utilize attorney samples (Levin & Greisberg, 2003; Levin et al., 2011; Piwowarzcyzy, Ignatius, Crosby, Grodin, Heeren, & Sharma, 2009; Vrlevski & Franklin, 2008), one studied a sample of judges (Jaffee et al., 2003). While the exploration of STS in this population is still in its infancy, many of these studies offer information about correlations (Levin & Greisberg, 2003; Piwowarzcyzy et al., 2009; Levin et al., 2011) and
a few explore comparisons between courtroom actors and other related professionals (e.g., support staff, social workers, mental health professionals) (Levin & Greisberg, 2003; Levin et al., 2011; Vrlevski & Franklin, 2008). Unfortunately, these studies do not offer prevalence rates of STSD, as they do not utilize the STSS, making comparisons to this group difficult. However, they attempt to capture these symptoms with a variety of other instruments.

Jaffee, Crooks, Dunford-Jackson, & Town (2003) conducted a survey of 105 judges, finding 63% of the sample reported experiencing at least one VT symptom. Short term symptoms of sleep disturbances, physical complaints, and intolerance of others were more commonly reported (36%) than long term sleep disturbances, depression, and sense of isolation (17%) (Jaffee et al., 2003).

Comparing 55 attorneys working in family and criminal court, 87 mental health professionals, and 25 social service workers, Levin & Greisberg (2003) found the attorney group reported higher levels of secondary trauma and burnout than the other two groups (Levin & Greisberg, 2003). Vrlevski & Franklin (2008) compared 50 criminal attorneys with 50 civil attorneys in their study, finding the criminal attorneys in their sample had more depressive symptoms, changes in sense of safety and intimacy, and subjective stress.

Finally, Levin, Albert, Besser, Smith, Zelenski, Rosenkranz, & Neria, (2011) utilized a sample of 238 attorneys and 109 administrative support staff from the Wisconsin Public Defenders office in their study of STS, PTSD, functional impairment, burnout and depression symptomology. Within this sample attorneys reported significantly more work with trauma-exposed or involved clients than administrative
support staff. Not surprisingly, the attorney group also reported significantly higher mean scores on all outcome measures. Overall findings reveal screening criteria was met by 11% of the attorney groups and 1% of the support staff group for PTSD, 34% of attorneys and 10.1% of support staff for STS, 74.8% of attorneys and 27.5% of support staff for functional impairment, and 39.5% of attorneys and 19.3% of support staff for depression (Levin et al., 2011).

See Table 6, which summarizes these findings. Next, STS studies on law enforcement samples are discussed.
Table 6: STS and Courtroom actors

<table>
<thead>
<tr>
<th>Source</th>
<th>Sample</th>
<th>Assessment/ Method used</th>
<th>Main findings</th>
<th>STS Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jaffe, Crooks, Dunford-Jackson, &amp; Town (2003)</td>
<td>105 judges</td>
<td>Open ended questionnaire</td>
<td>63% reported experiencing at least one VT symptom</td>
<td>(-)</td>
</tr>
<tr>
<td>Levin, Albert, Besser, Smith, Zelenski, Rosendranz, &amp; Neria (2011)</td>
<td>238 attorneys and 109 administrative staff in Wisconsin PD office</td>
<td>IES-R; ProQOL 5</td>
<td>Attorney group mean scores were higher on STS (34%), PTSD (11%), BO (37.4%), depression (39.5%), and functional impairment (74.8%), than administration group.</td>
<td>Number of trauma-exposed clients Number of hours worked per week</td>
</tr>
<tr>
<td>Levin &amp; Greisberg (2003)</td>
<td>55 family and criminal court attorneys, 87 mental health professionals, 25 social workers</td>
<td>Secondary Trauma Questionnaire</td>
<td>Attorney group had higher levels of burnout and secondary trauma.</td>
<td>Caseload volume</td>
</tr>
<tr>
<td>Piwowarzcyzy, Ignatius, Crosby, Grodin, Heeren, &amp; Sharma (2009)</td>
<td>57 attorneys working asylum cases</td>
<td>Secondary Trauma Scale</td>
<td>Report 9% of sample scored in range associated with mild to severe depression, anxiety, and problematic avoidance and intrusion symptoms</td>
<td>Hours per week attorneys spent on cases was positively correlated with trauma scores</td>
</tr>
<tr>
<td>Vrlevski &amp; Franklin (2008)</td>
<td>50 criminal attorneys and 50 civil attorneys</td>
<td>IES-R (based on DSM-III PTSD criteria) and a VT symptom questionnaire</td>
<td>Criminal attorneys displayed more depressive symptoms, subjective stress, and changes in sense of safety and intimacy.</td>
<td>Personal history of trauma predicted VT PTSD and depressive symptoms</td>
</tr>
</tbody>
</table>

Note. VT Vicarious Traumatization; STS Secondary Traumatic Stress; BO Burnout

STS among Law Enforcement Officers

This group of studies largely relies upon the STSS as their measurement tool, making it easy to compare between these studies. Further, most report score ranges, which allows for a fuller picture of the level of STS being experienced in each sample.
beyond a mere cut off. STS levels in this occupational group are high, ranging from 27% (Craun et al., 2014; MacEachern, Dennis, Jackson, & Jindal-Snape, 2019; Turgoose, Glover, Barker, & Maddox, 2017) to roughly 43% (Bourke & Craun, 2014b).

Much of the research on STS in law enforcement officers, focuses on officers who have a specialized case load, with most choosing to sample those who work with crimes against children and sexual offenses. These samples are selected because research has found the investigation of sexual offenses to be one of the most stressful posts for law enforcement officers (Brown, Feilding, & Grover, 1999). Further, Figley (1995a; 1995b) identified exposure to the trauma of children as a likely aggravator for the development of STS symptomology. A few studies in this section focused on Internet Crimes Against Children Task Force (ICAC) personnel for their sample. ICAC are a specialized unit of investigators who prevent and help prosecute offenders of Internet Child Exploitation (Brady, 2017). These officers, by nature of their job duties, are exposed to the exploitation of children at very higher levels (Craun et al., 2014), making them an important and interesting subject of study.

For example, in a study of 600 ICAC Task force personnel in the U.S., Bourke & Craun (2014b) found 25% of their sample experienced high to severe STS, and a majority exhibited low to moderate levels. Specifically, 15% of the sample experienced STS symptoms in the severe range. Overall, 70% of investigators in their sample experienced some STS symptomology (Bourke & Craun, 2014b). Utilizing a sample of 443 ICAC personnel, Brady (2017) examined STS, burnout, and compassion satisfaction (i.e., positive aspects of helping professions, including feelings of satisfaction and fulfillment when effectively accomplishing one’s work goals and responsibilities) using the
ProQOL, along with a variety of relevant work-related factors (e.g., average age of child victim, tenure, total number of hours per week investigating crimes against children).

Within this sample 75% were at low to moderate risk for STS, with the remaining 24.8% were at a high risk (Brady, 2017). Finally, Perez et al. (2010) examined STS among law enforcement officers who investigate child pornography. They found a large portion of the sample (n=28) had STS symptoms, with 18% reporting high and 18% reporting moderate symptoms. The average score for the STSS was moderate at 36.23, however it was higher than the average score found in Bride et al.’s, (2004) study of social workers (M=29.5) and Perron and Hiltz’s (2006) investigation of forensic interviewers who work with victims of child abuse (M=34.2) (Perez et al., 2010).

Research has also examined the incidence of STS and related maladies by way of comparing law enforcement officers to other helping professionals. For example, in an early comparison study of a sample of 46 law enforcement officers and 225 mental health professionals, Follette, Polusny, and Milbeck (1994) found the officers had significantly higher levels of trauma symptoms, PTSD symptoms, and general psychological distress than the mental health professionals. In a study which compared digital forensic examiners (n=20), Law enforcement investigators (n=71), and a group who are responsible for both duties (n=38), Siegfried-Spellar (2018) found that investigators and those responsible for both duties had higher levels of psychological distress than the digital forensic investigator group. Specifically, those who reported responsibility for both roles and investigators had increased lack of concentration, and feelings of worthlessness; than those working only as digital forensic examiners, and those who
worked in both roles had higher STS symptomology than those working only as digital forensic investigators (Siegfried-Spellar, 2018).

In the first longitudinal study of STS in law enforcement officers, Craun et al. (2014), examined STS in two groups over a three-year period of time, deputies from the U.S. Marshals who investigate sexual offenses, and deputies who serve in a different department of the agency. STS scores on average were lower in this group than in Perez et al. (2010) and Bourke & Craun (2014a), however 73.15% of the sample had low to mild severity of STS symptoms, and 6.7% experienced symptoms in the severe range. Further, this sample involved both U.S. Marshals who investigate sex offenses and U.S. Marshals who handle a wide variety of cases. The inclusion of a broader group of officers in the study may have contributed to the lower STS scores observed in this group compared to Bourke & Craun (2014b) and Perez et al. (2010). Individual STS scores were found to generally remain stable over the 3-year study period and no differences in STS scores by gender were found (Craun et al., 2014).

STS in law enforcement officers has also been examined on an international basis. For example, using a sample of 63 law enforcement officers in the U.K., MacEachern, Dennis, Jackson, & Jindal-Snape (2019) found half of their sample (51%) were experiencing some STS symptomology. Within their sample 40% were in the mild to moderate range on the STSS, and 11% were in the high to severe range (MacEachern et al., 2019). Utilizing a sample of 142 police officers who work with sexual offenses in London, Turgoose, Glover, Barker, and Maddox (2017) found 26% of their sample scored moderate (11%), high (8%), or severe (8%) on the STSS. Overall, the sample
scored higher on measures of arousal, and lower on measures of intrusion and avoidance (Turgoose et al., 2017).

In an international comparison study, Bourke & Craun (2014a) conducted a study comparing STS in law enforcement in the U.S. and U.K. on child exploitation cases. Within this sample those who worked in the U.S. had higher STS scores than those working in the U.K. For example, in the U.K. sample 36.9% were in the low/no STS category, however 26.4% of the U.S. sample were in this category. Further while only 10.4% of the U.K. sample scored in the severe range, 15.3% of the U.S. sample experienced STS symptoms in the severe range (Bourke & Craun, 2014a).

These findings involving STS and law enforcement are summarized below in two tables. The first, Table 7, provides information on law enforcement studies which utilize a sample from a single population.
Table 7: Law Enforcement STS studies (non-comparison) to date

<table>
<thead>
<tr>
<th>Source</th>
<th>Sample</th>
<th>Assessment/Scoring Method used</th>
<th>Main Findings</th>
<th>STS Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brady (2017)</td>
<td>443 ICAC personnel</td>
<td>ProQOL</td>
<td>24.8% high risk for STS</td>
<td>Females, younger age of victims, indirect exposure to traumatic material</td>
</tr>
<tr>
<td>Bourke &amp; Craun (2014b)</td>
<td>600 ICAC personnel</td>
<td>STSS; score range</td>
<td>15% severe, 9.8% high, 18.6% moderate, 29.9% mild STSD</td>
<td>Females</td>
</tr>
<tr>
<td>Craun et al. (2014)</td>
<td>747 U.S. Marshalls(^3)</td>
<td>STSS; score range</td>
<td>6.7% had symptoms in the severe range, 5.1% high range, 15.1% moderate, 41.6% mild STSD</td>
<td>STS scores remained stable over time</td>
</tr>
<tr>
<td>MacEachern, Dennis, Jackson, &amp; Jundal-Snape (2019)</td>
<td>63 law enforcement officers (U.K.)</td>
<td>STSS; score range and sample mean</td>
<td>6% severe range, 5% high range, 16% moderate range, 22% mild; mean score of 29.83</td>
<td>(-)</td>
</tr>
<tr>
<td>Perez et al. (2010)</td>
<td>28 investigators of child pornography</td>
<td>STSS; score range and sample mean</td>
<td>18% high, 18% moderate range; mean score 36.23</td>
<td>Amount of time working with disturbing media</td>
</tr>
<tr>
<td>Turgoose, Glover, Barker, and Maddox (2017)</td>
<td>142 law enforcement officers working sexual offense cases (U.K.)</td>
<td>STSS; score range</td>
<td>8% severe, 8% high, 11% moderate range</td>
<td>Having worked in the position for over one year, those who worked with adults (vs. children)</td>
</tr>
</tbody>
</table>

Table 8 provides a summary of the finding which compare law enforcement officers to other occupational groups, or which compare law enforcement officers from different countries.

\(^3\) Data was collected in three waves, with additional participants added in waves 2 and 3 to combat attrition. A total of 747 unique participants responded to the survey at some point during data collection. However, 306 participated in a single wave, 332 participated in two waves, and 109 respondents participated in all three waves.
Table 8: Law Enforcement STS studies (comparison) to date

<table>
<thead>
<tr>
<th>Source</th>
<th>Sample</th>
<th>Assessment/Method used</th>
<th>Main findings</th>
<th>STS correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bourke &amp; Craun (2014a)</td>
<td>Approximately 677 Law enforcement in the U.S.</td>
<td>STSS; score range</td>
<td>Scores for U.S. Sample: 15.3% severe, 26.4% low to no STSD;</td>
<td>Higher frequency of exposure to disturbing child exploitation media, female gender (U.S. sample only)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Scores for U.K. sample: 10.4% severe, 36.9% low to no STS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>288 U.K. working child exploitation cases*</td>
<td></td>
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</tr>
<tr>
<td>Follette, Polusny, &amp; Milbeck (1994)</td>
<td>46 law enforcement officers</td>
<td>Trauma Symptom Checklist-40 (TSC-40)</td>
<td>Officers had significantly higher levels of trauma symptoms, PTSD symptoms, and general psychological distress</td>
<td>(-)</td>
</tr>
<tr>
<td></td>
<td>222 mental health professionals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Siegfried-Spellar (2018)</td>
<td>20 digital forensic examiners</td>
<td>PTSD Checklist-Civilian Version; (PCL-C)</td>
<td>Higher STS scores and psychological distress in investigator and both duty groups, compared to digital forensic examiner group</td>
<td>(-)</td>
</tr>
<tr>
<td></td>
<td>71 Law enforcement investigators</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>38 who are responsible for both duties</td>
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</tr>
</tbody>
</table>

STS among Other Criminal Justice Professionals

STS has also been examined among professions closely related to criminal justice, including forensic interviewers, juvenile justice teachers, and most prominently, victim advocates and counselors. Many of these studies rely on Bride et al.’s (2004) STSS for their analysis, however these studies report the sample mean STS score, instead of prevalence rates in their sample. Furthermore, there are some studies which utilize instruments other than the STSS in their measurement of PTSD in their samples, and

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* The authors do not report the exact sample size, or response rate for this study due to their sampling procedures. These numbers represent the total who answered at least one survey question.
some which measure VT or CF, instead of STS. Thus, findings for this occupational group will commence with a discussion of the STSD and PTSD sample mean and prevalence results.

Discussing prevalence rates of STSD in this occupational group is difficult, as the studies which utilize the STSS report mean sample scores, instead of prevalence rates. However, mean sample scores are also presented in some of our other occupational groups, making some comparisons possible. For instance, Kintzle, Yarvis, and Bride (2013) reported a mean sample score of 30.76 in their sample of military primary and mental healthcare providers, and Bride, Smith-Hatcher, & Humble (2009) reported a mean score of 31.2 in their sample of substance abuse counselors. With slightly higher means, our social worker group had two studies which reported sample means. Choi (2017) reported a sample mean of 32.07, and Quinn, Ji, & Nackerud (2019) reported a mean sample STSS score of 33.07. Within the child protection and welfare services group, Bride, Jones, and MacMaster (2007) reported a mean sample score of 38.20. Finally, we have our lowest sample mean so far, 29.83, in a U.K. sample of law enforcement officers in the MacEachern et al. (2019) study. However, one of the highest sample means reported in another sample of law enforcement officers. In the Perez et al. (2010) study of investigators of child pornography, the sample mean was 36.23. However, both of these studies had small sample sizes, Perez et al. (2010) at 28, and MacEachern et al. (2019) at 63. Recall that the cutoff score for STS on the STSS, if scored in that manner, is 38.

Turning now to our occupational group of criminal justice related professions, Perron & Hiltz, (2006) examined STS in a group of forensic interviewers (n=66), finding
a mean STSS score of 34.2 for this sample. Bonach and Heckert (2012) report slightly higher mean STSS scores (36.7) than Perron and Hiltz (2006) in a sample of 257 forensic interviewers across the United States. Finally, utilizing a sample of 142 Victim advocates from across the United States, Benuto, Singer, Gonzalez, Newlands, and Hooft (2019) report a mean STSS score of 39.81 in their sample.

A couple of studies examine STSD through the lens of PTSD, either by utilizing the algorithm method of scoring on the STSS, or by using an entirely different instrument. For example, utilizing a sample of 118 teachers and staff in a juvenile justice facility in Georgia, Hatcher, Bride, Oh, King, and Catrett (2011) examined STSD, revealing that among this sample 81.4% met at least one core diagnostic criteria. Additionally, 55.1% met two and 39% met all three core criteria required for a diagnosis of PTSD (Hatcher, Bride, Oh, King, & Catrett, 2011). Finally, in a study by Slattery and Goodman (2009), researchers report 47.3% of their sample (n=148) of domestic violence advocates met criteria for clinical levels of PTSD symptomology using the PTSD Checklist-Stressor Specific Version (PCL-S).

Thus, with sample means ranging from 34.2 in Perron & Hiltz’s (2006) sample of forensic interviewers, to 39.81 in Benuto et al.’s (2019) sample of victims’ advocates, STSS means in this group are higher than those presented in both the healthcare group (30.76: Kintzle, Yarvis, & Bride, 2013; 31.2: Bride, Smith-Hatcher, & Humble, 2009) and social worker group (32.07: Choi, 2017; 33.07: Quinn, Ji, & Nackerud, 2019). The means for this group were similar to the mean of 38.20 in the Bride, Jones, and MacMaster (2007) study of child protection and welfare workers. In comparison to law enforcement officer sample STSS means, all studies in this group had means which
exceeded the MacEachern et al. (2019) study of U.K. officers (29.83), and two of the studies had means were actually higher than that of the Perez et al. (2010) study of child pornography investigators (36.23). Further, within this group PTSD prevalence rates between 39% of a sample of teachers and staff in a juvenile justice facility (Hatcher et al., 2011) to 47.3% of a sample of domestic violence advocates (Slattery & Goodman, 2009). Table 9 provides a summary of the above findings. Next, we will move on to a discussion of the reported effects from experiencing STSD.

Table 9: Other Criminal Justice Professional STS studies

<table>
<thead>
<tr>
<th>Source</th>
<th>Sample</th>
<th>Assessment/Method used</th>
<th>Main Findings</th>
<th>STS Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baird &amp; Jenkins (2003)</td>
<td>101 domestic violence/sexual assault counselors</td>
<td>Compassion fatigue self-test for psychotherapists (CFST); TSI Belief Scale Revision L (TSI-BS); Symptom Checklist-90, Revised (SCL-90-R)</td>
<td>Sample mean was in Moderate CF range compared to studies of other mental health workers</td>
<td>Lower Client caseload younger age</td>
</tr>
<tr>
<td>Benuto, Singer, Gonzalez, Newlands, &amp; Hooft (2019)</td>
<td>142 victims’ advocates</td>
<td>STSS; Mean sample score</td>
<td>Mean=39.81</td>
<td>Number of hours worked</td>
</tr>
<tr>
<td>Bonach &amp; Heckert (2012)</td>
<td>257 forensic interviewers</td>
<td>STSS; Mean sample score</td>
<td>Mean=36.7</td>
<td>Younger age</td>
</tr>
<tr>
<td>Hatcher, Bride, Oh, King, &amp; Catrett (2011)</td>
<td>118 teachers and staff in a juvenile justice facility</td>
<td>STSS; algorithm method</td>
<td>39% met all 3 core criteria for PTSD diagnosis</td>
<td>(-)</td>
</tr>
<tr>
<td>Perron &amp; Hiltz (2006)</td>
<td>66 forensic interviewers</td>
<td>STSS; mean sample score</td>
<td>Mean=34.2</td>
<td>(-)</td>
</tr>
<tr>
<td>Slattery &amp; Goodman (2009)</td>
<td>148 domestic violence advocates</td>
<td>PTSD Checklist-Stressor Specific Version (PCL-S)</td>
<td>47.3% met criteria for clinical levels of PTSD</td>
<td>History of abuse</td>
</tr>
</tbody>
</table>

Note. CF Compassion Fatigue
EFFECTS OF SECONDARY TRAUMATIC STRESS

For the sufferer of STS, the effects can be far reaching. STS can manifest in a variety of ways from physical effects like headache and gastrointestinal upset (Figley, 1995a; Miller, 2003; Pistorius, Feinauer, Harper, Stahmann, & Miller, 2008), to emotional withdraw (Cerney, 1995; Dutton & Rubinstein, 1995), paranoid ideation (Solomon, Waysman, Levy, Fried, Mikulincer, Benbenishty, Florian, & Bleich, 1992), and feelings of hopelessness and helplessness (Waysman, Mikulincer, Solomon, & Weisenburg, 1993). Figley (1983) first describes STS in relationship to his examination of family members of individuals who have been traumatized by war or natural disaster. These family members had experienced considerable emotional distress due to their close contact with the traumatized loved one. Much of the early work that recognized STS symptoms and effects, which was largely qualitative in nature, examined the wives of combat veterans (Solomon et. al., 1992; Verbosky & Ryan, 1988; Waysman, Mikulincer, Solomon, & Weisenburg, 1993).

In another study, Solomon et al. (1992) reported his sample of combat veteran wives expressed a variety of effects including anxiety, loneliness, paranoid ideation, hostility, obsessive-compulsiveness, greater psychiatric symptoms, somatization complaints, and interpersonal ideation and sensitivity. These women also reported feeling disconnected from social networks and impaired family and marital relationships (Solomon et al., 1992).

The wives of Vietnam veterans were the subject of research by both Verbosky & Ryan (1988) and Waysman et al. (1993). Verbosky and Ryan (1988) conducted a retrospective descriptive study of participants in a therapy group. Many of the women
initially presented to the group with feelings of worthlessness and increased stress. They expressed an inability to tolerate their husbands’ PTSD symptoms, physical abuse, and increased substance use. The therapy group also discussed a number of methods they used to cope with these issues. The wives discussed shouldering more responsibility and overcompensating for their husbands, often these methods lead to the women viewing themselves as victims and increasing their husbands’ dependence upon them (Verbosky & Ryan, 1988). In a later study by Waysman, Mikulincer, Solomon, and Weisenburg (1993), Vietnam veteran wives reported poor self-esteem, feelings of grief, anger, guilt, helplessness, and hopelessness. Similar to Solomon et al. (1992), this sample also experienced depression and increased levels of psychiatric symptoms and somatic complaints. The wives in this study also reported experiences of social rejection, isolation, and changes in the level and degree of sexual intimacy in their relationship (Waysman et al., 1993).

In a later study, Davis, Taylor, and Bench (1995) conducted a quantitative analysis of the effects experienced by 138 male and female significant others of survivors of sexual and non-sexual assault. In general, respondents reported increased levels of fear and distress. However, gender was found to be the most significant factor related to the experiences of these effects, with female family and friends reporting greater distress symptoms than male friends, family, or romantic partners. Specifically, female significant others reported more fear of crime than male significant others, and romantic male partners were found to experience the same levels of distress and non-romantic male significant others (Davis et al., 1995).
More recently studies have linked STS to a variety of negative personal outcomes including having a general distrust of the world, overprotectiveness of loved ones (Bourke & Craun, 2014; Perez et al., 2010), and family/marital problems (Craun et al., 2015). For example, researchers have found that therapists who are suffering from STS may emotionally withdrawal from families in such a way as to be chronically unavailable to them (Cerney, 1995; Dutton & Rubinstein, 1995). Further, some mental health professionals who treat the traumatized have also reported physical effects of indirect trauma exposure including headache, gastrointestinal upset, and heart palpitations (Figley, 1995a; Miller, 2003; Pistorius et. al., 2008). Some have even reported dreaming the dreams of their clients (Cerney, 1995; Nelson-Gardell & Harris, 2003).

In one of the earliest studies examining secondary trauma in an occupation, Alexander, de Chasney, Marshall, Campbell, Johnson, and Wright (1989) examined the reactions of both survivors of sexual trauma and five nurses who were responsible for recording sexual assault data. These nurses were responsible for coding data in a rape crisis center (1,215 cases over three months), in order to analyze potential demographic predictors of sexual assault and were not in direct contact with survivors or perpetrators. The effects of their exposure to these details was made apparent during meetings with the researchers, during which time their feelings and reactions were seen to mirror Rape Trauma Syndrome, which is similar to PTSD. These effects were categorized into five groups: increased caution, somatizing, sleeping disorders, emotional responses, and a need for social support. Among the nurses, many experienced fear: fear of harm coming to their selves or their children, fear of being raped, and even fear of men (strangers) in general. They also reported blaming the victim and feeling sadness. Further, the nurses
reported effects in the workplace: leaving early, limiting their time of data collection, and ‘tuning out’ (selective attention) during data collection. Similar to the nurses, the survivors reported blaming themselves, depression, and avoiding reminders of the event. Both groups also reported experiencing nausea, insomnia, nightmares, and pain, as well as increased need for social support and caution (Alexander et al., 1989).

The effects of STS may extend beyond the professional experiencing these symptoms and may influence their work with clients and impede upon their ability to effectively help those on their caseload (Figley, 1995b). STS symptoms such as fatigue, illness, social withdrawal, emotional numbing, and feelings of hopelessness and despair, may have a detrimental effect on the professionals’ work with clients (Etherington, 2007; Saakvitne, Gamble, Pearlman, & Tabor, 2000). For example, professionals who are suffering from STS symptomology are thought to be at a higher risk for making poor professional judgements such as abuse of clients, poor treatment planning, and misdiagnosis (Bride et al., 2004). Further, it has been suggested by some research that STS may affect the retention of helping professionals like counselors (Bride & Kintzle, 2011; Bride, Smith-Hatcher, & Humble, 2009; Figley, 1995b).

RISK FACTORS AND CORRELATES OF SECONDARY TRAUMATIC STRESS

The primary cause of STS is exposure to the trauma of others; however, not all individuals exposed to secondary trauma suffer from STS. This implies that other factors may place individuals at a higher or lower risk for developing STS after the exposure to secondary trauma. To date, several other factors have been examined as risk factors for the development of STS symptomology among helping professionals. In addition to these
types of personal, or individual characteristics, researchers have also documented a range of occupational characteristics which may place some individuals at increased risk for developing STS symptomology.

**Individual Characteristics**

Individual characteristics which have been examined in relationship to STS include a personal history of direct trauma exposure (Baird & Kracen, 2006; Bride, Smith-Hatcher, & Humble, 2009; Caringi, Stanick, Trautman, Crosby, Devlin, & Adams, 2015; Cornille & Meyers, 1999; Ghahramanlou & Brodbeck, 2000, Kassam-Adams, 1999; Nelson-Gardell & Harris, 2003; Pearlman & Maclan, 1995), gender (Baum, 2016; Bride, Smith-Hatcher, & Humble, 2009; Greinacher, Derezza-Greeven, Herzog, & Nikendei, 2019; Kassam-Adams, 1999; Meyer & Cornille, 2002; Sprang, Clark, & Whitt-Woosley, 2007; Van Hook et al., 2009) and age (Bride, Smith-Hatcher, & Humble, 2009; Craig & Sprang, 2010; Ghahramanlou & Brodbeck, 2000; Hellman et al., 1987; Munroe, 1999). These next sections discuss the major correlates of STS that have been previously studied. Because the field has largely used STS, VT and CF interchangeably, studies on all three of these trauma responses are included.

**Personal history of Trauma.** In some of his earliest work, Figley (1995a; 1995b) describes four vulnerabilities to STS that may impact those working with traumatized populations. First, empathy, a necessary component of working with trauma victims, is one of the key factors involved in the transmission of STS from the victimized to the helping professional. Second, many who work with the traumatized were once victims of trauma themselves. Relatedly, Figley (1995a; 1995b) discusses how these past traumas experienced by the helping professional, may be similar to the types of trauma their
clients have experienced. This may lead the worker to overgeneralize or misinterpret the best course of action for their clients. Third, any unresolved issues related to the helping professionals past trauma experiences, may work as a catalyst for the development of STS symptomology. Fourth, exposure to trauma experienced by children (a specific trauma type), may be more likely to lead to STS symptomology in helping professionals (Figley, 1995a; 1995b).

Within the research some of these vulnerabilities, specifically a personal history of trauma, have been examined as individual risk factors for STS. A personal trauma history has been found consistently in research to increase the risk of STS in trauma workers (Follette et al., 1994; Jenkins & Baird, 2002; Kassam-Adams, 1995; Pearlman & MacIan, 1995; Sabin-Farrell & Turpin, 2003). For example, Hensel, Ruiz, Finnelly, & Dewa (2015) conducted a meta-analysis of 38 published studies to examine potential risk factors for STS among professionals who work with trauma victims in a therapeutic manner. Personal history of trauma was found to be positively related to STS in all the studies examined, however the effect sizes varied. Those who had a personal history of trauma which was similar to the type of trauma their clients faced (e.g., domestic violence, sexual violence, childhood trauma), had high effect sizes (Hensel et al., 2015).

In Choi’s (2017) study of 154 social workers, a past history of trauma (measured using a checklist of seven questions including items like intimate partner violence, child abuse, sexual abuse, sudden death of a family member, natural disaster, general crime, and other) was positively correlated with STS; however, no other demographic or control variables were found to be significant (i.e., age, years of experience with trauma clients,
gender, race, and salary) in this study (Choi, 2017). However, personal trauma history was not found to be related to STS in the Quinn et al. (2019) study of social workers. Utilizing a sample of domestic violence advocates, Slattery & Goodman (2009) found those respondents in their study who reported a past history of abuse (i.e., childhood sexual abuse, childhood physical/emotional abuse, child witness to violence, intimate partner violence, rape/sexual assault) had higher STS scores. (Slattery & Goodman, 2009). Prior victim status was also correlated with STS severity in the Benuto et al. (2019) study, which utilized a sample of victims’ advocates.

Higher scores related to PTSD, depression, and VT were all predicted in the Vrlevski & Franklin (2008) sample of criminal and civil attorneys, by personal history of multiple traumas (Vrlevski & Franklin, 2008). In contrast, in a systematic review of 10 VT studies which sampled sexual violence practitioners having a personal history of sexually violent victimization was not associated with higher levels of symptomology in any of the reviewed studies (Chouliara et al., 2009). In a related examination of compassion fatigue (CF) among mental health professionals, Turgoose and Maddox (2017) conducted a review of 32 published studies from 2001 through August of 2014. While several factors were correlated with CF, having a personal trauma history had the most consistent association, indicating those who had prior trauma experiences themselves were at a higher risk for CF (Turgoose & Maddox, 2017). While a few studies have found contradictory findings (Hensel et al., 2015; Chouliara et al., 2009; Quinn et al., 2019), the existing literature rather consistently indicates whether it is STS or CF, prior trauma history places individuals at a higher risk for suffering from STS.
Age. The effect of age on STS risk in the literature has had mixed findings, with some studies choosing instead to examine experience, however several studies have found younger age to predict STS. For example, in a meta-analysis of 38 studies regarding correlates of STS, Hensel et al. (2015) found younger age to be a significant predictor of STS in some of the studies. However, the authors caution that when there was a significant relationship, the effect sizes were very small, and most likely attributable to large sample size (Hensel et al., 2015).

In their review of 32 CF studies from 2001 through 2014, Turgoose and Maddox (2017) findings related to age were also mixed. While in some studies age was found to increase the likelihood of CF, others have found CF to decrease with the increasing age of respondents. (Turgoose & Maddox, 2017).

Finding regarding the effect of age on STS among child welfare workers while sparse, are more consistent. For example, using a large sample of 669 professionals from around the country, Sprang, Craig, & Clark, (2011) found that those in the sample who were younger were significantly more likely to exhibit CF (Sprang, Craig, & Clark, 2011). In a study of 175 child welfare workers Van Hook and Rothenburg (2009) also found higher levels of CF for younger workers, compared to a national sample of helping professionals conducted by Stamm (2005).

Utilizing a sample (n=101) of domestic violence and sexual assault counselors, Baird & Jenkins (2003) examined both CF and VT. The authors assessed VT in this sample using the TSI Belief Scale, Revision L (TSI-BSL: Pearlman, 1996), and STS using the Compassion Fatigue Self-Test for Psychotherapists (CFST: Figley, 1995a), where the total score is a combination of STS and burnout subscales. Findings revealed
no relationship between the number of months of experience counseling and VT or CF, however younger counselors did score higher on measures of VT overall, and particularly on items related to emotional exhaustion. Similar to Baird & Jenkins (2003) In Bonach & Heckert’s (2012) study of forensic interviewers, age was negatively associated with level of STS, such that older respondents had lower STS levels (Bonach & Heckert, 2012).

Finally, in a systematic review of ten VT studies published between 1990 and 2008 which sampled sexual violence practitioners, only one study found a significant relationship between younger age and VT (Chouliara et al., 2009). Taken as a whole these finding highlight the inconsistency of the relationship between age and STS in the literature. Studies which do find a significant relationship most often find younger individuals to be at higher risk for STS symptomology.

**Gender.** Findings related to the potential effect of gender on STS risk have also been inconclusive. Baum (2016) conducted a systematic review of gender findings related to STS in mental health professionals including child protection workers, those working with adult victims of spousal violence and sexual abuse, and professionals who treat disaster victims. Fourteen studies were included in the review, ten of which utilized PTSD criteria in their determination of STS, and four which utilized Stamm’s (2005) ProQOL. Findings reveal that among the studies using PTSD criteria, eight of the ten reported greater susceptibility to STS for female respondents, the remaining two studies reported no significant differences between genders. Yet these results may not indicate mixed findings, amongst the studies which found no differences one examined student trainees and the other did not collect data on respondent caseload. Thus, it is unclear if there were no gender differences in these studies, or if the respondents had low exposure
to secondary trauma. Within the ProQOL studies, two found greater susceptibility for female respondents, one found no significant difference, and one found males to be at greater risk. Again, it is unclear what level of exposure these professionals had to traumatized clients making it difficult to conclude whether females are a higher risk for STS. Further confounding these results, many of these studies did not distinguish between prior primary and secondary trauma. Studies have repeatedly found females are at greater risk for developing PTSD than their male counterparts (e.g., Breslau, Kessler, Chilcoat, Schultz, Davis, & Andreski, 1998; Norris et al., 2001; Stein, Walker, Hazen, & Forde, 1997). However, this relationship is anything but certain, as some more recent studies have failed to find a correlation between gender and PTSD (Chung & Breslau, 2008; King, Street, Gradus, Vogt, & Resick, 2013).

Baum (2016) explains that while these findings seem to suggest greater susceptibility to STS for females, male professionals are not immune to symptomology and may be manifesting their symptoms in a different way. For example, three of the studies which examined PTSD criteria in their sample, found males to score higher on the Global Distress Index (GBI) (Cornille & Meyers, 1999; Kassam-Adams, 1999; Wee & Myers, 2002).

Several of the studies which utilize law enforcement samples have found a correlation between gender and STS, with studies finding females to score higher on STS measures (Brady, 2017; Bourke & Craun, 2014a; Bourke & Craun 2014b). However, some of these studies have utilized samples which were largely male (Bourke & Craun, 2014b), complicating these results.
Among child welfare studies, gender findings are still mixed. For example, both Cornille & Meyers (1999) and Van Hook and Rothenburg (2009) found females in their studies to be at a higher risk for PTSD / CF, however Sprang, Craig, & Clark, (2011) found males to be at higher risk for CF in their sample of child welfare workers.

Relatedly, gender differences were examined in 12 of the studies presented in Turgoose and Maddox’s (2017) CF review; however, only three found females to be more likely to suffer CF symptoms than males. The relationship between gender and STS remains unclear. While results have been mixed, some studies have found females to be more likely to exhibit STS symptomology than males.

**Occupational Characteristics**

Occupational characteristics associated with STS include having a heavy caseload of traumatized clients (Cornille & Woodard Meyers, 1999) and/or more exposure to traumatic material (Baird & Kracen, 2006; Brady et al., 1999; Bride, Smith-Hatcher, & Humble, 2009; Deighton, Gurris, & Traue, 2007; Tosone, Minami, Bettmann, & Jasperson, 2010; Udipi, Veach, Kao, & LeRoy, 2008), type of trauma exposure through caseload (Ben-Porat and Itzhaky, 2009), level of experience in the field (Arvay & Uhlemann, 1996; Bride, Smith-Hatcher, & Humble, 2009; Gahramanlou & Brodbeck, 2000; Hellman et al., 1987; Munro, 1999) and factors related to the work environment, such as burnout (Ceislak, Shoji, Douglas, Melville, Luszczynska, & Benight, 2014; Devilly, Wright, & Varker, 2009).

**Caseload Volume.** Several studies have found trauma workers who spend more hours each week with clients (Cornille & Meyers, 1999; McLean et al., 2003), and/or those who have heavy client caseloads (Arvay & Uhlemann, 1995; Brady et al., 1999; Chrestman,
1995) are at higher risk for developing STS symptomology. Findings generally reveal the “dose” of indirect trauma exposure in the professional’s caseload will be related to STS risk (Baird & Kracen, 2006; Brady et al., 1999), as those with higher levels of exposure are more at risk for developing STS symptomology, this has been found to be more important than length of exposure (i.e., time in the field) (Brady et al., 1999; Chrestman, 1999; Kassam-Adams, 1999; Cornille & Meyers, 1999; Schauben & Fraizier, 1995). However, some researchers have found no such relationship. For example, Baird and Jenkins (2003) found that those domestic violence and sexual assault counselors in their study who saw more clients overall, reported fewer STS and VT symptomology. In an examination of forensic interviewers working with child abuse victims, Peron and Hiltz (2006) found no relationship between exposure to clients (combined length of employment in field and number of interviews per month) and STS level.

The number of direct services hours was not related to STS symptomology in the Slattery & Goodman (2009) study of domestic violence advocates. However, utilizing a sample of victims’ advocates, Benuto et al. (2019) found number of hours worked was correlated with STS severity in their sample, yet years of experience was not (Benuto, Singer, Gonzalez, Newlands, & Hooft, 2019).

Utilizing a sample of 57 attorneys who specialized in asylum cases, Piwowarczy, Ignatius, Crosby, Grodin, Heeren, & Sharma (2009) found the hours per week the attorney spent on these cases was correlated with higher trauma scores in this sample. The secondary trauma symptoms experienced by attorneys in the Levin & Greisberg (23003) study were correlated with higher caseload. Finally, within the Levin et al. (2011) study of attorneys and administrative staff, STS was seen to increase with the
number of hours worked per week, and the number of trauma-exposed clients on the respondent’s caseload.

In their meta-analysis of 38 studies examining potential risk factors for STS in professionals working therapeutically with trauma victims, Hensel, Ruiz, Finnely, & Dewa (2015) found caseload ratio, or the proportion of time spent working with traumatized clients, to have a strong effect on STS. Within Child Protective Services samples, STS has been associated with heavy caseloads and long work hours (Cornille & Woodard Meyers, 1999). Quinn et al. (2019) also found higher caseload size to correspond with higher STS scores in their study of social workers.

Relatedly in CF research by Turgoose and Maddox (2017), who reviewed 32 CF studies from 2001 through 2014, several factors were correlated with compassion fatigue in mental health professional samples. Caseload was investigated in only four of the studies, however three of the four studies reported that the larger the caseload or more hours spent with clients, the more likely they were to experience CF symptoms. The remaining study did not find a relationship between CF and caseload volume.

While a few studies (Baird & Jenkins, 2003; Peron & Hiltz, 2006; Slattery & Goodman, 2009) have found no relationship between caseload volume variables and STS, the relationship between increased caseload volume/contact with traumatized clients and STS has been found consistently across much of the research.

*Trauma exposure through Caseload.* While information regarding the specific traumas experienced by professionals in their work roles is often not collected, caseload specific characteristics, like the percentage of individuals on ones’ caseload that has been traumatized, or the age of the victim of the trauma, is examined in some studies in
relationship to STS. However, findings have been far from conclusive. For example, in Quinn et al.’s (2019) study of social workers, 22% of the overall sample reported experiencing STS symptoms in the severe range, however when the researchers looked only at those in the sample who worked directly with traumatized clients, the prevalence of severe STS was experienced by 31% (Quinn, Ji, & Nackerud, 2019). A study by Ben-Porat and Itzhaky (2009) found more moderate levels of STS symptomology in a group of professionals who work with family violence victims compared to professionals with other types of trauma exposure. A study by Sprang, Craig, and Clark (2011) found higher CF for child welfare workers compared to other behavioral health professionals and Berger et al. (2012) reported ambulance personnel have higher estimated PTSD than firefighters and police officers.

In a systematic review of 10 studies of VT among sexual violence practitioners working with adult and child victims published between 1990 and June 2008, Chouliara, Hutchison, and Karatzias (2009) found these professionals experienced high levels of VT and PTSD symptoms such as avoidance and intrusion. Further, disrupted beliefs in areas of intimacy, trust, safety, as well as disrupted worldview and relationships with others, work, and the self were present. However, Chouliara et al. (2009) reported that in studies which compare professionals working with victims of sexual violence (both children and adult victims), and professionals working with non-sexual violence victims or sexual offenders, most studies do not find statistically different levels of VT and/or belief disruption between these groups. Some studies found a relationship between VT and higher levels of exposure to sexual trauma; however, this relationship was not clear, as some studies also found increased experience in the field to lessen VT symptomology,
perhaps due to the social desirability effect (Chouliara et al., 2009). The authors point out that there were very few studies which met their inclusion criteria, and those that did, suffered from methodological weaknesses including issues of over reliance on postal surveys, definitions, sampling, and measurement instruments. Thus, while this systematic review provides us with some information regarding potential correlates of STS/VT, it is in no way conclusive (Chouliara et al., 2009).

A couple of the studies which utilize law enforcement samples have also examined the relationship between STS and the age of the victim in the case. Consistent with what Figley (1995a; 1995b) suggests, higher risk of STS was found for those who worked on average with younger aged victims in Brady’s (2017) study of ICAC personnel. Conversely, in Turgoose et. al. (2017) study of U.K. law enforcement officers who worked sexual offense cases, higher STS scores were found in those officers working cases of adult victims, compared to those who worked with child victims.

Finally, the Brady (2017) study of Internet Crimes Against Children task force personnel is one of the few which attempts to capture exposure to direct and indirect trauma, and its effect on STS. In this study exposure to indirect and direct trauma were assessed using two Likert scale questions which asked respondents how often they have been exposed to crimes against children (directly and indirectly). Exposure to indirect, but not direct trauma was found to predict STS in linear regression models (Brady, 2017). In another study which attempted to capture exposure to trauma, Lee, Gottfried, and Bride (2018) examined STS in a sample (N=539) of social workers from across the U.S. Findings revealed that those with more secondary trauma exposure (measured by the
question “what percentage of your clients meet the criteria for PTSD?”) had higher levels of STS symptomology.

Work Experience. Findings regarding the effect of work experience on STS have been sparse and mixed. Generally, studies have found that those with more experience in their fields tend to exhibit lower STS scores than those with less experience (Arvay & Uhlemann, 1995; McLean Wade, & Encel, 2003; Way et al., 2004), even when both have a history of personal trauma (Pearlman & Maclan, 1995). For example, STS symptomology has been strongly associated with the amount of time in the field in Child Protective Services samples (Cornille & Woodard Meyers, 1999).

STS studies involving law enforcement samples have also begun to examine the relationship between job experience, or length of time on the job and STS. For example, in their examination of law enforcement officers working sexual offense cases in the U.K., Turgoose et. al. (2017) found participants who had been in their role for over a year had higher STS scores, than those who had worked in the position for less time. The amount of time the respondent indicated they had worked with the disturbing material was also positively correlated with the presence of STS symptoms in Perez et al. (2010) study of law enforcement officers who investigate child pornography.

However, in Turgoose & Maddox’s (2017) review of 32 CF studies, the relationship between CF and experience in the field was mixed, with some studies finding CF to be positively correlated with experience, and others finding the opposite. The authors explain this could be due to a variety of factors. Those with more experience may have learned effective coping mechanisms, thereby alleviating their STS symptoms. Or they may have been promoted to managerial or supervisory roles, perhaps exposing them
to less trauma. However, they point out that those in supervisor or manager positions may alternatively be exposed to more trauma, as they will potentially be exposed to the trauma of all the clients under their workers care as well, potentially giving them higher STS. Further, it could be that those with more experience in their field exhibit higher STS due to chronic, cumulative exposure to trauma.

Clearly, the literature regarding the effect of job experience on STS is quite mixed, with some studies finding those with less experience to have higher STS symptomology (Arvay & Uhlemann, 1995; McLean Wade, & Encel, 2003; Way et al., 2004), and others finding the exact opposite (Perez et al., 2010; Turgoose et. al., 2017). This relationship may be complex, and will require further study before any conclusions can be reached.

Job Characteristics. Several factors related to the work environment, like job satisfaction, commitment, training, coping, and peer support, have also been found to be associated with STS, whether as potential risk factors, or as effects. For example, lower levels of job satisfaction and organizational commitment were associated with higher levels of STS in Bride and Kintzle’s (2009) sample of substance abuse counselors. Other studies have found a relationship between STS symptomology and adequacy of training, being organizationally or socially isolated (Bride, Smith-Hatcher, & Humble, 2009) and lower levels of organizational and peer support (Bride, Jones, & MacMaster, 2007). Finally, Brady (2017) examined the relationship between coping and support, and STS in his study of ICAC personnel. Brady’s (2017) findings reveal respondents who felt supported outside of work had lower STS levels, as did those who frequently engaged in
positive coping. Alternatively, low organizational support and feeling overwhelmed at work were associated with higher STS levels in this study (Brady, 2017).

The relationship between STS and burnout has been studied more extensively, with studies often finding the two to be positively associated (Devilly, Wright, & Varker, 2009; Greinacher et al., 2019). In a meta-analysis examining STS and job burnout, Cieslak, Shoji, Douglas, Melville, Luszczynska, and Benight (2014) discuss the results of 41 studies across a variety of occupations. Results reveal a positive association between burnout and STS, with a large effect size (weighted r=.69), and coefficient of determination \( r^2 \) of .48. Moderator analysis revealed the strength of the effect size of the relationship between the two variables was dependent upon the type of STS assessment used, those which used ProQOL type measures had stronger effect sizes \( (r^2=.53) \) than those that used PTSD type measurements \( (r^2=.37) \), suggesting the ProQOL type measurements may not be capturing STS and burnout as distinct constructs (Cieslak et al., 2014). In Turgoose and Maddox’s (2017) review, eleven studies examined the relationship between burnout and CF, all of them found a significant positive correlation between the two, further this relationship tends to be one of the strongest found amongst the variables studied.

The primary cause or risk factor associated with the development of STS symptomology is exposure to indirect trauma, however, several other individual and environmental factors have been discussed in the literature as potential correlates of STS. Some of these factors, like prior personal trauma history (Baird & Kracen, 2006; Bride, Smith-Hatcher, & Humble, 2009; Caringi et al., 2015; Cornille & Meyers, 1999; Ghahramanlou & Brodbeck, 2000, Kassam-Adams, 1999; Nelson-Gardell & Harris,
2003; Pearlman & MacIan, 1995), and more exposure to trauma or heavy caseload (Baird & Kracen, 2006; Brady et al., 1999; Bride, Smith-Hatcher, & Humble, 2009; Cornille & Woodard Meyers, 1999; Deighton, Gurris, & Traue, 2007; Tosone et al., 2010; Udipli et al., 2008), have an established relationship in the literature. The strength of the relationship between STS and other factors like gender (Baum, 2016; Bride, Smith-Hatcher, & Humble, 2009; Greinacher et al., 2019; Kassam-Adams, 1999; Meyer & Cornille, 2002; Sprang, Clark, & Whitt-Woosley, 2007; Van Hook et al., 2009), type of trauma exposure (Ben-Porat and Itzhaky, 2009) and work experience (Turgoose & Maddox, 2017) is less clear. Next, we will move on to a discussion of the literature regarding STS in community correctional officers and staff.

STS AMONG COMMUNITY CORRECTIONAL STAFF

Prior research has investigated STS in judges (Jaffe, Crooks, Dunford-Jackson, & Town, 2003; Osofsky, Putnam, & Lederman, 2008), police officers (Perez, Jones, Englert, & Sachau, 2010), as well as advocates and counselors working with sexual assault or domestic violence survivors (Baird & Jenkins, 2003; Iliffe & Steed, 2000, Jenkins, Mitchell, Baird, Roby, Whitefield, & Meyer, 2011; Slattery & Goodman, 2009). However, there are few studies which examine STS in criminal justice professionals and those that exist are largely exploratory in nature (Rhineberger-Dunn, Mack, & Baker, 2016). Three studies were located which examined STS in community corrections officers, of these two are qualitative (Morran, 2008; Severson & Pettus-Davis, 2013), and one examined STS through the lens of caregiver fatigue (Lewis, Lewis, & Garby, 2013). Further, only one of these studies collected information on officers’ traumatic workplace experiences.
Utilizing a sample of 16 probation officers and 14 other staff (social workers, women’s support, psychotherapy) working with a Domestic violence program, Morran (2008) conducted a qualitative study using a questionnaire. Though STS was not specifically studied or defined for this research, experiences of STS, were noted as a negative and important consequence of working with this special population. Participants expressed strain and hypervigilance in their personal partner relationships as an added negative consequence of experiencing STS symptomology (Morran, 2008).

A second qualitative study by Severson & Pettus-Davis (2013), conducted 7 focus groups containing a total of 49 participants in order to examine STS in those supervising sex offenders. The focus groups varied in size from four to fourteen members (average of 8), each lasting between one and two hours. Each group had a mixture of individuals who worked in either rural or urban environments, and the tenure of participants ranged from several months to more than two decades. Seven of the focus groups contained parole officers and two groups were comprised of their supervisors. Participants within all the focus groups describe emotional reactions that were consistent with STS symptomology such as disrupted sex lives, somatic reactions, pervasive thoughts, loss of innocence, and hypervigilance at both home and work. Participants also report little departmental support or training to help prevent or cope with STS. Severson & Pettus-Davis (2013) note that while some studies examining parole officers working with sex offender caseloads discuss STS within this population (Catanese, 2010; English, Pullen, Jones, 1997; Pullen & Pullen. 1996), the issue is quickly dismissed as being minimized or addressed by either training or the work environment (Severson & Pettus-Davis, 2013).
Finally, Lewis, Lewis, & Garby (2013) examined traumatic stress symptomology and burnout in their analysis of 309 probation officers, administrators, and supervisors across three states (Arizona, California, and Texas). Participants were drawn from 3 large urban departments and 2 smaller rural departments, and included 159 females, 127 males, and 23 who did not endorse either gender. Information on race and ethnicity of participants was not collected to better protect anonymity. Surveys were administered to participant in large groups by the research team at the Probation & Parole department offices. The survey included three instruments: the Probation Personal Impact Scale (PPI) was used to measure traumatic stress reactions across 14 subscales, the Impact of Events Scale-Revised which measures avoidance and intrusive PTSD symptoms was used to ensure the construct validity of the PPI, finally STS, burnout and compassion satisfaction were measured using the Compassion Satisfaction/Fatigue Self-Test for Helpers. The researchers also created an External Events on the Caseload checklist, which asked respondents to check whether or not they had experienced victimization in the line of duty (threat (41%) or assault (10%)), significant death threat (20%), offender suicide (38%), violent re-offense resulting in death of victim (12%), sexual recidivism (33%), or violent re-offense against a child victim (32%). Findings revealed that age, marriage, and parental status were not correlated with measures of traumatic stress; however, increased time on the job and increased time in current positions were both positively related to traumatic stress symptoms. Within this sample, those who had experienced an offender's violent re-offense against a child, violent re-offense resulting in death of the victim, sexual re-offense, offender suicide, and those who had been threatened or assaulted by an offender reported significantly higher CF scores, higher scores on specific subscales of
the PPI, and higher burnout scores (with the exception of violent re-offense resulting in death to the victim which did not result in higher burnout) (Lewis et al., 2013). Table 10, provided below, offers a summation of the significant studies to date.

### Table 10: Community Correctional Staff STS Studies to Date

<table>
<thead>
<tr>
<th>Source</th>
<th>Sample</th>
<th>Main findings</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morran, 2008</td>
<td>16 PO’s and 14 Psychotherapy, social work, and women’s support workers (U.K.) with Domestic Violence perpetrators and victims</td>
<td>STS symptomology as a negative effect of working in the field. Strain and hypervigilance in personal relationships</td>
<td>Small sample size</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Entirely qualitative</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Did not focus on STS</td>
</tr>
<tr>
<td>Severson &amp; Pettus-Davis, 2013</td>
<td>7 focus groups made up of 49 officer who supervise sex offenders and their supervisors.</td>
<td>Described emotional reactions to work that were consistent with STS symptomology, including somatic reactions, pervasive thoughts, loss of innocence, disrupted sex lives, and hypervigilance in work and home life. Little training or department support, towards preventing or coping with secondary trauma</td>
<td>Entirely qualitative</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Focused exclusively on those supervising sexual offenders</td>
</tr>
<tr>
<td>Lewis, Lewis, &amp; Garby, 2013</td>
<td>309 Probation officers from 3 states (Az., Ca., Tx.)</td>
<td>Those who reported victimization or traumatic events such as assault had higher scores for negative job impacts, including higher levels of burnout and traumatic stress symptomology (PPI). Traumatic stress (PPI) increases as a function of longevity in the field regardless of outside life events or stages. This curvilinear relationship peaks at 9-12 years of service</td>
<td>Did not report STS prevalence</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Did not utilize STSS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Only measured 7 types of traumas; did not record frequency or recency of these experiences</td>
</tr>
</tbody>
</table>

Note. *PPI* Probation Personal Impact Scale;
SUMMARY

It is clear that STS symptomology is a serious concern for those who work with traumatized populations. Yet while research has investigated this issue within a variety of helping professions, Community Correctional staff have been significantly understudied. Indeed, only four articles could be located which utilized community correctional staff samples, of these two were qualitative in nature, further, one of these articles utilized a sample from the United Kingdom. Thus, the extant research in this area is only able to give us a brief glimpse into this problem. Unfortunately, that glimpse is enough to let us know that this is an important issue, as these community correctional staff report issues with pervasive thoughts, disrupted sex lives (Severson & Pettus-Davis, 2013), and hypervigilance (Morran, 2008; Severson & Pettus-Davis, 2013). Further, the quantitative studies involving STS in community corrections indicate that several previously discussed factors may be important mediators or moderators within this relationship, such as history of exposure to trauma/victimization, longevity in the field (Lewis, Lewis, & Garby, 2013) and number of contact hours with offenders (Rhineberger-Dunn, Mack, & Baker, 2016). While this research is helpful to our understanding of STS and workplace trauma exposure in probation and parole, it is in no way enough information. Further, research regarding probation and parole officer’s exposure to workplace violence and trauma is sparse and outdated.

It is impossible to know the scope of this issue without first discovering its prevalence. For this reason, this dissertation focuses on the prevalence of both the direct and indirect exposure to violence and trauma in the workplace, and STS in a sample of probation and parole officers and explores potential individual and occupational correlates. It is necessary to develop a deeper understanding of this problem if we are to
have any hope of developing policy initiatives to help probation and parole officers cope with adverse effects of exposure to trauma and related STS symptomology. STS creates problematic symptoms for those affected in their personal lives, however research has shown their professional lives are not untouched. Beyond the myriad of unsettling symptoms like nightmares, intrusive thoughts and imagery, and emotional numbing, STS has also been correlated with making poor professional judgements (Bride et al., 2004). In a community correctional setting, poor professional judgements can endanger the safety of not only the officers and offenders, but also the community at large. Thus, the importance of the understanding STS in probation and parole officers cannot be doubted. Furthermore, the investigation of potential correlates of both STS and exposure to violent and traumatic workplace events are essential to our understanding of this problem beyond simple nuances.

Broadly, this dissertation seeks to understand the nature and magnitude of both STS and exposure to direct and indirect traumatic workplace events experienced by this sample of P&P officers. Further, in order to expand our knowledge of STS in this sample, this analysis will include several factors that may correlate with STS, namely: 1) the amount of time in months the participant has worked for the KY Department of Corrections; 2) whether the officer has worked full-time or overtime in a prison; 3) caseload volume; and 4) whether the officer supervises sexual offenders. Demographic variables, including age, gender and ethnicity, will also be examined.

Finally, exposure to violent and traumatic workplace events will be analyzed using exposure scores, which take into account the individual’s frequency and recency of
trauma exposure. In accordance with the DSM-V, these events will be categorized into direct and indirect traumas.

The main research questions of this dissertation are as follows:

RQ1: What is the prevalence and magnitude of exposure to violent and traumatic events in the workplace in this sample of KYDOC P&P officers?

H1: Due to the age and limited amount of research in this area, the prevalence of exposure to trauma in P&P is exploratory.

RQ2: What is the prevalence and magnitude of STS symptomology in this sample of KYDOC P&P officers?

H2: Due to the limited amount of research in this area, this hypothesis is exploratory.

RQ3: Are demographic characteristics (age, race, gender) correlated with STS among probation and parole officers?

H3: Younger officers and female officers will display higher STS symptomology.

RQ4: Do occupational characteristics (caseload volume, sex offender caseload, months of experience, and experience working in prison) place probation and parole officer at a higher risk for suffering from STS?
H4: Having a sexual offender caseload, experience working in a prison, a longer tenure working for KYDOC, and caseload volume will all correlate with higher STS.

RQ5: Does the type of trauma exposure (i.e., direct v. indirect) affect STS symptomology in this sample of KYDOC P&P officers?

H5: Exposure to direct trauma and exposure to indirect trauma will be positively correlated with STS.
CHAPTER 4. METHODOLOGY

The information provided in the previous chapters makes it clear that STS symptomology among probation and officers is a serious, albeit understudied issue. Thus, this dissertation, in collaboration with the Kentucky Department of Corrections (KY DOC), seeks to determine the prevalence of exposure to violent and traumatic events in the workplace, and its relationship to STS symptomology within this population. Further, this dissertation explores whether demographic and occupational characteristics correlate with these variables.

The data which was used for this dissertation came from a larger state-wide project titled, “Quality of Life among KY DOC Community Corrections staff.” This project was funded by the Kentucky Department of Corrections and was initiated to parallel a study on institutional correctional staff in Kentucky, conducted by the same principal investigator, University of Louisville faculty member Dr. Kristin Swartz. This project, titled, “Examining the Prevalence and Major Correlates of PTSD and Quality of Life Issues Among Kentucky Department of Corrections Staff” was designed in 2015 in collaboration with the Kentucky Department of Corrections and sought to examine the prevalence of PTSD, anxiety, depression, job burnout, positive/negative affect, and other quality of life issues among Kentucky institutional correctional officers (French, 2017).
The project “Quality of Life among KY DOC Community Corrections staff” was developed to capture many of the same quality of life issues as the larger institutional study among community correctional staff. A survey was designed which included measures of a variety of factors including PTSD, anxiety, depression, job burnout, job satisfaction, coping mechanisms and experiences of violent and traumatic events. Specifically, a measure was created for this study, which attempts to capture the wide range of potential sources of both direct and direct trauma experienced by probation and parole staff. This instrument contained an array of over 80 questions regarding staffs’ experiences with anything from indirect exposure to child abuse, to directly witnessing a co-worker administer Narcan or CPR to an overdosed client. Further, respondents were asked not only about the frequency with which these experiences have occurred, but also the recency of the last event.

This dissertation focuses on determining the prevalence of STS among KY probation and parole officers, and its relationship to experiences of violence and trauma in the workplace. In addition, this study explores whether demographics, such as age, race, gender, are associated with STS symptomology. Last, the current study examines whether occupation-related variables, such as caseload type and volume, duration working for KYDOC, and prior work in prison are associated with experiencing STS symptomology.

Data

As an organization, the KYDOC includes several departments and divisions; however, the sample for this study was drawn from a single division within this organization, probation and parole (P&P). The full sample included employees from all
21 KYDOC P&P districts in the state. These districts are organized into four regions: Western (districts 1, 2, 3, 5, & 13), Eastern (Districts 7, 10, 11, 15, & 18), Central (Districts 6, 9, 12, 14, & 20), and Northern (Districts 4, 16, 17, 18, 19, & 21) (Commonwealth of Kentucky, 2017).

The original goal of this project was to sample 30% of all employees working within the KYDOC Division of Probation and Parole, including not only sworn officers, but also supervisory and administrative/support staff. This goal was based on the sampling in the former study, “Examining the Prevalence and Major Correlates of PTSD and Quality of Life Issues Among Kentucky Department of Corrections Staff”, which sample correctional officers working inside Ky correctional institutions. However, when the current project was introduced to the regional and district heads of P&P at an annual meeting, interest in the project was high, and the original goal was amended to include the of sampling approximately 50% of all employees working within the KYDOC Division of Probation and Parole. During the survey development stage in Summer 2018, the KYDOC provided the PI with a list of the total number of employees, the number of sworn officers and the number of currently vacant positions in each of the districts’ offices. As indicated in Table 11, across the 21 districts 771 staff were employed with KYDOC P&P at that time, of which 679 were sworn officers (88%). These officers were responsible for supervising 50,066 offenders in December 2018 (Commonwealth of Kentucky, 2019). Approximately 417 staff (roughly 50%) were surveyed for this project, including 363 Probation and Parole officers and supervisors.
Table 11: KY DOC P&P Districts

<table>
<thead>
<tr>
<th>District</th>
<th>Region</th>
<th>Total Officers Surveyed</th>
<th>Total Staff Surveyed (% total staff surveyed)</th>
<th>Total Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Western</td>
<td>24</td>
<td>28 (55%)</td>
<td>51</td>
</tr>
<tr>
<td>2</td>
<td>Western</td>
<td>15</td>
<td>21 (45%)</td>
<td>47</td>
</tr>
<tr>
<td>3</td>
<td>Western</td>
<td>17</td>
<td>20 (49%)</td>
<td>41</td>
</tr>
<tr>
<td>4</td>
<td>Northern</td>
<td>11</td>
<td>13 (52%)</td>
<td>25</td>
</tr>
<tr>
<td>5</td>
<td>Western</td>
<td>22</td>
<td>24 (53%)</td>
<td>45</td>
</tr>
<tr>
<td>6</td>
<td>Central</td>
<td>13</td>
<td>15 (50%)</td>
<td>30</td>
</tr>
<tr>
<td>7</td>
<td>Eastern</td>
<td>26</td>
<td>27 (48%)</td>
<td>56</td>
</tr>
<tr>
<td>8</td>
<td>Eastern</td>
<td>26</td>
<td>32 (78%)</td>
<td>41</td>
</tr>
<tr>
<td>9</td>
<td>Central</td>
<td>19</td>
<td>24 (52%)</td>
<td>46</td>
</tr>
<tr>
<td>10</td>
<td>Eastern</td>
<td>22</td>
<td>28 (74%)</td>
<td>38</td>
</tr>
<tr>
<td>11</td>
<td>Eastern</td>
<td>19</td>
<td>23 (61%)</td>
<td>38</td>
</tr>
<tr>
<td>12</td>
<td>Central</td>
<td>24</td>
<td>24 (53%)</td>
<td>45</td>
</tr>
<tr>
<td>13</td>
<td>Western</td>
<td>26</td>
<td>29 (54%)</td>
<td>54</td>
</tr>
<tr>
<td>14</td>
<td>Central</td>
<td>9</td>
<td>10 (40%)</td>
<td>25</td>
</tr>
<tr>
<td>15</td>
<td>Eastern</td>
<td>15</td>
<td>15 (50%)</td>
<td>30</td>
</tr>
<tr>
<td>16</td>
<td>Northern</td>
<td>12</td>
<td>14 (48%)</td>
<td>29</td>
</tr>
<tr>
<td>17</td>
<td>Northern</td>
<td>14</td>
<td>15 (58%)</td>
<td>26</td>
</tr>
<tr>
<td>18</td>
<td>Northern</td>
<td>11</td>
<td>14 (44%)</td>
<td>32</td>
</tr>
<tr>
<td>19</td>
<td>Northern</td>
<td>11</td>
<td>11 (31%)</td>
<td>35</td>
</tr>
<tr>
<td>20</td>
<td>Central</td>
<td>21</td>
<td>23 (62%)</td>
<td>37</td>
</tr>
<tr>
<td>21</td>
<td>Northern</td>
<td>6</td>
<td>7</td>
<td>N/A^5</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>363</td>
<td>417 (54%)</td>
<td>771</td>
</tr>
</tbody>
</table>

This cross-prospective study began preparation for data collection in July 2018 and concluded data collection in June 2019. Data collection was initiated by scheduling office visits to each of the main 21 district offices by the Principal Investigator (PI) Dr. Kristin Swartz. The PI and author then gathered survey materials and took them to district offices, allowing both to be present for the administration of 100% of the surveys. All staff were invited and encouraged to participate in the survey, and were made aware of the date, time and nature of survey collection at least one week in advance of the visit. Staff who were interested in taking the survey were typically gathered in a conference room of their main district office at a predetermined time, with table space available to

^5 District 21 was created as a specialized district in Jefferson County which only handles halfway house clients. This district was created after the project had begun survey collection. However, this district was created with officers who were already working for KY DOC in Districts 16, 17, 18, & 19.
complete the survey. Surveys were administered while the employees were “on the clock”, meaning the officers were able to take the survey during their work hours; this may have aided in incentivizing participation. An overview of the survey’s purpose, instructions for survey completion, and the University of Louisville’s Institutional Review Board (IRB) guidelines were presented to the group by the PI at the beginning of each session. In particular, the informed consent process stressed the confidentiality and voluntary nature of the survey. Staff were instructed that they were not required to take or complete the survey and could not be compensated by UofL for participating. It was also explained that the information provided in the surveys were confidential and at no time would the DOC have access to the survey responses or identifying information. Staff were then told that the PI and author would remain in the room for the duration of the survey, in case there were any questions, and participants were allowed to begin the survey. Upon completion, respondents were instructed to return their survey to a provided envelope and seal the packet, before dropping their responses into a box which would then be transported by to UofL by the PI and author. Data was entered at the University onto encrypted computers belonging to the UofL. Identifiers were not included in this database.

Sample

While the larger study collected data from a total of 417 P&P staff members, this dissertation utilizes the portion of the sample which is limited to P&P officers (N = 363). P&P officers were the focus of this study, as they are believed to have more frequent and detailed contacts with clients than administrative staff, and are responsible for conducting field visits, which has the potential to expose them to incidents of trauma. Further,
officers have arrest powers, where adminitrative staff do not. Thus, administrative staff, who are not officers (N = 54), were omitted from these analyses. The sample of P&P officers (N = 363) included those who has specialized caseloads, new officers, and even a few supervisors. All P&P officers were included, regardless of whether or not they currently had a caseload. Supervisors and new employees in particular may not have an active caseload, but may have been exposed to trauma in the work place. For supervisors this may have occurred in their past work with clients; for new employees this may occur during training while working with other officers and learning about their caseloads, thus they were included in this analysis. The age of the P&P officers in this study ranged from 23 to 69 years, with an average age of 37.5 (S.D. = 9.23). Males (57.1%) were slightly over-represented in this sample, as males represent 51% of the staff population of the KY DOC (Commonwealth of Kentucky, 2019). Further, 93% of the P&P officers in this sample where white, a slight overrepresentation of the overall composition of the KY DOC, which is 91% white (Commonwealth of Kentucky, 2019).

MEASURES Of VARIABLES

The following section provides a detailed discussion of the variables which are used in the analysis. This analysis uses data from the Secondary Traumatic Stress Scale (Bride et al., 2004), which was administered to Probation & Parole officers of the Kentucky Department of Corrections (KYDOC), as well as self-reported data on P&P officers demographic characteristics, the number of violent and traumatic events experienced at work, and occupational characteristics.
Dependent Variable. Secondary Traumatic Stress

The Secondary Traumatic Stress Scale (STSS) developed by Bride et al. (2004) was developed specifically to measure STS symptomology among helping professionals. The instrument contains 17 items which measure three subscales of STS symptoms: avoidance, arousal, and intrusion. These subscales are consistent with the definition of PTSD symptomology defined in the DSM-IV-RF. Briefly, recall that avoidance symptoms involve things like persistent avoiding of stimuli which is related to the trauma, as well as emotional numbing symptoms like detachment, estrangement, restricted emotional affect, and decreased participation in activities and interests. Arousal symptoms involve persistent anxiety and arousal, for instance hypervigilance, irritability, difficulty falling or staying asleep or angry outbursts. Finally, intrusion symptoms include things like nightmares, persistent reexperiencing of the event through hallucinations, illusions, or flashbacks, even intrusive thoughts. Avoidance is measured using 7 items, while both Arousal and Intrusion are measured using 5 items each. The wording of the instructions and the stressors (Items 2, 3, 6, 10, 12, 13, 14, 17) which are queried on the instrument are specific to exposure to trauma through “clients,” making it different than other PTSD measures where are not stressor specific. Table 12 provides a comparison between the DSM-IV-RF criterion of the three subcategories and the corresponding questions on the STSS.
Table 12: PTSD Criterion and STSS questions

<table>
<thead>
<tr>
<th>Subscale</th>
<th>PTSD Criterion</th>
<th>STSS question (#)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intrusion  (Criterion B)</strong></td>
<td>Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions</td>
<td>I thought about work with my clients when I didn’t intend to (10)</td>
</tr>
<tr>
<td></td>
<td>Recurrent distressing dreams of the event</td>
<td>I had disturbing dreams about my work with client(s) (13)</td>
</tr>
<tr>
<td></td>
<td>Acting or feeling as if the traumatic event were recurring (including a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes)</td>
<td>It seemed as if I was reliving the trauma(s) experienced by my client(s) (3)</td>
</tr>
<tr>
<td></td>
<td>Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event</td>
<td>Reminders of my work with clients upset me (6)</td>
</tr>
<tr>
<td><strong>Avoidance (Criterion C)</strong></td>
<td>Efforts to avoid thoughts, feelings or conversations associated with the trauma</td>
<td>I wanted to avoid working with some clients (14)</td>
</tr>
<tr>
<td></td>
<td>Efforts to avoid activities, places, or people that arouse recollections of the traumatic event</td>
<td>I avoided people, places, or things that reminded me of work with my clients (12)</td>
</tr>
<tr>
<td></td>
<td>Inability to recall an important aspect of the trauma</td>
<td>I noticed gaps in my memory about client sessions (17)</td>
</tr>
<tr>
<td></td>
<td>Markedly diminished interest or participation in significant activities</td>
<td>I was less active than usual (9)</td>
</tr>
<tr>
<td></td>
<td>Feeling detachment or estrangement from others</td>
<td>I had little interest in being around others (7)</td>
</tr>
<tr>
<td></td>
<td>Restricted range of affect</td>
<td>I felt emotionally numb (1)</td>
</tr>
<tr>
<td></td>
<td>Sense of foreshortened future</td>
<td>I felt discouraged about the future (5)</td>
</tr>
<tr>
<td><strong>Arousal (Criterion D)</strong></td>
<td>Difficulty falling or staying asleep</td>
<td>I had trouble sleeping (4)</td>
</tr>
<tr>
<td></td>
<td>Irritability or outbursts of anger</td>
<td>I was easily annoyed (15)</td>
</tr>
<tr>
<td></td>
<td>Difficulty concentrating</td>
<td>I had trouble concentrating (11)</td>
</tr>
<tr>
<td></td>
<td>Hypervigilance</td>
<td>I expected something bad to happen (16)</td>
</tr>
<tr>
<td></td>
<td>Exaggerated startle response</td>
<td>I felt jumpy (8)</td>
</tr>
</tbody>
</table>

Probation and Parole officers were asked about their experiences with these symptoms within the last seven days using a 5-point Likert response format ranging from “never” (1) to “very often” (5). Scores for each subcategory are obtained by simply summing the items assigned to each subcategory. Higher scores on each subcategory indicate higher STS symptomology, totals from each subcategory can also be added for a
total STS score (Bride et al., 2004). An STS symptom is considered endorsed if the respondent indicates they have experienced the symptom “occasionally,” “often,” or “very often” (Bride, Jones, & MacMaster, 2007; Domingeuz-Gomez & Rutledge, 2009). Continuous, total STSS scores are utilized for both bivariate and multivariate analyses.

The STSS has shown strong psychometric properties in prior studies with multiple methods of scoring (Bride, Radey, & Figley, 2007), convergent and discriminate validity (Bride et al., 2004), factorial validity (Bride et al., 2004; Jacobs, Charmillot, Soelch, & Horsch, 2019; Ting, Jacobson, Sangers, Bride, & Harrington, 2005) and high internal consistency reliability of .93 to .95 for the total scale (Kintzle, Yarvis, & Bride, 2013).
Table 13: Variables, Descriptive Statistics, and Scales

<table>
<thead>
<tr>
<th>Variables</th>
<th>Scale</th>
<th>Mean</th>
<th>S.D.</th>
<th>Range</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variable</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STS Score</td>
<td>(Continuous total score)</td>
<td>37.8</td>
<td>14.21</td>
<td>17-80</td>
<td>362</td>
</tr>
<tr>
<td><strong>Demographic Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>(Age in years)</td>
<td>37.49</td>
<td>9.23</td>
<td>23-69</td>
<td>353</td>
</tr>
<tr>
<td>Race</td>
<td>(0=Nonwhite, 1=White)</td>
<td>0.93</td>
<td>0.26</td>
<td>0-1</td>
<td>360</td>
</tr>
<tr>
<td>Gender</td>
<td>(0=Female, 1=Male)</td>
<td>0.57</td>
<td>0.50</td>
<td>0-1</td>
<td>361</td>
</tr>
<tr>
<td><strong>Workplace Exposure to Violence and Trauma</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Trauma</td>
<td>(Computed Exposure score, &gt;1 and &lt; 3=low exposure, ≥3 and &lt;4=moderate, ≥4 and &lt;5=high, ≥5 = extreme exposure)</td>
<td>2.71</td>
<td>1.05</td>
<td>1-5.71</td>
<td>347</td>
</tr>
<tr>
<td>Indirect Trauma</td>
<td>(Computed Exposure score, 1=low to 7=extreme exposure)</td>
<td>3.51</td>
<td>1.40</td>
<td>1-6.76</td>
<td>347</td>
</tr>
<tr>
<td>Direct Trauma</td>
<td>(Computed Exposure score, 1=low to 7=extreme)</td>
<td>2.08</td>
<td>0.90</td>
<td>1-5.15</td>
<td>347</td>
</tr>
<tr>
<td><strong>Occupational characteristics Independent Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration in DOC</td>
<td>(Months employed in KY DOC)</td>
<td>86.98</td>
<td>71.52</td>
<td>1-313</td>
<td>362</td>
</tr>
<tr>
<td>Prison Experience</td>
<td>(0=None, 1=some experience working in prison)</td>
<td>0.52</td>
<td>0.5</td>
<td>0-1</td>
<td>351</td>
</tr>
<tr>
<td>Sexual offender caseload</td>
<td>(0=No, 1=Yes)</td>
<td>0.12</td>
<td>0.32</td>
<td>0-1</td>
<td>362</td>
</tr>
<tr>
<td>Caseload volume</td>
<td>(Number of clients on current caseload)</td>
<td>77.21</td>
<td>53.58</td>
<td>0-560</td>
<td>338</td>
</tr>
</tbody>
</table>
Independent Variables

Independent variables included respondents’ exposure to violence and trauma in the workplace, as well as several occupational characteristics, and demographics.

Violent and Traumatic Events Exposure. The violent and traumatic events exposure experienced by the probation and paroles officers in this study was captured using the Violence and Trauma Exposure for Probation and Parole (VTEPP) instrument, which was created by the author for this project. This inventory asks respondents how often they had experienced a range of 82 specific direct and indirect traumas in the line of duty, as well as the recency of the last occurrence of the trauma type. The inventory asks specifically about experiences in their role as a probation and parole officer, not traumas experienced in their personal lives. The inventory included trauma exposures like animal abuse, child physical and sexual abuse, elder abuse, experiences of threats and assaults by offenders, experiences of effecting arrests of offenders in front of minor children, administration of Narcan and other lifesaving techniques, and incidents of offenders being arrested for new serious crimes. For each traumatic or violent event, respondents were asked about their experiences with the trauma directly, as a direct witness, and indirectly (learned or heard about), which reflects the types of trauma described in the DSM-V. For example, respondents were asked, “How many times have you cause injury, harm, or death, to someone else, including a client?”; and “How many times have you witnessed severe human suffering and/or deplorable living conditions with the presence of minor children?”; and “How many times have you heard or learned about neglect of a child?”. Frequency of the trauma was coded as 1 = Never, 2 = Once, 3 = 2-3times, 4 = 4-6 times, 5 = 7-9 times, and 6 =10+ times. If a respondent indicated they had experienced
a trauma in their work as a P&P employee, the recency of the experience was then asked as a contingency question. Recency of the event occurrence was recoded as 0 = Never, 1 = 1-30 days, 0.5 = 2-3 months, 0.3 = 4-6 months, 0.1 = 7-12 months, and 0 = More than a year ago, to provide weighting. These two scores, quantity and recency, were combined for each question to create an exposure score, which reflects the magnitude of the trauma exposure. Exposure scores range from 1-7, where Scores between ≥3 and <4 are considered moderate exposure, scores ≥4 and <5 are considered high exposure, and scores of 5 and above are considered extreme exposure. These exposure ratings can be used to compare specific traumas (e.g., witness to physical child abuse, indirect exposure to coworker injured by client, etc.), or they can combine specific traumas together into groups (e.g., direct trauma, indirect trauma, total trauma) to give us combined exposure scores.

In order to assess the effects of exposure to specific types of trauma (i.e., Direct and Indirect), combined exposure scores were created. Although 82 items appeared on the VTEPP, some of these items had low endorsement (i.e., less than 10% of the sample indicated having ever experienced these events). These items were not used in the combined exposure scores. The exposure scores for the remaining 75 items, both indirect and direct traumas, were first combined into a single, overall trauma score (combination of exposure scores for all 75 trauma items, divided by the total number of 75 trauma items). Next, the 75 questions were categorized into two groups in

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6 These items included: How many times have you been held hostage, How many times have you witnessed someone else being held hostage, How many times have you witnessed sexual assault of an adult victim, How many times have you witnessed sexual assault of a minor victim aged 13 to 18 years, How many times have you witnessed sexual assault of a minor aged 6 to 12 years, How many times have you witnessed sexual assault of a minor aged 5 years or younger, and How many times have you been involved in a transportation accident with a client present.
correspondence to the DSM-V of direct and indirect trauma and exposure scores for each of these types of trauma were created. Table 14 provides information regarding the number of questions in each trauma category, as well as the corresponding table number for each in Chapter 5, which includes a complete list of questions for each category.

Table 14: Trauma Question categories

<table>
<thead>
<tr>
<th>Trauma type</th>
<th>Trauma category</th>
<th>Number of questions</th>
<th>Corresponding Table in Chapter 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>Direct</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Direct Witness</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Direct Witness (co-worker)</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>Indirect</td>
<td>Indirect</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Indirect (co-worker)</td>
<td>14</td>
<td>20</td>
</tr>
</tbody>
</table>

Occupational characteristics

Occupational characteristics include the amount of time officers have been employed in the KY DOC, whether or not the officer has prison work experience, whether or not the officer has a sexual offender caseload, and the officer’s current caseload volume.

Duration in DOC. The duration in DOC (in months) variable was assessed with an open-ended question on the survey, which asked respondents how many years and months they had been working for the KY Department of Corrections. The amount of time this sample had spent working in corrections ranged from 1 month to 313 months (26 years, 1
month), with an average of 86.98 months (about 7.3 years) spent with the KY DOC and a standard deviation of 71.52 ($s^3 = 0.91; s^4 = -0.01$).

**Prison Work experience.** Respondents were asked about their experiences with *prior prison facility work* through a series of dichotomous questions. Within this sample 8 (2.5%; $n=320$) had experience working in a federal facility, 12 (3.7%; $n=321$) had previously worked in a private facility, and 11 respondents (3.4%; $n=320$) had worked in a non-Kentucky state facility. Roughly 25.5% of the sample (84; $n=330$) had experience working in a Kentucky facility full time. A final question, which asked respondents if they had ever worked in a Kentucky facility for overtime only, was added after survey collection had begun. Thus, this question only had 275 respondents, however, 44.4% (122) of them had experience working overtime in a Kentucky prison facility. The variable *prison experience* will be assessed using the responses to each of these five questions. These five measures were combined. This new variable *Prison Experience* was coded as 0 = no prison experience, 1 = any prison work experience. In this sample of probation and parole officers 51.9% ($N = 351; S.D. = 0.5; s^3 = -0.07; s^4 = -2$) had some experience working in a prison environment.

**Sexual Offender Caseload.** The officer’s caseload type was recoded. The original survey question asked respondents to indicate all categories that best described their current caseload, based on the following choices: 1=Probationers, 2=Parolees, 3=Combined probationers and parolees, 4=Half-way house clients, 5=Sexual offenders, 6=ISP (intensive supervision), 7=Domestic Violence, 8=SMART participants\(^7\),

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\(^7\) SMART is a program which focuses on providing intensive services to select probationers with a high risk/need for substance use disorder treatment and services, based loosely on Hawaii’s Project HOPE.
9=Support/Administrative Staff (no caseload), and 10=Other. Some respondents wrote in new response category under 10=Other, and some respondents marked more than one option. Therefore, the item was recoded into: 1=Probationers, 2=Parolees, 3=Combined probationers and parolees, 4=Special populations (i.e., domestic violence, sexual offenders, intensive supervision, and halfway house participants), 5=Pre-Sentence Investigations, 6=Supervision of officers, and 7=Other (e.g., new employees, and those with unique caseloads like home incarceration, or transfers from another state).

Within this sample (N=362), 22 respondents (6.1%) indicated they had a caseload of probationers, 10 (2.8%) identified their caseload as parolees, 143 (39.5%) had combined caseloads, 111 (30.7%) were responsible for specialized caseloads, 38 (10.5%) respondents had PSI caseloads, 15 (4.1%) held supervisory roles, and the remaining 23 (6.3%) identified their caseloads as “other.” Some of those who indicated they had a specialized caseload were responsible for only one type of specialized group (i.e., halfway house participants, domestic violence, sexual offenders, and intensive supervision), however others indicated that they were responsible for multiple types of specialized groups. Thus, within our full officer sample 43 respondents (11.6%) indicated they were responsible for a sex offender caseload, 30 (8.3%) had a caseload involving halfway house participants, 41 (11.3%) had caseloads involving domestic violence offenders, and 12 (3.3%) had intensive supervision caseloads.

Prior research has indicated that the type of trauma one is exposed to through their caseload may have an impact on STS (Brady, 2017; Chouliara et al., 2009). For example, STS prevalence rates are high in groups which work with sexual trauma like ICAC personnel (Brady, 2017; Bourke, & Craun, 2014b; Perez et al., 2010; Turgoose et al.,
Thus, caseload type was assessed using the variable: caseload includes sexual offenders. For simplicity this variable was simply called Sex Offender Caseload. Again, 11.6% of this sample had a sex offender caseload (S.D. = 0.32; $s^3 = 2.41$; $s^4 = 3.82$).

**Caseload volume.** The officer’s caseload volume was assessed with an open-ended question on the survey which asked respondents to approximate their current caseload size. Caseload volume of the sample was assessed in two ways. First, caseload volume was examined using the entire sample of officers. Due to the high number of respondents who indicated they did not currently have a caseload assignment, caseload volume was assessed again using only those respondents who indicated they currently had a caseload (i.e., excluding the 35 participants who indicated a 0 caseload). Excluding those without a caseload, responses ranged from 2 to 560, with an average of 86.1 and a standard deviation of 49.3 ($s^3 = 3.68$; $s^4 = 29.16$). All officers, even those without a caseload, are included in all bivariate and multivariate analysis. The officers who do not currently have a caseload (most often new employees and supervisors) have potentially had the opportunity for trauma exposure in the workplace, either through training with current officers, or from past caseloads and work with offenders, thus they are included in this analysis.

**Demographic Characteristics**

Several demographic characteristics were included in this analysis, which have been previously used in STS research. These variables included age, race, and gender. The age of the P&P officers was continuous, ranging from 23 to 69 years (S.D. = 9.23; $s^3 = 0.56$; $s^4 = -0.28$). Race of the P&P officers was coded as a dichotomous variable (0 = non-white, 1 = white), as this is the way in which KY DOC records staff member
ethnicity. Within this sample 93% were white (S.D. = 0.26; s^3 = -3.4; s^4 = 9.62).

Respondent’s gender was measured as a dichotomous variable (0 = female, 1 = male); 57.1% of this sample was male (S.D. = 0.5; s^3 = -0.29; s^4 = -1.93).

**Missing Data**

The dependent variable, STS, was missing less than 1% of data. Further, gender, ethnicity, sex offender caseload and duration in the DOC all had less than 1% missing data. The independent variables age and prison work experience both had less than 5% missing data at 2.75% and 3.31% respectively. The three trauma variables, total exposure, direct trauma exposure, and indirect trauma exposure, all had 4.4% missing data. Current caseload had the highest number of missing data at 6.89%. Finally, regarding the multivariate models; due to listwise deletion the first model, with N=348, will incur 4.13% missing data. The second (N=324), involves 10.74% missing data. Finally, models 3, 4, and 5 all have N=302, resulting in 16.8% missing data in these three models.

**ANALYTIC STRATEGY**

Prior to the presentation of the linear regression models, the prevalence rates for Secondary Traumatic Stress symptomology and the exposure scores for experiences of workplace trauma will be reported. Next, preliminary analysis in the form of bivariate correlations will be examined to determine whether demographics, occupational characteristics, or exposure to violent and traumatic events in the workplace, is associated with STS. Finally, five linear regression models will be analyzed. *Model 1* examines whether gender, race, or age are associated with increased levels of STS. *Model 2* examines whether occupational characteristics (caseload weight, sexual offender
caseload, duration in DOC, and prison work experience) are important correlates of experiencing STS in this sample of P&P officers. Model 3 explores the relationship between total exposure (combined both direct and indirect) to violent and traumatic events and secondary traumatic stress, while controlling for demographics, and occupational characteristics. Model 4 examines whether indirect trauma alone may predict increased levels of STS, while controlling for demographics and occupational characteristics. Finally, Model 5 will analyze the relationship between STS and indirect trauma with the addition of direct trauma exposure, while controlling for demographic and occupational characteristics.
CHAPTER 5. ANALYSES AND RESULTS

This chapter includes a presentation of the analyses conducted and the results which aim to answer the five research questions of this dissertation. First, to address the first research question, the prevalence of violent and traumatic event exposure is discussed. Next, to address the second research question, the prevalence of secondary traumatic stress in this sample are presented by categorizing the continuous raw STSS scores. Prior to the presentation and discussion of multivariate models, the results of bivariate analyses among variables are presented in Table 23. The next section, which addressed research questions 3, 4, and 5, utilizes the results of the 5 linear regression models. The first model, which addresses research question 3, examines whether demographic characteristics (age, gender, and race) are correlated with STS score. The second model, which addresses research question 4, examines the relationship between occupational characteristics (caseload volume, sex offender caseload, months in DOC, and prison work experience) and STS score. Research question 5 is addressed in the remaining linear regression models 3, 4, and 5. The third model explores the relationship between total trauma exposure score and STS score, while controlling for both demographic and occupational characteristics. The fourth model explores the relationship between indirect trauma exposure and STS score while controlling for demographic and
occupational variables. Finally, the fifth model examines the relationships between both indirect trauma exposure and direct trauma exposure and STS score, again while controlling for demographic and occupational characteristics.

PREVALENCE OF VIOLENT AND TRAUMATIC EXPOSURE AND SECONDARY TRAUMATIC STRESS SYMPTOMATOLOGY

Prevalence of Violent and Traumatic Event Exposure
The prevalence of exposure to violent and traumatic events in the workplace is presented in two ways: first the exposure scores for combined total trauma exposure, direct trauma exposure, and indirect trauma exposure will be presented. Next the exposure scores for each trauma question will be presented. Because there were so many trauma questions (75), they have been divided into five trauma subcategories (Direct, Direct Witness, Direct Witness Coworker, Indirect, and Indirect Coworker). Thus, the trauma questions’ exposure scores and the percentage of participants who indicated they had never experienced the specific event is presented for each of these 5 categories.

Exposure scores were produced using a recoding and computation of two corresponding items for each event question. First, respondents were asked how many times they had experienced an event in their role as a probation and parole officer. These responses were coded as 1=Never, 2=Once, 3=2-3 times, 4=4-6 times, 5=7-9 times, and 6=10+ times. Next, respondents were asked about the recency with which they had last experienced the event. Responses were recoded to give weight to the recency as follows: 0=Never, 1=1-30 days ago, 0.5=2-3 months ago, 0.3=4-6 months ago, 0.1=7-9 months ago, and 0=over one year ago. Finally, the two items were summed to create an exposure score for each event question. Scores range from 1-7, where scores between 1 and <3 are
considered low exposure, ≥3 and <4 are moderate exposure, ≥4 and <5 are high exposure, and ≥5 and <7 are extreme exposure.

Exposure scores for each of the three trauma categories (total, direct, and indirect) were also created. In order to compute the exposure scores for the three trauma categories, exposure scores for each of the questions within a given category were summed, then the total was divided by the total number of exposure scores entered for that category. For example, in the Direct trauma category we have 42 questions and exposure scores. In order to calculate the direct trauma exposure score, we first add the 42 individual question exposure scores, then divide this total by 42. The resulting number is the Direct trauma exposure score, which takes into account all of the direct trauma exposure scores for each question.

Trauma exposure scores are presented below in Table 15. For this sample the direct trauma exposure score rating was low at 2.08 (S.D. = 0.89; s³ = 1.15; s⁴ = 1.1), with a range of 1-5.15. Of the 347 probation and parole officers, 86.5% reported a low direct trauma exposure score rating (≥1 and <3), 8.9% reported moderate exposure to direct trauma (≥3 and <4), 4% reported high exposure (≥4 and <5), and only 0.6% reported extreme (≥5) exposure ratings to direct trauma.

Table 15: Trauma Exposure Means

<table>
<thead>
<tr>
<th>Trauma category</th>
<th>N</th>
<th>Range</th>
<th>Exposure rating Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Trauma (combined direct and indirect)</td>
<td>347</td>
<td>1 - 5.71</td>
<td>2.71</td>
</tr>
<tr>
<td>Direct Trauma</td>
<td>347</td>
<td>1 - 5.15</td>
<td>2.08</td>
</tr>
<tr>
<td>Indirect trauma</td>
<td>347</td>
<td>1 – 6.76</td>
<td>3.51</td>
</tr>
</tbody>
</table>
The indirect trauma for this group was moderate, at 3.51 (S.D. = 1.4; s^3 = 0.19; s^4 = -0.77), with a range of 1-6.76. Of the 347 probation and parole officers, 37.5% reported low exposure, 25.9% reported moderate (≥3 and <4), 20.7% reported high, and 15.9% reported extreme (≥5) exposure to indirect trauma. Finally, combining the direct and indirect exposure scores to arrive at a Total Trauma score indicated, on average a low total trauma score at 2.71 (S.D. = 1.05; s^3 = 0.62; s^4 = -0.11), with a range of 1-5.71. Of the 347 probation and parole officers, 65.4% reported low exposure, 22.5% reported moderate, 8.1% reported high, and 4% reported extreme exposure to total trauma. Next the exposure scores for individual questions are presented across the 5 trauma subcategories (i.e., direct, direct witness, direct witness to co-worker, indirect, and indirect to co-worker).

The direct trauma subcategory included fourteen questions regarding respondents’ experiences with direct trauma in the workplace. While the majority of the exposure ratings for questions in the Direct trauma subcategory were at the low exposure level (i.e., exposure rate between 1<3), three of these questions had exposure ratings of 3 or above, indicating exposure for these events were in the moderate range (rate between ≥3 and <4). For example, exposure to contractable disease and making an arrest in the presence of minor children both had exposure ratings over 3.15; whereas Administering Narcan and causing injury, harm or death to another both had quite low exposure ratings, at 1.22 and 1.25 respectively. Having had a current client arrested for a serious crime also had an exposure score above 3, at 3.06. Furthermore, while some of these questions were endorsed by a majority of respondents (i.e., they had experienced this event at some point in their career), like making an arrest in the presence of minor children (62% have
experienced, exposure score 3.16) or having a current client arrested for a serious crime (66% have experienced, exposure score 3.06); others, like administering Narcan and causing injury, harm or death to another, both had low endorsement with roughly 88% of the sample having never experienced these events. Exposure scores and the percentage of respondent who have never experienced the event in question are detailed in Table 16.

**Table 16: Direct Trauma Experiences Exposure Scores**

<table>
<thead>
<tr>
<th>Direct trauma: &quot;How many times have you experienced the following…?&quot;</th>
<th>N</th>
<th>% Never</th>
<th>Exposure Score Mean</th>
<th>Exposure Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>been exposed to contractible diseases</td>
<td>359</td>
<td>49.6%</td>
<td>3.19</td>
<td>1-7</td>
</tr>
<tr>
<td>made an arrest of a client in the presence of minor children</td>
<td>356</td>
<td>37.92%</td>
<td>3.16</td>
<td>1-7</td>
</tr>
<tr>
<td>had a current client arrested for a serious crime</td>
<td>355</td>
<td>33.52%</td>
<td>3.06</td>
<td>1-7</td>
</tr>
<tr>
<td>exposure to harmful or toxic substances</td>
<td>357</td>
<td>25.77%</td>
<td>2.95</td>
<td>1-7</td>
</tr>
<tr>
<td>referred children to CPS, or remove child from home</td>
<td>356</td>
<td>47.8%</td>
<td>2.39</td>
<td>1-7</td>
</tr>
<tr>
<td>threatened serious injury, harm or death to someone else</td>
<td>356</td>
<td>61.24%</td>
<td>2.14</td>
<td>1-7</td>
</tr>
<tr>
<td>been threatened with violence or death by client</td>
<td>361</td>
<td>60.94%</td>
<td>1.95</td>
<td>1-7</td>
</tr>
<tr>
<td>unwanted or uncomfortable sexual experience from client</td>
<td>356</td>
<td>68.3%</td>
<td>1.83</td>
<td>1-7</td>
</tr>
<tr>
<td>client attempted to physically harm</td>
<td>359</td>
<td>71.59%</td>
<td>1.62</td>
<td>1-6.5</td>
</tr>
<tr>
<td>physically injured due to a client</td>
<td>361</td>
<td>75.1%</td>
<td>1.42</td>
<td>1-6</td>
</tr>
<tr>
<td>stalked or harassed by a client</td>
<td>357</td>
<td>82.91%</td>
<td>1.38</td>
<td>1-7</td>
</tr>
<tr>
<td>physically injured or threatened with a weapon by a client</td>
<td>357</td>
<td>84.03%</td>
<td>1.34</td>
<td>1-7</td>
</tr>
<tr>
<td>caused injury, harm or death to someone else</td>
<td>356</td>
<td>88.20%</td>
<td>1.25</td>
<td>1-6.1</td>
</tr>
<tr>
<td>administered Narcan, witness a near fatal overdose</td>
<td>356</td>
<td>88.48%</td>
<td>1.22</td>
<td>1-7</td>
</tr>
</tbody>
</table>

The Direct Witness Trauma category included fifteen questions about respondents’ experiences with direct witness trauma (no coworker) in the workplace. The majority of exposure scores in this category were in the low range (≥1 and <3). However, participants indicated moderate exposure to directly witnessing deplorable living conditions both without minor children present (3.92) and with minor children present.
Many of these events had not been experienced by the participants, however over half had experience directly witnessing not only deplorable living conditions (with and without minor children present), but also child neglect (roughly 55%, 2.96 exposure score).

Table 17: Direct Witness Trauma Experiences Exposure Scores

<table>
<thead>
<tr>
<th>Direct Witness Trauma: &quot;How many times have you directly witnessed…?&quot;</th>
<th>N</th>
<th>% Never</th>
<th>Exposure Score</th>
<th>Exposure Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>deplorable living conditions (no minor children)</td>
<td>358</td>
<td>31.28%</td>
<td>3.92</td>
<td>1-7</td>
</tr>
<tr>
<td>deplorable living conditions (with minor children present)</td>
<td>358</td>
<td>31.01%</td>
<td>3.62</td>
<td>1-7</td>
</tr>
<tr>
<td>child neglect</td>
<td>359</td>
<td>44.57%</td>
<td>2.96</td>
<td>1-7</td>
</tr>
<tr>
<td>animal abuse</td>
<td>359</td>
<td>52.6%</td>
<td>2.62</td>
<td>1-7</td>
</tr>
<tr>
<td>emotional/psychological abuse of child</td>
<td>358</td>
<td>60.06%</td>
<td>2.39</td>
<td>1-7</td>
</tr>
<tr>
<td>domestic violence</td>
<td>359</td>
<td>64.35%</td>
<td>2.14</td>
<td>1-7</td>
</tr>
<tr>
<td>someone threatened with violence or death</td>
<td>359</td>
<td>67.7%</td>
<td>1.98</td>
<td>1-7</td>
</tr>
<tr>
<td>someone physically injured</td>
<td>361</td>
<td>67.31%</td>
<td>1.72</td>
<td>1-7</td>
</tr>
<tr>
<td>client attempted to physically harm someone</td>
<td>359</td>
<td>76.04%</td>
<td>1.57</td>
<td>1-7</td>
</tr>
<tr>
<td>elder abuse</td>
<td>359</td>
<td>78.83%</td>
<td>1.55</td>
<td>1-7</td>
</tr>
<tr>
<td>physical child abuse</td>
<td>358</td>
<td>80.4%</td>
<td>1.55</td>
<td>1-7</td>
</tr>
<tr>
<td>suicide attempts</td>
<td>359</td>
<td>78.55%</td>
<td>1.49</td>
<td>1-7</td>
</tr>
<tr>
<td>someone physically injured or threatened with a weapon by client</td>
<td>358</td>
<td>79.61%</td>
<td>1.42</td>
<td>1-7</td>
</tr>
<tr>
<td>sudden violent death</td>
<td>361</td>
<td>84.21%</td>
<td>1.37</td>
<td>1-7</td>
</tr>
<tr>
<td>death by suicide or natural causes</td>
<td>360</td>
<td>83.06%</td>
<td>1.33</td>
<td>1-7</td>
</tr>
</tbody>
</table>

Direct Witness Coworker Trauma included thirteen questions about respondent experiences directly witnessing coworker trauma. The majority of the exposure scores were low, with most scores below 2. However, making an arrest of a client in the presence of minor children had a moderate exposure score at 3.26. The majority of the sample had not experienced many of these events; yet roughly 56% had experienced directly witnessing a coworker remove a child from a home, or report to Child Protective Services, 65% had directly witnessed a coworker make an arrest of a client in the
presence of minor children, and 64% indicated they had witnessed a coworker exposed to a toxic or harmful substance.

### Table 18: Direct Witness Coworker Trauma Experiences Exposure Scores

<table>
<thead>
<tr>
<th>Direct Witness Coworker: &quot;How many times have you witnessed a coworker…?&quot;</th>
<th>N</th>
<th>% Never</th>
<th>Exposure Score Mean</th>
<th>Exposure Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>make an arrest of a client in the presence of minor children</td>
<td>356</td>
<td>34.8%</td>
<td>3.26</td>
<td>1-7</td>
</tr>
<tr>
<td>exposed to contractible diseases</td>
<td>360</td>
<td>53.9%</td>
<td>2.95</td>
<td>1-7</td>
</tr>
<tr>
<td>exposed to harmful or toxic substances</td>
<td>359</td>
<td>36.21%</td>
<td>2.94</td>
<td>1-7</td>
</tr>
<tr>
<td>referred children to CPS, or remove child from home</td>
<td>355</td>
<td>43.66%</td>
<td>2.55</td>
<td>1-7</td>
</tr>
<tr>
<td>threatened serious injury, harm or death to someone else</td>
<td>356</td>
<td>57.58%</td>
<td>2.28</td>
<td>1-7</td>
</tr>
<tr>
<td>threatened with violence or death</td>
<td>360</td>
<td>64.17%</td>
<td>1.98</td>
<td>1-7</td>
</tr>
<tr>
<td>client attempted to physically harm</td>
<td>359</td>
<td>63.23%</td>
<td>1.85</td>
<td>1-7</td>
</tr>
<tr>
<td>unwanted or uncomfortable sexual experience created by client</td>
<td>356</td>
<td>73%</td>
<td>1.78</td>
<td>1-7</td>
</tr>
<tr>
<td>physically injured</td>
<td>360</td>
<td>69.2%</td>
<td>1.62</td>
<td>1-6.1</td>
</tr>
<tr>
<td>stalked or harassed</td>
<td>356</td>
<td>81.18%</td>
<td>1.46</td>
<td>1-7</td>
</tr>
<tr>
<td>administered Narcan, witness a near fatal overdose</td>
<td>356</td>
<td>81.46%</td>
<td>1.39</td>
<td>1-7</td>
</tr>
<tr>
<td>caused injury, harm or death to someone else</td>
<td>357</td>
<td>87.68%</td>
<td>1.28</td>
<td>1-7</td>
</tr>
<tr>
<td>physically injured or threatened with a weapon</td>
<td>358</td>
<td>85.5%</td>
<td>1.26</td>
<td>1-7</td>
</tr>
</tbody>
</table>

The Indirect Trauma category contained nineteen questions regarding respondents’ experiences with indirect trauma (no coworker) in the workplace. Nine questions within this category fell into the high exposure range (≥4 and <5), and eight fell into the moderate (≥3 and <4) range. One item, someone held hostage, was in the low range at 2.25, while another item, someone physically injured by client, was in the extreme range at 5.46. Notably different from what we see with the direct, direct witness, and direct witness (coworker) categories, within the indirect trauma category, the majority of respondents had been exposed to all of these traumas except one (someone held hostage endorsed by roughly 45%). Indeed, for sixteen of the nineteen questions, over 69% of the sample endorsed some level of exposure to that trauma event. Said
another way, for the vast majority of these questions, less than 31% of respondents had no experience with the indirect trauma in question. Indirect Trauma experiences are listed in Table 19, by order of exposure rating (greatest to least), along with exposure scores and percent of respondents having never experienced the event.

Table 19: Indirect Trauma Experiences Exposure Scores

<table>
<thead>
<tr>
<th>Indirect trauma: &quot;How many times have you heard/learned about…?&quot;</th>
<th>N</th>
<th>% Never</th>
<th>Exposure Score Mean</th>
<th>Exposure Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>someone physically injured by a client</td>
<td>360</td>
<td>8.61%</td>
<td>5.46</td>
<td>1-7</td>
</tr>
<tr>
<td>domestic violence</td>
<td>359</td>
<td>16.43%</td>
<td>4.64</td>
<td>1-7</td>
</tr>
<tr>
<td>deplorable living conditions (no minors)</td>
<td>358</td>
<td>18.44%</td>
<td>4.55</td>
<td>1-7</td>
</tr>
<tr>
<td>deplorable living conditions (with minor children present)</td>
<td>358</td>
<td>17.32%</td>
<td>4.5</td>
<td>1-7</td>
</tr>
<tr>
<td>sexual assault, adult victim</td>
<td>356</td>
<td>19.9%</td>
<td>4.43</td>
<td>1-7</td>
</tr>
<tr>
<td>child neglect</td>
<td>359</td>
<td>19.22%</td>
<td>4.43</td>
<td>1-7</td>
</tr>
<tr>
<td>physical child abuse</td>
<td>358</td>
<td>19.27%</td>
<td>4.39</td>
<td>1-7</td>
</tr>
<tr>
<td>sex assault, minor victim 13-18 years</td>
<td>356</td>
<td>25.84%</td>
<td>4.35</td>
<td>1-7</td>
</tr>
<tr>
<td>sex assault, minor victim 6-12 years</td>
<td>355</td>
<td>25.35%</td>
<td>4.28</td>
<td>1-7</td>
</tr>
<tr>
<td>emotional/psychological child abuse</td>
<td>358</td>
<td>24.58%</td>
<td>4.23</td>
<td>1-7</td>
</tr>
<tr>
<td>someone physically injured or threatened with a weapon by client</td>
<td>359</td>
<td>30.9%</td>
<td>3.79</td>
<td>1-7</td>
</tr>
<tr>
<td>animal abuse</td>
<td>357</td>
<td>26.05%</td>
<td>3.77</td>
<td>1-7</td>
</tr>
<tr>
<td>death by suicide or natural causes</td>
<td>360</td>
<td>22.22%</td>
<td>3.72</td>
<td>1-7</td>
</tr>
<tr>
<td>sudden violent death</td>
<td>360</td>
<td>24.7%</td>
<td>3.69</td>
<td>1-7</td>
</tr>
<tr>
<td>sex assault, minor victim aged less than 6 years</td>
<td>355</td>
<td>29.30%</td>
<td>3.68</td>
<td>1-7</td>
</tr>
<tr>
<td>suicide attempts</td>
<td>359</td>
<td>28.4%</td>
<td>3.54</td>
<td>1-7</td>
</tr>
<tr>
<td>elder abuse</td>
<td>359</td>
<td>38.16%</td>
<td>3.07</td>
<td>1-7</td>
</tr>
<tr>
<td>someone threatened with violence or death</td>
<td>360</td>
<td>46.11%</td>
<td>3.01</td>
<td>1-7</td>
</tr>
<tr>
<td>someone held hostage</td>
<td>359</td>
<td>54.6%</td>
<td>2.25</td>
<td>1-7</td>
</tr>
</tbody>
</table>

The Indirect Coworker Trauma category contained fourteen questions which asked respondents about their experiences with indirect trauma specifically involving a coworker. Seven of the questions had exposure scores between $\geq 2$ and $< 3$, which is considered low, however contrary to the direct, direct witness, and direct witness (coworker) categories, only one (coworker caused injury, harm or death to someone else;
1.78) of the exposure scores in this category were between ≥1 and <2. The remaining six questions had exposure scores between 3-3.8, which is considered moderate exposure. These six questions included coworker made arrest in presence of minor children (3.8), had current client arrested for serious crime (3.77), referred children to CPS (3.45), exposed to toxic substances (3.37), exposed to contractable diseases (3.18), and administer Narcan/witness near fatal overdose (3.04). Notably these are five the same six items with the highest exposure scores in the direct trauma category, and four of the items had the highest exposure scores for direct witness (coworker) trauma category. The majority of respondents had experienced nine of the fourteen events queried, however slightly less than half had any experience with indirect coworker trauma regarding unwanted/uncomfortable sexual experiences initiated by a client, client threatened violence/death, coworker physically injured or threatened with weapon, and coworker stalked or harassed by client. Further, only roughly 30% had any experience with indirect coworker trauma involving coworker causing harm, injury or death to someone else. Some of the highest endorsed items were coworker had client arrested for serious crime, coworker referred children to CPS or removed child from home, and being exposed to toxic substances.
Table 20: Indirect Coworker Trauma Experiences Exposure Scores

<table>
<thead>
<tr>
<th>Indirect Coworker Trauma: &quot;How many times have you heard/learned about a coworker...?&quot;</th>
<th>N</th>
<th>% Never</th>
<th>Exposure Score Mean</th>
<th>Exposure Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>made an arrest of a client in the presence of minor children</td>
<td>356</td>
<td>30.34%</td>
<td>3.8</td>
<td>1-7</td>
</tr>
<tr>
<td>had a current client arrested for a serious crime</td>
<td>355</td>
<td>24.79%</td>
<td>3.77</td>
<td>1-7</td>
</tr>
<tr>
<td>referred children to CPS, or remove child from home</td>
<td>355</td>
<td>28.45%</td>
<td>3.45</td>
<td>1-7</td>
</tr>
<tr>
<td>being exposed to harmful or toxic substances</td>
<td>359</td>
<td>25.1%</td>
<td>3.37</td>
<td>1-7</td>
</tr>
<tr>
<td>exposed to contractible diseases</td>
<td>360</td>
<td>41.4%</td>
<td>3.18</td>
<td>1-7</td>
</tr>
<tr>
<td>administered Narcan, witness a near fatal overdose</td>
<td>356</td>
<td>34.27%</td>
<td>3.04</td>
<td>1-7</td>
</tr>
<tr>
<td>physically injured by client</td>
<td>358</td>
<td>37.43%</td>
<td>2.88</td>
<td>1-7</td>
</tr>
<tr>
<td>threatened serious injury, harm or death to someone else</td>
<td>356</td>
<td>46.3%</td>
<td>2.83</td>
<td>1-7</td>
</tr>
<tr>
<td>client attempted to physically harm</td>
<td>358</td>
<td>47.77%</td>
<td>2.43</td>
<td>1-7</td>
</tr>
<tr>
<td>unwanted or uncomfortable sexual experience</td>
<td>356</td>
<td>54.49%</td>
<td>2.37</td>
<td>1-7</td>
</tr>
<tr>
<td>threatened with violence or death</td>
<td>360</td>
<td>51.11%</td>
<td>2.35</td>
<td>1-7</td>
</tr>
<tr>
<td>physically injured or threatened with a weapon</td>
<td>358</td>
<td>55.6%</td>
<td>2.11</td>
<td>1-7</td>
</tr>
<tr>
<td>stalked or harassed by client</td>
<td>356</td>
<td>56.46%</td>
<td>2.05</td>
<td>1-7</td>
</tr>
<tr>
<td>caused injury, harm or death to someone else</td>
<td>357</td>
<td>69.5%</td>
<td>1.78</td>
<td>1-7</td>
</tr>
</tbody>
</table>

Regarding the first research question, it is clear that the P&P officers in this study were exposed to a variety of direct and indirect traumas in the line of duty. Further, exposure to indirect trauma experiences was higher in magnitude than direct trauma experiences for this group of P&P officers.

**Prevalence of Secondary Traumatic Stress Symptomology**

The STSS can be interpreted in three ways to arrive at prevalence rates, two of which are utilized for this dissertation in order to answer research question 2. Both methods used here require a simple summing of responses (17 questions, responses for each range from 1-5), followed by categorization. Using this total continuous score (ranging from 17 to 80), we can either 1) simply use a cutoff score of 38, where scores at or above 38 are considered at risk for STSD, or 2) use our total scores to create a series of STSD symptomology ranges. Specifically, scores below 28 are coded as little to no
STS, scores between 28 and 37 are categorized coded as mild STS, scores ranging from 38 to 43 are considered moderate STS, scores from 44 to 48 are categorized as high STS, and scores of 49 and above are coded as severe STS (Bride, 2007). Table 21 below summarizes the scoring methods used for STSS prevalence.

**Table 21: STSS Score range**

<table>
<thead>
<tr>
<th>Total score</th>
<th>Percentile</th>
<th>Level of STS</th>
<th>Cut off Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 28</td>
<td>At or below the 50th percentile</td>
<td>Little or no STS</td>
<td>Little to no STS concern</td>
</tr>
<tr>
<td>28-37</td>
<td>51st to 75th percentile</td>
<td>Mild STS</td>
<td></td>
</tr>
<tr>
<td>38-43</td>
<td>76th to 90th percentile</td>
<td>Moderate STS</td>
<td>At risk for STS</td>
</tr>
<tr>
<td>44-48</td>
<td>91st to 94th percentile</td>
<td>High STS</td>
<td></td>
</tr>
<tr>
<td>49 and above</td>
<td>Scores above 95th percentile</td>
<td>Severe STS</td>
<td></td>
</tr>
</tbody>
</table>

Within this sample, of the 362 STSS scores, 29.8% were little to no STS, 24% were mild STS, 14.6% were moderate, 10.5% were high, and a full 21% were in the severe STS category. To further simplify and clarify this measure the ranges were re-coded a second time in accordance with Bride (2007) to indicate two STS categories: little to no STS range (scores below 38) and those at risk for STSD (scores of 38 and above). Within this sample of 362 probation and parole officers, about 46.1% were at risk for STSD, while the remaining 53.9% were categorized as little to no STSD.

**Table 21: Prevalence Rates of At Risk for STSD**

<table>
<thead>
<tr>
<th>STSS Score Range</th>
<th>Recode (#1)</th>
<th>Recode (#2)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Below 28</strong></td>
<td>Little to no STS (29.8%)</td>
<td>Little to no STS (53.9%)</td>
</tr>
<tr>
<td>28-37</td>
<td>Mild STS (24%)</td>
<td></td>
</tr>
<tr>
<td>38-43</td>
<td>Moderate STS (14.6%)</td>
<td>At risk for STSD (46.1%)</td>
</tr>
<tr>
<td>44-48</td>
<td>High STS (10.5%)</td>
<td></td>
</tr>
<tr>
<td>49+</td>
<td>Severe STS (21%)</td>
<td></td>
</tr>
</tbody>
</table>
In order to address research questions 3, 4, and 5, for both bivariate and multivariate analyses total continuous STSS scores are utilized. The total STSS scores ranged from 17 to 80 with a mean of 37.8 (S.D. = 14.21). This distribution displayed as slightly platykurtic \( (s^4 = -0.29) \) with a small positive skew \( (s^3 = 0.6) \). In order to correct for these distribution issues, the log of total STSS was created and utilized for the multivariate analyses.

Regarding the second research question, what is the prevalence and magnitude of STS in this sample of P&P officers, 46.1% were found to be at risk for STSD. Furthermore, among those at risk for STSD, 14.6% scored in the moderate STS range, 10.5% scored in the high STS range, and 21% exhibited STS symptomology in the severe range.

**BIVARIATE ANALYSES**

Bivariate correlations for all variables are presented in Table 23. The demographic variables of ethnicity and gender were not significantly associated with STS; however, age (-0.11) was negatively correlated with STS symptomology at the probability level of \( p < 0.05 \). This indicates that those officers who are younger, are at a more likely to develop STS. Regarding the occupational characteristics, while duration in DOC, sex offender caseload, and caseload volume were not significantly related to STS symptomology, Prison experience (0.12) was positively and significantly correlated with STS at the bivariate level, \( p < 0.05 \). Thus, those officers who have experience working in a prison environment are more likely to exhibit STS symptomology. Finally, all three of the trauma exposure variables: total trauma (0.37); indirect trauma (0.23); and direct trauma (0.41) were positively correlated with STS symptomology at the probability level.
of p < 0.01. This finding indicates that exposure to trauma, whether it is direct, indirect, or a total measure of trauma, is more likely to lead to STS symptomology.

Table 22: Bivariate Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. STSS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Score</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Age</td>
<td></td>
<td>-0.11*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Ethnicity</td>
<td></td>
<td>0.01</td>
<td>0.03</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Gender</td>
<td></td>
<td>0.01</td>
<td>0.04</td>
<td>0.14**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Duration</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>in DOC</td>
<td>0.05</td>
<td>0.56**</td>
<td>0.07</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6. Prison</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Experience</td>
<td>0.12*</td>
<td>-0.12*</td>
<td>-0.08</td>
<td>0.06</td>
<td>0.07</td>
<td>1.00</td>
<td></td>
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<td>7. Sex</td>
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<td></td>
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<td>offender caseload</td>
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<td>-0.07</td>
<td>0.03</td>
<td>0.09</td>
<td>-0.01</td>
<td>0.12*</td>
<td>1.00</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>volume</td>
<td>-0.05</td>
<td>0.09</td>
<td>-0.08</td>
<td>-0.10</td>
<td>-0.08</td>
<td>0.04</td>
<td>-0.02</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>trauma exposure</td>
<td>0.37**</td>
<td>0.11*</td>
<td>0.16**</td>
<td>0.08</td>
<td>0.30**</td>
<td>0.15**</td>
<td>0.04</td>
<td>-0.12*</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Indirect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>trauma exposure</td>
<td>0.23**</td>
<td>0.12*</td>
<td>0.19**</td>
<td>0.04</td>
<td>0.30**</td>
<td>0.09</td>
<td>0.03</td>
<td>-0.13*</td>
<td>0.96**</td>
<td>1.00</td>
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</tr>
<tr>
<td>11. Direct</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>trauma exposure</td>
<td>0.41**</td>
<td>0.08</td>
<td>0.12*</td>
<td>0.11*</td>
<td>0.28**</td>
<td>0.21**</td>
<td>0.05</td>
<td>-0.09</td>
<td>0.93**</td>
<td>0.78**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*p < .05, **p < .01
MULTIVARIATE ANALYSES

This section presents the results of multivariate analyses utilizing linear regression. Linear regression is based on linear predictor functions, and is indicated for use when the dependent variable is continuous (interval or ratio level) and the independent variables are a mixture of continuous and categorical (interval, ratio, or dichotomous level).

First Model: Demographics and STS

The multivariate analyses begins with Model 1 (N = 348), which explores the relationships between the demographic variables of age, gender, race. In this model age was found to be significantly and negatively correlated with STS symptomology at the level of p = 0.08 (b = -0.004; r = -0.1). Said another way, as the age of the P&P officer increased, their STSS score was seen to decrease. Neither gender nor race were significant in this model. Model 1 produced an adjusted R² = 0.000, indicating demographic variables do not influence STS risk. See Table 24 which displays the results of this model.

Second Model: Occupational Characteristics and STS

Model 2 (N = 324) examined occupational characteristics. Prison work experience was found to be positively and significantly correlated with STS symptomology at the probability level of p = 0.013 (b = 0.105; r = 0.15). However, none of the other occupational characteristics (caseload volume, sexual offender caseload, and duration in the DOC) were significantly correlated with STS in this model. Model 2 arrived at an adjusted R² value of 0.02, indicating that the occupational characteristic variables presented in this model do not influence STS symptomology risk in this sample.
Third Model: Total Exposure to Violence and Trauma and STSS

Model 3 (N = 302) examined demographic and occupational characteristics, with the addition of the total trauma exposure score variable. Age remained negatively and significantly correlated with STS symptomology at p = 0.017 (b = -0.007; r = -0.12) in this model, however prison work experience became insignificant. Total trauma exposure was positively and significantly associated with STS in this model at the probability level of p = 0.000 (b = 0.127; 0.37). Model 3 produced an adjusted R² value of 0.15, indicating total trauma exposure does influence STS risk.

Fourth Model: Indirect trauma and STSS

The fourth model (N = 302) included both demographics and occupational characteristics, as well as the inclusion of indirect trauma exposure. In this model age remained negatively correlated with STS symptomology at the probability level of p = 0.014 (b = -0.007; r = -0.12). Indirect trauma exposure was positively and significantly correlated with STS at p = 0.000 (b = 0.076; r = 0.3). Model 4 arrived at an adjusted R² value of 0.11, indicated that exposure to indirect trauma influences the risk of STS in this sample of P&P officers.

Fifth Model: Indirect and Direct trauma and STSS

The fifth and final model (N = 302) finds age again to be negatively and significantly associated with STS symptomology at the probability level of p = 0.019 (b = -0.006; r = -0.12). Regarding trauma exposure, in this model, direct trauma exposure, but not indirect trauma exposure was positively and significantly correlated with STS at p = 0.000 (b = 0.176; r = 0.4). Of note, the Pearson’s correlation between direct trauma
exposure and indirect trauma exposure in Model 5 was 0.786, indicating multicollinearity between these two variables. Regarding model fit, with the highest $R^2$ and the most variance explained, model five had an $R^2$ of 0.17. This indicates that STS risk is best explained by examining direct and indirect trauma exposure separately in regression models, rather than combining them into a single measure.
Table 23: Secondary Traumatic Stress (STS) Multivariate Models

<table>
<thead>
<tr>
<th></th>
<th>Model 1: STS and Demographics</th>
<th>Model 2: STS and Occupational characteristics</th>
<th>Model 3: STS and Total trauma</th>
<th>Model 4: STS and Indirect trauma</th>
<th>Model 5: STS and both Indirect and Direct trauma</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( b )</td>
<td>SE</td>
<td>( \beta )</td>
<td>( b )</td>
<td>SE</td>
</tr>
<tr>
<td><strong>Demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-0.00*</td>
<td>0.00</td>
<td>-0.09</td>
<td>-0.01*</td>
<td>0.00</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>0.01</td>
<td>0.08</td>
<td>0.01</td>
<td>-0.04</td>
<td>0.08</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.01</td>
<td>0.04</td>
<td>-0.01</td>
<td>-0.04</td>
<td>0.04</td>
</tr>
<tr>
<td><strong>Occupational</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration in DOC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Prison Exp.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.09**</td>
<td>0.04</td>
</tr>
<tr>
<td>S.O. caseload</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.1</td>
<td>0.07</td>
</tr>
<tr>
<td>Caseload volume</td>
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<td>-</td>
<td>-</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Trauma exposure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total trauma</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Indirect trauma</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Direct trauma</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Constant</td>
<td>3.7***</td>
<td>0.11</td>
<td>-</td>
<td>3.52***</td>
<td>0.05</td>
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<tr>
<td>( F )</td>
<td>1.045</td>
<td></td>
<td></td>
<td>2.41*</td>
<td></td>
</tr>
<tr>
<td>Adjusted R(^2)</td>
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<td></td>
<td></td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>348</td>
<td></td>
<td></td>
<td>324</td>
<td></td>
</tr>
</tbody>
</table>

\( ^* p<0.10; ^{**} p<0.05; ^{***} p<0.001 \)
SUPPLIMENTAL ANALYSES

As the previous section established, within the five linear regression models explored for this dissertation, the highest adjusted R² achieved within these models was 0.17 in Model 5. Because this R² value was low, additional supplemental analyses were performed, in an attempt to identify a model that could explain more of the variation of STS in this dataset. Specifically, though the trauma exposure scores were weighted to reflect recency of the event exposure, all the trauma exposure scores, whether that trauma was “extreme” (e.g., directly witnessing violent death, direct physical assault by a client, or directly witnessing the physical assault of a co-worker by a client) or “mild” (e.g., indirect exposure to animal abuse, directly witnessing deplorable living conditions while on home visits, or making an arrest in the presence of minor children) were weighed equally in the combined exposure scores (i.e., Total trauma exposure, indirect trauma exposure, direct trauma exposure). Potentially, with so many different types of trauma exposure, it was thought that perhaps the inclusion of the “milder” traumas were watering down the effect of trauma exposure in the models. Two variables were created using a subset of the trauma variables, to see if this would have an effect on the adjusted R².

The first variable, DirectTraumaVIDES, included 16 trauma exposure scores, which involved direct or direct witness trauma of Violence, Injury, and Death. These items were summed, and then divided by the total number of items (16), in order to arrive

---

8 DirectTraumaVIDES included: direct physical injury by client, direct injury or threat with weapon by client, client attempted harm (but failed), direct witness to physical injury by client towards other, direct witness to co-worker physically injured by client, direct witness to physical injury or threat with weapon by client towards other, direct witness to co-worker physically injured or threatened with weapon by client, direct witness to co-worker client attempted to harm (but failed), direct witness to client attempted harm to other, directly threatened by client, direct witness to co-worker threatened with violence, direct witness to other threatened with violence, direct witness to violent death, direct witness to suicide, direct witness to suicide attempts, and direct exposure to contractable disease.
at an exposure score for this variable. This variable had a mean of 1.69 (S.D. 0.79; N=354; s^3 = 1.76; s^4 = 2.92) with a range of 1 to 4.75. For this computed variable the Cronbach’s Alpha was 0.89, indicating reliability within this new variable.

The second variable, IndirectTraumaVIDES, contained eleven trauma exposure scores, again these items focused on violence, injury and death, however this variable included only indirect trauma exposures. These indirect trauma items were then summed and divided by the total (11) to arrive at exposure scores for the new IndirectTraumaVIDES variable. The scores for this item ranged from 1 to 7 with a mean of 3.3 (S.D. 1.38; N=354; s^3 = 0.4; s^4 = -0.5). The Cronbach’s Alpha for these items was 0.88, indicating reliability of this variable.

Three supplementary linear regression models, which are detailed in Table 25, were run using these two new variables. The first, Model A (N = 354) examined STS and the influence of the two new variables, IndirectTraumaVIDES and DirectTraumaVIDES. This model displayed an adjusted R^2 of 0.11, and direct VIDES trauma, but not indirect VIDES trauma, was significant at p = 0.000 (b = 0.132). The second model, Model B (N = 307), included the three demographics (i.e., age, gender, ethnicity), as well as the four occupational characteristics (i.e., caseload volume, sex offender caseload, months working for KYDOC, and prison work experience), and Indirect VIDES trauma. This model arrived at an adjusted R^2 of 0.097. Within Model B age was significantly (p =

---

9 IndirectTraumaVIDES included: indirect exposure to physical injury to another (non co-worker) by client, indirect exposure to co-worker physically injured by client, indirect exposure to injury of threat with weapon by client, indirect exposure to injury or threat with weapon by client towards co-worker, indirect client attempted (but failed) to physically harm co-worker, indirect exposure to co-worker threatened with violence, indirect exposure to other threatened with violence by client, indirect exposure to violent death, indirect exposure to death by suicide, indirect exposure to suicide attempts, and indirect exposure to co-worker exposed to a contractible disease.
0.015; \( b = -0.006 \)) and negatively associated with STS, and indirect VIDES trauma was positively and significantly (\( p = 0.000; \ b = 0.078 \)) associated with STS symptomology. Finally, in the last model, *Model C* (\( N = 307 \)), all of the demographics and occupational characteristics were included, along with both Indirect VIDES and Direct VIDES trauma. Within *Model C* age was significantly (\( p = 0.008; \ b = -0.006 \)) and negatively associated with STS, and Direct VIDES was positively and significantly (\( p = 0.000; \ b = 0.139 \)) associated with STS. Indirect VIDES trauma in *Model C* was not significant.

Unfortunately, with adjusted R² values of 0.11, 0.097, and 0.137 respectively, these supplementary models were unable to explain any more of the variance than *Model 3* (\( R^2 = 0.15 \)) or *Model 5* (\( R^2 = 0.17 \)).
Table 24: STS Supplemental Models

<table>
<thead>
<tr>
<th></th>
<th>Model A: STS and both Indirect VIDEOS and Direct VIDEOS only</th>
<th>Model B: STS and Demographics, occupational, and Indirect VIDEOS</th>
<th>Model C: STS and Demographics, occupational, Indirect VIDEOS, and Direct VIDEOS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographics</strong></td>
<td><strong>b</strong></td>
<td><strong>SE</strong></td>
<td><strong>β</strong></td>
</tr>
<tr>
<td>Age</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gender</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Occupational</strong></td>
<td><strong>b</strong></td>
<td><strong>SE</strong></td>
<td><strong>β</strong></td>
</tr>
<tr>
<td>Duration in DOC</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Prison Exp.</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>S.O. caseload</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Caseload volume</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>VIDES Trauma exposure</strong></td>
<td><strong>b</strong></td>
<td><strong>SE</strong></td>
<td><strong>β</strong></td>
</tr>
<tr>
<td>Indirect VIDES trauma</td>
<td>0.02</td>
<td>0.02</td>
<td>0.09</td>
</tr>
<tr>
<td>Direct VIDES trauma</td>
<td>0.13***</td>
<td>0.03</td>
<td>0.28</td>
</tr>
<tr>
<td>Constant</td>
<td>3.26***</td>
<td>0.11</td>
<td>-</td>
</tr>
<tr>
<td>$F$</td>
<td>23.15***</td>
<td>5.11***</td>
<td>6.37***</td>
</tr>
<tr>
<td>Adjusted R^2</td>
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<td>0.097</td>
<td>0.137</td>
</tr>
<tr>
<td>N</td>
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<td>307</td>
<td>307</td>
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</table>

*p<0.10; **p<0.05; ***p<0.001
SUMMARY

This chapter has provided both the bivariate and multivariate analyses for these variables. *Model 1*, which included demographics, found only age to be significant, specifically, the model revealed that as officers aged their STS score significantly decreased. *Model 2* which focused on occupational characteristics, found prison experience to be significant, indicating that those officers who had prior prison experience had significantly higher STS scores than those who did not have prison experience. *Model 3* indicated both age and total trauma exposure to be significant, however prison experience became nonsignificant in this model. *Model 4*, age remained significant and indirect trauma exposure was significant. Finally, *Model 5*, which included both indirect and direct trauma exposure, only age and direct trauma were significant, indirect trauma in *Model 5* became insignificant. An overview of these findings are presented below in Table 26.

**Table 25: Overview of the Findings**

<table>
<thead>
<tr>
<th>Of STSD Concern</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>Gender</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>Duration in DOC</td>
<td>-</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>Prison Experience</td>
<td>+</td>
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<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>Sex offender caseload</td>
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<td>NS</td>
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<tr>
<td>Caseload volume</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
</tbody>
</table>
Regarding the research hypotheses, these analyses have provided mixed results, which are highlighted in Table 27 below. A more detailed discussion of these findings, as well as potential implications, are provided in the following chapter.

**Table 26: Hypotheses Support**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Supported/Not Supported</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Due to the limited amount of research in this area, this portion of the analysis is exploratory.</td>
<td>This hypothesis was exploratory.</td>
<td>P&amp;P officers in this sample were exposed to a variety of both direct and indirect trauma in their work roles. Total trauma exposure was in the low range (approaching moderate) Direct trauma exposure was in the low range Indirect trauma exposure was in the moderate range</td>
</tr>
<tr>
<td>H2: Due to the limited amount of research in this area, this hypothesis is exploratory.</td>
<td>This hypothesis was exploratory.</td>
<td>Analysis revealed a mean STSS score of 37.8. 46.1% of the sample was at risk of STSD.</td>
</tr>
<tr>
<td>H3/Model 1: Younger age and female gender will both increase the likelihood of STS.</td>
<td>This hypothesis was partially supported.</td>
<td>Gender was not significantly associated with STS in any of the models it was included in. Younger age was significantly correlated with STS in every model it was included in (Models 1, 3, 4, &amp; 5).</td>
</tr>
<tr>
<td>H4/Model 2: Occupational characteristics (duration in DOC, prison work experience, Sexual offender caseload, caseload volume) may</td>
<td>This hypothesis was partially supported.</td>
<td>Duration in DOC, sex offender caseload, and caseload volume were not significant in any of the Models they were included in. Prison work experience was positively and significantly associated with STS in</td>
</tr>
<tr>
<td>Hypothesis</td>
<td>Supported/Not Supported</td>
<td>Findings</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>place officers at increased risk for STS.</td>
<td></td>
<td>Model 2; however, it was not significant in Models 3, 4, or 5.</td>
</tr>
<tr>
<td>H5/Models 3, 4, &amp; 5: Exposure to direct trauma and exposure to indirect trauma will be positively correlated with STS.</td>
<td>This hypothesis was partially supported.</td>
<td>Total trauma exposure was significantly and positively correlated with STS in Model 3. Indirect trauma exposure was significantly and positively correlated with STS in Model 4, but not Model 5. Direct Trauma exposure was significantly and positively correlated with STS in Model 5.</td>
</tr>
</tbody>
</table>
CHAPTER 6. DISCUSSION AND CONCLUSION

This chapter concludes this dissertation by first providing a summary of the findings from the analyses, as well as a discussion of the findings as they relate to the hypotheses. Finally, implications for practice and policy, as well as, directions for future research are discussed, followed by the limitations and conclusion of this dissertation.

SUMMARY OF FINDINGS

First, exposure to trauma in the workplace overall was also low, at 2.71. Exposure to direct trauma in this sample was considered in the low range (2.08), and exposure to indirect trauma was in the moderate range (3.51). Second, the rate of at risk for STSD in this sample was 46.1%, the sample mean on the STSS was 37.8. For a summary of the findings from the regression models, see Table 27, which provides the hypotheses of this dissertation, along with the related findings in brief.

Hypothesis I: Prevalence of Exposure to Trauma

Due to the limited amount of research in this area, this hypothesis was exploratory in nature. However, the results of this research were consistent with prior studies in that these offices were found to have exposure to a variety of both direct and indirect traumas in their work roles. The total trauma exposure sample mean of 2.71 indicates this sample
experienced low (approaching moderate) exposure to trauma overall. Further these officers had higher exposure to indirect trauma (sample mean 3.51 - moderate exposure), than to direct trauma events (sample mean 2.08 - low exposure). Hypothesis I was exploratory in nature, yet there are a few studies with which to compare these findings.

Parsonnage & Bushey (1989) report 74% of their sample of P&P employees have been the victim of intimidation. Within the Lowry (2000) study over 60% reported an intimidation or threat of violence during their career. Lewis, Lewis, and Garby (2013) found 41% of their sample had experienced a threat and 20% report a threat of death. In comparison, amongst this sample of P&P officers nearly 40% had received a threat of violence or death from a client. Regarding physical assault, in the Parsonnage & Bushey (1989) study 48% of the sample reported a physical assault; within the Lowry (2000) study 9% reported a physical assault; and within the Lewis, Lewis, and Garby (2013) study 10% reported a physical assault across their career. Within this sample nearly 25% reported being physically injured by the violent behavior of a client, over 29% reported a client had attempted, but failed to physically injure them, and nearly 16% reported a client has physically injured or threatened them with a weapon. Finally, Lewis, Lewis, & Garby (2013) report 12% of their sample had an offender violently reoffend resulting in the death of a victim, 32% experienced an offender reoffend violently with a child victim, and 33% had an offender reoffend sexually. While this study did not separate by type of re-offense, over 65% of this sample reported experiencing having a client arrested for a serious crime (such as homicide, rape, or serious assault). Lewis, Lewis, & Garby also report 38% of their sample have had an offender commit suicide. In this study over 21% of the sample had witnessed suicide attempts, roughly 17% had directly witnessed death
by natural causes or suicide of a client or someone associated with a client in the line of duty, and nearly 16% reported witnessing a sudden, violent death (e.g., homicide, overdose).

**Hypothesis II: STS Symptomology**

Again, with limited research in this area, this hypothesis was largely exploratory. This research found a STSS sample mean of 37.8. This mean is similar to that found by Bride, Jones, and MacMaster (2007) of 38.20 in a sample of child protection and welfare workers, and that of 39.81 in Benuto et al.’s (2019) study of victims’ advocates.

Regarding STSD prevalence, this research revealed 46.1% of this sample of P&P officers in Kentucky are at risk for STSD. This rate is similar to the rate of 43.4% in the Bourke & Craun (2014b) study of Internet Crimes Against Children Taskforce personnel. It is also similar to the rate of 47.3% found in the Slattery and Goodman (2009) study of domestic violence advocates. The rate of 46.1% found in this study is also notably higher than those found in studies of social workers at 21% in the Choi (2011) study and 35.7% in the Caringi et al. (2017) study, and higher than the 34% found in Bride, Jones, & MacMaster (2007) study of child welfare and protection workers. However, at 75%, the Caringi & Hardiman (2012) study of child welfare and protection workers in New York state was significantly higher than the STS rate found in this study. The prevalence of STS in this group of P&P officers was also significantly higher than that found in substance abuse counselors at 19% in the Bride, Smith-Hatcher, & Humble (2009) study. It is also higher than the 34% reported in a group of attorneys and their administrative staff in Wisconsin (Lewis et al., 2011), and 39% of teachers and staff working in a juvenile justice facility (Hatcher et al., 2011). The prevalence rate of STS in this sample
was also higher than the rates reported in several law enforcement samples including 24.8% (Brady, 2017) and 26.9% (Craun et al., 2014) of ICAC taskforce personnel, 27% of a sample of U.K. law enforcement officers (MacEachern et al., 2019), 27% of a sample of U.K. officers working sexual offense cases (Turgoose et al., 2017), and 36% in a sample of investigators of child pornography (Perez et al., 2010).

Hypothesis III: Model 1 (Demographic Variables)

The first model examined demographic variables (age, gender, and ethnicity) and their relationship with STS symptomology. In this model only age was significantly and negatively correlated with STS. This is consistent with some prior research which has found those of younger age to be at higher risk for STSD (Bonach & Heckert, 2012; Hensel et al., 2015). While research regarding gender and STS has had inconsistent findings, this study did not find a relationship between gender and STS in any of the models, which has been found in some research (Baum, 2016; Brady, 2017; Bourke & Craun, 2014a; Bourke & Craun 2014b). For example, studies of law enforcement have found females to be more susceptible to STS (Brady, 2017; Bourke & Craun, 2014a; Bourke & Craun 2014b), as have studies of child welfare and protection workers (Cornille & Meyers, 1999). Baum’s (2016) systematic review of STS among mental health professionals also found greater susceptibility for female respondents in ten of the fourteen studies reviewed. Hypothesis III is partially supported.

Hypothesis IV: Model 2 (Occupational Variables)

The second model explored the relationship between STS and occupational characteristics (duration in KY DOC, prison work experience, sexual offender caseload,
and caseload volume). Within this model only prison work experience was significantly related to STS, indicating that those who had experience working inside a prison were more likely to exhibit STS symptomology. This variable has not been studied in prior research. Inconsistent with prior research (Cornille & Woodard-Meyers, 1999; Perez et al., 2010; Turgoose et al., 2017), duration working for the DOC, or experience, was not significantly related to STS symptomology. Caseload volume was also not significantly related to STS in this model, again this is inconsistent with prior research (Baird & Kracen, 2006; Brady et al., 1999; Bride, Smith-Hatcher, & Humble, 2009; Cornille & Woodard Meyers, 1999; Deighton, Gurris, & Traue, 2007; Tosone et al., 2010; Udipi et al., 2008). Finally, having a sexual offender caseload was not significantly related to STS in this model. This variable has not been specifically studied in prior research.

Hypothesis IV is partially supported.

**Hypothesis V: Models 3, 4, & 5 (Type of Trauma Exposure)**

This hypothesis was examined using linear regression models three, four, and five. Model 3 contained the demographic variables (age, gender, and ethnicity), along with the occupational characteristics (duration in KYDOC, prison work experience, sexual offender caseload, and caseload volume), as well as the total trauma exposure score. In this model total trauma exposure was positively and significantly associated with STS, while exposure to trauma is often not measured in prior research, this finding is consistent with Figley’s theoretical premises for the development of STS, which requires exposure to trauma in the workplace. In Model 3 most of the demographics (gender and ethnicity) were insignificant, however age remained significant and negatively associated with STS symptomology. The finding related to age in this model
are consistent with prior research, however the null finding regarding gender is interesting, given the inconsistent nature of research findings in this area. None of the occupational characteristics, including prison work experience which was significant in Model 2, were significantly related to STS in this model. This is inconsistent with prior research which has found caseload volume and work experience to be positively correlated with higher STSD.

Model 4 also included demographics and occupational characteristics, however this model included only the indirect trauma exposure variable. Indirect trauma exposure was significantly and positively associated with STS in this model. This is consistent with the theoretical assumptions of STS. Again, age remains negatively and significantly associated with STS in this model; none of the other demographics or any of the occupational characteristics were significant in Model 4.

Model 5 included all of the variables from Model 4 with the addition of direct trauma exposure. In this final model we again see age to be significantly and negatively associated with STS. The only other variable to show a significant relationship with STS in Model 5 was direct trauma exposure. Indirect trauma exposure in this model was not significant. While on the surface this finding may seem surprising; however, there are a couple of reasons why it is not. First, we understand that STSD is meant to capture symptomology in those whose work exposes them repeatedly to indirect trauma through their work with clients. While this description certainly fits probation and parole officers job role, these officers’ job duties also puts them into situations in which they may also be exposed to direct trauma experiences. STS is thought to occur due to cumulative, repeated exposure to trauma. For the probation and parole officers in this study their
exposure to indirect trauma was moderate, however they also had exposure to direct trauma. This cumulation of trauma, as reflected by the total trauma exposure scores in Model 3, were significant in the prediction of STS. Further, in Model 4 (which did not include direct trauma exposure), indirect trauma was significant, it only loses significance with the addition of direct trauma exposure in Model 5. However, it may be that the effect of direct trauma experiences, even if they are less frequent, have a greater effect on STS symptomology than indirect trauma experiences, even when that indirect trauma exposure is more robust. Indeed, as shown in Model 5, which included both direct and indirect trauma exposure, was better able to explain the variance in the dataset with a higher $R^2$ (0.17), than for either Model 4 (0.11 – indirect trauma only) or Model 3 (0.15 – total trauma exposure). This demonstrates that it is important to consider both direct and indirect trauma exposure when trying to understand STS among probation and parole officers.

Second, recall that the identification of STS utilizes the PTSD criteria laid out in the DSM-V. This means that the symptomology for STSD is the same as PTSD, indeed the STSS was created using the PTSD diagnostic criteria. The STSS asks respondents about symptomology related to work with clients; however, it does not ask about direct or indirect trauma experiences. Thus, if an individual is displaying symptomology from PTSD/STSD, that symptomology would be identical. In this case we have P&P officers who have been exposed to both indirect and direct trauma in the line of duty, and the symptomology they report in the STSS is related to “work with clients.” Furthermore, PTSD diagnostic criteria do allow for the diagnosis of PTSD after repeated exposure to indirect trauma, specifically for first responders. Therefore, PTSD and STSD can be seen
to co-occur. This is why in some of the reviewed research (Bride, Smith-Hatcher, & Humble, 2009; Hatcher et al., 2011; Slattery & Goodman, 2009), the STSS was scored in such a way as to determine PTSD diagnostic criteria cutoffs as opposed to STSD scoring. Hypothesis V is partially supported because while total trauma, indirect trauma, and direct trauma were all found to be significantly related to STS in regression models, with the introduction of direct trauma in Model 5 caused indirect trauma to became insignificant in that model.

Table 27: Support for Hypotheses

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Supported/Not Supported</th>
<th>Consistent with Previous Research</th>
<th>Extension on Previous Research</th>
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<tr>
<td>H1: Due to the limited amount of research in this area, this portion of the analysis is exploratory.</td>
<td>This hypothesis was exploratory.</td>
<td>Analysis was exploratory as prior research is largely outdated and/or focuses on a small number of traumatic experiences (Lewis, Lewis, &amp; Garby, 2013; Lowry, 2000; National Center for Victims of Crime, 1998; Parsonage &amp; Bushey, 1987). However consistent with that research, P&amp;P officers in this sample were exposed to a variety of both direct and indirect trauma in their work roles.</td>
<td>Examined a wide array of both direct and indirect traumas specific to the P&amp;P workplace. Further, these experiences were weighted by asking respondents not only about the frequency, but also the recency with which they had last experienced each traumatic event.</td>
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<tr>
<td>H2: Due to the limited amount of research in this area, this hypothesis is exploratory.</td>
<td>This hypothesis was exploratory</td>
<td>Analysis revealed a mean STSS score of 37.8.</td>
<td>Kentucky P&amp;P officers have a STSS sample of mean 37.8, similar to that found in Child protection and welfare samples and</td>
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<tr>
<td>Hypothesis</td>
<td>Supported/Not Supported</td>
<td>Consistent with Previous Research</td>
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<td>H3/Model 1: Younger age and female gender will both increase the likelihood of STS.</td>
<td>This hypothesis was partially supported. First, gender was not significantly associated with STS in any of the models it was included in. Second, younger age was significantly correlated with STS in every model it was included in (Models 1, 3, 4, &amp; 5).</td>
<td>This analysis was consistent with prior research which has found younger aged individuals to be at higher risk for developing STSD (Bonach &amp; Heckert, 2012; Hensel et al., 2015). This analysis was not consistent with prior research which has found females to be at higher risk for developing STSD than their male counterparts (Baum, 2016; Brady, 2017; Bourke &amp; Craun, 2014a; Bourke &amp; Craun 2014b).</td>
<td>Extends previous research by examining demographic features which have previously been found to be inconsistent in predicting STS symptomology.</td>
</tr>
<tr>
<td>H4/Model 2: Occupational characteristics (duration in DOC, prison work experience, Sexual offender caseload, caseload volume) may place officers</td>
<td>This hypothesis was only partially supported. First, duration in DOC, sex offender caseload, and caseload volume were not significant in any of the Models they were included in.</td>
<td>This analysis was not consistent with prior research which has found those with higher caseload volume (Baird &amp; Kracen, 2006; Brady et al., 1999; Bride, Smith-Hatcher, &amp; Humble, 2009; Cornille &amp; Woodard Meyers, 1999; Deighton, Gurris, &amp; Traue, 2007; Tosone et al., 2010; Udupi et al., 2010; Udipi et al., 2012; Brady, 2017; Bourke &amp; Craun, 2014a; Bourke &amp; Craun 2014b).</td>
<td>Extends prior research by examining occupational characteristics which have either not previously been studied, or those which have consistently been seen to increase STSD risk in the literature.</td>
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<tr>
<td>Hypothesis</td>
<td>Supported/Not Supported</td>
<td>Consistent with Previous Research</td>
<td>Extension on Previous Research</td>
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<td>at increased risk for STS.</td>
<td>Second, Prison work experience was significantly associated with STS in Model 2, however it was not significant in Models 3, 4, or 5.</td>
<td>2008) and those with more experience in their field (Cornille &amp; Woodard-Meyers, 1999; Perez et al., 2010; Turgoose et al., 2017) to have higher STS symptomology. Prison work experience was positively and significantly associated with STS in Model 2.</td>
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<td>H5/Models 3, 4, &amp; 5: Exposure to direct trauma and exposure to indirect trauma will be positively correlated with STS.</td>
<td>This hypothesis was partially supported. First, Total trauma exposure was significantly and positively correlated with STS in Model 3. Second, Indirect trauma exposure was significantly and positively correlated with STS in Model 4, but not Model 5. Third, Direct Trauma exposure was significantly and positively correlated with STS in Model 5.</td>
<td>This analysis was exploratory in nature as prior research has rarely examined experiences of trauma in the workplace, and instead assumes exposure to trauma based on the job role. However, this analysis is consistent with the theoretical assumptions of STS, and shows that trauma exposure in the workplace is associated with STS in this sample of P&amp;P officers.</td>
<td>Examined the influence of experiencing trauma in the workplace on STS. Further this dissertation examines specific trauma types (direct and indirect), independently in their relationship to STS.</td>
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LIMITATIONS OF STUDY

Although this dissertation contributes to the body of research in several important ways, it is not without limitations. The two biggest limitations are the reliance on self-report data and the cross-sectional nature of the study. First, this study relies on self-report data, which in and of itself presents limitations. Self-report data relies on respondent’s ability and willingness to read and follow instructions, as well as recall past information honestly, and hopefully accurately. For instance, while the survey asks respondents specifically about their experiences with violent and traumatic experiences in the workplace, this dissertation does not offer any official records to substantiate these experiences. Second, and relatedly, due to the self-report nature of the data, we cannot be certain whether experiences of trauma that are endorsed by respondents are actually work related. It is possible, for example, that a respondent may have experienced the event in their overtime work in a prison, or in an environment completely unrelated to the workplace. Third, the survey respondents may have experienced a trauma outside of their work role, which was not queried on the survey, that could contribute to STS symptomology. Fourth, self-report data may also conceal the issue of over or underreporting of STS symptomology. For example, respondents may under endorse STS symptomology due to workplace cultural belief systems which may view mental health issues as a character weakness. Conversely, respondents may over endorse STS symptomology in a response bias misguided attempt to please the researcher. However, some recent research suggests the accuracy of recall for self-report data may be more accurate than what was once assumed. For example, in a study which compared the validity of self-report data on substance use to urinalysis in a sample of former inmates,
Van Den Berg, Adeyemo, Roberts, Bock, Stein, Martin, Parker, and Clarke (2018) found self-report data related to marijuana and tobacco use to be highly consistent with urinalysis data in their sample. In another study which utilized a sample of homeless individuals with mental illness living in Canada, researchers also found good agreement between self-report and administrative data in their sample (Lemieux, Roy, Martin, Latimer, & Crocker, 2017). Thus, while the validity and reliability of recall on self-report data related to trauma experienced and STS symptomology is a limitation in this study, prior research indicates it is likely a minor concern (Lemieux et al., 2017; Van Den Berg et al., 2018).

Second, the data is cross-sectional; and therefore, cannot determine temporal order. While this is adequate for determining prevalence rates in our sample, a longitudinal study would allow for comparisons across time of not only STS symptomology, but also exposure to trauma and violence. Understanding the scope and prevalence of these issues is the focus of this dissertation, however many empirical questions remain in this line of research. Understanding prevalence of STS and related factors is just a step on the way to creating and implementing programs and interventions to help alleviate STS and its effects in the workplace. A longitudinal study would be beneficial to evaluating any program or policy which may develop as a result of the findings of this dissertation and other research.

Finally, while this study is generalizable to probation and parole officers in the state of Kentucky, it may not be generalizable to those P&P officers working in other states and countries. However, this study does involve a large sample of 363 P&P officers, representing roughly 54% of the entire staff in the P&P department in the state
of Kentucky, with participation within each of the state’s 21 districts between 31 and 78%\textsuperscript{10}. This sample includes new officers, those who have worked with the department for many years, as well as supervisors and those with specialized caseloads. Further this study includes information regarding a wide range of direct and indirect trauma experienced in the line of duty for these officers, providing us with an in-depth look at the specific types of traumas the P&P officers in the great state of Kentucky face on a routine basis in their careers.

**IMPLICATIONS FOR POLICY, PRACTICE, AND FURTHER RESEARCH**

While this dissertation provides critical and important information regarding probation and parole officers’ experiences of both workplace trauma and ensuing STSD, an area which has long been neglected in research, the overriding outcome of this dissertation is a call for not only further research into this area, but also an increased awareness about, and interest in addressing these issues for this group of helping professionals/first responders.

First, it may be beneficial to the KY DOC to further examine the relationship between the various types of trauma exposure and STS in this sample. For example, if we isolate trauma related to child victims, would we see a stronger relationship to STS? Further, while no significant relationship was found between years of experience working for the KY DOC and STS in regression models, there was a significant negative

\textsuperscript{10} Only one district was below 40% participation, at 31%. However, this district was a part of a region of districts which were reorganized during survey collection, resulting in the creation of an entirely new district in this region. Thus, some districts in this region were seen to have slightly lower response rates, as the new district was not included in the original region/district totals used for response rate goals.
relationship between age and STS in all of the models in which age was included. If younger probation and parole officers are at higher risk for developing STS, programs developed to address this issue may be best implemented at orientation and/or within annual training during the first few years of service, as it seems highly likely younger officers will be those who are also newest to the job. Finally, while the relationship between STS and experience working in a prison environment was only significant in the model which only included occupational characteristics (prison work experience, duration in DOC, sex offender caseload, and caseload volume), this relationship should be further explored. Recall that this variable is a dichotomous measure, that was creating using a combination of five questions regarding experience working in specific types of prison environments. This variable could be examined as a count of these work experiences, or as individual variables, to explore whether certain types of institutional correctional settings or length of service in these settings places probation and parole officers at a higher risk for STS.

Regarding programing, while not examined for this dissertation, prior studies of institutional correctional staff have found social support to be an important mediator for PTSD. For instance, in her study of Correctional Officers working inside institutions in the state of Kentucky, French (2017) found family and coworker social support to be significantly related to lower PTSD. Though not an official program, French (2017) suggests the KY DOC continue to support family events for employees, which allow for increased opportunities for informal social support and building of these relationships. While French (2017) was able to find Facebook posts which detailed these family days for institutional corrections staff, this author has been unable to locate any such posts.
regarding family day events for Probation and Parole staff. However, that does not mean that these events do not or cannot exist. In accordance with French’s recommendation, I too suggest the KY DOC support these events on a regular basis, as they relatively inexpensive, as the employees bring food and drink to share for these events.

A second suggestion for “team building” social events for staff involves office wide lunch events. P&P in Kentucky operate on a set schedule, where the office is closed for one hour each day for the employee’s lunch break. In and of itself, having this time period set aside each day allows for employees to share their lunch breaks together, thereby building social relationships with their co-workers. However, this also represents a golden opportunity for the department, as it would be easy to organize a lunch for employees to bring the group together for this hour. Again, the cost would be minimal, and could be raised either through local community sponsorship, or by fundraising with staff. For example, the KY DOC P&P department at times collect money for various causes and organizations, the employees donate a small amount of money (e.g., $5) to a given charity and are then able to wear jeans to work on Friday of that week. This type of donation drive has also been used to collect money for employees and their families who have encountered a tragedy or hardship, however it could also be used to fund office lunches. These lunches could also feature guest speakers who offer information about trauma in the workplace, resulting symptomology, and how to seek help for oneself and family if these issues arise. Here a partnership with academia would be useful, as these types of guest speakers could come from these partnerships and other local higher education institutions.
The KY DOC may benefit from offering support groups and workshops to P&P employees, as well as their families. As suggested by French (2017), family program may involve providing information for spouses and children on how to encourage and seek help for STSD symptomology, as well as increasing feelings of competence when faced with these issues, and reducing feelings of isolation. For KY DOC P&P employees, workshops which address issues of STS in the workplace could be offered, to help prepare the staff to the potential of exposure to trauma in the workplace, as well as for STS; what it is, how to recognize it, and how to seek help for symptoms if they develop. For example, the Figley Institute (2012) created a course or workbook designed for the certification of Compassion fatigue educators, who would then be able to use this information to assist those who work with traumatized populations in the recognition and treatment of symptomology. This course details the history and development of Compassion Fatigue, Secondary Traumatic Stress, and Vicarious Traumatization, as well as burnout. It describes symptomology of CF, how to assess and identify it in oneself and others, as well as potential side effects for the self and family, and coping and prevention measures. The workbook details how to create a self-care plan using a prevention plan worksheet, and includes an array of self-assessment measures, including the ProQOL and the STSS (Figley Institute, 2012). This type of workbook or course, which specifically targets trauma in the workplace and potential negative outcomes, could easily be modified and used with P&P staff to help raise awareness, allow them to better identify symptoms, and find resource for issues related to STS in their selves and their co-workers. This type of course or workbook could be offered to staff during initial training for employment, and/or as an annual training exercise. Further, following the progress of
these officers by tracking their levels of STS symptomology (perhaps annually), as well as any known exposure trauma in the field, from the training period throughout the career, would further help us to understand this issue and how symptomology may progress or regress as the P&P officer gains work experience.

The KY DOC may also benefit from offering mindfulness programming to probation and parole staff. Mindfulness-based interventions (MBIs) combine meditation practices and learning exercise to help promote and teach self-compassion, stress appraisal, and coping strategies. Mindfulness programs can be specific, targeting things like stress reduction (MBSR) or resiliency training (MBRT). Evaluations of mindfulness training has shown these programs to be effective at reducing not only stress but also burnout, anxiety, depression, and suicidality, in samples of military, firefighters, and healthcare professionals (Trombka, Demarzo, Campos, Antonio, Cicuto, Walcher, Garcia-Campayo, Schuman-Olivier, & Rocha, 2021), as well as reductions in stress and increases in measures of self-care and resiliency for counselors and psychotherapists (Christopher, Chrisman, Trotter-Mathison, Schure, Dahlen, & Christopher, 2011). Some of these same evaluations found mindfulness training to increase quality of life and spirituality. MBSR and MBRT programs has also been used with law enforcement samples, revealing enhanced resilience to stress after programming (Trombka et al., 2021). While research regarding mindfulness training in correctional staff is still in its infancy, Davies, Ugwudike, Young, Hurrell, and Raynor (2021) found mindfulness training to reduce stress and increase cognitive control and mindfulness skills in a small (N=15) sample of U.K. correctional staff working in a prison facility.
Obviously, policy changes and programming do not come without a cost, this is particularly relevant as the KY DOC, much the same as other DOCs across the country, operates on a tight budget. There are several ways the DOC could work to reduce these costs to their budget. First, the KY DOC could utilize partnerships with academia, this would allow for collaborations with higher education institutions which have the potential to save the state money. These partnerships could include not only research projects, but also specific program development, implementation, and evaluation.

Second, and relatedly, the KY DOC could apply for federal grant money to offset the cost of these programs. A partnership with academia may aid the department in the process of applying for and receiving these grants. Finally, the KY DOC could encourage the involvement of the local community though sponsorship of family days to help offset any cost incurred from these events. By sponsoring these events the local community would be showing their support for P&P, as well as acknowledging the difficult job they do for the community. The KY DOC could allow sponsoring companies to advertise at the events, giving the companies further incentive to be involved.

The KY DOC and the body of research as a whole would also benefit from future research on this data set, specifically examining the influence of depression (Alexander et al., 1989; Solomon et al., 1992; Waysman et al., 1993), coping (Verbosky & Ryan, 1988), and social support (Alexander et al., 1989; French, 2017) on STS, as these have been indicated in prior research as having a potential relationship to STS and/or PTSD. Future research involving this data set may also involve further development of the Violence and Trauma Exposure for Probation and Parole (VTEPP) instrument. This may involve selection and isolation of a few specific types of traumas, or the utilization of an
additive measure of trauma exposure, rather than an exposure rates, for additional multivariate analysis on this dataset. This would allow for a more direct comparison between STS symptomology and specific trauma types or cumulative trauma exposure. Utilizing an additive measure of total trauma exposure may be helpful to understanding STS symptomology in this sample, as we saw multicollinearity between indirect and direct trauma exposure in Model 5. It would also be interesting to investigate severity of STS symptomology across specific groups of officers, for example young males (below age 30), young females, older males, and older females, to look for similarities and differences across these groups. Further, because this data set has not only the STSS but also two measures of PTSD (TSI-II and PCL-5), a comparison study of the three instruments may be advantageous.

CONCLUSION

Probation and parole officers have contact with offenders at every stage of the criminal justice process. Each of these contacts has the potential to expose the officer to trauma or violence, either directly, or indirectly. These experiences can result in a myriad of deleterious effects on the officer, including STS symptomology, which includes a vast array of issues ranging from intrusive symptoms like nightmares, to avoidance issues and emotional numbing. Yet while these probation and parole officers are integral to our criminal justice system, their experiences of workplace trauma and violence, as well as the development of symptomology related to these events, is significantly understudied. Indeed, few studies have attempted to capture the scope of experiences of workplace trauma for probation and parole officers; however, these studies are now outdated.
Further, while the study of trauma in the workplace, particularly STS and indirect trauma, have expanded to include a variety of professions like social work, law enforcement, victims’ advocates, and lawyers, few studies have examined these issues in probation and parole officer samples. Those studies which have examined probation and parole staff through the lens of STS have been largely exploratory in nature, two of the four studies located utilized qualitative measures. Finally, extant research suggests there may be several important correlates, both personal and environmental, of experiences of workplace trauma and violence, as well as STS. Personal correlates include demographics like gender, age, and ethnicity, whereas environmental correlates are concerned with occupational factors, like caseload size and type, and duration of time working in corrections. However, as research has only just begun to explore this issue, it is unclear what, if any relationship exists between these variables.

This dissertation addresses these gaps in the literature. This study examined not only the prevalence of experiences of violent and traumatic events in the workplace, but also STS. Further, analyses examined demographic (age, gender, race) and occupational characteristics (caseload volume, sexual offender caseload type, duration in DOC, and prison work experience) to explore relationships between both sets of these variables, as well as workplace violent and traumatic event exposure, and STS. Probation and Parole officers are tasked with a complex role, one which constantly weighs the needs of the offender against the safety of the community within which (s)he resides. Their importance in the Criminal justice system is often overlooked, the danger they face in the field, minimized. Yet for these officers it is not only the potential for violent, traumatic event exposure in the field, but also the repeated assault of exposure to indirect trauma
when working directly with clients, which puts their health in jeopardy. The effects of STS can wreak havoc on the lives of these officers, both at home and in the workplace. While the job of the P&P officer may require, on some level, the potential for exposure to both direct and indirect trauma, they should not be required to suffer the effects of STS as just another part of the job. It is our role as scientists to not only bring this information to the light, but also to arm ourselves with as much knowledge as we can to help find solutions and preventative measures to combat STS in the workplace, not only for the men and women of community corrections, but for all of those helping professionals whose work calls on them to assist in the care and treatment of the traumatized.
REFERENCES


Figley Institute. (2012). *Compassion Fatigue Educator Certification.*


of providing services to child sexual abuse survivors. Professional Psychology: Research and Practice, 25, 275-282.


Herman, J. L. (1992). *Trauma and recovery: The aftermath of violence – from domestic abuse to political power.* BasicBooks.


Kentucky Department of Corrections: Probation & Parole website Retrieved from https://corrections.ky.gov/Probation-and-Parole/Pages/default.aspx


Weidmann, A., & Papsdorf, J. (2010). Witnessing trauma in the newsroom:
Posttraumatic symptoms in television journalists exposed to violent news clips.
*Journal of Nervous and Mental Disease, 198,* 264-271.


CURRICULUM VITAE

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EDUCATION

2021  Doctor of Philosophy, Criminal Justice
University of Louisville
Dissertation title: Charting the Unknown: Examining the Prevalence and Correlates of Secondary Traumatic Stress among Kentucky Probation and Parole Officers.
Chair: Dr. Kristin Swartz

2014  Master of Arts, Criminology
Western Kentucky University

2011  Bachelor of Arts, Psychology (Social Science Concentration)
University of Louisville

2011  Bachelor of Science, Justice Administration
University of Louisville

ACADEMIC EXPERIENCE

University of Louisville, Department of Criminal Justice
2016–2017  Research assistant to K. Swartz

2017–2018  Teaching assistant to K. Swartz

2018–2019  Research assistant to K. Swartz
RESEARCH EXPERIENCE

2016 Assisted Dr. Swartz in the program evaluation of a series of cognitive behavioral programs delivered within a variety of Kentucky correctional facilities.

- Responsible for cleaning the data of several programs
- Conducted the statistical analysis of several programs
- Responsible for the writing of portions of the technical report

2016-2018 Assisted Dr. Swartz with work on the project, *Examining the Prevalence and Correlates of PTSD among Kentucky Department of Corrections Staff*. This project collected survey data from approximately 800 Kentucky DOC employees across all twelve Kentucky correctional facilities, and conducted a series of six focus groups within three regions. I contributed to this project in the following ways:

- Assisted with on-site survey data collection on several occasions, provided instruction and assistance to survey takers as needed
- Assisted in the process of entering data collected on the surveys
- Assisted with some focus group data collection
- Conducted qualitative data analysis of focus groups to isolate themes within and between groups
- Produced qualitative report for Kentucky DOC which reported the themes present in the various focus groups
- Attended presentations of this data to the Kentucky DOC

2018-Present Working as co-investigator with Dr. Swartz on the project, *Examining the Prevalence and correlates of PTSD among Kentucky's Community Corrections Staff*, which examines the incidence of PTSD and other quality of life issues amongst Kentucky Community Correctional Staff. This project entails creating and administering a survey to 50% of the KY community corrections staff, as well as conducting a series of focus groups with special populations. My role as co-investigator in this project allows me to contribute to the project in the following ways:

- Assist in the process of IRB qualifications
- Assist in the creation of the survey instrument
- Assist in the organization of focus groups and discussion topics
- Assist in the process of on-site data collection, providing instruction and assistance to the survey takers
- Assist with focus group data collection
- Conduct qualitative data analysis of focus group data to isolate themes
• Assist in the production of the quantitative and qualitative report presented to the KY DOC at the conclusion of the project
• Attend presentation of this data to the KY DOC

ACADEMIC PUBLICATIONS

Journal Articles


Manuscripts in Progress


TECHNICAL REPORTS

RESEARCH GRANTS

2018-2019 Kentucky Department of Corrections, “Examining the Prevalence and Correlates of PTSD and Quality of Life issues among Kentucky’s community Corrections Staff.” Co-investigator ($53,920).

ACADEMIC PRESENTATIONS


INVITED PRESENTATIONS

2017 Kristin Swartz, Ashely French, and Amanda Roberts. Examining the Prevalence and Correlates of PTSD among Kentucky Department of Corrections Staff. Presented to Kentucky Department of Corrections Commissioner, Wardens and Directors.

RESEARCH INTERESTS

Corrections and reentry, Correctional staff health and wellness, Community Corrections, qualitative methods, biosocial criminological theory, and program evaluation

TEACHING EXPERIENCE

University of Louisville
Introduction to Criminal Justice in the U.S. - 4 sections: Spring 2017, Summer 2017 (delivered online), Fall 2017, and Spring 2018

Community Corrections – Fall 2018 (delivered online)
Criminal Behavior – Fall 2019

Spalding University
Introduction to Criminal Justice in the U.S. -4 sessions: Fall 2019, Spring 2020 (delivered online), Fall 2020, Spring 2021, Spring 2022 (delivered online)

Prison, Punishment, and Justice – Fall 2021

Rehabilitation of the offender – Spring 2022

AWARDS AND HONORS

2014 Western Kentucky University, Department of Sociology, 2014 Outstanding Criminology Graduate Student

2016-2018 University Graduate Assistantship, University of Louisville

2016-2019 University Graduate Scholarship, University of Louisville

2018-2019 Research Co-Investigator Assistantship under K. Swartz, University of Louisville

PROFESSIONAL AFFILIATIONS

Academy of Criminal Justice Sciences
Southern Criminal Justice Association
The American Society of Criminology

REFERENCES

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