2020

Job Self-Efficacy, Alexithymia and Secondary Traumatic Stress Among Correctional Officers

Paulette Andrea Gayle
Walden University

Walden University

College of Social and Behavioral Sciences

This is to certify that the doctoral dissertation by

Paulette A. Gayle

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Alethea Baker, Committee Chairperson, Psychology Faculty
Dr. Stuart Tousman, Committee Member, Psychology Faculty
Dr. Virginia Salzer, University Reviewer, Psychology Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2020

Abstract

Job Self-Efficacy, Alexithymia, and Secondary Traumatic Stress Among Correctional Officers

by

Paulette A. Gayle

MS, Walden University, 2014

BSc, University of the West Indies, 1994

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Psychology

Walden University

August 2020

Abstract

Correctional officers work in a volatile environment and are regularly exposed to inmates' violence or cruelty. These factors negatively affect their job performance, contribute to physiological and mental health issues that could result in secondary traumatic stress (STS) symptoms. Researchers have identified job self-efficacy and alexithymia traits as mitigating factors against elevated stress. Other researchers have identified the traits as strongly associated with mental health illnesses. The purpose of this quantitative study, using a convenience sampling strategy, was to determine whether job self-efficacy and alexithymia traits were predictors of STS among a sample of 79 correctional officers working for Her Majesty's Prison Services on a Western Caribbean island. The theoretical framework included the constructivist self-development theory and the social cognitive theory. Three established self-reported instruments were used: the Work Self-Efficacy Scale, the Toronto Alexithymia 20-Item Scale, and the Secondary Traumatic Stress Scale (STSS). Multiple linear regression statistical analysis revealed that job self-efficacy and alexithymia traits were statistically significantly associated with STS. The results further revealed that the STSS scores of 23% of participants were in the STS range. The deterioration of mental well-being contributes to the disruption of job performance that could also negatively impact the organization. Stress management and problem-focused/emotion focused solution oriented skills training are effective in reducing the level of stress experienced. The implementation of these strategies may provide positive psychological benefits to officers and improve their job performance, in addition to reducing absenteeism and other costs for the prison service.

Job Self-Efficacy, Alexithymia, and Secondary Traumatic Stress Among Correctional Officers

by

Paulette A. Gayle

MS, Walden University, 2014

BSc, University of the West Indies, 1994

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Psychology

Walden University

August 2020

Dedication

I dedicate this dissertation to God Almighty: my creator; my pillar of strength in my many times of weakness; and my source of understanding, knowledge, inspiration, and wisdom. God has been my source of strength throughout this program, and His word kept me secure. I also dedicate this work to my parents, Leslie and Dorothy Chin, who are both deceased. They taught me the importance of integrity, hard work and tenacity despite adversity and hardship. To my family, who has been a constant source of encouragement and patience, thank you, and God bless.

Acknowledgments

First, my gratitude goes to God Almighty, who developed and provided all that I needed to complete this PhD program. Throughout this entire process, He provided everything that I needed and renewed my strengthened me for each day, especially during the most difficult periods of this journey.

I would like to express my sincere gratitude to my dissertation chair, Dr. Alethea Baker, for the continuous support that I needed to complete these studies. Her exemplary patience, guidance, and attentiveness throughout these years is immeasurable.

Thank you to my other committee members, Dr. Stuart A. Tousman, methodologist expert, and Dr. Ginny Salzer, URR who both accepted the invitation to be on my committee and provided me with the feedback and guidance I needed to complete this research. I also want to acknowledge immediate past methodologists, Dr. Ryan Dickson, and Dr. Brian Zamboni, as well as my internship site supervisor Dr. Clement von Kirchenheim. Their advice and guidance was truly appreciated. Also, thank you to my academic advisor Catherine Heck, Dr. Tara Kachgal for her help and guidance in editing my paper, and to the various student support personnel at Walden University. Lastly, but by no means least, I would like to thank my family for all their love, encouragement, and support over these years while I completed this Ph.D. It is so appreciated. Thank you.

Table of Contents

List of Tables

List of Figures

Chapter 1: **Introduction to the Study**

The purpose of this quantitative research study was to investigate the strength of the relationship between the perception of job self-efficacy and alexithymia traits to secondary traumatic stress (STS) among correctional officers employed by Her Majesty's Prison Services (HMPS) on a Western Caribbean island. I evaluated gender and years of tenure to determine whether these variables were influencing factors. The aim of the study was to determine the impact of negative environmental factors among participants identified with job self-efficacy and alexithymia traits.

Correctional officers face adverse workplace situations on a regular basis. They are often exposed, directly and/or indirectly, to violent, dangerous, or traumatic situations (Denhof & Spinaris, 2016; Gould, Watson, Price, & Valliant, 2013; Misis, Kim, Cheeeseman, Hogan, & Lambert, 2013). There is empirical evidence to support that indirect exposure of traumatization among human service professionals can negatively impact job satisfaction and result in increased mental health concerns, such as chronic stress (Cieslak et al., 2013, 2014) and STS symptomatology (Bride & Kintzle, 2011).

Officers who are persistently exposed to workplace violence between inmates and towards staff experienced higher levels of stress and presented at increased risk of vulnerability to mental health problems (Denhof & Spinaris, 2016). Gender (Cheeseman & Downey, 2012; Denhof & Spinaris, 2016) and job tenure (Clemente et al., 2015; Samak, 2003) were also noted as key factors in the level of workplace stress experienced

by correctional officers. These findings provide a glimpse of the workplace challenges encountered by correctional officers on a regular basis.

Safety within the prisons is one of the major concerns among correctional officers. Martin et al (Martin, Lichtenstein, Jenkot, & Forde, (2012) reported experiences of 66 correctional officers who participated in their mixed-methods study, indicating that all participants cited safety within the prisons as a major concern for them, and 60% of the respondents described their working condition as highly stressful. Working in dangerous and overcrowded conditions greatly impacted participants' job performance, as well as their general physical and mental health.

Occupational stress does not only negatively impact employees, by extension it negatively impacts familial relationships, as well as the organization itself. Researchers confirmed that occupational stress is strongly associated with increased budgetary costs of billions of dollars per annum for businesses (Fink, 2010; Gould et al., 2013; Keinan & Malach-Pines, 2007; Martin et al., 2012). It is incumbent upon organizations to implement programs and policies that provide positive psychological benefits to individual professionals within the service (Killian, 2008).

Managing workplace responsibilities and challenges is critical to job performance. Researchers identified various coping mechanisms (or coping styles) used by correctional officers (Morgan et al., 2002). These include job self-efficacy (Law & Guo, 2015; Misis et al., 2013), problem-solving strategies (Gould et al., 2013) and the use of depersonalization (Morgan et al., 2002). Depersonalization is described as emotional

restrictiveness (Taylor et al., 2016) or an impersonal macho attitude (Tracy, 2004). The presentation of depersonalization compares with the definition of alexithymia (Sifneos, 1996). Alexithymia is a physical appearance void of emotional expression (Peasley-Miklus, Panayiotou, & Vrana, 2016); such an expression can be used by correctional officers to ward off threats from inmates (Morgan et al., 2002). Emotional restrictiveness has been found to increase resilience against poor mental health and psychological distress (Law & Guo, 2015; Misis et al., 2013).

Job self-efficacy has also been identified to provide resilience against the negative psychological impact that could result from working in a hostile environment (Law & Guo, 2015). The results of the meta-analysis study of Cieslak et al. (2014) confirmed a strong association between negative psychological and physiological implications and elevated levels of work-related stress. These authors also posited that certain factors existed within the participants that mitigated against STS and secondary PTSD-like symptoms, defining these as self-efficacy and hardiness, otherwise known as resilience (Cieslak et al., 2014). Resilience describes an individual's ability to withstand or overcome environmental stressors or adversities (Rutter, 2006).

Recommendations for further research on this topic includes the investigation on risk factors as well as traits that provide resilience against STS among human service professionals of varying countries and cultures (Cieslak et al., 2014). Other researchers recommended additional studies on the factors that interact with job-related emotional experiences (Law & Guo, 2015; Shoji et al., 2015), as well as the protective factors

against physiological and mental health problems among human service professionals (Cieslak et al., 2013; Law & Guo, 2015; Leweke, Leichsenring, Kruse, & Hermes, 2012). These recommendations provide the rationale for the current study, in which I examined the relationship between job self-efficacy, alexithymia traits, and STS among correctional officers. The findings provide additional empirical data to expand the existing body of knowledge on this topic (Misis et al., 2013; Thomas, 2012).

Correctional officers and department managers may benefit from the current research findings. I have proposed recommended strategies, including both interventions and preventative that could aid in reducing or preventing the deleterious effects of secondary traumatization among correctional officers. In turn, correctional officers may implement these strategies and determine their effectiveness in the reduction of work-related psychological strain (Killian, 2008; Molnar et al., 2017). This chapter includes the following sections: background, problem statement, purpose of the study, research questions and hypotheses, theoretical framework, nature of the study, definitions, assumptions, scope and delimitations, limitations, and significance. I conclude the chapter with a summary.

Background

Over the past three decades, researchers have conducted several studies on the negative impact of exposure to traumatic events and situations, as well as the effects of occupational stress, on human service professionals (Bride & Kintzle, 2011; Cieslak et al., 2014; Killian, 2008; Molnar et al., 2017). The occupational stress experienced by

human service professionals often contributes to physiological and psychological distress among this group (Clemente et al., 2015; Misis et al., 2013). The affected human service professionals include a variety of workers such as law enforcement officers, therapists working with traumatized populations, mental health professionals, and general healthcare professionals (Cieslak et al., 2014; Shoji et al., 2015), as well as social workers (Bride & Kintzle, 2011), rescue workers (Prati, Pietrantoni, & Cicognani, 2010; Setti & Argentero, 2012), nurses and forensic workers (Cieslak et al., 2014), and correctional officers (Denhof & Spinaris, 2016; Lambert & Hogan, 2010).

Correctional officers face adverse workplace situations on a regular basis. They and are often exposed, directly and/or indirectly, to violent, dangerous, or traumatic situations (Denhof & Spinaris, 2016; Gould, Watson, Price, & Valliant, 2013; Misis, Kim, Cheeeseman, Hogan, & Lambert, 2013). Officers who are persistently exposed to workplace violence between inmates and towards staff often experienced higher levels of stress and presented at increased risk of vulnerability of mental health problems (Misis et al., 2013). Samak (2003) conducted a national study among correctional officers using a sample of 2,432 male and female correctional officers working at prisons from all security levels. The aim was to examine the correlation between working conditions of correctional officers and their health, safety, and general well-being. Samak concluded that 70% to 80% of participants described their job as stressful, and the level of stress experienced by the correctional officers was comparable among genders. These results are consistent with the findings of other researchers who conducted a study on the impact

of work-related stress on the mental well-being among correctional officers (Denhof & Spinaris, 2016).

Correctional officers consists of both men and women. The employment of female correctional officers has increased over the past three decades (Schlosser, 2010). However, the reported percentage of men correctional officers employed in U.S. correctional services continues to far exceed the percentage of women correctional officers. Approximately 67.8% (Valentine et al., 2012) to 81% (Denhof & Spinaris, 2016) men are employed in state institutions. Gender has been identified as a key factor in the level of workplace stress experienced in correctional facilities (Gould et al., 2013; Misis et al., 2013; Morgan, Van Haveren, & Pearson, 2002). Nonetheless, there are varying findings regarding this topic.

Some scholars have reported no gender difference in the level of workplace stress experienced in prison facilities (Armstrong et al., 2015; Morgan et al., 2002), while others have presented findings to the contrary (Cheeseman & Downey, 2012; Misis et al., 2013). Cheeseman and Downey's (2012) concluded from their research analysis that females were more likely to experience a greater level of work-related stress than their male counterparts. While, Denhof and Spinaris (2016) conducted a prevalence study with 81% male participation (84% were White) on mental health among correctional officers. The findings revealed that male correctional officers were found to be at high risk of developing mental health illness, such as PTSD and depression. They were also at

increased risk of suicide, which the authors estimated at 4.6%; this risk increased with the security level of the prison (Denhof & Spinaris, 2016).

Gender differences in the experience of work-related stress resulted as insignificant in some studies (Bride & Kintzle, 2011). Bride and Kintzle conducted research on mental health care professions using a sample of 59% women, 90% being white. Their findings revealed gender difference to be insignificant, but noted that approximately 56% of the participants met at least one core criteria for the secondary PTSD diagnosis. Based on these findings, the authors recommended that researchers pay attention to the percentage results that present as insignificant, but represent a significant percentage (Bride & Kintzle, 2011). These conclusions (Denhof & Spinaris, 2016; Samak, 2003), however, contrast those of scholars who indicated gender differences in the experience of stress. Cieslak et al. (2014) noted that women were significantly more likely to experience chronic workplace stress than their male counterparts.

Other factors such as job tenure also contribute to workplace stress. Years of service of correctional officers did not translate to stress reduction, based on the reports of 34% of correctional officers with over 15 years of service, as compared to 14% with employment under 2 years of service (Samak, 2003). These results suggest that the stress level experienced by correctional officers might actually increase with years of service. Samak also pointed out that the findings of the study differed depending upon the region of the country in which the prison facilities were located. For instance, 10% of correctional officers working in prison facilities within the Atlantic and Ontario regions

reported experiencing low levels of work-related stress, in contrast to 26% of the officers working in prison facilities in the Pacific regions. The results of this study are discussed in further detail in Chapter 2.

Prolonged, elevated levels of daily stressors, experienced by human service professionals (Cieslak et al., 2014; Setti & Argentero, 2012) as well as individuals from the general population (Schönfeld, Brailovskaia, Bieda, & Zhang, 2015), have been found to predict physical ailments and mental health illnesses. The mental health illnesses include job burnout (Cieslak et al., 2014), depression, generalized anxiety (Schönfeld et al., 2015), and STS (Cieslak et al., 2014). STS was also experienced among similar populations examined by other researchers (Cieslak et al., 2014; Setti & Argentero, 2012). Schönfeld et al. (2015) researched the impact daily stressors had on mental health among the general population through a cross-cultural study using data from more than 1,000 participants across countries including Germany, Russia, and China. The results indicated a clear positive association between persistently elevated levels of stress and negative mental health, including depressive and anxious symptomology.

Positive self-efficacy was identified as a mitigating factor against the risk of developing mental health illnesses such as depression and anxiety (Schönfeld et al., 2015). Schönfeld et al. concluded that a greater perception of self-efficacy correlated positively with lower stress and good mental health. These findings compare with the findings of other studies conducted among human service professionals who work either, directly or indirectly, with individuals who have experienced traumatization (Cieslak et

al., 2014; Molnar et al., 2017; Shoji et al., 2015; Wells et al., 2009). STS symptoms were also reported to be associated with job burnout among other human service professionals who provided similar services to nonmilitary personnel, such as social workers (Bride & Kintzle, 2011) and psychologists (Cieslak et al., 2014), and ambulance operators (Setti & Argentero, 2012). These results emphasize the importance for individuals who serve in these professions to know how to cope with the demands of their position.

Researchers have identified factors that aid human service professionals in managing the risk of physical and mental health problems. One such mitigating factor identified is job self-efficacy (Shoji et al., 2015). As discussed earlier in this section, the findings of Shoji et al. (2015) compare with the findings of other researchers (Schönfeld et al., 2015). Shoji et al. investigated the impact of social support and self-efficacy on STS among mental health care professionals who provided continuous mental health care (more than one year) to military personnel who had suffered traumatization. The findings indicated that although both social support and self-efficacy are important factors in the reduction of STS, self-efficacy was a key mitigating factor against the risk of developing STS (Shoji et al., 2015).

Job self-efficacy, which I use interchangeably with *self-efficacy* in this study, defines an individual's belief or confidence in his or her capability to perform a designated task (Bandura, 2001). Human service professionals who believe that they were accomplishing something beneficial are less likely to experience job-related stress and report greater job satisfaction (Law & Guo, 2015; Pepe, Farnese, Avallone, &

Vecchione, 2010). Those who perceive their accomplishments as routine and insignificant, however, cited elevated levels of stress and lower job satisfaction (Law & Guo, 2015; Pepe et al., 2010). I, was unable to identify no studies found that examined both job self-efficacy and STS among correctional officers. Law and Guo (2015) examined the correlation of job self-efficacy and job stress experienced by correctional officers, presenting statistical evidence that the level of stress experienced by correctional officers profoundly impacts their job satisfaction and ability to commit to the organization. According to Law and Guo, research in this domain is limited; nonetheless, the findings are potentially significant.

Alexithymia is another mitigating factor against the risk of STS among professionals (Vandermeer, 2014). Alexithymia is defined as an individual's difficulty or reluctance in identifying and/or elaborating his or her emotional experience (Sifneos, 1996). Restrictive emotionality is included in the description of this characteristic (Levant, Wong, Karakis, & Welsh, 2015). Correctional officers often use a machismo attitude as a coping mechanism to ward off intimidation by inmates (Tracy, 2004). This approach is a demonstration of masculinity (Levant et al., 2015). The traits of alexithmyia are similar to the machismo attitude described by Tracy (2004). Levant et al. (2015) conducted a randomized study using 724 male participants of various ethnic backgrounds that were recruited from the general community via the Internet; the results indicated a strong association between restrictive emotionality and alexithymia.

Alexithymia traits have been studied by a number of researchers (Leweke et al., 2012; Taylor, Bagby, & Parker, 2016; Vandermeer, 2014). Only one researcher was found who examined the association between alexithymia and STS, but generalizability was limited due to the small sample of 33 professionals (Vandermeer, 2014). Vandermeer posited from the findings of the study that low alexithymia served as a mitigating factor against the risk of STS, and the inverse was also true. Vandermeer recognized the importance of increasing empirical evidence regarding the relationship between alexithymia and STS among other populations, and argued the need for further research examining the correlation of predictor variables and STS.

The research findings presented identified job self-efficacy (Law & Guo, 2015) and alexithymia traits (Vandermeer, 2014) as mitigating factors against workplace stressors (Law & Guo, 2015) and the development of STS (Vandermeer, 2014). Bandura (2001) posited that job self-efficacy also acts as a buffer between perceived stressful encounters by an individual and his or her quality of life. Notwithstanding this fact, low job self-efficacy has been associated with increased risk of STS (Cieslak et al., 2013; Shoji et al., 2015) and PSTD symptoms, such as cognitive intrusion and arousal symptoms (Helmes, McNeill, Holden & Jackson, 2008). Likewise, alexithymia traits were identified in individuals who survived traumatization (Sifneos, 1996; Taylor et al., 2016); however, high levels of alexithymia traits also contributed to the stress experienced by individuals (Leweke et al., 2012). These results suggest that these factors are not only identified as protective, but also risk factors for the increased vulnerability of

individuals exposed to direct or indirect workplace stress and mental illness (Cieslak et al., 2014; Helmes et al., 2008).

Previous researchers who conducted studies on job-related stress among correctional officers have provided evidence of a number of factors that contribute to this stress (Misis et al., 2013; Summerlin, Oehme, Stern, & Valentine, 2010; Thomas, 2012). The findings of Misis et al. (2013) revealed that the officers who perceived inmates as manageable (i.e., those with high job self-efficacy) experienced reduced levels of stress, and the inverse also proved to be true. Summerlin et al. (2010) identified organizational and resource factors as primary stressors among correctional officers. These factors include inconsistent and unsupportive leadership style and a lack of adequate equipment as well as human personnel hindered them from effectively carrying out daily responsibilities and this proved quite stressful for the officers. According to 73.3% of the respondents, the greatest contributor to stress experienced was the lack of adequate human resources due to staff shortages (Summerlin et al., 2010). Thomas's (2012) findings revealed that 64% of correctional officers described their job as extremely stressful and dangerous, and many experienced symptoms of STS. Like Misis et al. (2013), Thomas (2012) argued that further research on this topic was essential in order to determine the true impact of job stress (Misis et al., 2013) and trauma (Thomas, 2012) experienced by correctional officers. Both researchers recommended future investigations to identify both potential risks and protective factors (Thomas, 2012; Misis et al., 2013).

Primarily due to the exposure to traumatic events or situations, correctional officers are likely to witness.

More information regarding research findings outlined in this chapter is provided in Chapter 2. Previous researchers have provided empirical evidence to confirm the limited research conducted on the constructs of the current study. The information presented provides a compelling argument for the rationale for the current study. The findings of this study will be made available to the key stakeholders of the department of correctional services. The hope is for the recommendations from these findings to be used to effect positive social change for the benefit of the correctional officers employed by the department of correctional services on this island.

The implementation of the recommended protective measures and strategies presented from the findings of this study is expected to aid in the prevention and or considerably reduction of the deleterious effects of secondary traumatization among the correctional officers, as manifested by the reduction in physiological illnesses and psychological strain (Killian, 2008). A number of researchers have noted that having healthy workers resulted in financial savings for organizations based on lower absenteeism and reduced healthcare costs (Bride & Kintzle, 2011; Cieslak et al., 2014; Killian, 2008).

The department of correctional services could also experience a reduction in the general economic cost of the overall prison service budget, as the general physical and mental well-being of correctional staff workers improve, and the rate of absenteeism

declines (Thomas, 2012). The findings from this study provide policymakers of the department of correctional services with empirical data to implement recommendations that could affect positive social change not only within the workplace, but also within the family unit.

Problem Statement

Among the daily workplace stressors that correctional officers encounter, safety concerns for themselves and colleagues are paramount (Denhof & Spinaris, 2016; Martin et al., 2012; Misis et al., 2013). Despite these concerns correctional officers are required to supervise inmates of varying ages and psychological and mental states, including those with diagnosed and or undiagnosed mental and psychological disorders (Gordon, Prouix, & Grant, 2013; Thomas, 2012). The exposure to such persistent workplace stressors contributes to occupational disruptions (Bride & Kintzle, 2011; Keinan & Malach-Pines, 2007), as well as poor physical, psychological, and emotional well-being among correctional officers (Denhof & Spinaris, 2016; Martin et al., 2012; Wells et al., 2009).

The negative impact on these professionals manifests in various ways, such as a lack of job satisfaction, lower job commitment (Bride & Kintzle, 2011), weak job self-efficacy (Lambert & Hogan, 2010), higher job burnout and absenteeism (Keinan & Malach-Pines, 2007), cardiovascular disease, compromised immune systems, and increased fatigue (Martin et al., 2012; Wells et al., 2009). Correctional officers have been found to experience depressive and PTSD symptoms due to persistently high levels of anger and fear in the workplace (Denhof & Spinaris, 2016). According to Denhof and

Spinaris (2016), between 43.2% and 64% correctional officers who participated in the study were identified with PSTD symptoms, and an overall 33% PTSD rate, which exceeded that of the national average in the United States.

The negative psychological and emotional impact of work-related stress also negatively affects family relationships (Clemente et al., 2015; Summerlin et al., 2010). A significant number of correctional officers are involved in domestic violence; 11.3% disclosed being physically abusive, while more than 30% reported being verbally abusive against an intimate partner (Valentine et al., 2012).

In identifying the negative work-related consequences that correctional officers face, researchers have sought to identify the constructs that contribute to or serve as a buffer against high levels of stress and general psychological distress (Law & Guo, 2015; Prati et al., 2010). Among these factors are job self-efficacy (Law & Guo, 2015; Prati et al., 2010), coping mechanisms that are problem-focused and solution-oriented (Gould et al., 2013), as well as the display of obvious masculinity or a restrictive emotionality approach (Morgan et al., 2002; Tracy, 2004). Restrictive emotionality is also a primary trait of alexithymia (Bagby, Parker, & Taylor, 1994). Alexithymia traits (Leweke et al., 2012) may mitigate the risk of individuals experiencing the deleterious effects of high levels of stress (Levant et al., 2015). The traits are also strongly associated with high levels of stress and STS among professionals (Vandermeer, 2014). High levels of alexithymia traits have been identified among individuals who survived traumatization (Talylor et al., 2016; Sifneos, 1996). Research findings revealed that individuals who

displayed alexithymia traits over a prolonged period were at increased risk of poor mental health outcomes (Leweke et al., 2012).

Additional research is required to determine predictor variables of stress. Vandermeer (2014) recognized the importance of increased empirical evidence on the relationship between alexithymia and STS, and advocated for increased research on this topic in order to examine the correlation of predictor variables and STS. One of the limitations of Vandermeer's study was the sample, since all participants were university students. Job self-efficacy was also identified as one of the strongest predictors of job stress, and a lower level of personal job efficacy was strongly associated with low job satisfaction. A combination of these variables impacted job performance (Law & Guo, 2015; Wells et al., 2009). Law and Guo (2015) postulated that job-self efficacy is a critical component of correctional service, and as indicated significantly correlated with workplace stress. Officers who believe that they are accomplishing something beneficial are less likely to experience job-related stress, and the inverse is true (Law & Guo, 2015; Pepe et al., 2010).

Chronic stress is identified as a significant predictor of poor mental health, and a greater perception of self-efficacy correlates positively with lower stress and poor mental health (Schönfeld et al., 2015; Wells et al., 2009). Although job self-efficacy and alexithymia traits serve as predictor factors of the prevention and reduction of psychological distress (Levant et al., 2015; Schönfeld et al., 2015). They are also

significantly associated with increased vulnerability to PTSD or STS symptoms (Denhof & Spinaris, 2016; Law & Guo, 2015; Leweke et al., 2015; Vandermeer, 2014).

Like job self-efficacy and alexithymia traits, there are varying findings on the significance of the association of gender and job tenure on high levels of work-related stress experienced. Gender and job tenure have been identified as influencing factors in the increased vulnerability to mental health problems (Denhof & Spinaris, 2016; Lambert & Hogan, 2010). Based on the presented research findings, the predictor constructs proposed for this study (job self-efficacy, alexithymia, gender, and years of tenure) can influence the level of stress experienced by corrections officers, as well as increase the vulnerability to mental health problems, including STS (Cieslak et al., 2013, 2014; Denhof & Spinaris, 2016; Law & Guo, 2015).

Mental health problems ultimately increase organizational cost (Gould et al., 2013; Lambert & Hogan, 2010; Fink, 2010), and can create disruption in family relationships (Summerlin et al., 2010). Based on the research findings presented, correctional officers who participated in the study and identified with any of these traits and are negatively associated with STS symptoms, recommendations for intervention have been included. A summary of the research findings with the recommendations will be provided to the relevant stakeholders at the department of correctional services, with the aim of correctional officers benefitting from the proposed interventions. The findings may be used to promote training that correctional officers can benefit from, as well as the

importance of self-care programs, which have proven to increase job effectiveness and reduce absenteeism (Prati et al., 2010).

Purpose of the Study

The studies presented provide clear evidence that chronic work-related stress is not the only predictor of poor general well-being and mental health problems among human service professions (Peasley-Miklus et al., 2016; Wells et al., 2009). Other factors that have been identified to elevate levels of stress experienced are job self-efficacy and alexithymia traits (Peasley-Miklus et al., 2016; Wells et al., 2009). The empirical evidence presented clearly indicates that job self-efficacy (Schönfeld et al., 2015) and alexithymia traits (Leweke et al., 2012) have been identified as predictive variables contributing to both protective (resilience; Cieslak et al., 2013) and risk factors of mental illness, including STS symptoms, among human service professionals (Leweke et al., 2012; Schönfeld et al., 2015). Gender (Cieslak et al., 2013) and years of tenure (Denhof & Spinaris, 2016) are strongly associated with high levels of occupational stress, as well as physical and mental health problems such as STS. Symptoms of STS include persistent feelings of hopelessness or despair, resulting in social withdrawal, fatigue, illness, and reduced productivity, as well as elevated anxiety, intrusive thoughts, hypervigilance, hyperarousal, and nightmares (Cieslak et al., 2013). Denhof and Spinaris (2016) reported that many correctional officers reported experiencing PTSD-like symptoms.

Although several studies have been conducted on the impacts of stress on human service professionals, research on this topic among correctional officers is minimal

(Thomas, 2012). The primary topics covered among correctional officers include job burnout and coping (Gould et al., 2013), job stress and job satisfaction (Misis et al., 2013), organizational commitment and length of employment (Clemente et al., 2015; Lambert & Hogan, 2010), and stress and domestic violence (Summerlin et al., 2010; Valentine et al., 2012). The identified studies include one investigation of job self-efficacy (Law & Guo, 2015), a study on the prevalence of trauma-related health concerns (Denhof & Spinaris, 2016), and an identification of the predictors of vicarious and secondary traumatization (Thomas, 2012). Cieslak et al. (2013) found that certain factors such as self-efficacy and resilience increased an individual's ability to perform more effectively on the job. The researchers concluded that these factors acted as mitigating factors against the impact of indirect exposure to trauma in human service professionals (Cieslak et al., 2013). The researchers recommended further research to examine the relationship between risk and protective factors and STS experienced by human service professionals across various cultures (Cieslak et al., 2013). Other recommendations by authors on this topic include adequate interventions for those experiencing high levels of job-related stress, with the hope of reducing the risk of mental health problems among such workers (Summerlin et al., 2010). A number of authors have argued that inadequately treated mental health problems not only compromise the safety of the individual, but the safety of those that the individual is intimately associated with outside of the work environment (Summerlin et al., 2010; Valentine et al., 2012). Such research supports research on the impacts of stress on correctional officers.

The purpose of this quantitative research study was to investigate the strength of the relationship between the perception on job self-efficacy and alexithymia traits on STS among correctional officers employed by HMPS on a Western Caribbean island. The aim of the study was to determine the impact of negative environmental factors among participants identified on job self-efficacy and alexithymia traits. I also evaluated gender and years of tenure to determine if these variables were influencing factors. Furthermore, I sought to determine whether the independent variables of job self-efficacy and alexithymia were predictor factors of STS. The predictor or independent variables (IV) for the study were the correctional officers' self-reported assessed level of alexithymia traits and their self-reported perceptions of job self-efficacy. The criterion variable (CV), or dependent variable (DV), was the STS that participants experienced.

In Chapters 4 and 5, I present the findings of this study, comparing and contrasting them with those of other researchers who have studied these variables. The results will add to the body of existing literature on this topic and provide further evidence regarding this topic. The implementation of the recommendations made based on the findings will hopefully increase job effectiveness and reduce work-related stress and absenteeism (Pepe et al., 2010; Prati et al., 2010).

Research Questions and Hypotheses

In this quantitative study, I evaluated (a) the relative importance of a set of predictor variables on the CV and (b) the correlation of STS among correctional officers employed by the prison services of a Western Caribbean island. I aimed to determine

whether the IV constructs could predict the STS experienced by correctional officers working on this island. The primary research question was: what is the relationship between the perception of job self-efficacy and alexithymia traits to STS symptoms among correctional officers employed by the prison services of the island? The specific research questions and the hypotheses for the study were as follows:

Research Question 1: Is self-reported job self-efficacy, as assessed by low scores on Work Self Efficacy Scale (WSES), a predictor to STS and inversely related, as measured by Secondary Traumatic Stress Scale (STSS) scores, after controlling for gender and job tenure?

Hypothesis 1: Job self-efficacy among participants, as measured by low scores on the WSES, is a predictor to STS, and inversely related, as measured by STSS scores, after controlling for gender and years job tenure.

Research Question 2: Is self-reported alexithymia, as assessed by high scores on the 20-item Toronto Alexithymia Scale (TAS-20), a predictor, and inversely related to STS, as measured by scores on the STSS, after controlling for gender and years of tenure?

Hypothesis 2: Alexithymia among participants, as measured by scores on the TAS-20, is a predictor to STS, and inversely related, as measured by scores on the STSS, after controlling for gender and years of tenure.

Theoretical Framework

Cognitive Self-Development Theory

McCann and Pearlman (1990) developed the constructivist self-development theory (CSDT), which they described as a theory of personality traits (Jankoski, 2010). Jankoski stated that McCann and Pearlman (1990) incorporated a trauma focus approach and a developmental and interpersonal component to this theory in order to understand and explicate the impact trauma on an individual's general adaptation, identity, and psychological development. McCann and Pearlman examined how individuals functioned within their environment and conceptualized the theory they developed and postulated that human beings have seven basic needs that facilitate the development of mental structures, and these classify as cognitive schemas. These needs include intimacy, esteem, power, dependency/trust, safety, independence, and frame of reference, which describes an individual's attributions about why events occur. The underlying premise of the theory argues that human beings are inherently capable of constructing their own personal realities through their continuous interpersonal interactions (McCann & Pearlman**,** 1990, as cited in Jankoski, 2010). Human beings create an internal representation of the world through their interpretation of events through complex cognitive structures, or schemas (McCann & Pearlman, 1990).

The assumption of constructivism is that people construct their reality through constantly fluctuating and evolving cognitive schemas; when trauma occurs, cognitive schemas may be disrupted (McCann & Pearlman, 1990). The theory outlines that an

individual's "cognitive schemas represent a person's belief, expectations, and assumptions that continue to evolve for the duration of one's lifetime through social exchanges with others and the world" (Branson, Weigand, & Keller, 2013, p. 398). Branson et al. also argued that culture, previous experiences, and existing cognitive schemas were also included, as these elements also influence the internal evaluation of an event, and ignoring these elements would reduce the accurate understanding of an individual. According to these authors, an individual's perceptions of an event are subjective based on his or her unique psychological and emotional experiences.

Individuals exposed to trauma, directly or indirectly, experience negative psychological consequences due to recurring emotional experiences of impending danger (McCann & Pearlman, 1990). The negative impact resulting from various traumatic material could result in individuals experiencing symptoms of anxiety and vulnerability that present with symptoms of STS such as nightmares, "intrusive re-experiencing of the traumatic material, avoidance of trauma triggers and emotions, and increased arousal," all stemming from indirect traumatization (Cieslak et al., 2013, p. 918). Other emotional experiences may include hypervigilance, and suspicion of the motives of others (McCann & Pearlman, 1990; Setti & Argentero, 2012).

McCann and Pearlman (1990) indicated that mental health professionals, or individuals working in vulnerable situations, were susceptible to developing STS. The symptoms of vulnerability correlated with personal characteristics and cognitive schemas (Branson et al., 2013; McCann & Pearlman, 1990). McCann and Pearlman posited that

mental health professionals working with victims of trauma on an ongoing basis experienced medium to long-term consequences of an altered cognitive schema due to the trauma because trauma can create disruption with schemas processing. The trauma experienced by an individual is partially dependent upon which schemas are salient for the individual (McCann & Pearlman, 1990). For instance, if safety is a salient need area for the individual at the time, he or she will likely recall those images that are associated with threats and personal vulnerability; if self-efficacy is more central, the focus may involve degrading of self or of others (McCann & Pearlman, 1990).

Individuals diagnosed with alexithymia were found to inadequately experience, identify, and process their affect. They also experienced a deficit in modulating their affect, in that they lacked the capacity to differentiate and label the affect (Leduc, 2001). According to Sifneos (1996), individuals who survived traumatized incidents presented with high rates of alexithymia, such as survivors of the Holocaust (Taylor et al., 2016). Victims of trauma need to have some meaningful frame of reference; without it, questions such as, “Why did this happen to me?” (McCann & Pearlman, 1990, p. 141) persist. Without a frame of reference, the disruption of the schemas can result in intrusive psychological functioning (McCann & Pearlmann, 1990). This is also true for human service professionals who work with traumatized individuals, because they too need to make sense of the trauma that the client has experienced. If this does not happen, the professional may internalize the client’s information without effectively processing it. This may temporarily or permanently negatively disrupt schemas, resulting in alterations

in memory and leading to disruptive or intrusive psychological and interpersonal functioning (McCann & Pearlmann, 1990). The application of this theory to the constructs of this study provides a framework from which an explanation for the answers to research question and hypotheses were derived, and in turn, add to the body of literature regarding this topic.

Social Cognitive Theory

Bandura's (2001) social cognitive theory (SCT) defines self-efficacy from an individual as well as a collective efficacy perspective. This theory describes self-efficacy from an individual perspective as an individual's belief or confidence in his or her capability to perform or accomplish a specific task at a designated level. Self-efficacy from a collective efficacious perspective is suggestive of an individual's belief based on a shared response that will produce a desired outcome, and is a critical component to collective efficacy. According to Bandura, self-efficacy is a highly contextualized construct, and the concept relates to a perception that is individualistic regarding the person's capability to perform specific tasks. How an individual exerts him or herself can determine either efficacious behavior and successful adaptation, or the lack thereof, which could result in unsuccessful adaptation. An individual who perceives himself or herself as more efficacious tends to expend more effort in attaining the desired goal, task, and/or challenge, and tends to more eager to persevere despite encountering challenges. The outcome is inversely related among individuals who perceive themselves as less efficacious (Bandura, 2001; Pepe et al., 2010).

External experiences influence individuals' perceptions of self-efficacy (Pepe et al., 2010). Individuals who experience high self-efficacy tend to believe that they can perform well, and their perception toward challenging tasks is toward mastering—rather than avoiding—such tasks (Bandura, 2001; Pepe et al., 2010). According to McCann and Pearlman (1990), participants' schemas are highly subjective experiences. An individual's thought processes, behavior, and attitude are influenced by efficacy beliefs, as such impact an individual's aspirations, life goals, decision making, stamina for adversity, and willingness to persevere through hardship (Pepe et al., 2010). Self-efficacy is intimately involved with work, and an individual's culture plays an integral role in his or her workplace behavior and performance.

Nature of the Study

This research was conducted using a quantitative, non-experimental research design. The participants of the study were recruited from the population using a convenience, or non-probability sampling strategy, which are useful when studying small populations (Frankfort-Nachmias & Nachmias, 2008). Such a method also provides greater flexibility regarding participants' availability and accessibility (Misis et al., 2013). This sampling strategy was suitable for the target population of this study due to the numbers of correctional officers employed by HMPS.

The aim of the study was to examine the relative importance between the self-reported level of job self-efficacy and alexithymia traits (the selected predictor variables), and STS (the criterion variable) among correctional officers employed by HMPS. Gender

and years of tenure were also evaluated in order to determine whether these variables were influencing factors. The data collection was conducted using an individual online survey method that incorporated three established instruments. In order to gain a robust enough sample size, all correctional officers were invited to participate in the study. This type of survey approach lends itself to greater privacy and confidentiality to participants, which is an important criterion in conducting research (Trochim, 2006), especially research involving correctional officers. This was not a concern, however, because participants' personal data were not required for the survey. I stored the electronic dataset on a complex password-protected computer hard drive and USB device, which will remain in a secure safe that has a combination lock and is not easily accessible, for the required duration of 5 years. I used IBM SPSS Version 25 to perform multiple linear regression to analyze the collected data, test the null hypotheses, and provide answers to the established research questions.

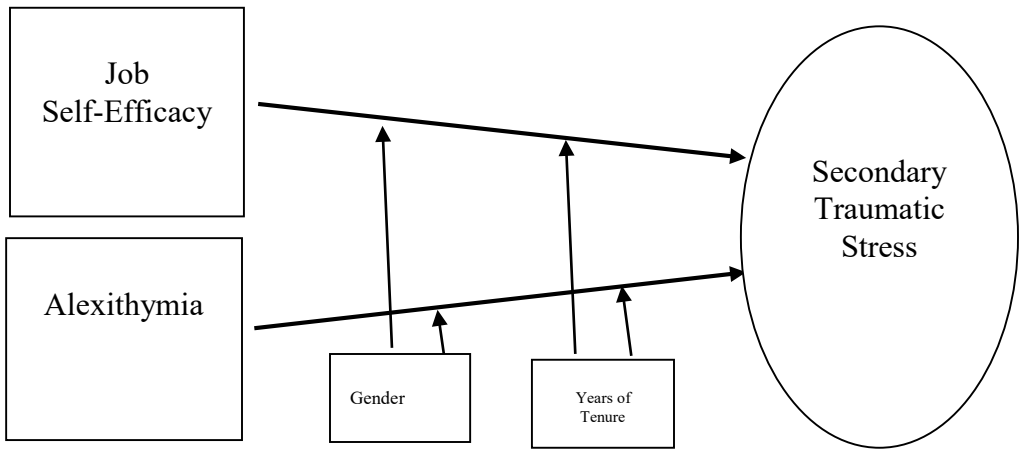


Figure 1. Diagram showing the relationship of study variables.

Definitions

Alexithymia: A cognitive deficit experienced by individuals who have difficulty appropriately identifying and/or elaborating on their emotional experience (Sifneos, 1996). Bagby et al. (1994) designed and developed the TAS-20 in order to measure alexithymia traits. I provide more information regarding this instrument in Chapter 3.

Correctional officers: Personnel who are trained to monitor the movements and behavior of inmates within the prison system (Misis et al., 2013). Correctional officers are an integral component of the correction system within a society (Gould et al., 2013). As the prison population increases, the level of work-related stress also increases for these officers (Armstrong et al., 2015; Higgins, Tewksbury, & Denney, 2012). Correctional officers who undergo continuous work-related distress due to the demands of daily workplace stressors may experience emotional exhaustion and burnout (Gould et al., 2013); job dissatisfaction (Armstrong et al., 2015) and physical, psychological, and psychosocial deterioration (Armstrong et al., 2015; Higgins et al., 2012). In turn, this leads to increased absenteeism from work, high job turnover, and increased costs of correctional services (Gould et al., 2013; Finney, Stergiopoulos, Hensel, Bonato, & Dewa, 2013).

Job self-efficacy: An individual's belief in his or her ability to complete a particular task at a designated level (Pepe et al., 2010). Bandura (2001) defined job self-efficacy as the energy that keeps an individual motivated to perform a task. Bandura posited that work success positively correlates with self-efficacy because an individual's

beliefs create a collective as well as an individual protective factor. This is why individuals consider the well-being of, and are affected by, others within the workplace (Pepe et al., 2010).

Secondary traumatic stress (STS): Emotional duress that is present in individuals who have not been the primary witnesses of a critical incident, but who have received explicit knowledge of the traumatic event itself and have also been affected by the information (i.e., indirect exposure; Setti & Argentero, 2012). STS symptoms mimic those of PTSD (Cieslak et al., 2014); it is sometimes referred to as secondary PTSD (Cieslak et al., 2013). Researchers view STS as synonymous with vicarious traumatization or compassion fatigue (Figley, 1995; Molnar et al., 2017; Setti & Argentero, 2012). Figley (1995) described VT as behaviors and emotions that manifest in an individual who receives information of someone who experienced a traumatic event. Figley defined the emotional experience derived from persistent exposure or interaction with helping suffering or traumatized individuals as *compassion fatigue*, which is used interchangeably with VT and STS. According to Figley, all three relate to occupational distress. In the context of this study, VT is synonymous with STS.

Researchers have found that the persistent exposure to negative workplace incidents experienced by correctional officers negatively impacts their job performance, as well as their physical and psychological well-being (Armstrong et al., 2015; Gould et al., 2013; Wells et al., 2009). Human service professionals exposed to indirect trauma are at higher risk of developing STS (Cieslak et al., 2014). These individuals experience

symptoms such as increased persistent feelings of hopelessness or despair, resulting in social withdrawal, fatigue or illness, reduced productivity, as well as feelings of re-experiencing the traumatic events, intrusive thoughts, hypervigilance, hyperarousal, and nightmares (Bride & Kintzle, 2011; Cieslak et al., 2014). These findings provided a rationale for the pursuit of the current study.

Assumptions

In conducting this research, I had several assumptions. These included the assumption that all correctional officers employed by HMPS on this island would receive an invitation to participate in the survey, and those who might not be experiencing STS symptoms would not refrain from participating in the study. Furthermore, I assumed that the participants would complete the questionnaires honestly and to the best of their ability. The participants were aware that participation was voluntary and that they could withdraw from the study at any time without penalty. The procedures for safeguarding of participants' privacy and confidentiality were clearly described in the letter of informed consent provided to the participants. Additionally, I assumed that all three instruments were reliable and valid and that they were appropriate means for measuring the variables of the study. Additional assumptions were that the analyzed results would provide answers for the research questions and corresponding hypotheses and that the selected theories would provide relevant explanations of the results.

Scope and Delimitations

Correctional officers have been described as being adept at covering the signs of vulnerability, even from those closest to them, resulting in undetected and untreated occupational stress (Armstrong et al., 2015; Gordon et al., 2013; Thomas, 2012). Restrictive emotionality, also known as alexithymia, contributes to the level of stress experienced by individuals (Taylor et al., 2016). Both job self-efficacy and alexithymia traits are associated with the prevention and reduction of psychological distress (Levant et al., 2015; Pepe et al., 2010), and have been found to be associated with STS among human service professionals (Cieslak et al., 2014). The current findings may be used to promote the importance of training correctional officers in techniques and strategies that promote problem-solving and self-care, since these are among strategies that have been proven to increase job effectiveness, and reduce absenteeism (Pepe et al., 2010; Prati et al., 2010), which will also decrease overall budgetary costs for the organization (Fink, 2010).

All correctional officers received an email invitation to participate in this research through an anonymous quantitative design online survey with the use of a convenience sampling strategy. According to Creswell (2009), if the findings are comparable to other studies, the generalizability of the results, as it relates to the specific constructs may be possible. The findings are reported in Chapters 4 and 5.

According to Reio (2010), a common threat to quantitative research findings is variance bias. This bias can artificially inflate or deflate results and would pose a threat to

the validity of the analyzed data and interpreted results regarding the constructs. In order to prevent such an occurrence, one of the recommendations is to ensure that procedural design and statistical controls are securely in place (Reio, 2010). The assumptions of the statistical test used to analyze the data were evaluated, and there were no violations of these assumptions. The results of these tests are presented in Chapter 4.

Limitations

The generalizability of the results is limited to similar populations of correctional offers, since the sampling design was not a random approach (Creswell, 2009). My intention was to ensure that the outcomes would be applicable to other correctional officers working under similar conditions and environments. Due to the convenience sampling and the use of online survey questionnaires, the collected data were limited to responses to closed-ended questions on the survey questionnaires.

In order to reduce threats to internal validity, the survey instruments' validity, reliability, and relevance to the dependent and independent variables of the study were verified through literature review. Previous scholars have reported that these instruments accurately measure what they were designed to measure (Bagby et al., 1994; Bride et al., 2004; Pepe et al., 2010). With the use of these measures in addition to careful adherence to the administrative process of the entire data collection procedure, ensuring that the research procedures was conducted as approved by Walden University's Institutional Review Board (IRB) further helped to reduce any threats to internal validity.

Other limitations include time and budgetary constraints. In the first instance, I anticipated that data collection would take 5 weeks of commencement. This was not the case, however, so two additional requests for additional time were made to Walden IRB; as a result, the data collection period spanned 4 months. The extension helped to reduce participation bias, as this allowed all correctional officers the opportunity to participate in the study. Although participants' experiences may have changed after the data collection period was completed, there was no adjustment made to accommodate for these changes.

Significance

Work is a substantial source of stress, and work stress is a significant determinant of both positive and negative physical and mental health (Cheeseman & Downey, 2012). The daily work environment for correctional officers is thwarted with safety concerns resulting in correctional officers experiencing high levels of distress due to emotional exhaustion (Cheeseman & Downey, 2012; Mani, 2012; U.S. Department of Justice, Correctional Services, 2016). Job stress in occupations such as law enforcement officers (Schlosser, 2010), rescue workers, forensic officers (Cieslak et al., 2014) and correctional officers (Denhof & Spinaris, 2016; Misis et al., 2013) places the workers in these professions at increased risk of developing symptoms of STS and PTSD (Bride & Kintzle, 2011; Cieslak et al., 2014; Denhof & Spinaris, 2016). Researchers have concluded that direct or indirect exposure to trauma is an inherent part of the occupation of correctional officers (Denhof & Spinaris, 2016; Misis et al., 2013). If the negative physical and emotional impact of work-related stress among these workers does not

receive adequately and appropriate intervention, the rates of PTSD-trauma related symptoms may continue to increase (Denhof & Spinaris, 2016).

Although low job self-efficacy is identified as a major predictor of job stress among a broad range of human service professionals who work with trauma victims, untreated personnel were found to have developed stress, which in turn developed into chronic stress (Shoji et al., 2015). Chronic stress identified as a predictor of mental health condition (Shoji et al., 2015) including STS (Vandermeer, 2014). Research findings have indicated a positive correlation between a greater perception of self-efficacy and stress as well as lower levels of negative mental health (Schönfeld et al., 2015; Wells et al., 2009). Correctional officers' self-defense technique of restrictive emotionality lends to the perception of a limited emotional connection to the reality of a hostile and stressful environment. Although the restrictive emotionality or alexithymia traits (a cognitive deficit) inhibits individuals from appropriately communicating affect, it does not mean that the individual is unaware of his or her environmental realities (Halpern, Maunder, Schwartz, & Gurevich, 2012; Vandermeer, 2014). Although job stress-related studies have been conducted on correctional officers, researchers have cited the need to identify the factors that mitigate the job-related emotional experiences of correctional officers (Misis et al., 2013; Thomas, 2012).

The findings of the current study may contribute to the body of literature on this topic. The findings could provide insights that would be meaningful to correctional officers and the policymakers who define their roles and responsibilities. The pertinent

evidence-based information derived from this study could be used to advocate for any additional training that correctional officers may need, including stress management training, in order to be more effective on the job, which could ultimately impact the level of on the job stress experienced (Brower, 2013). The current findings could facilitate positive social change in the lives of the correctional officers by fostering positive interactions with inmates, as well as family members (Brower, 2013). According to Misis et al. (2013), if the work environment of correctional officers does not improve, then the factors that significantly contribute to the extreme stress experienced by correctional officers will continue to impact these professionals.

Summary

Occupational stress among human service professionals, resulting from direct or indirect exposure to traumatic situations, contributes to significant physiological and psychological distress, including STS symptoms. Although researchers have conducted job stress-related studies among correctional officers, recommendations for future research studies to identify factors that interact with job-related emotional experiences of correctional officers, since literature to this effect is limited. Alexithymia and job self-efficacy have been determined as predictor variables of STS among human service professionals.

The aim of this study was to examine the impact of self-efficacy and alexithymia traits on STS among correctional officers, as well as to determine whether the independent variables present as predictor factors of the outcome variable. The findings

from the data analysis of the proposed study could provide evidence to effect positive social change in the lives of the correctional officers, once stakeholders adapt an appropriate response to the recommendations suggested that could facilitate positive social change in officers' personal and professional relationships.

A quantitative research design with a convenience sampling strategy for data collection were used for this study, along with three established measures that were administered online through a secure established platform, Qualtrics. These research methods and strategies were used to reduce threats to external and internal validity. In Chapter 2, is an exhaustive analysis of the literature related to this topic. An overview of the theories used to explain the constructs of this study is also presented.

Chapter 2: Literature Review

Introduction

The purpose of this quantitative research study was to investigate the strength of the relationship between the perception of job self-efficacy and alexithymia traits on STS among correctional officers employed by HMPS on a Western Caribbean island. I also evaluated gender and years of tenure to determine whether these variables were influencing factors. The aim of the study was to determine the impact of negative environmental factors among participants on job self-efficacy and alexithymia traits.

Correctional officers are consistently exposed to direct or indirect traumatic workplace situations (Armstrong et al., 2015; Keinan & Malach-Pines, 2007; Summerlin et al., 2010). Previous research findings have indicated that correctional officers experience physical and/or verbal assault from inmates, in addition to witnessing colleagues attacked by them (Keinan & Malach-Pines, 2007). Exposure to such violent situations significantly contributes to physiological and psychological distress (Clemente et al., 2015; Misis et al., 2013). Approximately 40% of the respondents who experienced psychological distress from working in prisons also reported experiencing hypervigilance, hyperarousal and flashbacks, and posttraumatic stress reactions (Keinan & Malach-Pines, 2007). The outcome of recent studies conducted by Denhof and Spinaris (2016) and Thomas (2012) are consistent with the research findings of Keinan and Malach-Pines (2007). A lack of research on this topic among correctional officers reduces the prospect of appropriate intervention for these workers.

In this chapter, I provide an overview of previous research on STS that includes information on precipitating risk and protective factors that can negatively affect a person's positive psychological state. An overview of other studies related to the research questions is also included, as well as of the two theories, CSDT and SCT, that served as the study's theoretical framework. The literature review and overview of the theoretical foundation provide support for the data collection procedures, instruments, and variables of this study, which I discuss in further detail in Chapter 3. The chapter begins with an overview of the literature search strategy. It concludes with a summary of the chapter and a transition to Chapter 3.

Literature Search Strategy

I conducted database searches to locate studies on correctional officers, STS, job self-efficacy, and alexithymia. The primary databases and search engines were PsycINFO, PsycARTICLES, ProQuest Central, Google Scholar, and the SAGE Full-Text Collection. I also reviewed textbooks written by established scholars on the various study variables, which I acquired through Amazon.com. Another method to search for articles included reviewing the reference lists in research articles to identify additional work covering the variables of the study and to ensure that the search was exhaustive. The keywords, used individually and in combination, included secondary traumatic stress, secondary posttraumatic stress or secondary trauma, vicarious trauma, correctional, correction or prison officers, or law enforcement officers with STS, self-efficacy or job self-efficacy, and/or alexithymia attached. Other search words used were human service

professional and secondary traumatic stress, job self-efficacy or workplace self-efficacy, and alexithymia.

The initial search entailed looking for articles on correctional officers that were published within the past 5 years, but the search resulted in limited research and no studies on this exact topic. I broadened the search to incorporate other keywords, and the results provided two more articles concerning the topics under study. The search revealed literature on the negative association between stress and mental health among human service professionals, such as social service personnel, therapists and abuse counselors, and forensic and emergency service personnel.

The research conducted on correctional personnel was primarily on topics including job satisfaction, organizational stress, job burnout, and one study on the prevalence of PTSD. In none of the articles did the authors examine predictors of STS among correctional officers. This research topic, as indicated in the literature review, is an understudied area in the study of human service professionals. I had zero results from the initial search, dates ranging from 2016 to 2011, using the keywords described previously in this section. To address this issue, I expanded the search years to include a wider range from 2018 to 2011; this resulted in two articles on the impact of stress on mental well-being among correctional officers. The search strategy employed was an open-ended search, with the specific variables identified to control the search. The outcome of the search yielded an array of empirical literature including seminal writings from the 20th century. These findings comprise seminal writings in chapters of books, as

well as research from earlier researchers, which aided in providing a historical framework to connect the theories and specific constructs of interest.

The findings from the literature search supported the rationale for the study in that I found limited research on the constructs of this study (Denhof & Spinaris, 2016; Leweke et al., 2012; Valentine et al., 2012) and no studies with the combined constructs. Therefore, the findings from this research will add to the body of literature regarding the topic of this study. The findings of the study may aid in creating positive social change as senior management make decisions that could benefit the correctional officers they supervise. Such decisions include the implementation of programs and strategies that could positively impact correctional officers' physiological and psychological well-being (Gould et al., 2013). Killian (2008) indicated that factors such as organizational leadership, peer support, and self-awareness were protective elements that helped human service professionals avoid the deleterious effects of secondary traumatization. These strategies resulted in reduced psychological strain (Killian, 2008). Killian's findings indicated that the services rendered by professionals who reported symptoms of STS were significantly inadequate, as compared to workers who did not report psychological problems (Killian, 2008). The implementation of these strategies may provide positive psychological benefits to individual professionals in the service. Another outcome may be a reduction in general economic cost to the overall prison service budget as a decline in absenteeism and improvements in the general mental health and physical well-being of

correctional workers are realized. Having healthy workers has resulted in financial savings for organizations (Cieslak et al., 2014; Fink, 2010).

Theoretical Framework

I used two theories as the basis for the study. One of the theories was the CSDT, otherwise known as constructivism **(**McCann & Pearlman, 1990). This theory provides an explanation of the impact of trauma exposure on an individual's emotion **(**McCann & Pearlman, 1990). The other theory used was the SCT, which was developed by Bandura (2001) and used to conceptualize self-efficacy. Bandura defined SCT as an individual's belief (or confidence) in his or her capability to perform or accomplish specific tasks (the details of the theory are set out below). The environment in which correctional officers work keep them in a constant state of high alert, and the persistent tension has far reaching negative psychological implications (Misis et al., 2013).

Constructivist Self-Development Theory

McCann and Pearlman (1990) designed and developed the CSDT, also described as a theory of personality traits (Jankoski, 2010). Jankoski explained that McCann and Pearlman (1990) incorporated a trauma focus approach to the theory that includes developmental and interpersonal components in order to understand and explicate the impact trauma have on an individual's general adaptation, identity, and psychological development. McCann and Pearlman examined how individuals functioned within their environment and conceptualized the theory they developed, in doing so they postulated that human beings have seven basic needs that facilitate the development of mental

structures, and classified these as cognitive schemas. These are intimacy, esteem, power, dependency/trust, safety, independence, and frame of reference (an individual's attributions about why events occur). According to McCann and Pearlman, the underlying premise of the theory establishes that human beings are inherently capable of constructing personal realities. This happens "through continuous interpersonal interaction, as human beings continually seek to comprehend presenting situations in order to make sense of the event" (McCann & Pearlman, 1990, p. 107, as cited in Jankoski, 2010).

Human beings create an internal representation of the world through their interpretation of events through the development of complex cognitive structures (schemas) used to interpret events (McCann & Pearlman, 1990). The assumption governing constructivism is that people construct their reality through continually fluctuating and evolving cognitive schemas, and when trauma occurs, cognitive schemas may be disrupted (McCann & Pearlman, 1990). The theory outlines that an individual's "cognitive schemas represent a person's belief, expectations, and assumptions that continue to evolve for the duration of one's lifetime through social exchanges with others and the world" (Branson et al., 2013, p. 398). Branson et al. argued that this includes culture, previous experiences, and existing cognitive schemas, as these elements also influence the internal evaluation of an event, as such, for a more accurate understanding of an individual these aspects of the individual should be included. The experience

becomes subjective as individuals present his and/or her own unique psychological and emotional experiences (Branson et al., 2013).

Individuals who are exposed to trauma, either directly or indirectly, could experience negative psychological consequences, due to recurring emotional experiences of impending danger (McCann & Pearlman, 1990). The negative impact of indirect exposure to various types of traumatic material could result in individuals experiencing symptoms of anxiety and vulnerability that present with symptoms of STS, such as nightmares, intrusive thought processes and images, fearful thoughts, and suspicion of others' motives (Cieslak et al., 2013; McCann & Pearlman, 1990; Setti & Argentero, 2012). This framework provides an explanation for the relevant research question and the corresponding hypotheses.

According to McCann and Pearlman (1990) mental health professionals and/or individuals working in vulnerable situations are susceptible to developing STS. The symptoms of vulnerability correlated with personal characteristics and cognitive schemas (Branson et al., 2013; McCann & Pearlman, 1990). McCann and Pearlman posited that mental health professionals working with victims of trauma on an ongoing basis experienced medium to long term consequences of an altered cognitive schemas due to the trauma, since trauma can create disruption with schemas processing. The trauma experienced by an individual is partially dependent upon which schemas are salient for the individual (McCann & Pearlman, 1990). For instance, if safety is a salient need area for the individual at the time, he or she may likely recall those images that are associated

with threats and personal vulnerability, or if self-efficacy is more central the focus may involve degrading of self or others (McCann & Pearlman, 1990).

Research findings conducted on individuals identified with the alexithymia traits, indicated that these individuals were unable to experience, identify and process their affect adequately, and experienced a deficit in modulating their affect, since they lacked the capacity to differentiate and label the affect (Leduc, 2001). Individuals who survived traumatized incidents were identified with alexithymia (Sifneos, 1996), such as survivors of the Holocaust (Taylor et al., 2016). According to McCann and Pearlman (1990) victims of trauma need to have some meaningful frame of reference or the unanswered questions such as, "Why did this happen to me?" (p. 141) result in persistent rumination of the unanswered question. The assumption presented in the constructivism theory is, if there is no frame of reference, disruption of the schemas can result in intrusive psychological functioning (McCann & Pearlmann, 1990). This is also true for human service professionals who are working with individuals of trauma, as they too need to make sense of the trauma experienced by the individual. If this does not happen, they may internalize the client's information without effectively processing it; this may temporarily or permanently negatively disrupt schemas processing, alter memories, and lead to disruptive or intrusive psychological and interpersonal functioning (McCann & Pearlmann, 1990).

The use of this theory provided a framework in providing an explanation to the research questions and hypotheses of this study. This information also guided

recommendations for intervention and preventative measures for consideration to the relevant stakeholders of HMP services. With a view toward facilitating correctional officers to be motivated toward increased personal development that would enhance positive social change within the prison services and their own family lives.

Social Cognitive Theory

Bandura's (2001) SCT defines self-efficacy from an individual as well as a collective efficacy perceptive. According to Bandura, self-efficacy from an individual perspective is defined as an individual's belief (or confidence) in his or her capability to perform or accomplish a specific task at a designated level. From a collective efficacy perspective, an individual's belief, derived from on a shared response will produce the desired result, which is a critical component to the collective agency from an SCT perspective (Bandura, 2001). Bandura postulated that self-efficacy is a highly contextualized construct, and the concept relates to a perception that is individualistic regarding the person's capability to perform particular tasks, and how an individual exerts himself or herself can either determine efficacious behavior and successful adaptation, or the lack thereof may result in unsuccessful adaptation. An individual who perceives himself or herself as more efficacious tends to expend more effort in attaining the desired goal, task, and/or challenge and will be more eager to persevere despite challenges encountered. The outcome will be to the contrary for individuals who perceive themselves as less efficacious (Bandura, 2001; Pepe et al., 2010).

The sense of self-efficacy influenced by external experiences represents a personal perception of external social factors and can present as a critical component of individual goal setting (Pepe et al., 2010). Individuals who experience high self-efficacy tend to believe that they are capable of performing well, and their perception toward challenging tasks are geared toward mastering rather than avoiding tasks (Bandura, 2001; Pepe et al., 2010). In the context of this study, both theories (CSDT and SCT) can explain the study's outcome. In accordance with the CSDT theory, McCann and Pearlman (1990) posited that a participant's schemas are subjective experiences, and formed out of an individual's interpretation of events. Bandura (2001) proposed in his SCT theory that an individuals' thought processes, behavior, and attitude are influenced by efficacious beliefs. This, in turn, could affect an individual's aspirations, decision making, stamina for adversity, and willingness to persevere through hardship (Pepe et al., 2010).

As the development of an individual's schema was observed, researchers recognized that the job site is where working people spend most of their waking day and expend most of their energy and emotions (Pepe et al., 2010). The researchers concluded that the work environment influences job satisfaction and an individual's identity (Pepe et al., 2010). Pepe et al. indicated that an individual's self-efficacy and culture play an intimately integral role in workplace behavior and possibly performance. This theory, combined with the analyzed data related to the research instruments provided answers to the relevant research questions and hypotheses of this study.

Literature Related to Key Variables and/or Concepts

Extensive research has been conducted among human service professionals in identifying contributing factors of STS (Bride & Kintzle, 2011; Cieslak et al., 2013, 2014; Molnar et al., 2017). However, only two sets of researchers were found who examined these variables among correctional officers. One is a prevalence study on the impact of trauma on correctional officers (Denhof & Spinaris, 2016) with 991 participants. The findings confirmed a strong association between work-related stress and PTSD (Denhof & Spinaris, 2016). In the second study, Thomas (2012) investigated the predictor factors that contributed to vicarious trauma VT or STS, reporting that 64% of respondents who described working in the correctional facility as extremely stressful, also endorsed more STS symptoms. STS is defined as emotional duress due to indirect exposure to explicit knowledge of a traumatic event, and symptoms experienced include persistent fatigue or illness, intrusive thoughts, re-experiencing of the traumatic event, hypervigilance, hyperarousal and nightmares (Bride & Kintzle, 2011; Cieslak et al., 2014). STS is now incorporated in a PTSD-related diagnosis in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM5; American Psychiatric Association, 2013). Despite similar terms, in the context of the current study, STS is used to describe indirect explicit exposure to trauma situations and incidents; this construct was measured using the Secondary Trauma Stress Scale (STSS; Bride & Kintzle, 2011; Bride, Robinson,Yegidis, & Figley, 2004). A full description of this scale is presented in a later section.

In a longitudinal study conducted in separate countries (United States and Poland) among health care professionals who provided support and/or healthcare services to a cross-section of individuals, the participants included military and non-military personnel who had survived indirect trauma (Shoji et al., 2015). The results of the study revealed a significant association between job burnout and STS in both groups (Shoji et al., 2015). Empirical evidence from research conducted on the exposure of indirect traumatization among human service professionals indicates a negative impact on job satisfaction, and increased mental health concerns such as chronic stress, job burnout (Cieslak et al., 2013, 2014), as well as STS symptomatology (Bride & Kintzle, 2011; Cieslak et al., 2013, 2014; Denhof & Spinaris, 2016; Shoji et al., 2015). Correctional officers play a critical role within the prison services (Misis et al., 2013), which increases the importance of this study.

Correctional Officers' Working Environment

The work environment at correctional facilities is consistently tense (Clemente et al., 2015), with a population considered as one of the most challenging and volatile in society (Lambert & Hogan, 2010; Mani, 2012; Misis et al., 2013; Valentine et al., 2012). Between 1993 and 1999, correctional officers reported experiencing repeated workplace violence, and 270,000 violent incidents within the prisons were recorded (Gordon et al., 2013; James, 2014). Various factors were noted as significant contributors to increased violence in prison facilities, and these included facilities that were overcrowded and understaffed. Disgruntled correctional officers blamed the decline of job performance

working conditions (Martin et al. 2012). These conditions also elevated the level of worry and safety concerns experienced by correctional officers for themselves and colleagues (Armstrong et al., 2015; Martin et al., 2012).

In working with a prison population, the rigors of vigilance are maintained daily as well as moment-by-moment basis, since the workplace challenges are continuous and sometimes present without warning (Lambert & Hogan, 2010; Misis et al., 2013). This same vigilance is also conducted when working with juveniles (Gould et al., 2013). Eighty-seven percent of the 208 correctional officers working in the juvenile correctional institutions and participated in the study conducted by Gould et al. (2013) reported experiencing high levels of stress as well as high levels of emotional exhaustion, and these positively correlated with high burnout scores. These findings have proven that working with juveniles in correctional institutions can be just as deleterious for correctional officers as working in adult correctional facilities (Armstrong et al., 2015; Clemente et al., 2015; Samak, 2003). These authors reported that 70% to 80% of study participants judged their job to be highly stressful. Research findings from a study conducted in other juvenile facilities, however, were in contrast with these findings (Wells et al., 2009).

The stress level reported by staff workers who worked at the juvenile facilities was within the moderate range (Wells et al., 2009). The juvenile facilities that Wells et al. conducted their study at were residential placement facilities and group homes, not prisons. In addition, the respondents were a cross-section of staff workers, such as youth

workers, counselors, educators/recreation, administrative, and supervisory staff. In contrast, Gould et al. (2013) conducted their studies at correctional centers and all the participants were correctional officers. The work environment and the work duties of the staff workers of these two studies are different, which would suggest that because the environmental conditions of both studies are quite different, the generalizability of the findings of these studies, with each other would not be applicable. Instead, the outcome data from both studies adds to the pool of researched literature on this topic.

The persistent conflicts among inmates permeates the prison environment, and creates an atmosphere of tension (Martin et al., 2012; Misis et al., 2013). Working in such an environment contributes to high levels of stress experienced by correctional officers and results in job burnout, deterioration of their general health (physiological and mental health), absenteeism, reduced job satisfaction, and work-family relational conflicts (Armstrong et al., 2015; Clemente et al., 2015; Valentine et al., 2012). With such knowledge, researchers have advocated for the implementation of personal safety and care programs for correctional officers as high priority, especially since high stress is an inherent part of the job of a correctional officer (Armstrong et al., 2015; Cheeseman & Downey, 2012; Clemente et al., 2015; Higgins et al., 2012).

Occupational stress and the high levels of stress experienced among human service professionals have become a concern among researchers in this field (Bride & Kintzle, 2011; Cieslak et al., 2014). The high levels of stress experienced have resulted in adverse disruption in occupation, family life, poor health, and symptoms indicating STS

(Branson et al., 2013; Bride & Kintzle, 2011; Cieslak et al., 2014; Thomas, 2012) or PTSD symptomatology (Denhof & Spinaris, 2016). Such impact has been translated in monetary terms, and reported to cost upward of 300 billion dollars per annum (Fink, 2010). Sixty-five percent of respondents stated that job stress significantly negatively affected their job performance (Martin et al., 2012).

Job performance extends beyond the physical execution of duties, because the level of job stress experienced plays a key role in this area (Law & Guo, 2015). As a result, seeking to understand the disruption in job performance is important due to the negative impact that occurs on both the organization and employee. For instance, organizations are burdened with increased budgetary costs, as discussed above (Fink, 2010). The primary factors that negatively impact job performance and the level of stress experienced by correctional officers include overcrowding in prison facilities, are individual safety concerns (Brough & Williams, 2007; Martin et al., 2012). Other factors were supervision, job roles and responsibilities (Clemente et al., 2015; Hardwick, 2012; Lambert & Hogan, 2010), length of service, gender (Denhof & Spinaris, 2016; Misis et al. 2013), lack of job satisfaction, job burnout, and poor coping mechanisms (Cheeseman & Downey, 2012; Gould et al., 2013; Law & Guo, 2015).

Prison Overcrowding and Safety Concerns

Previous scholars have noted that overcrowded prisons exacerbate the volatility of the prison population, and in turn, the general daily workplace challenges and safety concerns of correctional officers (Armstrong et al., 2015; Misis et al., 2013). Other safety

concerns by other authors, included a lack of supervisory or administrative support, and prolonged direct on duty contact hours with inmates, or when officers felt overwhelmed with the general demands of the job (Armstrong et al., 2015; Martin et al., 2012), as well as when inmates are perceived as unmanageable (Armstrong et al., 2015; Martin et al., 2012).

The matter of over populated prisons was also a concern of the heads of the prisons services of the small Western Caribbean island where this study was conducted (Hardwick, 2012). A chief inspector of prisons reported that conditions within these prisons were decrepit, were housing over 200 inmates, while being built to accommodate occupancy of 165 male prisoners (Hardwick, 2012). Despite the empirical evidence presented that overcrowded prisons negatively impact the job performance of correctional officers (Armstrong et al., 2015; Misis et al., 2013), Gaes (1994, as cited in Martin et al., 2012) and Reisig (1998, as cited in Martin et al., 2012) refuted such a claim, asserting that work performance was an indication of poor or incompetent management, and/or poor officer training skills to cope with large groups (Reisig, 1998, as cited in Martin et al., 2012).

A correctional officer's perception of an inmate influenced the level of job stressed experienced. Misis et al. highlighted the pivotal role that correctional officers play in the prison system, and researched the impact of correctional officers' perception of inmates on job stress and examined the correlation between the level of stress experienced by correctional officers and their perceptions of inmates. The main objective

of the study was to investigate the relative impact of attitudes toward inmates on job stress among correctional officers. The analysis of the findings of the study, with 501 participants, revealed that officers who saw inmates as manageable experienced lower levels of stress than those who felt inmates were not readily manageable (Misis et al., 2013). If correctional officers perceived an inmate as devious, or there was concern with being assaulted and manipulated, the behavior of the inmate was perceived as a stressor (Martin et al. 2012; Misis et al., 2013). When correctional officers perceived inmates as amiable, it was positively associated with job stress (Law & Guo, 2015; Misis et al., 2013).

Additional findings could be perceived as contradictory to the previous results presented. Correctional officers who described inmates as friendly and sociable experienced conflicting emotions and presented with higher levels of stress (Misis et al., 2013). The explanation provided by Misis et al. for these seemingly contradictory findings was that if the correctional officer's positive perception of inmates differed from that of colleagues and/or supervisors, it could create stress and alienation. The researchers speculated that this alienation could have resulted from an internal conflict experienced by the correctional officer, based on his or her personal perception of the situation. These results confirmed their hypotheses, and suggested further studies in this area was necessary in order to determine whether other predictive variables would result in stress experienced by correctional officers (Misis et al., 2013).

The personal perception of the situation has also negatively impacted the psychological well-being of other human service professionals. Probation officers (Lewis, Lewis, & Garby, 2013) and social workers (Bride & Kintzle, 2011) who work with criminal offenders and victims often report negative psychological experiences (Bride & Kintzle, 2011; Lewis et al., 2013). According to Lewis et al., the horrendous acts effected probation officers resulting in traumatic stress symptoms indicating secondary PTSD. The findings of this study compared with the findings of other researchers (Bride & Kintzle, 2011) who studied other human service professionals whose work involved exposure to chronic stress and traumatic incidents. These researchers found that workers who were exposed to even a single episode, directly or indirectly of chronic stress or a traumatic incident could result in experiencing physiological and/or psychological distress, such as hypervigilance (Bride & Kintzle, 2011; Lewis et al., 2013).

Job Supervision, Role, and Responsibilities

Summerlin et al. (2010) identified organizational and resource factors as primary stressors among correctional officers. Such factors include an inconsistent and unsupportive leadership style, as well as a lack of adequate equipment and human personnel. Summerlin et al. (2010) stated that 73.3% of the respondents reported that these factors were primary contributors to their high levels of work-related stress.

A significant national study on correctional officers was conducted by Samak (2003), and the study aimed to examine the correlation between working conditions of

correctional officers and their health, safety, and general well-being. The sample size was 2,432 correctional officers (579 females and 1655 males), working in prisons at all security levels. Seventy to 80% of the participants described their job as "stressful" or "very stressful," and responses were comparable among genders. Samak noted that neither job tenure nor supervising fewer inmates necessarily translated to stress reduction. The findings from the study revealed that 34% of correctional officers with over 15 years of service described their work as "very stressful," in contrast to 14% of those who had less than 2 years of service. These results suggested that the stress level experienced by correctional officers might increase with years of service. There was a contrast of results since the findings also indicated that among officers (1,343) who worked in prison facilitates that housed 300 or higher inmates, 10% of the officers described their job as "not very stressful." These results held true for the response of officers (161) who worked in prison facilities that housed less than 100 inmates, as 25.5% also described their jobs as not being very stressful (Samak, 2003).

The results of the study indicated varying levels of stress experienced by correctional officers, and the differences were apparent based on correctional institutions and regions of the country (Samak, 2003). For instance, approximately 90% of the correctional officers working in the Atlantic and Ontario regions reported higher levels of work-related stress as compared to correctional officers working in Pacific regions, when 26% of the officers there reported that their work was "not very stressful" (Samak, 2003). A similar trend across the regions where the percentage gap narrowed for those who

reported that the job was stressful, and widened for those who reported that the on the job stress level was very stressful (Samak, 2003). These findings were similar to those of studies conducted in juvenile facilities (Gould et al., 2013; Wells et al., 2009).

Samak (2003) concluded that professions that were more visible to the public, such as military personnel in combat, emergency medical staff, and law enforcement officers received empathy of the public, due to the high level of stress these personnel undergo. However, correctional officers who work in environments of permanent levels of high stress tend to receive little notice. At that time Samak purported that this was a growing concern, yet the topic continues to receive less attention in the research literature. Other researchers have since reported similar findings (Clemente et al., 2015; Denhof & Spinaris, 2016).

Length of Service and Gender

Length of service for correctional officers has proven to be strongly associated with physical and mental ill health, and psychosocial problems (Clemente et al., 2015; Denhof & Spinaris, 2016; Samak, 2003). Denhof and Spinaris (2014) conducted a prevalence study among correctional officers working at state prisons in the state of Michigan in the United States. The findings of their survey revealed that officers with 10 or higher years of service reported high levels of stress experienced and increased vulnerability to mental health problems. These findings aligned with the findings of other researchers (Clemente et al. 2015; Samak, 2003). The mental health problems experienced by these same respondents included positive depressive and anxiety

symptoms and increased risk of suicide (Denhof and Spinaris, 2015). Additionally, a high percentage (60%-65%) of correctional officers of both genders reported that the stress from the job negatively affected their lives outside of work, such as disruption with family relationships, and significantly and inexorably increased over years of service (Samak, 2003). The findings of Clemente et al. (2015) were comparable with these findings, and these authors posited that high occupational stress created disharmony within the family unit.

The debate as to whether gender is an influencing factor regarding the level of stress experienced by the correctional officer continues, as research findings vary on this topic (Gould et al., 2013; Misis et al., 2013; Morgan et al., 2002). Some research findings indicate no gender difference in the level of workplace stress experienced (Armstrong et al., 2015; Morgan et al., 2002), while other researchers with similar populations have presented findings to the contrary (Misis et al. 2013; Cheeseman & Downey, 2012). For instance, the study conducted by Misis et al. (2013) with 501 participants, 66% males (68% white, 20% Blacks, and 11% others), and Cheeseman and Downey (2012) with 471 participants, 66.7% males (67.1% white, 20.8% Black), had comparable findings that indicated that gender significantly correlated with job stress. However, Cheeseman and Downey (2012) identified women as being more likely to experience a greater level of work-related stress over their male counterparts. These findings were in contrast to the research findings of other researchers (Denhof & Spinaris, 2016; Gould et al., 2013).

Denhof and Spinaris (2016) with 81% male participation in a prevalence study (84% were white), posited that men correctional officers were found to be at high risk of developing mental health illness, such as PTSD and depression, and at increased risk of suicide (estimated 4.6%). The level of risk increased with the security level of the prison (Denhof & Spinaris, 2016). An explanation of these findings (Denhof & Spinaris, 2016) can be provided from the findings of research conducted by Gould et al. (2013), who examined gender differences in coping styles. The authors concluded from the findings of the study that male officers were at higher risk of experiencing job stress and job burnout due to taking a depersonalization approach in order to cope with daily work-related stressors, and female officers presented at reduced risk, because their coping style was predominantly problem-solving or emotion-focused (Gould et al., 2013). Additionally, the results indicated a significant correlation between high levels of work-related stress experienced and depersonalization coping style (Gould et al. (2013). Misis et al. (2013) recommended further research on the relationship between stress and coping styles among correctional officers.

Bride and Kintzle (2011) evaluated the level of STS among mental healthcare professionals, with 59% female participation; the results indicated no significant differences between genders. The authors raised concerns that 56% of the participants reported experiencing symptoms of secondary PTSD; as such, they highly recommended that researchers pay close attention to the overall research findings, not merely the statistically significant results (Bride & Kintzle, 2011).

Job Dissatisfaction, Job Burnout, and Poor Coping Mechanisms

Another factor that was critical to job performance among correctional officers was the posture by which correctional officers presented themselves to inmates (Denhof & Spinaris, 2016). Correctional officers tend to present themselves with a demeanor of bravery, a display of restrictive emotionality (Tracy, 2004). Signs of vulnerability can be perceived as a sign of a weakness within the correctional services environment (Samak, 2003; Thomas, 2012). For correctional officers the outward appearance of bravery plays a critical role in working with inmates, so facial expression present with restricted emotions (Denhof & Spinaris, 2016; Thomas, 2012). According to Gordon et al. (2013), officers are adept at covering the signs of vulnerability, even from those closest to them.

Undetected occupational stress that remains undetected and untreated (Gordon et al., 2013; Setti & Argentero, 2012) could also be a contributing factor to the negative interpersonal interaction with intimate partners (Valentine et al., 2012). Levant et al. (2015) investigated the correlation between restrictive emotionality and alexithymia, and concluded "emotional control mediated the positive relationship between restrictive emotionality and alexithymia" (p. 459). Restrictive emotionality, like job stress, is an inherent part of the job experience for correctional officers (Lambert & Hogan, 2010). Nonetheless, no studies were found on correctional officers that included alexithymia as a construct. Researchers advocated for future research to determine factors that interact with job-related emotional experiences on correctional officer's general well-being, since

literature to this effect is limited (Denhof & Spinaris, 2016; Misis et al., 2013; Thomas, 2012).

Other Human Service Professionals and Impact of Work-Related Stress

The extensive research that has been conducted on stress-related topics among human service professionals has proven that exposure to traumatization, directly or indirectly, can result in adverse consequences, such as poor physical and mental health, elevated levels of fatigue, cardiovascular disease, weakened immune systems, as well as STS symptoms (Bride & Kintzle, 2011). The range of human service professionals who worked with victims or colleagues, exposed to trauma, incorporated a broad range of human service occupations (Bride & Kintzle, 2011; Cieslak et al., 2014). These professions include therapists, nurses, mental health professionals, social workers (Bride & Kintzle, 2011; Cieslak et al., 2014) emergency service personnel, forensic specialists, child health care providers, rescue workers (Cieslak et al., 2014; Prati et al., 2010; Setti & Argentero, 2012), and law enforcement and correctional officers (Summerlin et al., 2010).

Bride and Kintzle (2011) conducted a study with substance abuse counselors, and examined STS in relation to job satisfaction and turnover intention, and from his findings he concluded that participants who reported higher levels of STS also experienced a lower level of job satisfaction and job commitment (Bride & Kintzle, 2011). Other researchers had comparable findings (Cieslak et al., 2013, 2014; Shoji et al., 2015). Setti and Argentero (2012) argued that firefighters and ambulance operators were at the

highest risk for developing psychological distress; professionals frequently exposed to people who were suffering were at the highest risk of vicarious traumatization. Other researchers, who studied human service professionals exposed to trauma, presented findings to the contrary, suggesting that the occupation of essential services carried out by a broad cross section of human service professionals are all considered at equally high risk of developing psychological stress due to frequent exposure of traumatic situations (Bride & Kintzle, 2011; Molnar et al., 2017).

These occupations included law enforcement officers, therapists who work with the traumatized population, mental health professionals, general healthcare professionals, social workers (Bride & Kintzle, 2011; Cieslak et al., 2014; Shoji et al., 2015), rescue workers (Prati et al., 2010; Setti & Argentero, 2012), nurses, forensics (Cieslak et al., 2014), and correctional officers (Lambert & Hogan, 2010; Schlosser, 2010). It was also noted that human professionals who were negatively impacted by traumatic situations did not have to have direct exposure to traumatic material; the explicit reports of the content by colleagues who had witnessed violent or horrific events increased the risk of them being negatively impacted psychologically (Bride & Kintzle, 2011; Cieslak et al., 2014; Figley, 1995). Bride and Kintzle (2011) reported that 48% of human service professionals who worked with traumatized populations presented with STS symptomatology, and 56% substance abuse therapists presented with PTSD.

Impact of Indirect Traumatization Exposure

A quantitative meta-analysis cross-cultural study of 41 studies conducted in various countries, including North America, Israel, Italy, Australia, and the Netherlands included 8,256 mental health professionals (Cieslak et al., 2014). The authors reported that the constructs used in the study shared as much as 48% of the variance. Cieslak et al. suggested that it was critical to identify the impact indirect exposure to traumatization has on individuals working in various jobs, and exposed to indirect traumatization. Their findings revealed that mental health care providers were more likely to be exposed to higher levels of secondary (indirect) trauma, as such, the exposure affected their general well-being and quality of life. This in turn resulted in them being less effective with their patients, as they carried out their jobs. Cieslak et al. purported a positive correlation between STS and job burnout among these professionals who worked with traumatized victims (Cieslak et al., 2014). Cieslak et al. and Molnar et al. (2017) pointed out that further research to examine moderating effects of the type of occupation (as an indicator to the exposure to trauma indicator), and work-related trauma exposure, was critical.

The findings of Cieslak et al. (2014) were similar to those of Figley (1995), despite the 19-year difference in the studies. Cieslak et al. (2014) and Figley (1995) both purported that individuals who shared the same risk factors were at increased risk for developing symptoms resulting in a diagnosis of: compassion fatigue, vicarious trauma, STS or PTSD. These results are in keeping with the results of other researchers (Bride &

Kintzle, 2011; Lambert & Hogan, 2010), as Bride and Kintzle (2011) stated that 56% of substance abuse therapists in their study were diagnosed with symptoms of PTSD.

The researched evidence clearly indicates that indirect traumatization among human service professionals is an occupational risk due to the deleterious physical, mental and emotional affect it can have on the workers. High levels of distress experienced by correctional officers contributed to a number of physical and mental health problems, such as emotional exhaustion and/or burnout, and this placed the workers at high risk for developing STS or PTSD (Denhof & Spinaris, 2016; Gould et al., 2013; Morgan et al., 2002). As such, research that uncovers the impact of work-related stressors is important, since the shared findings can be beneficial to both the HMP services employees as well as the organization. The positive outcome could translate in reduction of the organization's operating cost (Gould et al., 2013), as well as the reduction in the disruption of family life (Valentine et al., 2012).

Alexithymia. Alexithymia is a term first coined by Sifneos and Nemiah in 1972 (Sifneos, 1996; Taylor et al., 2016). Sifneos and Nemiah were interested in understanding why participants of a study, diagnosed with psychosomatic disorders, suppressed, repressed and/or denied their affect. After examining the thought content and emotion expressions of the participants, the researchers concluded that the majority showed marked deficit in affect expression and the absence of fantasies. These researchers coined the term *alexithymia* to define the deficit of affect that was identified in these participants (Sifneos, 1996; Taylor et al., 2016). A literal translation of the term alexithymia means

"without words for feelings." This suggests a disturbance in affective and cognitive functioning. It may also equate with a deficit in emotional regulation (Sifneos, 1996).

According to Sifneos (1996), alexithymia is a cognitive deficit experienced by individuals who have difficulties in identifying and/or appropriately elaborate his or her own emotional experiences. Bagby et al. (1994) designed a measure to evaluate alexithymia, the TAS-20. This instrument has three different subscales with the view of identifying various components of emotional deficits (Bagby et al., 1994). One component described as the difficulty identifying feelings (DIF); distinguishing emotions from somatoform symptoms (Bagby et al., 1994). The second component measures difficulty-describing feelings (DDF) to others, and the third component measures an externally oriented style of thinking (EOT) (Bagby et al., 1994; Levant et al., 2015). The third component evaluates if there is a preoccupation with external stimuli, rather than evaluating the cognitive content associated with affect (Levant et al. 2009).

Researchers who have conducted studies on the phenomena of alexithymia (Bagby, Taylor, & Parker, 2006; Levant et al., 2015; Leweke et al., 2012; Sifneos, 1996; Taylor et al., 2016; Tolmunen et al., 2011; Vandermeer, 2014) have defined it in various ways. Some have presented it as a means of subscribing to the traditional masculinity ideology of restrictive emotionality (Levant et al., 2015), while others have regarded it as a personality trait (Tolmunen et al., 2011). Levant et al. (2015) posited that alexithymia is a personality trait, noting that the trait exists within a notable portion of the general population, and is more prevalent among men than among women (Levant et al., 2009).

Based on the scope of the current study, the aim was not to prove or deny the accuracy of these findings.

Through restrictive emotionality, correctional officers present an outward appearance of bravery (Morgan et al., 2002; Tracy, 2004) in order to ward off intimidation from inmates (Morgan et al., 2002; Samak, 2003; Thomas, 2012; Tracy, 2004). They are adept at covering up signs of vulnerability, even from those closest to them. The resulting concern is that undetected occupational stress invariably remains untreated (Armstrong et al., 2015; Gordon et al., 2013; Thomas, 2012).

In the study of Levant et al. (2015) on 723 male participants, the researchers examined the likelihood of a generalization to alexithymia traits using a sample from a wide cross-section of races and cultures, with ages ranging between 18 and 72 years old. The participants, all males, recruited from the Internet, consisted of a combination of men attending college (58.2%) and from the general community (41.8%). The sample consisted of 130 (18.0%) Black Americans, 160 (22.1%) Latino Americans, 146 Asian Americans (20.2%), and 288 (39.8%) White Americans. The researchers sought to investigate whether "a traditional masculine ideology of restrictive emotionality, and alexithymia, by conformity to the masculine norm of emotional control and race" (Levant et al., p. 465). They concluded from their findings that a significant endorsement of restrictive emotionality positively related to emotional control, as well as with higher levels of alexithymia (Levant et al., 2015).

A longitudinal study with 4- and 11-year follow-up studies was conducted by Tolmunen et al. (2011) in order to determine whether alexithymia could be absolutely or relatively stable. The study was conducted on 755 male participants who completed a pre and post assessment, measured by the TAS-20. The findings of this study revealed that alexithymia represents a stable personality trait (Tolmunen et al., 2011). Other studies conducted using this construct yielded comparable results, and the authors presented similar conclusions (Leweke et al., 2012; Tolmunen et al., 2011). Tolmunen et al. concluded from their findings that high scores on the assessment results indicated the presence of alexithymia, both absolute and relative stabilities, among the general participant sample. The researchers also added that a diagnosis of high-alexithymia was associated with increased vulnerability towards developing poor mental health, primarily psychosomatic and depressive symptoms (Sifneos, 1996; Tolmunen et al., 2011).

Alexithymia is associated with a deficit of affect (Tolmunen et al., 2011; Vandermeer, 2014). Vandermeer examined the correlation between alexithymia and STS, aiming to determine the association of the two constructs by measuring for traits of alexithymia and symptoms of STS among college students who were entering human service profession occupations in education and psychotherapy. Vandermeer conducted a pre and post evaluation of participants, and the findings of his data analysis supported a significant correlation between alexithymia and STS (Vandermeer, 2014). Vandermeer concluded that these professionals were at high risk of developing STS, and suggested further research on alexithymia and psychological variables (Leweke et al., 2012).

Vandermeer (2014) also posited that this was the first study conducted with these combined variables. Although the results of the study supported that alexithymia presented as a predictor of STS, the small sample size was a limitation; post-testing resulted in an attrition rate of 41%. These findings revealed that generalizability of the results was not possible, nor could the outcome answer categorically whether alexithymia preferentially predicts specific symptom clusters of STS (Vandermeer, 2014). As such, Vandermeer recommended further research in this area, with the aim of clarifying an association between STS and predictor variables.

Job self-efficacy. Job self-efficacy, defined in its broadest sense, is a person's perception of his or her capability of mastering a work-related task or situation, with a focus on situation-specific tasks (Law & Guo, 2015; Pepe et al., 2010; Schönfeld et al., 2015). Bandura (2001) defined self-efficacy as an individual's belief in his or her capability to perform or accomplish a specific task and successfully cope with stressful events at a designated level within an environment. In addition, Bandura posited that job self-efficacy also acts as a buffer between perceived stressful encounters by an individual and his or her quality of life. Those who believed that their accomplishments were routine and insignificant tended to experience increased elevated levels of stress (Law & Guo, 2015; Pepe et al., 2010).

Law and Guo (2015) found that job self-efficacy plays a vital role in individuals being able to manage daily stressors in their personal and professional responsibilities effectively. As correctional officers work in a highly stressful environment, with violent

and hostile individuals, being effective on the job is essential, and a high level of job-self efficacy significantly correlated to reduced job stress in correctional officers. According to Law and Guo, correctional officers who believed that they were accomplishing something beneficial with those they worked with, were less likely to experience job-related stress; however, the inverse also proved to be true.

Law and Guo's (2015) quantitative study among 133 correctional officers working in the Taiwan prison system examined organizational commitment, hope, and self-efficacy as predictor factors for job satisfaction and job stress. In the context of this study, self-efficacy referred to the completion of situation-specific goals, and organizational commitment was significantly related to self-efficacy and job satisfaction (Law & Guo, 2015). The research conducted by Law and Guo provided additional statistical evidence to confirm that within the correctional profession, the effects of job satisfaction and job stress are significant to organizational commitment. They also argued that self-efficacy, which is a potentially significant domain in this field, is under researched (Law & Guo, 2015).

Chronic stress proved to be a predictor variable of poor mental health. A higher perception of self-efficacy, however, was significantly associated with lower adverse mental health, as well as reduced stress (Wells et al., 2009). The findings of Schönfeld et al. (2015) concurred with these results. These researchers examined general mental health and construct that presented as protective factors using a cross-cultural research design approach in order to incorporate a transcultural sample. They reported that self-efficacy

mitigates the impact stressors pose to mental health, primarily against the harmful effects participants experienced with stress (Schönfeld et al., 2015). As a result, Schönfeld et al. postulated that job self-efficacy plays a significant role in positive mental health.

Prati et al. (2010) investigated mitigating factors of stress among rescue workers using a quantitative design approach. They examined the workers' quality of life, impact of self-efficacy, and stress appraisal (Prati et al., 2010). The results of the study were comparable to the results of other research findings as mitigating factors of stress among rescue workers investigated using a quantitative design approach (Schönfeld et al., 2015). Prati et al. concluded that stress appraisal was only significantly associated with the quality of life of the professional rescue workers who scored low in self-efficacy. These results, however, did not hold true for rescue workers who scored high in self-efficacy. As such, the results of the study support the notion that self-efficacy plays a role in the prevention of poor mental health (Prati et al., 2010). The results of this study showed that those with high self-efficacy were less affected by high stress conditions, in contrast with those who presented with low self-efficacy (Prati et al., 2010). These findings are in keeping with the underlying premise of SCT.

As discussed, low job self-efficacy in human service occupations such as social workers, counselors, clinical psychologists (Cieslak et al., 2013), as well as general health care workers (Shoji et al., 2015) places these professionals at higher risk of STS. A more significant percentage of female over male workers present with higher levels of occupational stress (Cieslak et al., 2014). Although no studies with the combined

constructs of job-self efficacy and STS among correctional officers was found, the findings of other studies focused on human service professionals in general provided evidence of a significant association between elevated levels of stress and STS (Bride & Kintzle, 2011; Cieslak et al., 2013, 2014). Encountering workplace danger has been noted as an inherent part of the job of correctional officer (Hartley, Davila, Marquart, & Mullings, 2013), placing these workers at an increased risk for developing stress-related ailments, including mental illnesses (Clemente et al., 2015).

Job self-efficacy or restrictive emotionality serves as a safeguarding mechanism among correctional officers when faced with threatening situations that have the potential to result in serious harm to the officer and/or his or her colleagues (Law & Guo, 2015; Samak, 2003; Tracy, 2004). Although job self-efficacy and restrictive emotionality are helpful in developing job confidence (Levant et al., 2015) and effective in improving job performance (Law & Guo, 2015; Wells et al., 2009), the inverse is also true (Law & Guo, 2015; Well et al., 2009). As presented, these constructs are negatively correlated to job stress experienced among correctional officers (Gordon et al., 2013; Misis et al., 2013).

Secondary traumatic stress. STS is the negative psychological impact that an individual experiences within the work environment, due to indirect exposure to a traumatic event or situation (stressor) (Shoji et al., 2015). The symptoms of traumatic stress are no longer restricted to primary victims of critical incidents, but also apply to those who have explicit knowledge of the traumatic event. The knowledge includes hearing about and/or seeing the incident (Setti & Argentero, 2012). Researchers who have investigated the relationship between job self-efficacy and alexithymia as predictor variables of STS among human service professionals confirmed that alexithymia (Levant et al., 2015; Vandeermer, 2014) and job self-efficacy (Cieslak et al., 2013) were predictor factors that significantly impacted STS (Cieslak et al., 2013; Vandeermer, 2014). Such researchers recommended for further studies on these and other factors that could present as risk factors of, or provide some resilience to STS (Cieslak et al., 2013; Levant et al., 2015). Setti and Argentero (2012) argued that the diagnosis of STS disorder represents symptoms such as re-experiencing, avoidance, hypervigilance, and hyperarousal. These symptoms are also similar to or representative of PTSD, so the factor that distinguishes STS from PTSD must be noted—namely, the inclusion of indirect exposure characterizes STS (Shoji et al., 2015).

Despite the research conducted among human service professionals, there is limited research on correctional officers and STS (Valentine et al., 2012). No studies investigating a combination of the constructs: both job self-efficacy and alexithymia as predictor variables of STS in correctional officers were found. There is an absence of

research regarding the combined constructs of job self-efficacy and alexithymia as predictors of the STS among correctional officers, specifically of correctional officers working at HMPS in the Caribbean. Although research findings have supported that alexithymia predicts STS, the results could not be generalized to other professions, nor could the researchers conclude that alexithymia preferentially predicts specific symptom clusters of STS (Vandermeer, 2014).

Cieslak et al. (2014) argued that further studies are needed to investigate self-efficacy as a possible variable to explain the risk or resilience of STS. There is limited research on correctional officers and the negative impact of work-related stress (Kinman, Clements, & Hart, 2016), and more explicitly predicting variables of STS (Valentine et al., 2012). Researchers recommended further research be done on correctional officers, suggesting that it was an understudied area, especially in relation to job risks, the management of work-related well-being, and mental health issues (Gordon et al., 2013; Kinman et al., 2016; Valentine et al., 2012). According to Vandermeer (2014), there is a need for additional research on the correlation between alexithymia and STS.

Studies Related to Research Questions

Studies on the effects of exposure to secondary traumatic events on human service professionals are limited (Molnar et al., 2017), and more specifically on correctional officers, since only two studies on this topic were found (Denhof & Spinaris, 2016; Thomas, 2012). It is still an understudied topic, although human service professionals have been adversely affected by mental health problems such as STS (Cieslak et al.,

2014) and PTSD (Denhof & Spinaris, 2016), due to the exposure of secondary trauma (Bride & Kintzle, 2011; Denhof & Spinaris, 2016; Cieslak et al., 2014; Molnar et al., 2017). Researchers argued that studies investigating risk and protective factors such as job self-efficacy (Law & Guo, 2015) and alexithymia (Vandermeer, 2014) against the negative impact of stress on human service professionals are lacking (Law & Guo, 2015; Tracy, 2004). Law and Guo (2015) argued that self-efficacy, which is potentially a significant domain in the field of correctional services, is an under researched area.

Based on the significant findings of this study, should the relevant stakeholders of HMPS facilitate the implementation of the recommendations provided based on the findings of this study, the results could motivate correctional officers toward positive social change. The recommendations include providing job-training opportunities for correctional officers who could benefit from additional skills training programs, specifically related to his or her job description, in order for them to be more effective in working with inmates. The suggestions also include facilitating self-care training programs that will aid in the reduction of stress-related illnesses and work absenteeism (Cieslak et al., 2014; Clemente et al., 2015).

Summary and Conclusion

Researchers have previously identified the psychological impacts experienced by a broad range of human service employees caused by direct or indirect exposure to traumatic events. Such experiences result in high levels of stress, and even STS symptomatology. Notwithstanding this, some human service professionals were not

negatively impacted this way, individual variables were attributed to this, and these factors included job self-efficacy and alexithymia. Correctional officers were included among human professionals in studies on job self-efficacy, but no studies with correctional officers, STS, and alexithymia traits were found. Correctional officers—females more so than males—are at high risk of developing stress-related illnesses. Those who perceived their work environment as negative found their work tasks more unmanageable. The appearance of restrictive emotionality of correctional officers may be a result of alexithymia traits.

There is an absence of research regarding the combined constructs of job self-efficacy and alexithymia as predictors of STS among correctional officers. Taking these gaps in research into consideration, my intention by performing this quantitative research study was to examine the interaction with job self-efficacy and alexithymia on STS. The theories of SCT (Bandura, 2001) and constructivism (McCann & Pearlman, 1990) provided a framework to explain the outcome of the generated research questions and hypotheses for this study. In Chapter 3, I provide an explanation for the research methodology and design, the rationale to support this design, the research questions and hypotheses, the population and sampling strategy, information on instruments that were used in the study, as well as the data collection and analysis procedures.

Chapter 3: Research Method

Introduction

The purpose of this quantitative research study was to investigate the strength of the relationship between the perception of job self-efficacy and alexithymia traits on STS among correctional officers employed by HMPS on a Western Caribbean island. I also evaluated gender and years of tenure to determine whether these variables were influencing factors. The aim of the study was to determine the impact of negative environmental factors among participants on job self-efficacy and alexithymia traits. I also wanted to determine whether the independent variables of job self-efficacy and alexithymia were predictor factors of STS.

In Chapter 2, I provided an overview of the study of secondary trauma and the preventative effect of several factors, including job self-efficacy and alexithymia traits, on STS development among human service professionals. Responses to the research questions provided information regarding the impact job-self efficacy and alexithymia traits have on secondary exposure to traumatization among research participants. This chapter includes a description of the research design along with the rationale used to support the choice of design. The characteristics of the participants, the sample size, the instrumentation, the data collection and analysis procedures, and the threats to the study's external and internal validity are also discussed. Additionally, I describe the ethical guidelines used for the data collection procedure, as approved by Walden University's IRB. The predictor or independent variables for the study were correctional officers' self-

reported levels of alexithymia and job self-efficacy. The criterion or dependent variable was the STS that the officers had experienced.

Research Design and Rationale

The aim of this study was to examine the relationship between the independent variables and the criterion variable. The independent variables were job self-efficacy and alexithymia, and the CV was STS among correctional officers employed by HMPS. I evaluated two covariates—gender and years of tenure--to determine whether these variables were influencing factors. The general demographic information regarding participants came from the demographic section of the online survey.

Alexithymia

According to Sifneos (1996), alexithymia is a cognitive deficit experienced by individuals who have difficulties in appropriately identifying and/or elaborating on their own emotional experience. The TAS-20 (Bagby et al., 1994) was the instrument used in this study to measure alexithymia traits. Leweke et al. (2012) identified a strong association between alexithymia and mental illnesses such as depressive- and anxiety-related symptoms, and from their sample pool of over 1,000 mental health outpatient participants, individuals with high alexithymia associated with higher vulnerability for mental health problems (Leweke et al., 2012).

Alexithymia traits identified as a factor that mitigated against the risk of individuals experiencing the deleterious effects of high levels of stress (Levant et al., 2015), and were strongly associated with STS symptoms (Vandermeer, 2014). As the

researcher elaborated earlier in the paper, the identified studies provided evidence indicating that job self-efficacy (Schönfeld et al., 2015) and alexithymia traits (Leweke et al., 2012) were predictive variables, contributing to both protective (resilience) and risk factors of mental illness (Leweke et al., 2012; Schönfeld et al., 2015; Vandermeer, 2014).

Through restrictive emotionality, correctional officers present an outward appearance of bravery in order to ward off intimidation from inmates (Morgan et al., 2002; Tracy, 2004). Correctional officers are adept at covering up signs of vulnerability, even from those closest to them. The resulting concern is that undetected occupational stress invariably remains untreated (Armstrong et al., 2015; Thomas, 2012). These are reasons why studies on this topic are important.

Job Self-Efficacy

The term *job self-efficacy*, in the context of this study, describes an individual's confidence in his or her capability to perform a designated task or tasks (Bandura, 2001). According to Bandura, an individual's self-efficacy determines how he or she thinks and feels and provides motivation to perform an action or behavior. Bandura posited that his research findings provided clear evidence of a relationship between self-efficacy beliefs and work success. Self-efficacy is a significant predictor of job stress among a varied cross-section of human service professionals who work with trauma victims and who experience chronic stress. Chronic stress has been identified as a predictor of mental health conditions (Shoji et al., 2015). Research findings have shown that the existence of a direct positive correlation between a higher perceptions of self-efficacy, results in better

mental health, and reduced stress levels (Schönfeld et al., 2015; Wells et al., 2009). Job self-efficacy is described by Bandura (2001) as the energy that keeps an individual motivated to perform a task. If this is the case, then organizations would only benefit from employees who display job self-efficacy, so companies should have policies and sponsor programs that provide employees the opportunity to increase his or her job skills should be included in company policy.

Secondary Traumatic Stress

STS is defined as the emotional duress that results when an individual is aware of the firsthand trauma experienced by another person (Cieslak et al., 2014). The symptoms mimic those of PTSD (Cieslak et al., 2014). One of the distinctions of STS is that the symptoms are present in individuals who have not been the primary witnesses of a critical incident, but who have received explicit knowledge of the traumatic event itself, and have been psychologically affected by the information (Setti & Argentero, 2012). The negative impact of job incidents has resulted in adverse consequences for correctional officers, such as poor health and adverse disruption in occupation and family life (Armstrong et al., 2015). In another study, human service professionals who have had indirect exposure to trauma presented with an increased risk of developing STS symptoms, including increased, persistent fatigue or illness, reduced productivity, feelings of hopelessness or despair, and social withdrawal (Cieslak et al., 2014). The individual may also reexperience the traumatic events and intrusive thoughts, hypervigilance, hyperarousal, and nightmares (Bride & Kintzle, 2011; Cieslak et al., 2014; Setti & Argentero, 2012).

Although previous scholars have explored the variables that resulted in high work-related stress among correctional officers (Finney et al., 2013; Gould et al., 2013), they have not conducted a study on STS, according to my review of the literature.

Research Design

I conducted this study using a quantitative research approach, a cross-sectional survey design, and a convenience sampling strategy. A nonprobability sampling strategy has been found to be effective with small populations (Frankfort-Nachmias & Nachmias, 2008), which was the case for the target population employed by HMPS. This method allows for greater flexibility, making it easier for the organization of schedules for when participants are most available and accessible (Misis et al., 2013). I used three established, objective self-report instruments. The scores from the various instruments provided each participant's perceived level of job self-efficacy (as measured by the WSES) and alexithymia (as measured by the TAS-20), as well as the individual participant's reaction to indirect exposure to traumatic situations and STS (as measured by the STSS).

The analyzed data from these instruments yielded insight on the association between the predictor variables and the criterion variable. I used a correlational approach to examine the extent to which variations in perception of job self-efficacy and alexithymia, as well as gender and years of tenure corresponded with STS between participants. The data collection strategy used in this study allowed participants to

retrospectively report his or her perception of job self-efficacy, alexithymia, and experiences with indirect exposure to traumatic situations.

The findings from this quantitative study contribute to the body of literature on job stress among human service professionals. Researchers have found that job stress places workers at increased risk of developing symptoms of STS and PTSD (Bride & Kintzle, 2011; Cieslak et al. 2014; Denhof & Spinaris, 2016; Prati et al., 2010). Valentine et al. (2012) also used a survey approach in conducting their study; they found that indirect exposure to traumatic situations is an inherent part of the occupation of correctional officers. The findings from other research indicate that if indirect trauma is left untreated it could develop into STS (Misis et al. 2013) and this is elaborated on in the literature review in Chapter 2. The literature review also includes extensive research findings on STS among human service professionals (Cieslak et al., 2014); however, the majority of these studies excluded correctional officers. Correctional officers may benefit from evidence-based data relevant to their role and work environment; as such, information should be available to key stakeholders who oversee the role and responsibilities of correctional officers.

Methodology

Participants

The participants of this study comprised of both male and female correctional officers employed by HMPS. In the context of this study, the term *correctional officer* refers to both male and female human service professionals who monitor the movements

and behavior of inmates within the prison system (Misis et al., 2013). I used the convenience sampling approach to recruit participants due to the small population. I obtained permission to conduct the study within the prisons. An invitation was then distributed by prison personnel to all correctional officers with the hope that all would participate in the online survey, in order to gain a robust enough sample size for the study. The survey included questions from three survey instruments: STSS, TAS-20, and WSES.

Sample and Sampling Procedure

The sampling strategy and design incorporated a between-participants approach (Frankfort-Nachmias & Nachmias, 2008). Before the commencement of the data collection period, additional correctional officers of both genders were employed by HMPS, thereby increasing the number of correctional officers from 120 to 139. At the early stages of developing this dissertation, approximately 90 correctional officers (males and females) were employed by HMPS. In calculating the absolute minimum sample size needed for a valid study, two different methods of calculations were used: Thompson's (2007) and Faul, Erdfelder, Lang, and Buchner's (2007) G*Power analysis calculator. Using the both methods provided a more unambiguous indication of what the sample size should be. Thompson (2007) suggested that in order to meet an absolute minimum number of participants required for a valid study, at least 10 to 15 participants for each observed variable are required. There were five observed variables in the current study: four independent variables and one dependent variable. According to Thompson's

equation, the absolute minimum sample size for the study to be valid would fall within the range of 50 to 75 participants. The calculations produced a moderate effect (*ES* = .30; Cohen, 1992) of the sample size (*N* = 67). The output results indicated that a multiple regression required a critical *F* of 2.52, a medium effect size of 0.30 (Cohen, 1992), an alpha (α) of .05 (probability of error), a power of β = .95, and four predictors. The output parameters resulted in a total sample size of 67, the actual power of 0.95, numerator *df* of 4, denominator *df* of 62, with a noncentrality parameter of 20.10 (see Appendix A; Faul et al., 2007). Taking both calculations into consideration, I determined that sample size should be within an average range of 50 to 75 participants, with a mean of 63 participants required for a valid study.

Procedures for Recruitment, Participation, and Data Collection

A formal letter was addressed and I presented this to the then-acting director of the prison services seeking permission to conduct the study within HMPS, located in a small island within the Western Caribbean, and I was granted the permission sought. In the introduction letter, I provided a general overview of the study, as well as information regarding the recruitment procedures. Once the dissertation committee and the URR approved the proposal and Walden University's IRB approved the data collection procedure, data collection commenced. From the onset, several barriers hindered the recruitment procedures, which ultimately prolonged the data collection period by several months. In the first instance, the expectation was for the data collection to last for 5 weeks; however, it extended past 4 months in order to achieve adequate participation.

The major challenges faced with the data collection included changes in key personnel at HMPS and a slow survey response rate, primarily due to poor Internet service. Four separate requests for minor changes to the data collection procedure to the Walden IRB; the IRB approved each request. The initial IRB request was in December 2018. This was due to change in HMPS HR manager, who was the designated person to distribute approved email correspondence to the correctional officers. This change of HR manager had to be amended in the recruitment procedure and then approved by Walden's IRB. The three subsequent requests to the IRB concerned the need for extended time for recruitment due to low participant response rates. Approval for an extension for data collection was granted, and data collection commenced in January 2019, continued in March 2019, and began again in April 2019. The final day of data collection was May 24, 2019, at which point sufficient responses had been obtained.

Further Recruitment Procedure Information

The original recruitment plan involved a meeting with correctional officers at the monthly staff meeting. Unfortunately, the meeting was cancelled, so I had to meet with the correctional officers during shift changes instead, and I provided a very brief (2 to 3 minutes) overview of the study and policy regarding participation. Walden University's IRB and the director of HMPS approved this change, and the meetings were scheduled and conducted. Fortunately, I was able to meet with three groups of male correctional officers and two groups of female correctional officers for 2 to 3 minutes per meeting; these were the most convenient times to meet with the officers. At these

meetings, a brief overview of the purpose and procedure of the study as done, as approved by HMPS director and Walden University's IRB. The information provided covered: anonymity of participants, participation was strictly voluntary, so individuals could withdraw from the study at any time without penalty and/or consequences, and completion time for the online survey was approximately 15 minutes, including time to provide demographic data and do the three questionnaires. Information included that the HR manager would send out an email invitation to participate in the study that contained the link to the online survey, and they would receive email reminders of the deadline date of the completion of the online survey. Lastly, the HR manager received a summary of the research findings for all correctional officers via email.

The online informed consent form provided participants with information regarding the research, along with the risks and benefits of participation (ethical concerns), they were informed that they would not receive compensation for participation, and were asked to provide certain demographic information, such as gender, age, years of tenure, marital status and nationality. Participants were informed that they were being asked to complete three questionnaires and the only exclusion criterion of participation in the study was correctional officers not wanting to participate in the study. Upon completion of participation in the online survey, participants formally exited the study.

Instrumentation and Operationalization of Constructs

I used three instruments for data collection in this study. The STSS was used to measure the presence of STS symptoms (the dependent variable; Bride et al., 2004). The TAS-20 was used to measure the presence of alexithymia traits (one of the predictor variables; Bagby et al., 1994). The third instrument, the WSES, was used to measure the perception of job-self efficacy (the other predictor variable; Pepe et al., 2010). I obtained demographic data, including participants' gender and years of employment, through a demographic survey.

Secondary Traumatic Stress Symptoms Scale. Bride et al. (2004) developed the STSS as a self-report questionnaire in 1999. The STSS consists of 17-items and based on a 5-point Likert-type scale, 1 (*never*) to 5 (*very often*), respondents are required to indicate frequency, over the past seven days, how an item was true for him or her. This instrument developed to measure STS symptomatology due to secondary traumatization, arising from the delivery of human professional services to an individual or individuals who experienced direct trauma (Bride et al., 2004; Setti & Argentero, 2012). STS symptoms covered under three subscales (clusters), namely: intrusion (5 items), avoidance (7 items) and arousal (5 items). The scores from all clusters, added to provide a total score that determined the symptoms and levels of STS (Bride et al., 2004). A total score of 38 (inclusive of all clusters) or higher indicates STS (Bride et al., 2004).

Researchers have tested the validity of the STSS instrument on various cultures within and outside of the United States of America, and the findings indicated that the

STSS demonstrated overall good reliability and high internal consistency of .94 (Bride & Kintzle, 2011; Setti & Argentero, 2012). The three clusters resulted in moderately high reliability: intrusion at .83, avoidance at .89, and arousal at .85 (Setti & Argentero, 2012). The construct validity loaded significantly on all items ($p < .05$). The results of the factor loadings ranged from .46 to .82 (Ting, Jacobson, Sanders, Bride, & Harrington, 2005). As the findings of the data analysis of this study compared with the results of other studies on STSS using similar research design, among human service professionals, it may add to the body of knowledge literature (Bagby et al., 2006; Bride & Kintzle, 2011; Pepe et al., 2010; Setti & Argentero, 2012).

Toronto Alexithymia Scale-20. Bagby et al. (1994) developed the TSA-20 to measure alexithymia traits in an individual. The instrument was normed on a sample size of 1,933, consisting of 880 males and 1,053 females, and the average age of participants was 35.47 years ($SD = 12.55$), with the average years of education was 14.75 years ($SD = 2.42$; Taylor et al., 1992). The 20-item self-report instrument designed to measure alexithymia using three traits covered in the three subscales or components of the instrument. Alexithymia traits are measured on a 5-point Likert-type scale, from 1 (*strongly disagree*) to 5 (*strongly agree*). The scores range from 1 (minimum score) to 100 (maximum score). Item reversal of five of the items (4, 5, 10, 18, and 19) was conducted, where 5 becomes 1 (*strongly disagree*) and 1 becomes 5 (*strongly agree*; Taylor et al., 1992). The scoring of the reversed items was a total of 20 items calculated (Taylor et al., 1992).

The authors permit a limit of one missing item per subsection, and the mean value of the remaining items within the same factor scale is calculated, and the value substitutes the missing item (Taylor et al., 1992). The scores of greater than or equal to 61, and less than or equal to 51 are representative of high and low alexithymia, respectively (Taylor et al., 1992). The TSA-20 demonstrated good internal consistency of .81, good test-retest reliability of .77, $p < .01$, and the convergent and concurrent validity proved adequate (Bagby et al., 2006). The three components of the instrument are as follows. The first component measures difficulty describing feelings (DDF), the second component measures difficulty identifying feelings (DIF), and the third component measures externally-oriented thinking (EOT; Bagby et al., 2006). The research findings supported a positive correlation between alexithymia and STS among the participants of the study (Vandermeer, 2014). The scores from the TAS-20 measure provided data that could answer the current research questions and hypotheses.

Job Self-Efficacy Scale. The WSES was developed as a measure by Avallone, Pepe, and Porcelli (2007) in order to assess an individual's perception of his or her work skills. It is a self-report questionnaire with 10 items measured on a 5-point Likert-type scale, 1 (*disagree strongly*) to 5 (*agree strongly*), and the scores range from a minimum of 1 to a maximum of 50. The scores of greater than or equal to 25 are representative of job self-efficacy, and the estimated completion time is 5 minutes (Avallone et al., 2007). This instrument assesses several components of work skills: perception of specific work domains, predisposition towards or attention to relationships with colleagues and

superiors, and perception of one's ability and commitment to complete specific job-related tasks. The job-related task is in the context of an individual's emotional abilities to behave efficaciously (Pepe et al., 2010).

A cross-cultural study was conducted in both Spain and Italy to determine the cross-cultural reliability and validity of the instrument (Pepe et al., 2010). The average age of the 68 participants was between 20 and 26 years. Based on the factor analysis (confirmatory approach) the researchers determined that the instrument has a two-factor structure (Pepe et al., 2010). One factor sets out an individual's predisposition towards good interpersonal relationships with colleagues and those in authority. In contrast, the other factor identifies an individual's perception regarding his or her ability to achieve and commitment to complete specific job-related tasks, and both factors demonstrated good internal consistency of .85, and .82, respectively (Pepe et al., 2010). The two-factor structure of the scale remained stable across both cultures studied (Pepe et al., 2010). The interpreted WSES scores provide a response to participants' perception of his or her degree of capability in conducting prescribed tasks as indicated by the responses on the five-point Likert-type scale as discussed above (Pepe et al., 2010). According to Pepe et al., the data analysis of their research findings indicated that all items of the WSES showed a loading of > .60 (from .61 to .82; Pepe et al., 2010). These researchers suggested that future research across western and non-western cultures are required in order to determine the concurrent, predictive, and incremental validity of the scales (Pepe et al., 2010). In light of these recommendations, the findings of this study regarding job

self-efficacy may provide additional information to existing literature regarding these constructs. In addition, the interpreted results of the scores from this measure provide accurate answers to the relevant research questions and hypothesis.

All three instruments used in this study have proven to have good criterion and construct (content) validity as well as good reliability as previously discussed. The expectation was for the results of the study provided by these instruments to be accurate and valid. I received permission to use these instruments in this study from the authors of all three instruments. The authors did not grant permission for the questionnaires to appear in an article if I should publish the current findings.

Data Analysis Plan

Data preparation and treatment of missing data. I used the IBM SPSS 25 (SPSS) application to analyze the collected data. Before the data analysis, a meticulous task of cleaning and screening of the data was conducted (Pryjmachuk & Richards, 2007). This entailed checking the accuracy of data entry, checking for missing responses (e.g. participants may miss a response), replacing missing data with a mean value and reverse coding (on specific items on the TAS-20 questionnaire) in order to reduce or prevent errors that could ultimately interfere with the accuracy of results (Pryjmachuk & Richards, 2007).

The most apparent data-cleaning procedure required that the data be accurately transcribed from the survey to the data file, which included identifying missing responses and accurate recoding of specific items, as the items that needed to be reversed on the

TAS-20. The values for each variable had to match the specific designated code as designed by the authors of the instruments. Uncorrected inaccuracies in data would produce inaccurate statistical results. In the descriptive analysis, the application of SPSS software checked for error detection and data accuracy, and running frequency counts identified the number and distribution of missing responses. An estimated mean value calculated by SPSS software version 25 was used to replace respondents' missing items as discussed in the section below.

Research Questions and Hypotheses

The primary research question asks: What is the relationship between the perception of job self-efficacy and alexithymia traits to STS symptoms among correctional officers, employed by HMPS of the island? The specific research questions and hypotheses are presented below.

Research Question 1: Is self-reported job self-efficacy, as assessed by low scores on Work Self Efficacy Scale (WSES), a predictor to STS, and inversely related, as measured by STSS scores, after controlling for gender and job tenure?

Hypothesis 1: Job self-efficacy among participants, as measured by low scores on the WSES, is a predictor to STS, and inversely related, as measured by STSS scores, after controlling for gender and years job tenure.

Research Question 2: Is self-reported alexithymia, as assessed by high scores on the 20-item Toronto Alexithymia Scale (TAS-20), a predictor, and inversely related to

STS, as measured by scores on the STSS, after controlling for gender and years of tenure?

Hypothesis 2: Alexithymia among participants, as measured by scores on the TAS-20, is a predictor to STS, and inversely related, as measured by scores on the STSS, after controlling for gender and years of tenure.

In this chapter, I provide a description of the research design, the statistically significant differences between the variables, as well as the findings of previous researchers who have examined the predictor or criterion variables. A report on findings of all predictor variables included in the study along with their relative importance on the criterion variable is also included. The correlational approach used to examine the extent to which variations in perception of job self-efficacy, alexithymia traits, as well as gender and years of tenure correspond with STS between participants are outlined. The correlational data analysis strategy used in this study presents as an appropriate approach since participants retrospectively reported his or her perceptions of job self-efficacy, alexithymia traits and experiences with indirect exposure to traumatic situations. The theories proposed in the study provided a framework for the results of this study to be compared and contrasted with the findings of existing scholars. The results from this literature search provide evidence to suggest whether the outcomes of the study are applicable to other correctional officers working under similar conditions and environments (Creswell, 2009). Recommendations for future research on this study as well as other areas not examined in this study have been presented for consideration.

Analysis Plan for Descriptive Statistics

The Qualtrics online survey platform was used for the data collection of this study, and the dataset was analyzed using the SPSS 25 version program and checked the correlation coefficient (*r*) of the constructs and reliability statistical tables in order to determine the overall value of alpha (α) for the three instruments. The correlational research design using multiple linear regression analysis was employed for the data analysis of this study, since it was developed to analyze research designs that involve one criterion variable and several predictor variables measured using a ratio or interval scale (Brace, Kemp, & Snelgar, 2009). The results provided answers to the research questions and respective hypotheses.

Statistical Approach to Cleaning Dataset

Once the analysis of the scores from the questionnaires was completed, the computation of response rate followed. Respondents excluded from the dataset were those who left off more than three items on the questionnaires. This was done to reduce or eliminate the risk of a biased response rate that could substantially change the overall results (Creswell (2009). The factors that were identified in selecting the multiple linear regression as the most appropriate statistical technique to use was due to factors such as the sample size (under 100 participants) and the number of constructs in the study: one criterion (dependent) variable and four predictor (independent) variables (Creswell, 2009).

Statistical Approach to Analyzing Dataset

I used multiple linear regression to analyze the data, after which I determined whether the results from the data analysis supported the posed hypotheses. In conducting the analysis, the recommended alpha level of .05 with p (power analysis) at .80 (Brace et al., 2009) was used, which is expected to decrease the possibility of a Type I or Type II error occurring (Creswell, 2009). The analyzed data of the total scores of participants from the self-reported instruments provided statistics to indicate how much variance in STS symptoms accounted for by the predictor variables of job self-efficacy and alexithymia scores, while controlling for covariate variables of gender and years of tenure (Field, 2013).

The scores of all the variables estimate how well the variance on the independent (predictor) variables predict the score on the dependent (criterion) variable, as well as significance in the variance of the predictor constructs (Creswell, 2009). A stronger correlation is determined by scores closer to the regression line resulting in a more accurate prediction (Brace et al., 2009). The results of the independent *t*-test presented are the *t*-statistic value, the *df* (degree of freedom), and the significance of the results (*p*-value). The results of the *t*-test evaluated the statistical significance in the difference in the mean value of the variables of the male and female participants (Brace et al., 2009).

The independent (predictor) variables of job self-efficacy and alexithymia traits, as well as the covariate variables of gender and years of tenure have continuous and dichotomous scales, respectively, while the criterion (dependent) variable has a

continuous scale. The covariates potentially contribute to the elevation of stress levels experienced by human service professionals (Cieslak et al., 2014; Law & Guo, 2015). Other range of scores were also determined and reported, such as the mean and standard deviations (Creswell, 2009).

The overall missing data from the data set resulted in less than 5%, reducing potential disruption to the analysis (Field, 2013). The measures used to correct for missing data involved the online survey responses with large sets of unused items (of four or greater responses) were deleted and those with two or less missing items the mean of the group value was used to replace the missing data, and these options corrected for normality of variance (Field, 2013). The assumptions testing results of linearity/normality of variance, multicollinearity, homoscedasticity of variance, and homogeneity of regression, as analyzed using the parametric multiple regression statistical analysis were displayed using graphs (e.g., histograms, scatter plots), tables, and interpreted reports (Field, 2013).

The use of regression assumes an absence of multicollinearity (Field, 2013). The presence of multicollinearity is evidenced when data are highly correlated with one another > |.8| (absolute value of .8), which can increase the error in the analysis and weaken the analysis (Field, 2013). If it is too high there will be no solution for the statistical analysis; as such, it is essential to identify multicollinearity (Laureate Education, 2009). Field (2013) suggested to correct for this by first running a bivariate correlation in order to examine the correlation of the variables; if any of the variables are

>.8 (absolute value) this indicates that multicollinearity is present (Laureate Education, 2009). In order to correct this violation, the highly intercorrelated variable or variables are deleted and the combined mean is used to create an independent variable (Field, 2013).

Homogeneity or homoscedasticity of variance refers to the expectation that variance of both independent variables should be at the same level of the dependent variable of interest. A Levene's test will indicate if there is homogeneity; a violation of this assumption is when the Levene's test is significant (Field, 2013). If the sample size is large, and there is a slight to moderate violation, the violation will not affect the results of the study so there is no need for concern of the violation of the assumption. If there is a concern, a more stringent alpha level (e.g. .01 instead of .05) is required for the analysis in order to correct for the violation (Laureate Education, 2009).

In testing of a violation of homoscedasticity of regression assumption, the general linear model analysis in SPSS produces a significance of any interaction and deletion of the covariate from the analysis should correct for this violation (Laureate Education, 2009). Homogeneity of regression—the relationship between the dependent variable and covariate—should be the same for each level or group of independent variables, and a violation of the assumption suggests a significant interaction between the covariate and the independent variable on that dependent variable (Field, 2013).

The assumptions of independent sample for the independent sample *t*-test are a normal distribution of population, that measures are interval or ratio level and

homoscedasticity of variance (Brace et al., 2009). To correct for violations to these assumptions a modified *t*-test can be used: the Yuen-Welch's test of unequal variance (Brace et al., 2009). In this study, there was no violation to the assumption of homoscedasticity so correction of violation was not required.

The findings of the analyzed data were reviewed in order to determine whether the results supported or contradicted the expected findings. The statistically significant mean difference between the variables was examined in order to determine whether the predictor variables of job self-efficacy and/or alexithymia traits had a statistically significant impact of the development of STS. The theories proposed in the study was based on past findings from the literature review were used to provide an explanation of the results as the results were compared and contrasted to findings of other studies and the implications of the results are discussed (Brace et al., 2009). Recommendations for future research using other variables that were not included in this study or by previous studies on this topic are discussed in Chapter 5.

Threats to Validity

Threats to External Validity

A number of checks were put in place to reduce threats to external validity minimized or prevented inaccuracies in data analysis in order to allow for greater generalizability among similar populations (Creswell, 2009). The credibility of the three instruments as it relates to reliability and validity, investigated from the findings of researchers who used the instruments in their study has previously been established.

These checks also provide an opportunity for the replication of the study by other researchers at some point in the future among other correctional officers working within similar environmental conditions. According to Creswell (2009) if the research findings of the constructs are statistically significant the replication of the study to population working under similar conditions and environments could result as a consideration by other researchers.

Threats to Internal Validity

To reduce or prevent threats to internal validity, there were a number of pertinent factors taken into consideration. These include the instruments used for the data collection, the sample selection and size, the research procedural design, and the statistical controls. The three instruments were administered through an online survey platform, Qualtrics. Participants completed the survey only once and in doing so eliminated the concern of familiarity to test items resulting in biased findings (Creswell, 2009). Scholars argued that sampling selection through the use of the convenience sampling strategy presents limitations for generalizability, since the sample was not randomly selected (Creswell, 2009). Although there are limitations to the generalizability of the findings of this study the results are comparable to the results of other studies within this domain, as discussed in Chapter 5. The sample of 79 ($N = 79$) correctional officers who participated in the study exceeded the calculated minimum sample size of 50 ($N = 50$) required for a valid study (Faul et al., 2007). According to scholars, if voluntary participation is lower than the minimum required it could pose a threat to

internal validity (Creswell, 2009; Faul et al., 2007). Fortunately, this was not the case in this study. To further reduce and eliminate threats to internal validity through sampling bias, the HR manager distributed an email letter of invitation to participate in the study to all correctional officers and their anonymity was assured in informed consent document.

According to Reio (2010) when researchers conduct quantitative research, variance bias could present as a threat and this bias could artificially inflate or deflate results, which would threaten the validity of the conclusions drawn between constructs. In order to minimize or prevent such biases recommendations given was to ensure that procedural design and statistical control be securely in place (Creswell, 2009; Reio, 2010). There were several statistical controls designed to ensure the overall validity of the study as approved by Walden IRB were intact before the commencement of data collection. These measures include no violations of the statistical assumptions (Creswell, 2009), adequate statistical power, and a good coefficient alpha (minimum value of .7) of the instruments used to measure the constructs of the study (Brace et al., 2009). The instruments used to measure the constructs all have a coefficient alpha > .80 (Bride et al., 2004; Pepe et al., 2010; Taylor et al., 1992), as discussed in Chapter 3. Creswell (2009) cautioned that inaccurate inferences drawn from analyzed data could be due to "inadequate statistical power or violation of statistical assumptions" (p. 164). An adequate statistical power of .80 was selected for this study (Faul et al., 2007), and by all indications from the results of the statistical assumptions none of the assumptions were violated. Based on these results, the threats to statistical conclusion validity were

minimized. The statistical analysis of variance for each hypothesis developed for this study revealed statistical significance. In conclusion, due to my careful adherence to research procedures the analyzed data regarding the sample size of the study can be interpreted as being accurate inferences.

Ethical Procedures

Based on the core principles set out by the APA (2010), and the Belmont Report (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979) for researchers the ethical concerns regarding the participants of the study were autonomy, beneficence, and justice. The policy surrounding these ethical concerns are set out in the research procedure and outlined in the informed consent form prepared for participants. The principle of autonomy addresses the rights and dignity afforded to individuals as the choice of participating in or withdrawing from the study remains the sole choice of the individual invited to participate in the study (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979) as set out in the informed consent form. Participation in the study was strictly voluntary and withdrawal was permitted at any time (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). The self-reported survey instruments also provided an element of privacy and confidentiality for participants.

Beneficence addresses the idea that participants in a study should not be at risk of harm due to the research procedure (APA, 2010). In safeguarding the welfare and rights

of those who participated in the study the potential risks and benefits were set out in the informed consent form for participants to be aware of. Based on the findings from studies in the literature review where researchers used the selected research design (Bride & Kintzle, 2011; Cieslak et al., 2014; Valentine et al., 2012), the risk of potential harm to participants due to research procedure was not noted by these researchers in their studies.

As a precautionary measure, the participants were advised that if they required clarification regarding the procedural aspect of the study or needed to report any concerns about me or the study contact should be made to the dissertation committee chair at the identified email address and/or telephone number (APA, 2010). I also provided contact information for a professional that the participants could contact if they experienced emotional distress while responding to the items on the questionnaire in order to receive free counseling services. Before the commencement of the actual data collection another review of the entire research procedure was done to ensure that research protocol was clearly set out and safeguarding procedures against misconduct and or impropriety that I may cause was put in place, because harm to participants during the course of data collection could also reflect poorly on the educational institution (Creswell, 2009). I obtained permission to conduct the study from Walden University's IRB, which was explained in the informed consent document. The Walden University IRB approval number is 2018.11.15.15, 11:35:30-06'00'.

Justice addresses the potential for biases and prejudices in the selection of potential research participants and distribution of research results (National Commission

for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). In order to prevent such biases an email letter of invitation to participate in the study was sent to all correctional officers employed by HMPS affording equal opportunity to participate in the study. A copy of the summary of the findings of this study will be emailed to the HR manager of HMPS via email for distribution to all correctional officers of HMPS. All participants were treated with equal respect irrespective of cultural or gender differences. I followed the procedural guidelines governing the ethical standards of practice for research outlined by the American Psychological Association (APA, 2010), the Belmont Report (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979) and the requirements of the IRB of Walden University.

Confidentiality of data.

The self-report survey approach provides greater privacy and confidentiality to participants since the instruments are self-reported questionnaires as well as participant's anonymity (Trochim, 2006). Information concerning these are set out on the informed consent form. The dataset and findings of the study are stored on the computer hard drive and a USB with a complex password in order to safeguard the information. Upon completion and approval of this dissertation by Walden University the USB drive will be stored in a locked, security safe for the required 5-year period after the completion of the research (APA, 2010).

Summary

This quantitative research design used was anonymous. The data collection was conducted using a convenience sampling strategy and I maintained adherence to the core principles of autonomy, beneficence, and justice for participants throughout the research procedures. I obtained data through the three self-report instruments, as well as demographic data entered on the online survey Qualtrics platform. The STSS was used to measure STS (the criterion/dependent variable), the WSES was used to measure job-self efficacy (the predictor variable) and the TAS-20 was used to measure alexithymia (another predictor variable). I used SPSS Version 25 to analyze the dataset and measure the variance of the association between and within the constructs, which provided answers to the hypotheses and the research questions. Although the data contained no identifiable data, in keeping with APA and Walden University's ethical guidelines, the dataset was password-protected, and the final dissertation will be securely stored on a USB in a secure safe for a 5-year period.

In Chapter 4, I have reported the outcomes and interpretations of the analyzed data. I present and discusses the results that produced statistical significance between the predictor variables and STS in both Chapters 4 and 5. Chapter 5 includes a comparison of the results to previous research findings, and an explanation is provided through the theoretical framework. Limitations, implications and recommendations for further research are provided.

Chapter 4: Results

Introduction

The purpose of this quantitative research study was to investigate the strength of the relationship between the perception of job self-efficacy and alexithymia traits on STS among correctional officers employed by HMPS on a Western Caribbean island. I also evaluated gender and years of tenure to determine whether these variables were influencing factors. The aim of the study was to determine the impact of negative environmental factors among participants identified with job self-efficacy and alexithymia traits.

Using an online quantitative survey, I investigated the strength of the relationship between participating correctional officers' perception of job self-efficacy and alexithymia traits on STS, after controlling for gender and years of tenure. Previous researchers who conducted meta-analysis research on STS noted the need for additional research regarding the relationship between risk and protective factors of STS experienced by human service professionals (Cieslak et al., 2013). Scholars have also advocated for increased evidenced-based knowledge on this topic among human service professionals to develop interventions that will reduce the risk of mental health problems among such workers (Summerlin et al., 2010). As discussed in Chapter 2, I used three established instruments to collect data for this study: the STSS, the TAS-20, and the WSES. I used SPSS to determine the internal consistency reliability of the instruments based on the Cronbach's α of each instrument. Table 1 displays the Cronbach's alpha

(coefficient alpha) for each instrument; all demonstrated satisfactory reliability, with internal consistencies of .830 for the WSES, .907 for the STSS, and .852 for the TAS-20.

Table 1

Reliability Statistics for the Study Instruments

Variable	Cronbach's α	Cronbach's α based on standardized items	Number of items
WSES	.830	.851	10
STSS	.907	.971	17
TAS-20	.852	.853	20

In this quantitative study, I examined the relative importance of a set of predictor variables on the criterion variable. This means that I examined the self-reported assessed level of alexithymia and perception of job self-efficacy, on STS, respectively, while controlling for gender and years of tenure among correctional officers. I wanted to determine whether the independent variables were predictors of the STS experienced by correctional officers working within HMPS on the selected Western Caribbean island. The findings enabled me to answer the following research questions and their corresponding hypotheses.

For the first hypothesis, I predicted that WSES indicating low job self-efficacy would produce a score on the STSS measure indicating STS. In contrast, participants who produced a score on the WSES indicating job self-efficacy would produce scores on the STSS measure that did not indicate STS, after controlling for gender and job tenure. For the second hypothesis, I predicted that participants who produced a score on the TAS-20 measure indicating the presence of alexithymia traits would also produce scores on the

STSS measure indicating STS. In contrast, I predicted that participants who produced scores on the TAS-20 measure that did not indicate the presence of alexithymia traits would also produce scores on the STSS measure that did not indicate the presence of STS, after controlling for gender and job tenure.

Research Question 1: Is self-reported job self-efficacy, as assessed by low scores on Work Self Efficacy Scale (WSES), a predictor to STS, and inversely related, as measured by STSS scores, after controlling for gender and job tenure?

Hypothesis 1: Job self-efficacy among participants, as measured by low scores on the WSES, is a predictor to STS, and inversely related, as measured by STSS scores, after controlling for gender and years job tenure.

Research Question 2: Is self-reported alexithymia, as assessed by high scores on the 20-item Toronto Alexithymia Scale (TAS-20), a predictor, and inversely related to STS, as measured by scores on the STSS, after controlling for gender and years of tenure?

Hypothesis 2: Alexithymia among participants, as measured by scores on the TAS-20, is a predictor to STS, and inversely related, as measured by scores on the STSS, after controlling for gender and years of tenure.

In this chapter, I report the answers to the research questions and the corresponding test results of the hypotheses. All predictor variables included in this study were evaluated, and the statistical significance of the criterion variable was determined.

The chapter is organized into three sections. In the first section, I provide a brief overview of the research procedure, a general description of the demographics of the sample participants, the timeline of the data collection, the response rates, and the outcomes of the assumptions tests for multiple regression analysis. In the second section, I describe the correlational approach used to examine the extent to which variations in perception of job self-efficacy and alexithymia corresponded with STS.

The correlational data analysis strategy was an appropriate approach because the participants retrospectively reported their perceptions of job self-efficacy, alexithymia, and experiences with indirect exposure to traumatic situations. This section also includes the results of independent *t*-test that I used to compare the mean of the gender variable in order to examine whether there is statistical evidence of the comparison between groups based on the statistical significance of the mean and the correlation coefficient (Pearson's *r*) of the constructs. I then report the results of the data analysis using multiple linear regression. I conclude the chapter with a summary of the findings of the study.

Data Collection

I performed an *a priori* power analysis through the use of the G*Power analysis calculator. According the G*Power calculation, in order to achieve a projected level of power of $\beta = 0.95$, with critical $F = 2.52$, a multiple regression with four predictors, the study required 67 participants. The expected effect of the predictors—job self-efficacy, alexithymia, gender, and years of tenure—on the outcome variable of STS resulted in a moderate Cohen's *d* effect size of .30 (see Cohen, 1992). The data collection was

conducted over approximately six months from December 2018 to the end of May 2019; by then, I had achieved the goal of recruiting at least the minimum number of participants required for a valid study. There were a number of unforeseen challenges, and the feedback provided by the HR manager of HMPS indicated that a primary contributing factor to the slow and low response rate by correctional officers was due to limited or poor Internet services. Walden University's IRB approved several requests I made for extensions of the data collection period; this additional time yielded an increased response rate.

Participants

The HR manager of HMPS e-mailed the letter of invitation and reminders to all correctional officers. The HR manager indicated that 139 correctional officers were employed by the HMPS, including 113 men and 26 women. Acquiring the minimal number of participants required for a valid study resulted in two additional data collection extensions granted by the Walden IRB and the director of HMP services. Seventy-nine (79) correctional officers met the inclusion criteria of the study (see Table 2).

The original data collection period was scheduled to be concluded within 5 weeks of the commencement date; however, the data collection period extended for approximately 6 months, over three different trials. At the close of the initial recruitment period of 3 weeks, 44 respondents had participated in the study; however, only 38 respondents had completed all items on the online survey questionnaires. The other respondents excluded more than 10 items and were excluded from the study. At the end

of the second data collection period, an additional 39 respondents participated in the online survey. Of these participants, seven had omitted five or greater items, two omitted three items, seven omitted a maximum of two items, and 23 completed all items. This resulted in an accumulated total number of 68 respondents who met the study inclusion criteria. The third and final recruitment effort to increase the response rate yielded an additional 16 correctional officers who participated in the study; of these, five respondents were eliminated due to him or her omitting three or more items, leaving 11 participants meeting the inclusion criteria (with all items completed). At the end of the recruitment period, the accumulative response rate was 79 respondents who met the inclusion criteria of the study. Of the 79 data set records included in the study, as displayed in Table 2, a low level of missing data was presented and there was no indication of a random response pattern. The omitted data were replaced with a mean value, and this did not interfere with the validity of the study, as indicated in Table 1.

Table 2 displays the outcome of generated missing data of the dataset. This was generated using SPSS by selecting analyze menu, multiple imputation, and analyze pattern in order to determine if the missing data was systematic or random. The results indicated no pattern to the missing data.

Table 2

Missing Values from Overall Summary of Missing Values

Description	Values	Percentage (%)
Completed data	3,696	99.54%
Incomplete data	17	0.458%

Note. Overall summary of missing values from total number of participants ($N = 79$).

In Table 2, the data displays that the overall number of missing responses was 17, approximately 4.6% (approximately 5%) of the total dataset. According to Field (2013), missing 5% or less of total items is not expected to alter the outcome of the dataset; as such, the missing values were replaced by a calculated estimated mean value to correct for normality of variance (Field, 2013).

Demographic of Participants

The demographic information provided by the participants included gender, marital status, nationality, years of tenure, and age. I analyzed these data using descriptive statistics, and these are displayed in Table 3.

Table 3

Statistics for Frequency of: Gender, Marital Status, Nationality and Years of Tenure

Category	Variable	Frequency (*n*)	Percent
Gender	Male	60	75.9
	Female	19	24.1
Marital Status	Single	19	24.1
	Married / domestic partnership	57	72.2
	Divorced	2	2.5
	Separated	1	1.3
Nationality	Native to the islands	26	32.9
	Expatriate to the islands	33	67.1
Years of Tenure	Less than 5 years	29	36.7
	5 to 15 years	27	34.2
	15 to 25 years	11	13.9
	More than 25 years	12	15.2

Note. $N = 79$. Overall, there were more male ($n = 60$) respondents than female ($n = 19$) respondents in the study.

The participants consisted of 60 (76.9%) males and 19 (24.1%) females. The nationality of participants included 26 (32.9%) who identified as natives and 53 (61.1%) who

identified as expatriates. Approximately 24.1% (19) identified as being single, 72.2% (57) identified as married or in a domestic partnership, 2.5% (2) identified as divorced, and 1.3% (1) identified as separated. The mode years of tenure was 2 years; 36.7% (29) of participants had been employed by the prison services for less than 5 years, 34.2% (27) had been employed for between 5 and 25 years, 13.9% (11) had been employed for between 15 and 25 years, and 15.2% (12) had been employed for more than 25 years.

Descriptive Statistics of Instruments

I conducted the descriptive analysis using a 95% confidence interval on the instruments used for the data collection in order to determine the mean, standard, deviation and range of scores (upper and lower limits) of the three study instruments.

Table 4

Statistics of Gender Mean Scores of Measures: WSES, STSS and TAS-20

	WSES(*SD*)	L - U	STSS*(SD)*	L - U	TAS-20(*SD*)	L - U
Overall Mean Score	44.20(5.46)	26-50	32.22(10.47)	17-62	42.46(13.31)	24-76
Mean Male Score	43.63(5.91)	14-50	33.00(10.65)	17-71	44.08(13.18)	23-77
Mean Female Score	46.03(3.21)	38-50	29.74(9.71)	17-53	37.37(12.17)	24-74

Note. 95% CI, L = lower score, U = Upper score.

Table 4 displays the overall mean score on the WSES, $M = 44.20$ ($SD = 5.46$), which is slightly higher than the overall mean score of the TAS-20 at $M = 42.45$ ($SD = 13.31$), and significantly higher than the overall mean score of the STSS, $M = 32$($SD = 10.47$). The mean score of the male respondents was slightly higher, with a narrower range of scores on the STSS, $M = 33.00$ ($SD = 10.65$) [17, 71] than the female

respondents, *M* = 29.77 (SD = 9.71) [17, 53]. The mean score for male correctional officers on the TAS-20 measure was also slightly higher, *M* = 44.08 (*SD* = 13.18) than their female counterparts, *M* = 37.37 (*SD* = 12.17); however, the range of scores for males |23-77| was similar to the females [24-74]. Whereas the mean score for male respondents on the WSES measure was slightly lower (*M* = 43.63, SD = 5.91) than the mean score for the female respondents (*M* = 46.03, *SD* = 3.21), and the range of scores for males was wider [14, 50] than for the female respondents [38, 50].

Table 5 is a frequency table illustrating the statistics for the number of respondents who scored within the STS range, as also shown in the pie chart in Figure 2. Of the 79 respondents, 18 (22.8%) scored 38 or above on the STSS measure, indicating STS.

Table 5

Total Number of Cases Identified with STS Scores

	Frequency	Percent
*Valid	61	77.2
STS scores 38 and above	18	22.8
Total	79	100.0

Note. *All valid.

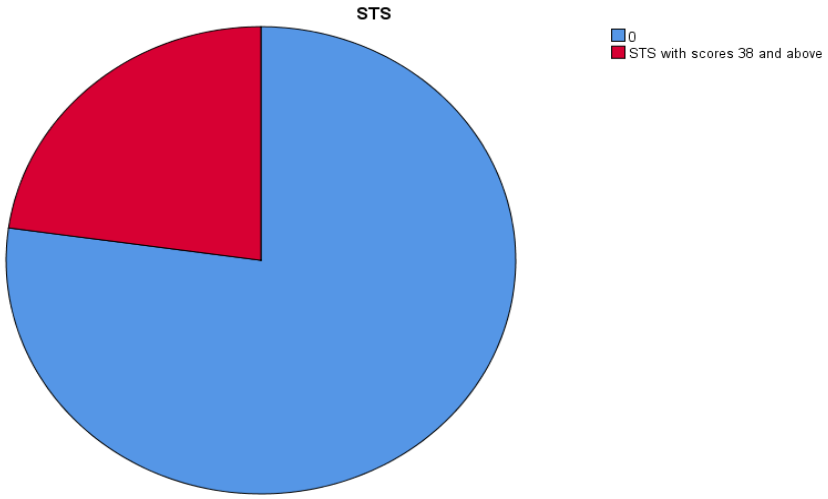


Figure 2. Number of respondents who scored within the STS range.

Statistical Analyses, Testing of Statistical Assumptions

Prior to conducting the data analysis using parametric statistical procedures, I tested all variables for violation of the following statistical assumptions: normality of variance and linearity, multicollinearity, homoscedasticity of regression, residuals' independence and normal distribution, and constant variance of the residuals, with no influential cases biasing the model (Field, 2013). I used descriptive statistics, regression analysis, and graphs to evaluate the extent to which these assumptions were met. The values of the descriptive statistics of skewness should range between [±2] (Field, 2013). In addition, a visual detection of the plots on the graphs should not yield extreme deviations from normality. With no violations to these requirements and assumptions, the data were able to be analyzed using regression analysis. I also used an independent *t*-test analysis for between-subjects analysis to explore significant mean differences in participants' gender and years of tenure.

Assumption of Normality of Dependent Variable and Linearity

In evaluating the first assumption, I observed the plots on the normal p-p plot of the standardized residual in Figure 3, determining that all plots followed close to the regression line. The histogram in Figure 4 is almost symmetrical, indicating that the residuals were normally distributed. The scatterplot in Figure 5 illustrates randomized data points within the required range of [± 3] (Field, 2013), indicating no significant correlation with no presented outliers, based on a Cook's distance of $M = .015$ for the variables that was below the threshold of 1 (Field, 2013; see Table 6). These results indicated that the normality of distribution of residuals and linearity assumptions were met.

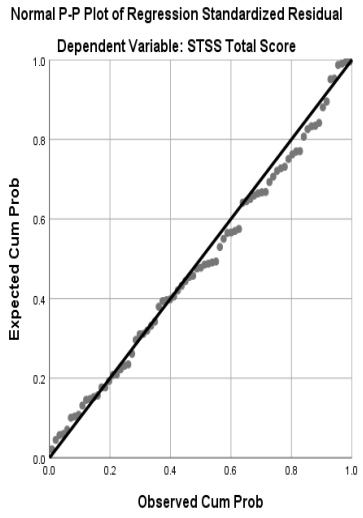


Figure 3. Normal p-p of regression standardized residual.

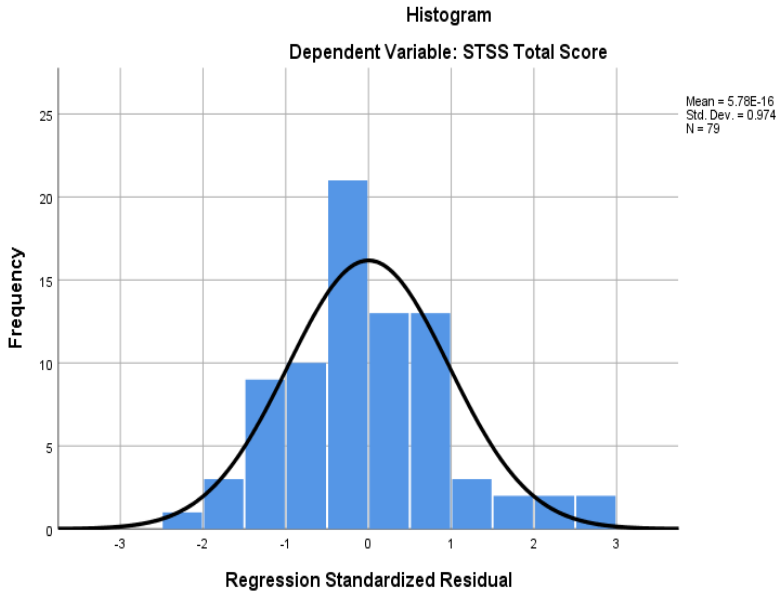


Figure 4. Histogram, dependent variables: STSS total score.

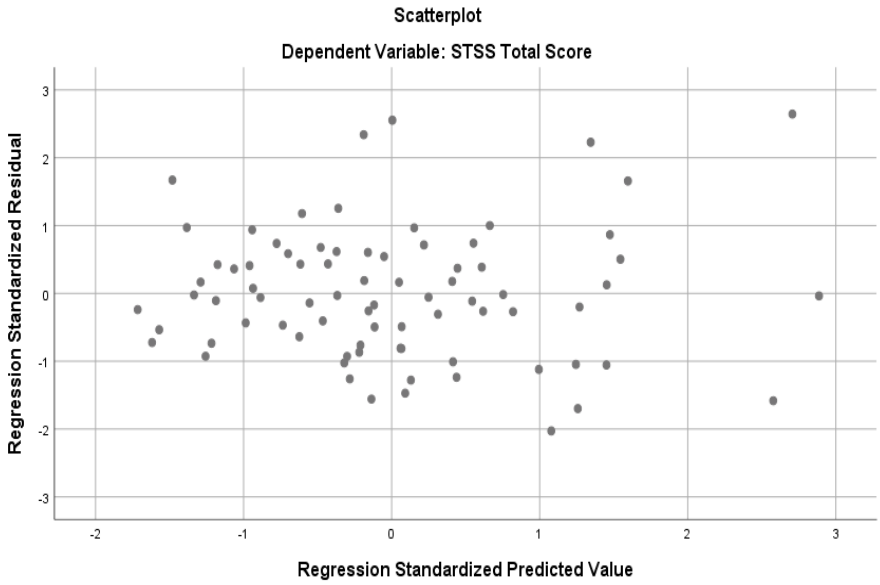


Figure 5. Scatterplot, dependent variable: STSS total score.

Table 6

Residuals Statistics, Dependent Variable: STSS Total Score

	Minimum	Maximum	*M*	*SD*	*N*
Predicted Value	23.22	47.34	32.22	5.241	79
Std. Predicted Value	-1.716	2.886	.000	1.000	79
Standard Error of Predicted Value	1.241	5.990	2.252	.642	79
Adjusted Predicted Value	23.41	47.58	32.25	5.296	79
Residual	-18.865	24.600	.000	9.063	79
Std. Residual	-2.027	2.644	.000	.974	79
Stud. Residual	-2.129	2.804	-.002	1.008	79
Deleted Residual	-20.806	27.680	-.038	9.719	79
Stud. Deleted Residual	-2.183	2.946	.002	1.026	79
Mahal. Distance	.401	31.337	3.949	3.719	79
Cook's Distance	.000	.197	.015	.029	79
Centered Leverage Value	.005	.402	.051	.048	79

Note. a. Dependent variable: STSS total score

Assumption of Independent Values of the Residuals

To test the assumption that the residuals are independent, I calculated their statistical value using the Durbin-Watson statistic, with the values ranging between [0 – 4]; however, in order to meet this assumption, the value should be closer to 2 (Field, 2013). The Durbin-Watson statistic value yielded a value of .525, as seen in Table 7. This outcome indicated that this assumption was met.

Table 7

Model Summary of Scores of Predictor Variables: Job Self-Efficacy, Years of Tenure and Gender

R	*R*2	Adjusted *R*2	*SE*	Durbin-Watson
.501	.251	.210	9.305	.525

Note. a. Predictors: (Constant), gender of respondent, years of tenure, WSES total score, TAS-20 total score
b. Dependent variable: STSS total score

Assumption of Multicollinearity

When testing multicollinearity, the assumption evaluated revealed that the predictor variables of job self-efficacy, alexithymia, gender, and years of tenure are not highly correlated. In testing this assumption, correlations of greater than 0.80 could be problematic. As seen in Table 8, the highest correlation was $r = .428$; as such, I determined that the correlation is not problematic.

Table 8

Correlations Coefficients of Variable Total Scores: STSS, WSES, TAS-20, YOT, and Gender

		STSS	WSES	TAS-20	YOT	Gender
Pearson Correlation	STSS	_	.	.	.	,
	WSES	-.301	_	.	.	.
	TAS-20	.428	-.142	_	.	.
	YOT	.052	.097	-.040	_	.
	Gender	-.134	.189	-.217	-.069	_

Note. YOT = years of tenure

I assessed multicollinearity using the variance inflation factor (VIF) and tolerance values (collinearity statistics), as seen in Table 9. The VIF and tolerance scores should be

well below 10 and above 0.2, respectively; results outside of these values could prove problematic (Field, 2013; Laureate Education, 2009). Table 9 illustrates that the tolerance values of all of the variables are > .02 [.919 to .981] and below 10, the values range between [1.020 – 1.088]. These values indicate no correlation between variables; these results assume an absence of multicollinearity, indicating that the assumption has been met.

Table 9

Collinearity Statistics of Variables Total Scores: WSES, TAS-20, YOT and Gender

Variable	Tolerance	VIF
WSES	.943	1.061
TAS-20	.940	1.063
YOT	.981	1.020
Gender	.919	1.088

Note. Dependent variable STSS total score

Assumptions of Homoscedasticity, Independent Errors, and Normal Distribution

The test of homoscedasticity, which calculates the variation in the residuals (or amount of error in the model) is constant at each point of the model. The independence and normal distribution of the values of the residuals can be evaluated visually by the use of graphs (Field, 2013). Graphs such as scatterplots (see Figure 6) with a random array of plots would satisfy the assumptions of homoscedasticity and independence of residuals, indicating that the test of assumptions of the variance of the residuals is constant and that the values of the residuals are independent (Field, 2013).

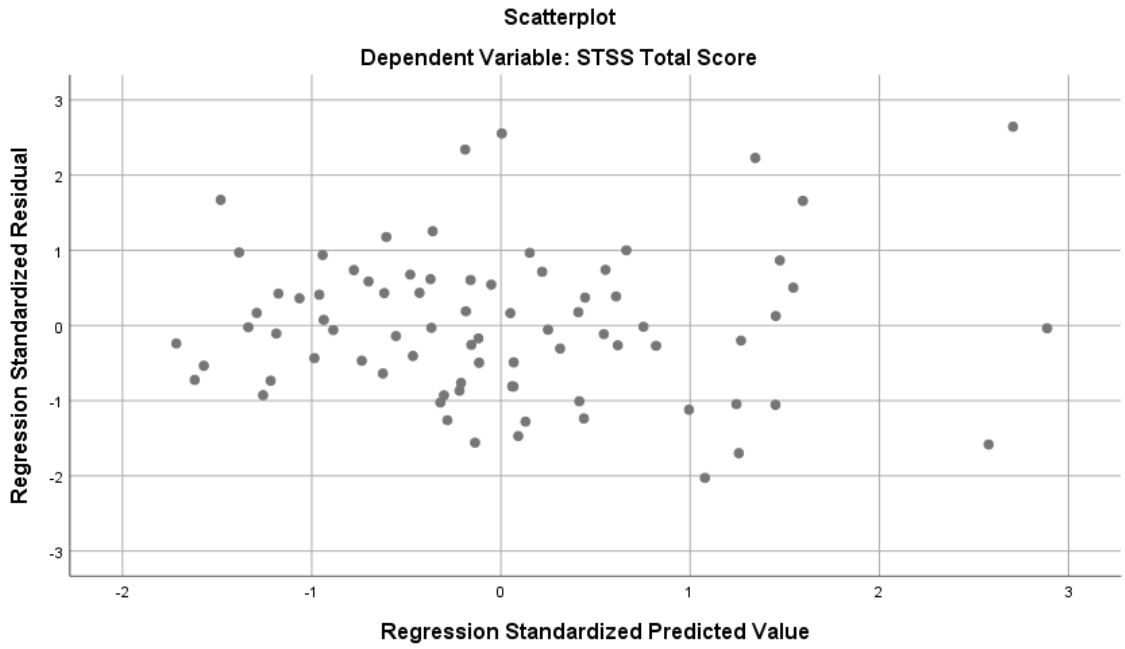


Figure 6. Scatterplot, dependent variable: STSS total score.

As seen in Figure 6, the patterns plotted on the scatterplot were not auto correlated. They were randomly scattered, with no correlation below or above the mean; all data points fall within the acceptable range of [±3], which should not place any negative influence on the model (Field, 2013). The standardized dependent scattered plot distribution of points indicates that the errors are widely distributed among the points, and the successive residuals are independent, with no patterns to the residuals (Field, 2013). This outcome provides evidence that the assumptions of homoscedasticity and independent of residuals have been met, as the results indicate no violation of these assumptions (Field, 2013).

The normally distributed residuals assumption can also be evaluated by the use of graphs such as the normal q-q plot of standardized residuals (Field, 2013), as displayed in

Figure 7. This assumption assumes that the differences between the model and the observed data are most frequently zero or very close to zero, and differences much greater than zero occasionally will happen (Field, 2013). As seen in Figure 7, the data points on the normal q-q plot of standardized residuals followed closely to the horizontal line, with only a few variables above this value, which can be expected and in this case does not violate the assumption, since these plots do not present as influential to biasing the model as indicated below. These results indicate that the assumptions of homoscedasticity, independent errors, and normally distributed residuals were not violated.

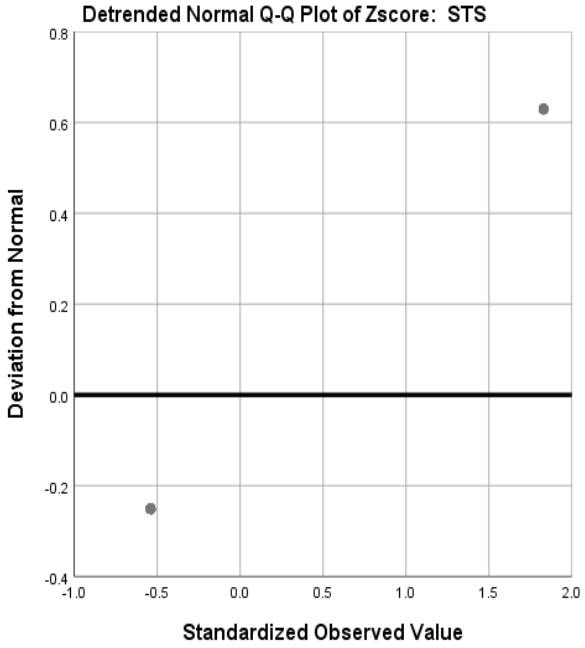


Figure 7. Detrended normal q-q plot of zscore: STS.

Assumption of no Influential Cases Biasing the Model

I tested the last assumption, which was that no influential bases bias the model used in the study, using the Cook's distance value. The results are displayed in Table 10. Values over 1 are likely to be significant outliers, may place undue influence on the model, and may be removed from the dataset (Field, 2013).

Table 10

Residuals Statistics, Dependent Variable: STSS Total Score

	Minimum	Maximum	Mean	*SD*	*N*
Predicted Value	23.22	47.34	32.22	5.241	79
Std. Predicted Value	-1.716	2.886	.000	1.000	79
Standard Error of Predicted Value	1.241	5.990	2.252	.642	79
Adjusted Predicted Value	23.41	47.58	32.25	5.296	79
Residual	-18.865	24.600	.000	9.063	79
Std. Residual	-2.027	2.644	.000	.974	79
Stud. Residual	-2.129	2.804	-.002	1.008	79
Deleted Residual	-20.806	27.680	-.038	9.719	79
Stud. Deleted Residual	-2.183	2.946	.002	1.026	79
Mahal. Distance	.401	31.337	3.949	3.719	79
Cook's Distance	.000	.197	.015	.029	79
Centered Leverage Value	.005	.402	.051	.048	79

Note. a. Dependent variable: STSS total score

The residuals statistics as seen in Table 10 revealed a Cook's distance value of $M = .016$ ($SD = .029$) for the STS variable, which is less than the threshold value of 1 (Field, 2013). This outcome indicates that there were no significant outliers. All data points fall within the acceptable range of [±3]. This indicated that the assumption of no influential cases biasing the model was met.

Testing of Assumptions for Independent *T*-Test

In testing the assumptions of the independent *t*-test to compare means between gender groupings, I had previously determined that the assumption of measuring the dependent variable on a continuous scale (at the interval level) was met. I then tested the other assumptions of normality of distribution, no significant outliers, and homogeneity of variance using descriptive statistics, normal q-q plot graphs, and the Levene's *F* test.

Assumption of Normality

The assumption of normality refers to the normal sampling distribution of the mean; this is assessed through the analysis of descriptive statistics and the normal q-q plot graphs (Field, 2013). The descriptive statistics table in Table 11 shows the descriptive statistics for this data.

Table 11

Descriptive Statistics, Mean Scores: Gender of Respondents

					95% CI	
	Gender	*n*	M	*SD*	LV	UV
STSS Total Scores	Male	60	33.00	10.66	17	71
	Female	19	29.74	9.71	17	53

Note: LV = *lower value,* UV = *upper value.*

The mean scores for the male respondents (*M* = 33.00 (*SD* = 10.66), 95% CI [17, 71]) was slightly higher than the mean score of the female respondents (*M* = 29.74 (*SD* = 9.71), 95% CI [17, 53]). The mean scores of the male respondents (1/10.66 = .09) against the mean score of the female respondents (1/9.71 = .10) had no effect because the effect size is very small.

Figures 8 and 9 display the results of the male and female respondents on the normal q-q plots.

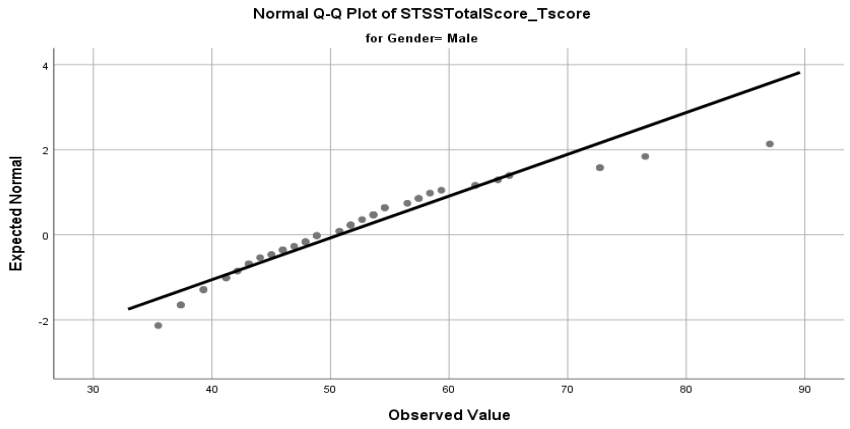


Figure 8. Normal q-q plot of STSS total score for male respondents.

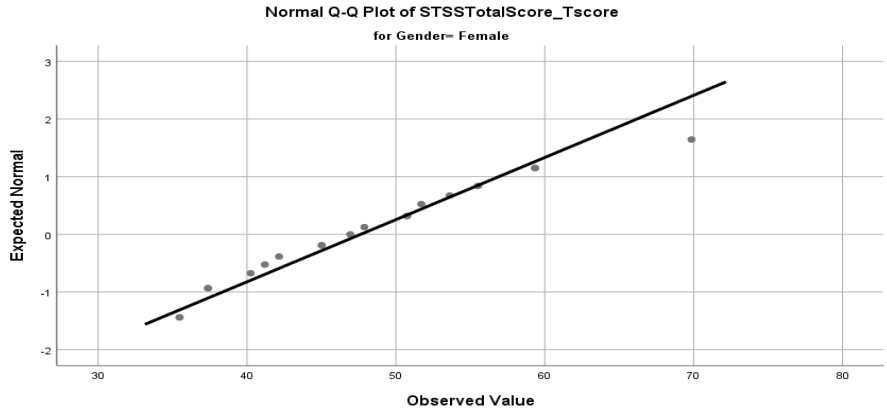


Figure 9. Normal q-q plot of STSS total score for female respondents.

The outcome of both normal q-q plots graphs were similar, and the dots fall closely to the diagonal line both genders, as seen for males in Figure 8 and females in Figure 9. Additionally, the dots do not present as outliers [±3] (Field, 2013). Based on the analysis of the descriptive statistics and the normal q-q plots, I determined that the mean

distributions for males and females were sufficiently normal for the purposes of conducting a *t*-test; as such, the assumption of normality was met.

Assumption of Homogeneity of Variance

I tested that the distribution of the outcomes in each group was comparable (Field, 2013). Table 12 illustrates the results of the Levene's test of equality of variances that I used to test this assumption. A violation of the assumption would yield a value of $p < .05$. The results of the analysis of the Levene's test of equality of variance revealed that gender variances were approximately comparable (F (77) = .019, p = .890), and none were statistically significant ($p > .05$). As a result, the null hypothesis was not rejected, and the assumption of homogeneity was met. Based on these findings, I determined that an independent *t*-test was appropriate.

Table 12

Levene's Test of Equality of Variances

		F	*p*	*df*
STSS total score	Equal of Variance Assumed	.019*	.890	77

Note. *($p > .05$).

Results of the Independent *T*-Test

I performed an independent samples *t*-test to examine the variances of male and female participants' STSS scores and determine whether they were approximately equal, which would indicate that the distribution of the STS scores for both genders would be similarly shaped and confirm the null hypothesis. As previously discussed, the mean STS scores for both genders were normally distributed, as shown in Table 13. I used equal

variances assumed values based on the results of the Levene's test of equality of variance.

Table 13

Independent Samples Test for Gender

		Levene's Test for Equality of Variance		*t*-test for Equality of Means 95% CI					
		F	*p*	*t*	*Df*	*P*	*M*	LL	UL
STSS Total	Equal variances assumed	.019	.890	1.187	77	.239	3.117	-2.21	8.74

Note. LL = lower limit, UL=upper limit, M = mean difference, ***p* = two-tailed.

The results of the *t*-test for equality of means at the 95% confidence interval indicated a mean difference of *M* = 3. 26 (33.00 – 29.74) between the males (*M* = 33.00, *SD* = 10.65, n = 60) and the females (*M* = 29.74, *SD* = 9.71, n = 16), as displayed in Table 11. Seen in Table 13, the variance between the groups was not significantly different, $t(77) = 1.187$, $p > .05$, they were approximately equal. The male participants had a slightly higher STS mean score as compared to the female participants who had a numerically lower score. Thus, males were not associated with a statistically significantly larger mean STSS score than females, and resulted with a small to moderate effect on the overall model, Cohen's *d* was estimated at 0.32 (33 – 29.74/10.191 = 0.3198) [calculated with $M, - M2/ SD_{pooled}$] (Cohen, 1992; Lourel, Gueguen, Pascual & Mouda, 2011). With a 95% confidence interval the actual difference of the mean STSS scores for the males and females is within the range [-2.21, 8.74]. These results indicate

that the scores of male participants could vary between a higher or lower STSS score compared to females, and vice versa, an indication that there is not a significant difference with gender, since the value of scores could go either way. These findings the values of the Levene's independent *t*-test across the Levene's Test of Equality of Variances was not associated with a statistically significant effect. The significance value was higher than the significance level at $p = .119$; as a result, the null hypothesis was not rejected.

Inferential Statistics

Multiple Linear Regression Analysis

I performed multiple linear regression analysis to evaluate the extent to which participants' level of job self-efficacy and alexithymia traits predicts the level of STS experienced, after controlling for participants' gender and years of tenure. I then tested all assumptions of multiple regression and determined no violation of the assumptions of normality of distribution, linearity of regression, homoscedasticity, multicollinearity, and a lack of influential cases biasing the model. I conducted a Levene's test of equality of error variances to examine the variances of male and female participants' STSS scores and determine whether the distribution of the STSS scores for both genders were similarly shaped. The significance value ($p > .05$) indicating no statistical significance in the STSS scores between genders; as such, the null hypothesis was not rejected. With these assumptions met, I determined that the use of statistical analysis using multiple

linear regression was appropriate to test the hypotheses and answer the research questions of the study.

Interpretation of Statistical Analysis for Research Question 1

Research Question 1: Is self-reported job self-efficacy, as assessed by low scores on Work Self Efficacy Scale (WSES), a predictor to STS, and inversely related, as measured by STSS scores, after controlling for gender and years of tenure?

The descriptive statistics of the multiple linear regression analysis, as shown in Table 14, confirmed the total number of respondents included in the study ($N = 79$), the variables used in the regression analysis, as well as the mean and standard deviation of these variables.

Table 14

Descriptive Statistics (Mean, Standard Deviation) of Variables

Variable	*M* (*SD*)
STS	1.34 (*.68*)
Job Self-Efficacy	2.48 (*.53*)
Gender	1.24 (*.43*)
Years of tenure	2.08 (1.06)

Note. $N = 79$

Pearson's Correlation Coefficients

The examination of the Pearson's correlation coefficient for the predictor variables (job self-efficacy, gender, and years of tenure) on the outcome variable (STS), as displayed in Table 15, revealed that all predictor variables correlate to less than $r < .8$, indicating no evidence of multicollinearity with these variables (Field, 2013).

Table 15

Pearson Correlation Coefficient of Predictor and Outcome Variables

Variable	STS	*p*	Job Self-Efficacy	*p*	Gender	*p*	Years of Tenure	*p*
STS	.	.	.	.	.	.	.	.
Job Self-Efficacy	.-.322*	.002	.	.	.	.	.	.
Gender	-.066	.282	.275	.007	.	.	.	.
Years of Tenure	.088	.219	.026	.412	-.069	.274	.	.

Note. 95% CI, **p* = .002 (*p* < .05) (one-tailed).

As illustrated in Table 15, at a .05 significance level the predictor variables of gender and years of tenure resulted in no statistically significant correlation with the outcome variable of STS at $p = .282$ and $p = .219$, respectively. There was a statistically significant correlation between job self-efficacy scores and STS, indicating that job self-efficacy scores are a statistically significant predictor of STS at $p = .002$. Job self-efficacy and STS were also found to have the highest correlation at $r = -.322$ and $p = .002$, with a moderate negative correlation.

Model Summary Analysis

I performed regression analysis to predict the effect the predictor variables: job self-efficacy, gender, and years of tenure as a set on the outcome variable, STS. As displayed in Table 16 the results of the regression analysis indicates that job self-efficacy, gender and years of tenure combined, are statistically significant predictors

of STS, $F(3, 75) = 3.226$, $p = .027$.

Table 16

Model Summary of Predictor Variables: Job Self-Efficacy, Gender, Years of Tenure

		Adjusted		R2				
R	*R2*	R2	(SE)	Change	*F*	*df1*	*df2*	*p*
.338a	.114	.079	.650	.114	3.226	3	75	.027

Note. a. Predictors: (Constant), job self-efficacy, gender and years of tenure

The results of the regression analysis model summary of the effect of job self-efficacy, gender, and years of tenure combined as a predictor of STS account for approximately 11.4% ($R2 = .114$) of the proportion of variability in STS scores, measured by the STSS. This outcome also suggests that 88.6% of the variance in STSS scores cannot be explained by these predictor variables, indicating that other factors also have an influence, and should be considered.

The results of the overall regression model revealed that the predictor variables used for this hypothesis provides a significantly better prediction of STS compared to not using the variables with the outcome variables as seen in Tables 16. These findings indicate that the null hypothesis that the model has no explanatory power between job self-efficacy and STS was rejected, since the findings were statistically significantly different from 0 $F(3, 75) = 3.226$, $p = .027$.

Generalizability of the Findings

The adjusted R2 provides an idea of how well the model generalizes the findings of the study (Field, 2013). The value difference between $R2$ and adjusted R2 [.114 - .079

= .035] with the model using all three predictor variables indicated that if these variables were derived from the population, rather than a sample, it would account for approximately 4% less variance in the outcome. However, the low percentage variance rate, the relatively small sample size combined with other factors such as the non-random sampling approach used weakens the generalizability of the model; as such, the results are not generalizable.

Coefficients Analysis

Table 18 displays the results of the coefficients regression analysis. The outcomes revealed that controlling for gender and years of tenure, job self-efficacy scores was statistically significantly associated with STS, (B = -.429, p = .004, p < .05). The other predictor variables of gender and years of tenure were not statistically significantly associated with STS, (B = .063, p = .366 and .B = 052, p = .733, (p > .05) respectively.

Table 17

Coefficient Regression Analysis: Predictors of STS

Variable	B (*SE*)	*β*	*t*	*p*	95% LL	CI UL
(Constant)	2.209(*.401*)		5.505	.000	1.410	3.009
Job Self-Efficacy	-.429(*.145*)	-.334	-2.952	.004	-.718	-.139
Years of Tenure	.063(*.070*)	.099	.910	.366	-.075	.202
Gender	.052(*.178*)	.033	.289	.773	-.304	.407

Note. Dependent variable: STS categories, LL = lower limit, and UL = upper limit

The outcome of the unstandardized coefficient scores indicate that controlling for gender and years of tenure, as job self-efficacy score increases by one point, the value of

the scores on STSS decreases by .429 points (approximately .5 points; (B = -.429, 95% C.I. [-.718, -.139], p = .004). This will hold true only if the effects of gender and years of tenure are held constant. This is suggesting that there is 95% confidence that the actual scores of the unstandardized coefficient for job self-efficacy will be between -.718 and -.139. Notwithstanding these findings, the outcome of this regression analysis indicates that due to the use of a non-random sampling selection, as well as the low variance value, the findings cannot be generalized outside of this specific research context (Field, 2013).

On the standardized coefficient, with every one standard deviation change of job self-efficacy scores results in a -.328 (β = -.334 (*SD*) change in standard deviation of STSS scores. As a result of these findings, I rejected the null hypothesis for this predictor variable due to the predictive ability of job self-efficacy scores for the outcome variable of STS, and found to be statistically significantly different from 0 (t (75) = 2.952, p = .004). Neither gender nor years of tenure were statistically significant (t = .289, p = .773; t = .910, p = .366, respectively); as a result, the null hypotheses for these variables were not rejected.

Interpretation of Statistical Analysis for Research Question 2

Research Question 2: Is self-reported alexithymia, as assessed by high scores on the 20-item Toronto Alexithymia Scale (TAS-20), a predictor, and inversely related to STS, as measured by scores on the STSS, after controlling for gender and years of tenure?

The descriptive statistics of the multiple linear regression analysis, as shown in Table 18, confirmed the number of respondents included in the study ($N = 79$), the variables used in the regression analysis to test the second hypothesis, as well as the mean and standard deviation of the variables.

Table 18

Descriptive Statistics (Mean, Standard Deviation) of Variables

Variable	*M* (*SD*)
STS	1.34 (*.68*)
Alexithymia	1.37 (*.70*)
Gender	1.24 (*.43*)
Years of tenure	2.08 (1.06)

Note. $N = 79$

Pearson's Correlation Coefficients

The results of the multiple linear regression analysis, as displayed in Table 19, revealed that all predictor variables correlated less than $r < .8$, indicating no evidence of multicollinearity with these variables (Field, 2013).

Table 19

Pearson Correlations Coefficient of Predictors and Outcome Variables

	STS	*p*	Alexithymia	*p*	Gender	*p*	Years of Tenure
STS	.	.	.	.	.	.	.
Alexithymia	.326*	.002	.	.	.	.	.
Gender	-.066	.282	-.169	.068	.	.	.
Years of Tenure	.088	.219	-.021	.428	-.069	.274	

Note. 95% CI, *$p < .05$ ($p = .002$) (one tailed)

At a one-tailed .05 significance level, the predictor variables of gender and years of tenure resulted in non-statistically significant correlation with the outcome variable of STS, at $p = .282$ and $p = .219$, respectively. There was also a statistically significant correlation between alexithymia scores and STS scores, at $p = .002$. Of the predictor variables, alexithymia was found to have the highest correlation with STS ($r = .326$, $p = .002$), with a moderate positive correlation.

Model Summary Analysis

I performed regression analysis to predict the effect the predictor variables: alexithymia, gender, and years of tenure as a set on the outcome variable, STS. As displayed in Table 20 the results of the regression analysis indicates that alexithymia, gender and years of tenure combined, are statistically significant predictors of STS, ($F(3,75) = 3.26$, $p = .026$).

Table 20

Model Summary of Predictor Variables: Alexithymia, Years of Tenure and Gender

		Adjusted		R2				
R	*R2*	R2	(SE)	Change	*F*	*df1*	*df2*	*p*
.340a	.116	.080	.649	.116	3.268	3	75	.026

Note. a. Predictors: (Constant), alexithymia traits, years of tenure and gender of respondent

The regression analysis model, as shown in Table 20, also indicates that these combined predictor variables accounted for approximately 11.6% ($R2 = .116$, $p = .026$) of the proportion of variability in STS scores. This outcome also suggests that 88.4% of the variance in STS scores cannot be accounted for only by this set of predictor variables, therefore other factors have an influence, and should be considered.

The results of the overall regression models revealed that the predictor variables provided a significantly better prediction of STS compared to not using these variables with the outcome variable as seen in Table 20. These findings indicate a rejection of the null hypothesis that the model has no explanatory power between alexithymia traits and STS, as the findings were statistically significant ($F(1,77) = 9.179$, $p = .003$).

Generalizability of the Findings

The adjusted R2 provides an idea of how well the model generalizes the findings of the study (Field, 2013). The value difference between *R2* and adjusted R2 of 4% [.116 - .080 = 0.036] with the model using all three predictor variables combined indicates that if the model were derived from the population, rather than a sample, it would account for approximately 4 % less variance in the outcome. Notwithstanding this, the outcome of this analysis indicates that due to the use of a non-random sampling selection, as well as the low variance value, the findings cannot be generalized outside of this specific research context (Field, 2013).

Coefficients Analysis

I examined the results of the coefficients analysis, as displayed in Table 21, and the model revealed that when controlling for gender and years of tenure, alexithymia traits scores was statistically significantly associated with STS ($p = .004$). The other predictor variables of gender and years of tenure were not statistically significantly associated with STS ($p = .972$ and $p = .386$, respectively).

Table 21

Coefficients Analysis for Predictor and Dependent Variables

	B(*SE*)	*β*	*T*	*p*	LL	UL
(Constant)	.791*(.333)*		2.377	.020	.128	1.453
Alexithymia	.316*(.106)*	-.328	2.973	.004	.104	.529
Gender	-.006(*.174*)	-.004	-.035	.972	-.353	.340
Years of Tenure	.061*(.070)*	.095	.872	.386	-.078	.199

Note. Dependent variable: STS, 95% CI, LL = lower limit, UL = upper limit

The coefficients between years of tenure and gender were not statistically significant predictors of STS scores (B = -.006, 95% CI [-.353, .340], p = .972 and B = .061, 95% CI [-.078, .199], p = .386, respectively). Alexithymia was found to be a statistically significant predictor of STS scores (B = .316, 95% CI [.104, .529], p = .004). The outcome of the analysis revealed that when controlling for gender and years of tenure, as alexithymia scores increased by one point, the value of the scores on STSS scores also increased by approximately .316 points. This holds true only if the effects of gender and years of tenure are held constant. There is 95% confidence that the actual scores of the unstandardized coefficient for alexithymia will be between .104 and .529. The confidence interval associated with this regression analysis does not include 0; as predicted, the null hypothesis for this model can be rejected due to the significant association between alexithymia traits and STS.

On the standardized coefficient, a change of one standard deviation of alexithymia trait scores result in a -.328 (β = -.328) change in standard deviation of STSS scores. As a

result of these findings, I rejected the null hypothesis for this predictor variable due to the predictive ability of alexithymia traits scores, as measured by scores on TAS-20, for the outcome variable of STS (t = 2.973, p = .004). Neither gender nor years of tenure were statistically significant (t = -.035, p = .972; t = .872, p = .386, respectively); as a result, the null hypotheses for these variables were not rejected.

Summary

A total of 79 participants (N=79) were included in the study. The respondents consisted of 75.9% (60) males and 24.1% (19) females, with a mode age of 35 years and a mode period of tenure of 2 years. The overall mean scores on the measurements scales used in the study were: M = 44.20 (SD = 5.46) for the WSES, M = 42.45 (SD = 13.31) for the TAS-20, and M = 33.00 (SD = 10.65) for the STSS. Approximately 23% (18) of respondents met the criteria for STS. The overall mean scores on all three instruments for males was similar to their female counterpart. There was no violation of any of the statistical assumptions for the independent t-test and multiple regression analysis.

I performed an independent samples t-test to examine the variances of male and female participants' STS scores, in order to determine if they were approximately equal. The results of the analysis of the Levene's independent t-test across the Levene's test of equality of variance indicates that there is not a significant difference with gender; therefore, the null hypothesis was not rejected. The outcome of the multiple linear regression analysis revealed a statistically significant correlation between job self-efficacy and alexithymia with STS. The main effects of job self-efficacy and alexithymia

traits as predictors of STS were statistically significant, and both variables explain the variances in STS scores. The results of the overall regression models revealed that the predictor variables used for the hypothesis significantly provides a better prediction of STS, as compared to not using the variables with the outcome variable. These findings indicate a rejection of the null hypothesis that the models have no explanatory power between the predictor variables of job self-efficacy and alexithymia and the outcome variable of STS.

In Chapter 5, I outline an interpretation of the research findings and provides an explanation of the results based on CSD, SCT, and the previous body of literature. I then discusses the study's limitations, recommendations for further research on this topic, as well as strategies to improve self-development and motivate positive social change within correctional officers' work and family environments.

Chapter 5: **Discussion, Conclusions and Recommendations**

Introduction

In this chapter, I interpret the analyzed data in comparison to the results of other researchers who have studied these variables. I explain the findings' relevance to the research questions and hypotheses through the lens of the theoretical framework of SCT and CSDT. The chapter ends with an explanation of the limitations of the study, recommendations for further research, implications for practice, and a conclusion.

The purpose of this quantitative study was to examine the strength of the relationship between the perception of job self-efficacy and alexithymia traits on STS among correctional officers employed by HMPS on a western Caribbean island. I sought to determine whether the independent variables were predictors of STS. I included two additional independent variables of gender and years of tenure both of which were controlled, to clarify the roles of job self-efficacy and alexithymia traits. The results of the multiple linear regression analysis revealed that both hypotheses were supported by the research findings, as displayed in Figure 10. After controlling for the effects of years of tenure and gender, job self-efficacy, and alexithymia traits, the results showed statistically significant relationships with STS.

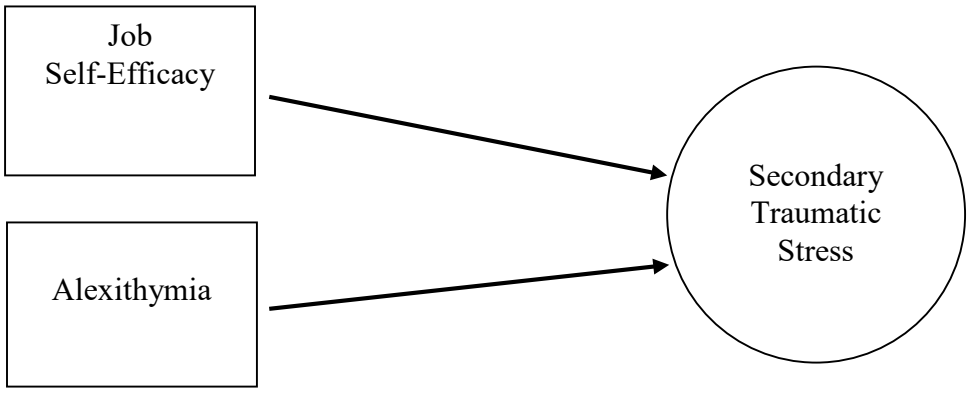


Figure 10. Diagram showing the relationship of the study variables to secondary traumatic stress.

Gender and years of service were not statistically significant on the outcome variable for both hypotheses. These results both align with and differ from previous research findings. Previous researchers have found gender (Cieslak et al., 2013; Cheeseman & Downey, 2012; Denhof & Spinaris, 2016) and years of tenure (Denhof & Spinaris, 2016) to be strongly associated with high levels of stress, resulting in physical and mental health problems, including STS (Cieslak et al., 2013; Denhof & Spinaris, 2016). Cheeseman and Downey (2012) reported that female employees are more likely to experience a greater level of work-related stress than their male counterparts, while Denhof and Spinaris (2016) found male correctional officers to be at high risk of developing mental health illness, such as PTSD and depression. Similarly, stress-related issues and years of tenure were statistically significant influences on the experiences of correctional officers (Denhof & Spinaris, 2016). These findings were contrary to the current results and several of those discussed in the literature review. In an investigation of the psychological impact of job-related issues and gender among human service

professionals, gender was not a statistically significant variable (Armstrong et al., 2015; Bride & Kintzle, 2011; Law & Guo, 2015; Morgan et al., 2002).

Upon review of these findings, it is possible to speculate that the female correctional officers who participated in the current study responded to job demands with restrictive emotionality much like their male counterparts by masking signs of vulnerability; this was the case of other female correctional officers in previous investigations (Samak, 2003; Thomas, 2012). In some studies, the scholars determined that years of tenure was significantly associated with stress-related issues (Denhof & Spinaris, 2016) but others have indicated that stress-related issues and years of tenure among correctional officers varied dependent upon the level of the security of the prison facility they worked at (Samak, 2003). There is a need for further research using these variables across various security level prisons within the Caribbean region. This would enable scholars to determine the role that gender plays in the level of stress experienced by correctional officers in this region of the world. The findings could then be compared with studies conducted in other countries.

The primary predictor variables in this study, job self-efficacy and alexithymia traits, both had a statistically significant effect on the development of STS, albeit to a moderate degree. These results provide evidence that an increase in job self-efficacy is associated with a decrease in the development of STS, and that an increase in alexithymia traits is associated with an increase in the development of STS. Results further indicate that job self-efficacy mediates a negative relationship with STS, whereas high

alexithymia traits mediate a positive relationship with STS. These findings provide answers to this study's research questions and the hypotheses.

Interpretation of the Findings

I conducted a multiple linear regression analysis of the self-reported responses of participants of this study in order to determine whether the independent variables of job self-efficacy and alexithymia traits were predictors of STS. The other independent variables of gender and years of tenure were controlled. For the first hypothesis I hypothesized that low scores on the WSES would predict STS and that the inverse would also hold true. For the second hypothesis, I hypothesized that scores on the TAS-20 indicating the presence of alexithymia traits would predict STS and that the inverse would also hold true.

Interpretation of Findings for Research Question 1

Scholars who have conducted research in the area of job self-efficacy have posited that job performance extends beyond the physical execution of duties, noting that job self-efficacy is a critical component of correctional services (Law & Guo, 2015). Previous authors have provided evidence indicating that correctional officers—directly and/or indirectly—face adverse workplace situations and safety concerns on a regular basis (Armstrong et al., 2015; Denhof & Spinaris, 2016; Gould et al., 2013; Misis et al., 2013). These situations include overcrowded prisons, inconsistent and unsupportive leadership, and limited equipment or human personnel to effectively conduct daily responsibilities (Armstrong et al., 2015; Martin et al., 2012; Summerlin et al., 2010); in

addition, many correctional officers perceive their job demands as unmanageable (Law & Guo, 2015). Such factors negatively affect the psychological well-being of correctional officers, resulting in elevated levels of stress, including STS symptoms (Armstrong et al., 2015; Martin et al., 2012; Summerlin et al., 2010; Thomas, 2012).

I anticipated that correctional officers with higher job self-efficacy scores would not present with scores on the STSS measure that would result in STS symptoms. The findings of this study in relation to the first hypothesis revealed that job self-efficacy showed a statistically significant relationship with STS, after controlling for gender and years of tenure. The results indicate that as the level of job self-efficacy increases the level of STS experienced decreases and the inverse is also true. Job self-efficacy has a statistically significant ability to explain the variance in STS scores.

These results are consistent with previous authors' confirmations of a direct association between greater perception of self-efficacy and reduced stress levels, as well as lower negative mental health (Schönfeld et al., 2015; Wells et al., 2009). Human service professionals with high job self-efficacy are less affected by high stress conditions; the inverse, however, results in reduced confidence in work-related tasks (Prati et al., 2010), increased risk of STS (Cieslak et al., 2013; Shoji et al., 2015), and the development of PSTD symptoms (Helmes et al., 2008). Human service professionals who believe that their accomplishments are routine or insignificant tend to experience higher levels of elevated stress (Law & Guo, 2015; Pepe et al., 2010).

The findings of this study align with the work of other scholars, including Prati et al. (2015) and Bandura (2001). Prati et al (2015) examined the association of an individual's cognitive appraisal of stress and the impact of self-efficacy on the quality of life, and their findings revealed that stress appraisal was significantly associated with the quality of life of human service professionals. Bandura (2001) theorized that an individual's thought processes, behaviors, and attitudes are influenced by efficacy beliefs. Efficacious behavior represents an individual's confidence in his or her own capability to perform or accomplish a desired goal or specific task at a designated level; the aim is to master, rather than avoid, tasks (Bandura, 2001; Pepe et al., 2010). According to Bandura, self-efficacy acts as a buffer between the perceived stressful encounters by an individual and his or her quality of life. Other scholars have described self-efficacy as a coping mechanism, as well as a mitigating factor against the risk of developing mental health illnesses while addressing the challenges of daily life stressors (Schönfeld et al., 2015).

The results of this study show that those with high job self-efficacy are less likely to be affected by high stress conditions, in contrast with those who experience low job self-efficacy, which can result in mental health illnesses, such as STS. In conclusion, the findings of this study confirm the first hypothesis, indicating that elevated job self-efficacy scores, as measured by the WSES, is a predictor of STS. The inverse also holds true.

Interpretation of Findings for Research Question 2

As I noted in the literature review, previous scholars cited that restrictive emotionality, which is also a primary trait of alexithymia, as a common coping mechanism of correctional officers (Levant et al., 2015; Tracy, 2004). Individuals with restrictive emotionality have difficulty in appropriately identifying and/or elaborating their emotional experience (Levant et al., 2015; Sifneos, 1996). Increased alexithymia traits strongly correlate with elevated levels of stress and have been identified in individuals who survived traumatization (Taylor et al., 2016; Sifneos, 1996; Leweke et al., 2012), and are associated with increased risk of vulnerability to STS (Vandermeer, 2014). Low alexithymia was identified as a key component against the risk of STS (Vandermeer, 2014).

McCann and Pearlman's (1990) CSDT explains the development of an individual's beliefs, expectations, and assumptions (developed through complex cognitive schemas). The second hypothesis was constructed based on research findings of scholars who studied this topic, as discussed in the literature review, in combination with the CSDT. This theory was also used in the current study to examine the relationship between alexithymia traits and STS and provide an explanation for an individual's response to emotional vulnerability. According to scholars who have studied this variable, individuals who are exposed to trauma or who work in vulnerable situations are more susceptible to experiencing negative psychological consequences (Branson et al., 2013; McCann & Pearlman, 1990). According to McCann and Pearlman, the trauma

experienced by an individual is partially dependent upon which schemas are a salient need area for the individual at that particular time in question. For instance, if safety is a salient need area for the individual at the time, he or she will likely recall those images that are associated with threats and personal vulnerability (McCann & Pearlman, 1990).

I anticipated that correctional officers' self-reported responses would confirm these findings and provide evidence that higher alexithymia traits are significantly associated with STS. Consistent with the findings presented above, the outcome of the multiple linear regression analysis of the self-report responses of correctional officers in this study revealed that when controlling for gender and years of tenure, the presence of alexithymia traits has a statistically significant negative correlation with STS. These findings indicate that alexithymia traits have a statistically significant ability to explain the variance in STS scores. In conclusion, the findings of this study confirm the second hypothesis, indicating that elevated alexithymia traits, as measured by TAS-20, is a predictor of STS, and the inverse also holds true.

In summary, this study found that for correctional officers employed by HMPS within the Western Caribbean Island, when job self-efficacy and alexithymia were analyzed, and when controlling for gender and years of tenure in the models, gender and years of tenure are not statistically significantly associated with STS. Job self-efficacy has a statistically significant positive correlation with STS, and the presence of alexithymia traits has a statistically significant negative correlation with STS. This

confirmed that job self-efficacy and alexithymia traits are mediating factors against STS among correctional officers.

Limitations and Recommendations for Further Research

Researchers have advocated for increased empirical evidence regarding the predictive variables that result in elevated stress experiences (Misis et al., 2013) and the development of STS among human service professionals (Cieslak et al., 2014). I found no previous studies examining the association between job self-efficacy and alexithymia with STS among correctional officers, nor of those specifically employed by HMPS within the Western Caribbean region. As a result, the findings of this study provide new insights on this topic; however, there are a number of limitations to this study. Although the sample size exceeded the minimum number of participants required for the study to be valid, the sample size ($N = 79$) was relatively small. The study design was cross-sectional, and the sample was derived using a non-randomized approach; the use of the convenience sampling approach indicates that the results of the study cannot be generalized among similar populations, or even among other human service professionals. If this study was to be replicated, I recommend a larger sample size and a randomized sampling approach among correctional officers employed to different security level prison facilities; these modifications would improve the external validity and generalizability of the findings (Creswell, 2009).

In order to maximize participation in the study and increase the accuracy of the response rates, the design of this study relied solely on self-report objective measures,

and participants were assured of their complete anonymity. These factors limited my ability to capture the participants' personal thoughts and opinions regarding the topic. Further research using a qualitative design approach with the use of personal interviewing techniques and open-ended research questions would facilitate more in-depth data analysis. This type of research approach would expand the knowledge in the body of literature.

Although the models indicated that job self-efficacy and alexithymia were statistically significant—accounting for approximately 10% (10.4%) and 11% (10.7%), respectively, of the variation in STS scores, generalizability is not possible with such a low rate, small sample size, and the use of a non-randomized research design. Further research recommendations include the investigation of factors that could potentially increase the vulnerability of workplace stress, such as poor coping strategies (Gould et al., 2013) and safety concerns (Martin et al., 2012). Researchers could also examine the personality traits (Cieslak et al., 2014; Helmes et al., 2008; Rutter, 2006) and cultural factors (Cieslak et al., 2014; Law & Guo, 2015) that improve resilience against direct and indirect adverse environmental stressors. Additionally, I controlled for the effects of gender and years of tenure; however, other personal characteristics—such as age, educational background, and culture—might have affected the outcome in some way. I recommend further research examining the association of these other variables mentioned above as independent variables with job-related experiences and mental health problems such as STS or PTSD.

Implications

As noted in the literature review job performance extends beyond the physical execution of duties; the level of job stress experienced plays a key role in this area (Law & Guo, 2015). The high level of stress experienced by correctional officers not only results in the deterioration of their general physical and mental well-being, but also contributes to the disruption of their job performance, resulting in reduced job satisfaction and increased work-family relational conflicts (Armstrong et al., 2015; Clemente et al., 2015; Valentine et al., 2012). It is important for the key stakeholders of HMPS to sponsor additional training in the areas that correctional officers may need, as this would facilitate skill development and increase job self-efficacy (Bandura, 2001). In addition, scholars have advocated for training in problem and emotional-focused skills development (Armstrong et al., 2015; Cheeseman & Downey, 2012; Clemente et al., 2015), which improves cognitive processing at a higher level (Armstrong et al., 2015; Cheeseman & Downey, 2012; Clemente et al., 2015; Higgins, Tewksbury, & Denney, 2012).

The key stakeholders of HMPS should seek to understand the importance of how elevated levels of stress experienced by correctional officer's impact on the organization and also consider the implementation of interventions recommended based on the outcome of this study. The findings of previous researchers could provide additional information needed in response to this query. Such researchers have discovered that deterioration of employees' physical and mental health resulted in the disruption in job

performance (Armstrong et al., 2015; Clemente et al., 2015). Organizations may consider mental health concerns to be the responsibility of the individual employee. Employees' poor mental health, however, impacts the organization in various ways, such as lower job performance, higher levels of absenteeism, limited availability of human resources, job burnout, and job turnover (Gould et al., 2013; Fink, 2010; Keinan & Malach-Pines, 2007; Martin et al., 2012), as well as increased budgetary costs (Fink, 2010). The research data revealed that many organizations within the United States, burdened with budgetary costs of upward of $300 billion dollars per annum, resultant of employees' physical and mental illnesses (Fink, 2010). Martin et al. (2012) found that 65% of respondents in their study reported that job stress significantly negatively affected their job performance.

The intervention plan would require the input of experts trained in the area of psychology in order to determine the needs of the correctional officers and design the intervention accordingly. I propose the following intervention for consideration. Two programs have proven to be effective in reducing the level of stress experienced by correctional officers: stress management training (Summerlin et al., 2010) and problem-focused/emotion-focused solution-oriented skills (i.e., conflict resolution). These interventions could provide correctional officers with skills in identifying and regulating their emotions. It is important to educate correctional officers in identifying the signs and symptoms of stress, as well as the physiological and mental health consequences of persistent restrictive emotionality, and untreated elevated levels of stress, such as STS. Stress management, conflict resolution, and emotion-focused strategies specifically

developed for correctional service professionals are critical skills for working in such an environment (Misis et al., 2013; Gould et al., 2013).

Regular stress management intervention results in the reduction of the risk of mental health problems (Summerlin et al., 2010). Gould et al. (2013) asserted that male officers were at higher risk of experiencing job stress and job burnout due to taking a depersonalization approach to cope with daily work-related stressors, while female officers presented at reduced risk because their coping style was predominantly problem-solving or emotion-focused. The results of this study indicated a significant correlation between high levels of work-related stress experienced and the depersonalization coping style (Gould et al., 2013).

Those affect by work-related stress is far reaching. The negative psychological and emotional impact of work-related stress strains correctional officers' family relationships (Clemente et al., 2015; Summerlin et al., 2010). Researchers have reported that a significant number of correctional officers have been involved in domestic violence (Valentine et al., 2012); approximately 11.3% disclosed being physically abusive, while more than 30% reported being verbally abusive against an intimate partner (Valentine et al., 2012). As correctional officers receive and implement the recommended intervention, it could be a catalyst for positive social change in the context of professional and family relationships (Valentine et al., 2012). The implementation of the recommended interventions could facilitate the development of new cognitive schemas, which could influence the internal evaluation of events for correctional officers (McCann & Pearlman,

1990). In light of these results, the outcome, expected to be positive, could ultimately result in reduced psychological disruption, increased job performance, lower absenteeism, and improved work-family relationships.

Conclusion

The findings of this study identified job self-efficacy and alexithymia traits as predictive variables, contributing to STS. The findings also revealed that approximately 23% of the participants identified with STS. Correctional officers working within the HMPS who identified with low job self-efficacy and/or high alexithymia traits are vulnerable to developing STS. Gender and years of tenure are not significantly associated with STS.

The outcomes of the study suggest that if work-related stress is not appropriately addressed, the far-reaching adverse psychological and mental health consequences experienced by correctional officers will negatively impact organizational performance, as well as employees' work-family life. Ignoring the basic workplace needs of correctional officers might result in factors that significantly contribute to the extreme stress experienced by this population. Should the recommended interventions be implemented, then these could increase the chances of positive social change among correctional officers resulting in improved personal physical and mental well-being, improved general workplace performance and attendance, as well as better family relationships.

I conducted this study using an anonymous quantitative design survey, with the use of a convenience sample. As a result, the recommendations for further research include using a qualitative research design and open-ended research questions in order to provide more in-depth data for analysis. This research approach would enable scholars to determine whether the experiences and coping strategies are similar among genders and years of tenure among correctional officers.

Other recommendations for future research include the use of a randomized sampling approach among correctional officers employed by varying levels of security prison facilities. This type of research approach would be useful to determine whether the experiences and coping strategies are similar among genders and years of tenure among correctional officers. Additionally, other personal characteristics, such as age, educational background, and culture might have affected the current findings in some way. Future researchers may examine the correlation of these other variables with job-related experiences and mental health problems such as STS.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

American Psychological Association. (2002, as amended 2010, 2016). Ethical principles of psychologists and code of conduct. Retrieved from http://www.apa.org/ethics/code/index.aspx.

Armstrong, G. S., Atkin-Plunk, C., & Wells, J. (2015). The relationship between work-family conflicts, correctional officer job stress, and job satisfaction. *Journal of Criminal Justice and Behaviour, 42*(10), 1066-1082. doi:10.1177/0093854815582221

Avallone, F., Pepe, S., & Porcelli, R. (2007). Autoefficacia per-cepita nella ricerca del lavoro: Scale di misura [Perceived self-efficacy in search of work: Assessment methods]. In B. ISFOL (Ed.), Bisogni, *Valori e autoefficacia nella scelta del lavoro* (pp. 133-42). Rome, Italy: ISFOL.

Bagby, R. M., Parker, J. D. A., & Taylor, G. J. (1994). The twenty-item Toronto Alexithymia Scale-1: Item selection and cross-validation of the factor structure. *Journal of Psychosomatic Research, 38*(1), 23-32. doi:10.1016/0022-3999(94)90005-1

Bagby, R. M., Taylor, G. J., & Parker, J. D. A. (2006). The development of the Toronto Structured Interview for Alexithymia: Item selection, factor structure, reliability, and concurrent validity. *Journal of Psychotherapy and Psychosomatic, 75*(1),

25-39. doi:10.1159/000089224

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology, 52*(1), 1-26. doi:10.0066-4308/01/0201-0001

Brace, N., Kemp, R., & Snelgar, R. (2012). *SPSS for psychologists* (5th ed.). London, England: Routledge.

Branson, D. C., Weigand, D. A., & Keller, J. E. (2013). Vicarious trauma and decreased sexual desire: A hidden hazard of helping others. *Psychological Trauma: Theory, Research, Practice and Policy, 6*(4), 398-403. doi:10.1037/a0033113

Bride, B. E., & Kintzle, S. (2011). Secondary traumatic stress, job satisfaction, and occupational commitment in substance abuse counselors. *Journal of Traumatology, 17*(1), 22-28. doi:10.1177/1534765610395617

Bride, B. E., Robinson, M. R., Yegidis, B., & Figley, C. R. (2004). Development and validation of the Secondary Traumatic Stress Scale. *Research on Social Work Practice, 14*(1), 27-35. doi:10.1177/1049731503254106

Brough, P., & Williams, J. (2007). Managing occupational stress in a high-risk industry: Measuring the job demands of correctional officers. *Journal of Criminal Justice and Behaviour, 34*(4), 555-567. doi:10.1177/0093854806294147

Brower, J. (2013). *Correctional officer wellness and safety literature review*. Washington, DC: U.S. Department of Justice, Office of Justice Programs Diagnostic Center.

Cheeseman, K. A., & Downey, R. A. (2012). Talking 'bout my generation': The effect of "generation" on correctional employee perceptions of work stress and job satisfaction. *Prison Journal, 92*(1), 24-44. doi:10.1177/0032885511428796

Cieslak, R., Shoji, K., Douglas, A., Melville, Luszczynska, A., & Benight, C. C. (2014). A meta-analysis of the relationship between job burnout and secondary traumatic stress among workers with indirect exposure to trauma. *Psychological Services, 11*(1), 75-86. doi:10 1037/a0033798

Cieslak, R., Shoji, K., Luszczynska, A., Taylor, S., Rogala, A., & Benight, C. C. (2013). Secondary trauma self-efficacy: Concept and its measurement. *Journal of Psychological Assessment, 25*(3), 917-928. doi:10.1037/a0032687

Clemente, M., Reig-Botella, A., & Coloma, R. (2015). The occupational health of correctional officers in Peru: The impact of length of work experience. *Prison Journal, 95*(2), 244-263. doi:10.1177/0032885515575275

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155–159. doi:10.1037/0033-2909.112.1.155

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: SAGE.

Denhof, M. D., & Spinaris, C. G. (2016). *Prevalence of trauma-related health conditions in correctional officers: A profile of Michigan corrections organization members.* Retrieved from http://desertwaters.com/wp-content/uploads/2016/07/MCO-Paper_FINAL.pdf

Faul, F., Erdfelder, E., Lang, A.-G. & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 175-191. doi:10.3758/BF03193146

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). New Delhi, India: SAGE Publishing.

Figley, C. R. (1995). Compassion fatigue as secondary traumatic stress disorder: An overview. In C. R. Figley (Ed.), *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized*. New York, NY: Routledge/Taylor & Francis Group.

Fink, G. (January 2010). Stress: Concepts, definition and history. *Reference Module in Neuroscience and Biobehavioral Psychology, 2017*, 1-9. doi:10.1016/B978-0-12809324-5.02208-2.

Finney, C., Stergiopoulos, E., Hensel, J., Bonato, S., & Dewa, C. S. (2013). Organizational stressors associated with job stress and burnout in correctional officers: A systematic review. *BMC Public Health, 13*(1), 82. doi:10.1186/1471-2458-13-82

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

Garland, B., Hogan, N. L., & Lambert, E. G. (2012). Antecedents of role stress among correctional staff: A replication and expansion. *Journal of Criminal Justice Policy Review, 24*(5), 527-550. doi:10.1177/0887403412451445

Gordon, J. A., Prouix, B., & Grant, P. H. (2013). Trepidation among the "keepers": Gendered perceptions of fear and risk of victimization among correctional officers. *American Journal of Criminal Justice, 38*(2), 245-265. doi10.1007/s12103-012-9167-1

Gould, D. D., Watson, S. L., Price, S. R., & Valliant, P. M. (2013). The relationship between burnout and coping in adult and young offender center correctional officers: An exploratory investigation. *Journal of Psychological Services, 10*(1), 37-47. doi:10.1037/a0029655

Halpern, J., Maunder, R. J., Schwartz, B., & Gurevich, M. (2012). Attachment insecurity, responses to critical incident distress, and current emotional symptoms in ambulance workers. *Stress and Health, 28*(1), 51-60. doi:10.1002/smi.1401

Hardwick, N. (2012). *Report on an announced inspection of HM Cayman Islands prison service.* London, England: Her Majesty's Inspectorate of Prisons.

Hartley, D. J., Davila, M. A., Marquart, J. W., & Mullings, J. L. (2012). Fear is a disease: The impact of fear and exposure to infectious disease on correctional officer job stress and satisfaction. *American Journal of Criminal Justice, 38*(2), 323-340. Retrieved from https://www.springer.com/journal/12103

Helmes, E., McNeill, P., Holden, R., & Jackson, C. (2008). The construct of alexithymia: Associations with defense mechanisms. *Journal of Clinical Psychology, 64*, 318-331. Retrieved from https://onlinelibrary.wiley.com/journal/10974679?tabActivePane=

Higgins, G., Tewksbury, R., & Denney, A. S. (2012). Validating a measure of work stress for correctional staff: A structural equation modeling approach. *Criminal Justice Policy Review, 24*(3), 338-52. doi:10.1177/0887403411434929

Jankoski, J. A. (2010). Is vicarious trauma the culprit? A study of child welfare professionals. *Journal of Child Welfare, 89*(6), 105-120. Retrieved from https://www.cwla.org/child-welfare-journal/

Keinan, G., & Malach-Pines, A. (2007). Stress and burnout among prison personnel: Sources, outcomes, and intervention strategies. *Criminal Justice and Behavior, 34*(3), 380–398. doi:10.1177/0093854806290007

Killian, K. D. (2008). Helping till it hurts? A multimethod study of compassion fatigue, burnout, and self-care in clinicians working with trauma survivors. *Traumatology, 14*(2), 32-44. doi:10.1177/1534765608319083

Kinman, G., Clements, A. J., & Hart, J. (2016). Work-related well-being in UK prison officers: A benchmarking approach. *Journal of Workplace Health Management 9*(3), 290-307. doi:10.1108/IJWHM-09-2015-0054

Lambert, E. G., & Hogan, N. L. (2010). Wanting change: The relationship of perceptions of organizational innovation with correctional staff job stress, job satisfaction, and organizational commitment. *Journal of Criminal Justice Police Review, 21*(2), 170-184. doi:10.1177/0887403409353166

Laureate Education. (2009). *Data cleaning and dealing with assumptions.* Baltimore, MD: Author.

Law, F. M., & Guo, G. J. (2015). Correlation of hope and self-efficacy with job satisfaction, job stress, and organizational commitment for correctional officers in the Taiwan prison system. *International Journal of Offender Therapy and Comparative Criminology*, *60*(11), 1257-77. doi:10.1177/0306624X15574997

Leduc, L. K. (2001). *Alexithymia, trauma, and posttraumatic stress disorder in incarcerated juvenile offender* (Doctoral dissertation). (UMI Number: 3042966).

Levant, R. F., Wong, Y. J., Karakis, E. N., & Welsh, M. M. (2015). Mediated moderation of the relationship between the endorsement of restrictive emotionality and alexithymia. *Journal of Psychology of Men & Masculinity, 16*(4), 459-467. doi:10.1037/a0039739

Leweke, F., Leichsenring, F., Kruse, J., & Hermes, S. (2012). Is alexithymia associated with specific mental disorders? *Journal of Psychopathology, 45(1)*, 22-28. doi:10.1159/000325170

Lewis, K. R., Lewis, L. S., & Garby, T. M. (2013). Surviving the trenches: The personal impact of the job on probation officers. *American Journal Criminal Justice, 38*(1), 67-84. doi:10.1007/s12103-012-9165-3

Lourel, M., Gueguen, N., Pascual, A., & Mouda, F., (2011). The effect-size: A simple methodology for determining and evaluating the “Effect-Size”. *Journal of Psychology, 2*(6), 631-632. doi: 10.4236/psych.2011.26096

Mani, B. (2012). New prison officers. *Cayman Islands Government Information Service.* Retrieved from http://www.gov.ky/portal/page?_pageid=1142,1593989&_dad=portal&_schema=PORTAL

Martin, J. L., Lichtenstein, B., Jenkot, R. B., & Forde, D. R. (2012). "They can take us over any time they want": Correctional officers' responses to prison crowding. *Prison Journal, 92*(1), 88-105. doi:10.1177/0032885511429256

McCann, I. L., & Pearlman, L. A. (1990a). *Psychological trauma and the adult survivor: Theory, therapy, and transformation.* New York, NY: Brunner/Mazel.

McCann, I. L., & Pearlman, L. A. (1990b). Vicarious traumatization: A framework for understanding the psychological effects of working with victims. *Journal of Traumatic Stress, 3*(1), 131–149. John Wiley & Sons, Inc., 0894-9867/90/0100-0131

Misis, M., Kim, B., Cheeseman, K., Hogan, N. L., & Lambert, E. G. (2013). The impact of correctional officer perceptions of inmates on job stress. *SAGE Open, April-June*(1), 1–13. doi:10.1177/2158244013489695

Molnar, B. E., Sprang, G., Killian, K. D., Gottfried, R., Emery, V., & Bride, B. E. (2017). Advancing science and practice for vicarious traumatization/secondary traumatic stress: A research agenda. *Journal of Traumatology, 23*(2), 129-142. doi:10.1037/trm0000122

Morgan, R. D., Van Haveren, R. A., & Pearson, C. A. (2002). Correctional officer burnout: Further analyses. *Journal of Criminal Justice and Behavior, 29*(2), 144-160. doi:10.1177/0093854802029002002

National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. (1979, April 18). *The Belmont report: Ethical principles and guidelines for the protection of human subjects of research.* Bethesda, MD: Author.

Peasley-Miklus, C. E., Panayiotou, G., & Vrana, S. R. (2016). Alexithymia predicts arousal-based processing deficits and discordance between emotion response systems during emotional imagery. *Emotion, 16*(2), 164–174. doi:10.1037/emo0000086

Pepe, S., Farnese, M. L., Avallone, F., & Vecchione, M. (2010). Job self-efficacy scale and search for job self-efficacy scale: A validation study in Spanish and Italian cultural contexts. *Revista de Psicologia del Trabajo y de las Organizaciones, 26*(3), 201-210. doi: 10.5093/tr2010v26n3a4. Retrieved from https://journals.copmadrid.org/jwop/

Prati, G., Pietrantoni, L., & Cicognani, E. (2010). Self-efficacy moderates the relationship between stress appraisal and quality of life among rescue workers. *Journal of Anxiety, Stress & Coping, 23*(4), 463-470. doi:10.1080/10615800903431699

Pryjmachuk, S., & Richards, D. A. (2007). Look before you leap and don't put all your eggs in one basket: The need for caution and prudence in quantitative data analysis. *Journal of Research in Nursing, 12*(1), 43-54. Retrieved from https://journals.sagepub.com/home/jrn

Reio, T., Jr. (2010). The threat of common method variance bias to theory building. *Human Resource Development Review, 9*(4), 405-11. doi:10.1177/1534484310380331

Rutter, M. (2006). Implications of resilience concepts for scientific understanding. *Annals of the New York Academy of Sciences, 1094*(1), 1-12. doi:10.1196/annals.1376.002.

Samak, Q. (2003). Correctional officers of CSC and their working conditions: A questionnaire-based study. *Union of Canadian Correctional Officers.* Retrieved from http://www.ucco-sacc.csn.qc.ca/Documents/UCCO-SACC/National/documents/Research/Correctional%20Officers%20and%20their%20working%20conditions.pdf

Sawhney, G., Jennings, K. S., Britt, T. W., & Sliter, M. T. (2018). Occupational stress and mental health symptoms: Examining the moderating effect of work recovery strategies in firefighters. *Journal of Occupational Health Psychology, 23*(3), 443–456. doi:10.1037/ocp0000091

Schlosser, L. Z. (2010). Reasons for choosing a correctional officers career. *Journal of Psychological Services, 7*(1), 34-43. Retrieved from https://www.apa.org/pubs/journals/ser/

Schönfeld, P., Brailovskaia, J., Bieda, A., & Zhang, X. C. (2015). The effects of daily stress on positive and negative mental health: Mediation through self-efficacy. *International Journal of Clinincal and Health Psychology, 16*(1). doi:10.1016/j.ijchp.2015.08.005

Setti, I., & Argentero, P. (2012). Vicarious trauma: A contribution to the Italian Adaptation of the secondary traumatic stress scale in a sample of ambulance operators. *Bollettino Di Psicologia Applicata, 264*(1), 58-64. Retrieved from http://www.giuntipsy.it/catalogo/rivista/bollettino-di-psicologia-applicata

Shoji, K., Lesnierowska, M., Smoktunowicz, E., Bock, J., Luszczynska, A., Benight, C. C., & Cieslak, R. (2015). What comes first, job burnout or secondary traumatic stress? Findings from two longitudinal studies from the U.S and Poland. *PLos One, 10*(8), e0136730. doi:10.1371/journal.prone.0136730

Sifneos, P. E. (1996). Alexithymia: Past and present. *American Journal of Psychiatry, 153*(7), 137-142. Retrieved from https://ajp.psychiatryonline.org/

Summerlin, Z., Oehme, K., Stern, N., & Valentine, C. (2010). Disparate levels of stress in police and correctional officers: Preliminary evidence from a pilot study on domestic violence. *Journal of Human Behaviour in the Social Environment, 20,* 762-777. doi:10.1080/109111351003749169

Taylor, G. J., Bagby, R. M., & Parker, J. D. A. (1992). The Revised Toronto Alexithymia Scale: Some reliability, validity, and normative data. *Psychotherapy and Psychosomatics, 57*(1-2), 34-41. doi:10.1159/000288571

Taylor, G. J., Bagby, R. M., & Parker, J. D. A. (2016). What's in the name 'alexithymia'? A commentary on "Affective agnosia: Expansion of the alexithymia construct and a new opportunity to integrate and extend Freud's legacy." *Neuroscience and Biobehavioral Reviews, 68*, 1006–1020. doi:10.1016/j.neubiorev.2016.05.025

Thomas, B., Jr. (2012). *Predictors of vicarious trauma and secondary traumatic stress among correctional officers* (Doctoral dissertation, Walden University). Retrieved from ProQuest, PCOM Psychology Dissertations (Paper 228).

Thompson, B. (2007). Effect sizes, confidence intervals, and confidence intervals for effect sizes. *Psychology in the Schools, 44,* 423-32. Retrieved from https://onlinelibrary.wiley.com/journal/15206807?tabActivePane=

Ting, L., Jacobson, J. M., Sanders, S., Bride, B. E., & Harrington, D. (2005). The secondary traumatic stress scale (STSS): Confirmatory factor analysis with a national sample of mental health social workers. *Journal of Human Behavior in the Social Environment, 11*(3-4), 177-94. doi:10.1300/J137v11n03_09

Tolmunen, T., Heliste, M., Lehto, S. M., Hintikka, J., Honkalampi, K., & Kauhanen, J. (2011). Stability of alexithymia in the general population: An 11 year follow-up. *Journal of Comprehensive Psychiatry, 52,* 536-541. doi:10.1016/j.compsych.2010.09.007

Tracy, S. J. (2004). The construction of correctional officers: Layers of emotionality behind bars. *Journal of Qualitative Inquiry, 10*(4), 509-533. Retrieved from https://journals.sagepub.com/home/qix

Trochim, W. M. K. (2006). The qualitative debate. *Research Methods Knowledge Base.* Retrieved from http://www.socialresearchmethods.net/kb/qualmeth.php

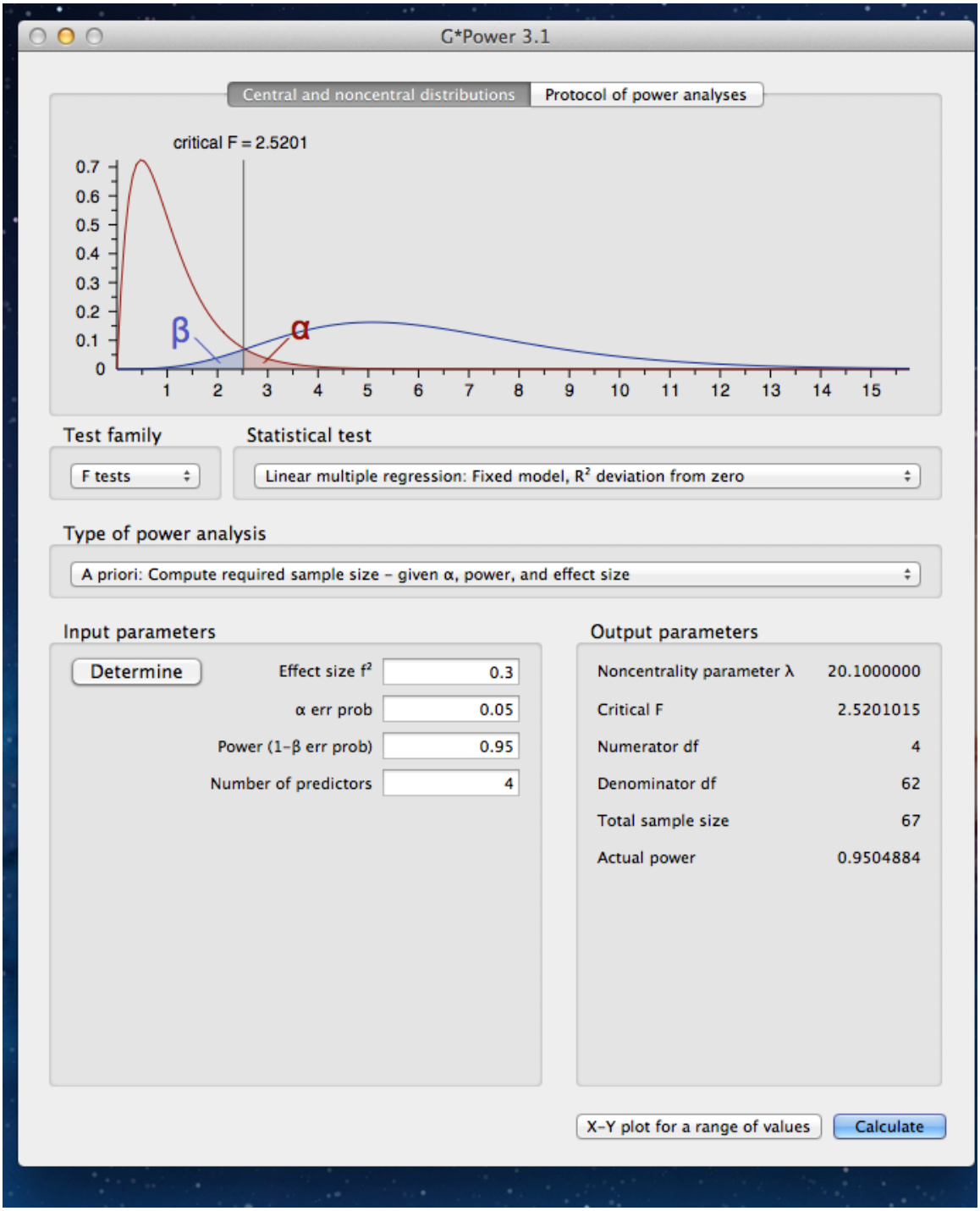
U. S. Department of Justice, Correctional Services. (2016). *Correctional populations in the United States, 2014* (Report No. NCJ 249513). Retrieved from www.ojp.usdoj.gov

Valentine, C., Oehme, K., & Martin, A. (2012). Correctional officers and domestic violence: Experiences and attitudes. *Journal of Family Violence, 27*, 531-545. Retrieved from https://www.springer.com/journal/10896

Vandermeer, M. R. J. (2014). *Secondary traumatic stress and alexithymia in high-risk professionals* (Master's thesis). Retrieved from http://ir.lib.uwo.ca/etd

Wells, J. B., Minor, K. J., Matz, A. K., & Amato, N. (2009). Predictors of job stress among staff in juvenile correctional facilities. *Journal of Criminal Justice and Behavior, 36*(3), 245-258. doi:10.1177/009938548083293344

Appendix A: G*Power Calculation of Sample Size



Appendix B: Descriptive Statistics Tables

Reliability Statistics

ach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.830	.851	10

Item Statistics

	Mean	Std. Deviation	N
WSES 1_r_mean	4.49	.764	79
WSES 2_r_mean	4.54	.931	79
WSES 3_r_mean	4.35	.975	79
WSES 4_r_mean	3.84	1.245	79
WSES 5_r_mean	4.58	.653	79
WSES 6_r_mean	4.49	.749	79
WSES 7_r_mean	4.61	.741	79
WSES 8_r_mean	4.18	1.035	79
WSES 9_r_mean	4.42	.840	79
WSES 10_r_mean	4.70	.540	79

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.420	3.835	4.696	.861	1.224	.063	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
WSES 1_r_mean	39.72	24.511	.636	.614	.805
WSES 2_r_mean	39.66	23.824	.573	.494	.809
WSES 3_r_mean	39.85	23.714	.552	.439	.812

WSES 4_r_mean	40.37	24.742	.291	.104	.852
WSES 5_r_mean	39.62	25.514	.601	.639	.811
WSES 6_r_mean	39.71	24.600	.638	.581	.805
WSES 7_r_mean	39.59	24.904	.601	.514	.809
WSES 8_r_mean	40.03	24.083	.467	.332	.822
WSES 9_r_mean	39.78	23.697	.672	.540	.800
WSES 10_r_mean	39.51	27.170	.434	.320	.824

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
44.20	29.901	5.468	10

```
RELIABILITY
 /VARIABLES=STSS_Q1_1 STSS_Q2_1 STSS_Q3_1 STSS_Q4_1 STSS_Q5_1 STSS_Q6_1 STSS_Q7_1 STSS_Q8_1
  STSS_Q9_1 STSS_Q10_1 STSS_Q11_1 STSS_Q12_1 STSS_Q13_1 STSS_Q14_1 STSS_Q15_1 STSS_Q16_1 STSS_Q17_1
 /SCALE('ALL VARIABLES') ALL
 /MODEL=ALPHA
 /STATISTICS=DESCRIPTIVE SCALE CORR
 /SUMMARY=TOTAL MEANS.
```

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	79	100.0
	Excludeda	0	.0
	Total	79	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.907	.917	17

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	1.898	1.380	2.557	1.177	1.853	.080	17

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
STSS_1_r_mean	29.703	98.311	.345	.303	.914
STSS_2_r_mean	30.437	98.554	.580	.637	.901
STSS_3_r_mean	30.544	98.495	.494	.571	.904
STSS_4_r_mean	30.146	93.180	.644	.524	.899
STSS_5_r_mean	30.158	95.965	.615	.522	.900
STSS_6_r_mean	30.538	97.800	.705	.650	.898
STSS_7_r_mean	30.424	97.975	.649	.662	.899
STSS_8_r_mean	30.703	98.503	.760	.773	.898
STSS_9_r_mean	30.373	98.349	.632	.563	.900
STSS 10_r_mean	29.968	98.861	.517	.495	.903
STSS_11_r_mean	30.487	98.327	.750	.719	.898
STSS_12_r_mean	30.247	96.249	.594	.598	.901
STSS_13_r_mean	30.880	99.976	.646	.597	.900
STSS_14_r_mean	30.234	100.743	.457	.452	.905
STSS_15_r_mean	30.291	97.696	.724	.709	.898
STSS_16_r_mean	30.348	98.829	.570	.588	.902
STSS_17_r_mean	30.671	103.160	.464	.560	.905

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
32.259	110.320	10.5033	17

```
RELIABILITY
 /VARIABLES=TAS_Q1_1 TAS_Q2_1 TAS_Q3_1 TAS_Q6_1 TAS_Q7_1 TAS_Q8_1 TAS_Q9_1 TAS_Q11_1 TAS_Q12_1
```

```
 TAS_Q13_1 TAS_Q14_1 TAS_Q15_1 TAS_Q16_1 TAS_Q17_1 TAS_Q20_1 TAS_Q4_R_1 TAS_Q5_R_1 TAS_Q10_R_1
 TAS_Q18_R_1 TAS_Q19_R_1
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL MEANS.
```

Reliability
Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	79	100.0
	Excludeda	0	.0
	Total	79	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.852	.853	20

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	2.123	1.646	3.038	1.392	1.846	.137	20

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
TAS_1_r_mean	40.54	155.642	.703	.660	.835
TAS_2_r_mean	40.40	155.868	.653	.701	.837
TAS_3_r_mean	40.82	157.213	.597	.529	.839
TAS_6_r_mean	40.32	153.282	.650	.712	.836
TAS_7_r_mean	40.66	156.466	.632	.730	.838
TAS_8_r_mean	40.23	163.191	.322	.317	.851
TAS_9_r_mean	40.46	152.364	.731	.782	.833

TAS_11_r_mean	40.42	156.949	.542	.496	.841
TAS_12_r_mean	40.24	158.063	.538	.486	.841
TAS_13_r_mean	40.74	154.576	.715	.712	.834
TAS_14_r_mean	40.68	154.872	.632	.666	.837
TAS_15_r_mean	39.71	158.953	.467	.560	.844
TAS_16_r_mean	39.42	170.436	.121	.398	.860
TAS_17_r_mean	39.89	153.325	.585	.576	.838
TAS_20_r_mean	39.87	164.652	.303	.306	.851
TAS_4R_r_mean	40.49	166.275	.291	.516	.851
TAS_5R_r_mean	40.56	176.425	-.014	.569	.861
TAS_10R_r_mean	40.73	170.210	.207	.450	.853
TAS_18R_r_mean	40.18	177.136	-.044	.622	.864
TAS_19R_r_mean	40.40	169.534	.202	.652	.854

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
42.46	177.313	13.316	20