Exploring Risk Factors Associated with Post-Traumatic Stress Disorder Symptomatology in Police

Lori Camacho

*University of Central Florida*

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EXPLORING RISK FACTORS ASSOCIATED WITH POST-TRAUMATIC STRESS DISORDER SYMPTOMATOLOGY IN POLICE

by

LORI CAMACHO
M.A. University of Central Florida, 2005

A dissertation is submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the Department of Public Affairs in the College of Community Innovation and Education at the University of Central Florida Orlando, Florida

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ABSTRACT

Mental health outcomes, especially post-traumatic stress disorder (PTSD), in police have become more of a concern for law enforcement administrators, peers, family and friends. Using culture as a theoretical framework, the current cross-sectional, convergent mixed methods study explored the relationship between personal cumulative exposure to different types of critical incidents and likelihood of reporting PTSD symptoms in a sample of officers (n=71) from one municipal police department. This study also examined how personal cumulative exposure to different types of critical incidents and likelihood of reporting symptoms of PTSD may be moderated by the degree of perception of social support from friends and family. Finally, the study included a qualitative analysis of how police culture influences barriers to officers receiving mental health services. Regression models supported a significant positive relationship between cumulative exposure to various types of critical incidents experienced personally by the officer and the likelihood of reporting symptoms of PTSD. Results also showed a direct significant inverse relationship between perception of social support from family and friends and self-reported symptoms of PTSD. Social support did not moderate the relationship between personal cumulative exposure to various types of critical incidents and the likelihood of reporting symptoms of PTSD. A separate thematic analysis of officers (n=54) revealed that the culture of machismo (occupational and self) influenced officers’ perception of receiving mental health services. This study highlights the need for close attention to the effects of cumulative exposure to trauma in officers and the need to advocate for strong interpersonal relationships outside of policing. Other policy implications are discussed.
This dissertation is dedicated to the brave men and women in our police departments across the globe who work tirelessly to protect and serve our communities. You inspire me to continue to give back to my community as a researcher and a clinician.
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CHAPTER FOUR: RESULTS

Descriptives and Correlations..................................................................................61
Assessing the Fit of the OLS Regression Model.......................................................69
RQ1: “What cumulative impact does type of trauma exposure have on the likelihood of reporting PTSD symptoms?”.............................................................................71
The Logistic Regression Model................................................................................72
Overall Model Fit of Logistic Regression Model......................................................73
RQ2: “What moderating impact does perception of social support from family and friends have on likelihood of developing PTSD symptoms after exposure to critical incidents?”....74

RQ3: What influence does police culture have on perceived barriers to officers receiving mental health services? ..........................77

CHAPTER FIVE: DISCUSSION ...............................................................82

Summary Findings RQ #1: What cumulative impact does type of trauma exposure have on the likelihood of reporting PTSD symptoms? ........................................................................82

Theoretical Implications .........................................................................................84

Summary of findings RQ2: “What moderating impact does perception of social support from friends and family have on likelihood of developing PTSD symptoms after exposure to critical incidents?” ............................................................86

Theoretical Implications .........................................................................................88

Summary of findings RQ 3: What influence does police culture have on perceived barriers to officers receiving mental health services? ........................................................................89

Stigma ......................................................................................................................89

Improving Mental Health Literacy Beyond the Baker Act ........................................101

Integrating the Quantitative and Qualitative Findings ..............................................107

Limitations and Future Research ...........................................................................110

APPENDIX A: IRB APPROVAL LETTER .........................................................116

APPENDIX B: EXPLANATION OF RESEARCH ..............................................118

APPENDIX C: SURVEY INSTRUMENT ............................................................120

APPENDIX D: TABLE OF FULL OLS REGRESSION MODEL ..........................126

REFERENCES .......................................................................................................128
LIST OF FIGURES

Figure 1. Illustration of Attitudinal Barriers to Receiving Mental Health Services ............... 32

Figure 2. Thematic Analysis of the Barriers to Officers Receiving Mental Health Services ..... 81
LIST OF TABLES

Table 1: Scale Items and Factor Loadings ........................................................................... 52
Table 2: Mean Differences Between Variables ..................................................................... 62
Table 3: Correlation Matrix (n=71) ..................................................................................... 65
Table 4: Contingency Table of PTSD Symptoms from PC-PTSD-5 .................................... 66
Table 5. Critical Incident Exposure Type Frequency (Personal & Witnessed) ...................... 69
Table 6. OLS Regression Model Predicting PTSD Symptoms (n=71) ............................... 70
Table 7. Logistic Regression Predicting 3+ Symptoms of PTSD ........................................ 74
Table 8. Regressed Model with Interaction Term in Predicting PTSS (n=71) ...................... 76
Table 9. Moderation Analysis for Dichotomized PTSS ..................................................... 77
Table 10. Thematic Analysis of Barriers to Officers Receiving Mental Health Services ........ 79
Table 11. OLS Regression Model Predicting PTSD Symptoms with Demographic Data ...... 127
CHAPTER 1: INTRODUCTION

Police face a myriad of occupational stressors that may be compounded with repeated exposure to critical incidents (trauma). This stress can have a negative impact on officers’ physical and psychological health, performance, and in their interactions with the citizens (Queirós et al., 2020). As a result, police agencies have taken more of an interest in the psychological wellness of officers, given the various costs associated with depression, anxiety, burnout, post-traumatic stress disorder (PTSD) and even suicide, which is elevated for police when compared to the general population (Violanti et al., 2017). Poor psychological health of police can also contribute to physical ailments (Violanti, 2021), like cardiovascular disease, which is the leading cause of death for men and women in the United States (Center for Disease Control [CDC], n.d.). Therefore, the concentric effects of chronic stress coupled with PTSD (Zohar & Fostick, 2014) may contribute to premature death among officers. For example, in a study of Florida police officers, Parker (2011) found that officers die 12 years earlier (62.4 years of age) than the average Floridian (74.2 years of age). Therefore, identifying specific risk factors associated with the development of PTSD in police officers should be an ongoing effort in research.

The United States federal government has shown concern for officers’ psychological wellbeing, as illustrated by efforts from Congress and formal federal recommendations to enhance the wellness of officers. Former President Obama’s Task Force on 21st Century Policing proposed best practices and recommendations for reducing crime and enhancing community trust in police (President’s Task Force on 21st Century Policing, 2015). One of the six pillars discussed in the task force is officer safety and wellness. The report describes how the
psychological wellness of police influences the officer, his or her functioning within the department, and the community. In addition, the United States government passed the Law Enforcement Mental Health and Wellness Act of 2017. This act calls for the frequent research of the mental health status of officers (Law Enforcement Mental Health and Wellness Act 2017). How much this legislature catalyzed research into the psychological wellbeing of police remains unknown. However, more research needs to be done to explore the various facets of the psychological wellness of officers.

While it is well cited that police work is stressful. However, there is limited research encompassing the factors specific to the police occupation that may contribute and have concentric effects on psychological outcomes for officers (Sherwood et al., 2019). The literature that does exist regarding police officers’ psychological wellness fails to acknowledge the impact of culture in policing on psychological outcomes (White et al., 2016). Scholars argue that there is very little systematic research (quantitative or empirical) linking police culture to key psychological outcomes for officers (White et al. 2016). In turn, an incomplete picture of mental health outcomes and wellness of police may exist. Police executives continually emphasize the importance of scholars to consider the unique culture that police adopt into their research design when exploring mental health outcomes in officers (Kuhns et al., 2015). The theoretical tenants of police culture can shed light on the occupational and organizational environments that produce stress and anxiety among officers and describes how officers cope with these stressors (Paoline & Terrill, 2014). Stress and anxiety are important indicators for a variety of psychological outcomes in the general population and in police (Alexopoulos et al., 2014; Carleton et al., 2019; Thoen et al., 2020).
The occupational environment for officers can be widely perceived as dangerous and uncertain, which may create an environment ripe for the development of various mental health disorders. For example, exposure to frequent life-threatening situations can be a major contributor to the perception of danger on the job for police. Perception of danger may contribute to an increase in suspiciousness of their environment. As a result, elevated suspiciousness could foster stress and anxiety for officers (Paoline & Terrill, 2014).

According to research into police culture, one of the means officers cope with the strains of the job is by isolating themselves from others outside of policing (Niederhoffer, 1969; Paoline & Terrill, 2014). Social isolation thwarts overall social support. In addition, social isolation is a common risk factor associated with the onset of many psychological disorders, including PTSD (American Psychiatric Association, 2013). Social support is thought of to be a major protective factor in mitigating symptoms of PTSD across a variety of populations (Jetelina et al., 2020; Wang et al., 2021) and it is reasonable to postulate similar implications for police. For example, some studies have suggested that after a critical incident, officers are significantly more comfortable talking to another officer than speaking to a mental health professional (White et al., 2016). Yet, one of the risks associated with just talking to another officer about the incident is that this may create a distorted perception of the incident or a minimization of the effect the incident has on his or her psychological wellbeing. Understanding the relationship between social support in the context of police culture and impact on psychological outcomes, particularly symptoms of PTSD, is yet to be determined but is an important variable in the current study.
What is also unclear in police literature discussing symptoms of PTSD in officers is the lack studies that link cumulative trauma exposure to symptoms of PTSD. There have been few studies that account for the cumulative impact of traumatic experiences on the likelihood of developing symptoms of PTSD in officers (Beagley et al., 2017; Violanti, 2021). Closing this gap may help providers and police officials better identify and predict symptoms of PTSD after exposure to multiple critical incidents. As a result, problematic symptoms can be identified and addressed earlier, thus, minimizing distress to officers. Police can also be provided with education about exposure risks associated with specific symptoms of PTSD. This knowledge can better prepare officers and help them develop a reservoir of coping skills throughout their career as they navigate various critical incidents and other occupational stressors.

Police officers and policing organizations have become more open to studying and discussing psychological outcomes of officers in recent years (Brown, 2020). However, there is much unknown in the literature connecting various aspects of the occupational and organizational environments in which police engage affect officers’ mental health. Scholars have just scratched the surface on how police culture may influence and shape psychological outcomes for police officers as they navigate these occupational and organizational environments. For instance, police culture may be more influential in shaping officers’ psychological wellbeing more so than the nature of the job itself (Police Executive Research Forum, [PERF], 2019). Understanding how these variables interact with one another is essential to provide the resources needed to preserve and promote officer mental health. Police officer wellness and safety is of concern to not only themselves, but to their colleagues, departments, and to the public they serve (PERF, 2019; Thoen et al., 2020).
The current study explores the impact of various aspects of occupational (e.g., exposure to critical incidents) and organizational (e.g., lack of support from top management) stressors on officers’ risk of developing symptoms of PTSD through the theoretical lens of police culture. The data will be derived from a cross-sectional survey administered in Fall 2021. Symptoms of PTSD will be assessed using a validated tool, the Primary Care PTSD Screen for DSM-5 (PC-PTSD-5), which has been widely used by the Veteran’s Association (U.S. Department of Veterans Affairs, n.d.). Specifically, this study aims to explore what cumulative impact exposure to various types of traumas (involving them personally or witnessing) on the likelihood of officers reporting symptoms of PTSD. In addition, the current study evaluates the role of social support in moderating PTSD symptomatology. A separate qualitative will be conducted on how much police culture influenced the attitudinal barriers that impact officers seeking out help for mental health issues. Finally, the analysis will synthesize key themes derived from the qualitative analysis and link them to findings in the quantitative portion of the study. In general, this study adds to existing policing literature of officer mental health outcomes. The findings may help policing organizations better identify psychological distress in officers and understanding how certain aspects of police culture may contribute to barriers to officers receiving mental health services.

Plan for the Dissertation

Chapter 2 discusses PTSD and its prevalence among police officers. Risk factors, including exposure to specific types of trauma, are explored. Since police officers are first responders, they are often the first to arrive at the scene of a variety of potentially traumatic
experiences (homicides, suicides, or bad accidents for example). So, the nature of the job itself places officers at an increased risk of exposure to traumatic events and therefore, elevate the odds of developing symptoms of PTSD more than the general population. Police culture explains that exposure to traumatic events is one of the most stressful occupational experiences for officers. Finally, Chapter 2 provides an overview of barriers officers face in receiving mental health services when needed. Chapter 3 outlines the research design, methods, and rationale behind the current study. The chapter contains a description of the key theoretical concepts and variable operationalization along with the analytic plan, which will consist of ordinary least squares (OLS) and logistic regression modeling as appropriate based on the levels of measurement of the dependent variables. Chapter 4 presents univariate and bivariate results and discusses the main findings from the regression models. Finally, Chapter 5 provides a discussion of the results, limitations of the current study, and policy implications for improving the psychological wellness of police.
CHAPTER 2: LITERATURE REVIEW

This chapter is divided into several sections. Through the theoretical lens of police culture, the first portion discusses the stressful nature of policing and the sources of stress that are unique to the occupation. Studies linking stress associated with police work to psychological outcomes is explored, particularly exposure to critical incidents. Prevalence of mental health issues of police are also identified, especially the relevance and risk of post-traumatic stress disorder that is unique to first responders. A brief history of post-traumatic stress disorder (PTSD) and diagnostic criteria is provided to help the reader understand the nature of this psychological disorder. The last section discusses the specific barriers that officers face in receiving mental health services.

Police officers have one of the most stressful jobs, not just in the United States, but across the globe (Nisar & Rasheed, 2020). There is an abundance of literature that illustrates the stressful nature of policing (Gershon et al., 2009; Jetelina et al., 2020; Maran et al., 2018; Trombka et al., 2018). Examples of police stressors include: poor communication in the workplace, fixed organizational structure, exposure to trauma (Gershon et al., 2009), shift work (rotating days/hours) (PERF, 2019), overtime (Violanti et al., 2017), and workload (Nisar & Rasheed, 2020; PERF, 2019; Violanti et al., 2017). Officers are required to adjust to environments that change constantly (Violanti, 2021). In turn, police work is emotionally and physically draining. Officers frequently lack flexibility and control in the execution of their jobs, which also contributes to stress unique to the profession (Gershon et al., 2009). Police stress is largely categorized into organizational and occupational stressors (Trombka et al., 2018).
Organizational Stressors for Police

Organizational stressors like perception of administrative support, ability to actively participate in decision-making, and independence are important predictors of psychological wellness in officers (PERF, 2019; Violanti et al., 2017), especially anxiety (Perez-Floriano & Gonzalez, 2019), burnout (Adams & Mastracci, 2019; Perez-Floriano & Gonzalez, 2019), development of PTSD (Perez-Floriano & Gonzalez, 2019), and job satisfaction (Davy, 2001; Jo & Shim, 2014). Research has also noted that lack of resources, paperwork deadlines, and overall frustration with the criminal justice system are associated with organizational stressors in policing (Cohen et al., 2019). Violanti et al. (2017) propose that organizational hierarchy and design could be the largest culprit of psychological stress among police officers as these represent a static part of the occupation, which remains unchanged. For example, Gershon et al. (2009) found in their survey of 1,072 officers from an urban police department that perceived organizational unfairness or a lack of administrative support is one of the top-rated stressors for police, even more so than exposure to critical incidents.

Perceived organizational support has been related to officers’ commitment and productivity alongside reported stress levels and turnover intentions (Adams & Mastracci, 2019). Lack of support within the police organization can manifest as conflicts between supervisors and patrol officers, poor support from top management, and political pressure within the organization and the community (Ma et al., 2015). Administrative policy implementation in police departments can have an immense impact on burnout. McCarty and Skogan (2012) found in their large-scale study of 486 civilian officers and 2,078 sworn police officers across 12 agencies in the United States that fairness was a contributing factor of job
satisfaction and burnout. Some scholars argue that there can be a perception of distrust between upper management and officers, where officers do not feel that management will provide them with support during internal investigations when dealing with citizen complaints (Lanterman et al., 2010). Excessive discipline from management and other organizational stressors can also have a negative impact on officers’ physical and psychological wellbeing (Maran et al., 2018; Van Maanen, 1975; Violanti et al., 2017; Westley, 1970).

Just as unsupportive management styles have been shown to have negative effects on police officer wellness, leadership styles that are supportive and holistic may enrich officer wellbeing. Studies have shown that having positive leadership that focuses on officer wellbeing is negatively related to burnout, depression, anxiety, and physical ailments (Adams & Mastracci, 2019; Santa Maria et al., 2018; Queirós et al. 2020). Some scholars suggest that administrative support can be the largest mediator in preventing PTSD after a critical incident (Cohen et al., 2019). For example, a positive perception of administrative support could be related to overall perceived stress among police, which could have implications related to both psychological and physical wellness among officers as mentioned previously.

Occupational Stressors in Policing

Occupational stressors may be impacted by several factors, including shiftwork, overtime, rank, varying work pace (Gershon et al., 2009), civil unrest (Violanti, 2021), and negative media coverage (Paoline & Terrill, 2014). Some studies have linked long hours to more job stress and shiftwork has been related to overall lower job satisfaction (Davy, 2001). The shift officers work may also play an important role in the potential of exposure to more physical danger. Perception of danger is cited as a major source of occupational stress for police
Ma et al. (2015) operationalized danger in their study of 365 police officers to include responding to felonies in progress, witness of death and severe injury, high-speed chases, personal insults, and working overnights. Their study estimated that on average, officers reported exposure to at least one or more physically or psychologically dangerous events per day in a 30-day period. The occupational risk associated with policing is critical to understand because perception of danger can ultimately have a negative impact officers’ physical and psychological health. For example, the perception of being in constant danger may cultivate symptoms of anxiety (Skolnick, 1994) and PTSD, especially symptoms of hypervigilance like an exaggerated sense of being watchful or on guard. Danger may be a product of police culture, but it may also shape culture (Terpstra & Schaap, 2013). Perception of danger remains a prevalent feature in police culture, in that, regardless of presence of actual danger, it is believed that police work is dangerous (Paoline & Terrill, 2014). In turn, the perception of danger contributes to the overall stressful nature of the police occupation (Sierra-Arévalo, 2021).

Police stress is essential to understand because stress is linked to officer health and wellbeing (Perez-Floriano & Gonzalez, 2019). Scholars propose that the unique occupation of police work inherently places officers in a vulnerable place, making them more likely to develop mental and physical disorders (Gershon et al., 2009; Lees et al., 2019) and attain an overall poorer quality of life more than the general population (Trombka et al., 2018). For example, Gershon et al. (2009) found that exposure to critical incidents, workplace discrimination, poor sense of cooperation with other officers, job dissatisfaction correlated significantly with perceived stress. This study also found that 70% of participants reported
feeling moody, irritable, or impatient over minute problems. Similar studies have found strong relationships of perception of stress with a variety of mental health issues particularly depression (Alexopoulos et al., 2014; Gershon et al., 2009; Kale & Gedik, 2020; Ogeil et al., 2018; Rajaratnam et al., 2011; Trombka et al., 2018; Violanti et al., 2017), anxiety (Gershon et al., 2009; Kale & Gedik, 2020; Maran et al., 2015; Ogeil et al., 2018; Queirós et al., 2020; Trombka et al., 2018), burnout (Adams & Mastracci, 2019; Gershon et al., 2009; Lanterman et al., 2010; Ogeil et al., 2018; McCarty & Skogan, 2012; Trombka et al., 2018; Queirós et al., 2020), post-traumatic stress disorder (Gershon et al., 2009), substance use (Boyandagari et al., 2021), lower quality of life (Kale & Gedik, 2020; Queirós et al., 2020), intimate partner violence (IPV) (Violanti et al., 2017), and suicide (Gershon et al., 2009; PERF, 2019; Queirós et al., 2020).

**Exposure to Critical Incidents for Police**

One of the major and unique occupational stressors associated with police work is the daily risk of exposure to trauma or critical incidents (Adams & Mastracci, 2019; Gershon et al., 2009; Jetelina et al., 2020). Critical incidents are characterized by situations beyond what is expected in everyday work. Examples of critical incidents or trauma for officers may include unpredictable disturbing and even horrific events like suicides, murder, accident scenes, fires, and physical assaults (Carleton et al., 2019; Gershon et al., 2009). These events may cause public safety personnel to experience strong emotional reactions when reminded of the event and have the risk of interfering with everyday functioning.
Scholars estimate that police officers are exposed to at least seven traumatic events each year (Hartley et al., 2013) but may be as high as 11 (Carleton et al., 2019; Galatzer-Levy et al., 2013). Repeated exposure to such stressful events may be linked with the subsequent development of various mental health disorders (Edwards & Kotera, 2021; Papazoglou & Anderson, 2014; Steenbeek et al., 2020) like anxiety, depression (Kaurin et al., 2018; McCanlies et al., 2017), and PTSD to name a few (Carleton et al., 2019; Gershon et al., 2009; Jetelina et al., 2020; Lees et al., 2019; Papazoglou & Anderson, 2014; Steenbeek et al., 2020; Thejus, 2013; Violanti et al., 2017). Post-traumatic stress disorder is of particular concern to those in the policing industry because their risk of exposure to multiple traumas over the duration of their career is elevated. Recent research has suggested that police are significantly more likely to develop PTSD than the general population (PERF, 2019). These statistics have caught the attention of the federal government and police executives across the nation. More systematic research has been conducted over the past several years to explore the prevalence and risk factors associated with first responders, especially police officers, and subsequent development of PTSD.

**Understanding PTSD**

For PTSD to be researched fully and operationalized appropriately, it is important to understand the history behind the disorder and how diagnostic criteria are met. The term post-traumatic stress disorder was not formally adopted until 1980. Post-traumatic stress disorder was originally coined as “shell shock” or “neurasthenia” by French physicians in 1915 who noticed that World War I soldiers experienced severe anxiety and disassociation of thoughts,
feelings, and perceptions when returning home from combat (McKenzie, 2012). After WWI, a formal report was drafted to discuss the seriousness of “shell shock” on veterans and was hopeful to establish treatment recommendations. However, these recommendations were not heeded during the Second World War in 1939. The arbitrary term “shell shock” was transformed into “combat fatigue.” Once again, clinicians noticed a heightened prevalence of severe anxiety and psychopathology in veterans returning to civilian life (McKenzie, 2012). These affected soldiers were treated with barbiturates and anesthetics.

Psychology has burgeoned with research and knowledge about PTSD since the 1900’s. PTSD is clinically defined as a common, debilitating psychiatric illness that can develop in a person who has experienced, witnessed, or has been confronted with an event or a series of events that include actual or perceived threat of death, serious bodily injury to oneself or others (American Psychiatric Association, 2013; Lees et al., 2019). A person’s response to such events can be fear, helplessness, and horror. PTSD is characterized by four clusters of symptoms (re-experiencing, avoidance, arousal and reactivity, and cognition and mood symptoms (National Institute of Mental Health [NIMH], n.d.). To meet the diagnostic criteria for PTSD, an adult is required to experience symptoms for a least 30 days or 1 month from the following clusters: at least one re-experiencing symptom, one avoidance symptom, two arousal and reactivity symptoms, and two cognition or mood symptoms. The symptoms must cause severe enough impact on daily functioning (i.e., occupationally or interpersonally) to be clinically significant. Furthermore, these symptoms are required to be unrelated to medication use, use of alcohol or illicit drugs, or other organic medical condition. Regardless of meeting the DSM-5 diagnostic
criteria for PTSD, having even one of these symptoms can be disruptive to a person’s quality of life (American Psychiatric Association, 2013).

Symptoms of PTSD are often catalyzed by triggers present in the person’s environment like objects or situations associated with the event or may be provoked by thoughts or feelings attached to the trauma (American Psychiatric Association, 2013). The re-experiencing symptoms are typically characterized as flashbacks (re-living the event, sometimes with a physiological response like rapid heart rate or sweating), nightmares or unprovoked memories related to the event, and pervasive disturbing thoughts. Symptoms of avoidance may include intentionally staying away from people, places, specific events, objects, and suppressing thoughts or feeling associated with the traumatic event. As a result, these symptoms may cause a significant shift in a person’s routine or they may avoid thoughts and feelings related to the event. Arousal symptoms are often characterized by exaggerated startle response, edginess, being guarded, sleep dysregulation, irritability, or aggressiveness that can negatively affect a person’s daily functioning. Finally, the cognition and mood symptoms encompass memory lapses of the event, low self-esteem, excessive or inappropriate guilt or blame, sad or depressed mood, anhedonia, and social isolation (NIMH, n.d). Mood and cognition cluster symptoms can lead to a person feeling cut off or detached from family and friends. Untreated symptoms of PTSD can increase the likelihood of a person developing physical ailments like chronic fatigue syndrome, fibromyalgia, gastrointestinal disorders, autoimmune disorders, chronic pain syndromes, and comorbid mental health issues like depression, suicidal ideation, substance abuse and anxiety. In turn, those with PTSD report reduction in quality of life, poorer health, more absenteeism, and more medical appointments (Violanti et al., 2017).
For the general population, the onset of symptoms of PTSD frequently develops within three months of the traumatic event (American Psychiatric Association, 2013). The course of the illness traditionally varies in police and in the general population (American Psychiatric Association, 2013; Hartley et al., 2013). According to the National Institutes of Mental Health, people typically recover within 6 months and others have refractory symptoms that last a year or longer (NIMH, n.d.). In a recent meta-analysis, scholars found that recovery or stability from PTSD after acute trauma exposure occurs within the first three months post-trauma (Diamond et al., 2022). Recovery time specific to police officers is not entirely understood. Some professionals estimate the average recovery time for PTSD symptoms in officers is around four to six months (Wender, 2022).

Common Symptoms of PTSD in Police

Not all symptoms of PTSD are experienced equally in police. Studies have found that officers are especially prone to developing symptoms of PTSD, like irritability (Yuan et al., 2011), aggression (Hartley et al., 2013; Karlsson & Christianson, 2003, 2006; Kirkpatrick & Heller, 2014), which are related to the mood and cognition cluster of symptoms, and sleep dysregulation (Hartley et al., 2013). Similar findings have been reflected in Gershon et al.’s (2009) research among the 1,072 police officers. In this study, all PTSD symptom cluster groups were reported. For instance, 33% of police reported intrusive thoughts, memories, or dreams about upsetting work events, 24% experienced detachment from others and activities associated with the traumatic event, and 23% actively avoided anything related to the event.
However, 70% of participants reported significant symptoms of feeling moody, irritable, or impatient over minute problems due to exposure to critical incidents.

Similar findings were shown in Fox et al.’s (2012) study of 150 US police officers, in that 30% of officers reported having intrusive symptoms of PTSD like nightmares or invasive thoughts and 22% reported avoidance symptoms (like avoiding anything related to the event). However, Fox et al. (2012) did not disclose findings on the mood and cognition or arousal symptoms. Other scholars like Hartley et al. (2013) found that re-experiencing and hyperarousal symptoms were more common among the 359 police participating in the Buffalo Cardio-Metabolic Occupational Police Study than symptoms of “avoidance and numbing”. These findings closely align to what earlier police scholars found in their study of PTSD symptoms among officers (Robinson et al., 1997). Robinson et al. (1997) surveyed 100 suburban police officers and found that intrusive memories, avoidance, and hyperarousal symptoms of PTSD were most reported after exposure to critical incidents.

Risk Factors for Police in Developing PTSD

Scholars, police leaders, and clinicians agree that PTSD is relevant for police officers because the potential of exposure to trauma is so elevated (Carleton et al., 2019; Fox et al., 2012; Gershon et al., 2009; PERF, 2019). However, while all officers are at risk for exposure to critical incidents, not all officers will develop symptoms severe enough meet the criteria for a formal diagnosis of PTSD or even develop a few symptoms after exposure to trauma. The question then remains, what makes certain officers develop symptoms and not others? While it
is common to have some symptoms or feel detached after experiencing trauma, according to the NIMH, there are factors that enhance the likelihood of an officer developing PTSD.

One aspect to take into consideration is how the stressor or threat is perceived by the individual officer. The transactional model of stress (TMS) can be applied to policing and can help explain how psychological stress is a product of how a person appraises a threat in the environment, not the event itself (Perez-Floriano & Gonzalez, 2019). Transactional model of stress theory posits that a person’s reaction to stress is contingent on his or her perception of the stimuli and their available resources (i.e., cognitive or physical skills). So, a person is more likely to experience stress when exposure to a particular stimulus overrides his or her personal resources. Theoretically, the personal resources or coping skills one possesses buffer the negative effects of being exposed to trauma. Transactional model of stress also suggests that the “greater the perceived available resources or coping skills, the less likely they perceive particular stressors as a threat” (Perez-Floriano & Gonzalez, 2019, p. 1240). Perez-Floriano and Gonzalez’s (2019) research of 366 Mexican police officers support TMS, in that, those who experienced a critical job injury reported elevated perceptions of violence and mortality risk, as well as occupational stress. Police work in an unpredictable and potentially dangerous environment, so they are constantly required to balance occupational demands within their physical and psychological means. Transactional stress model proposes that an imbalance between external environmental demands and internal resources create stress. If an officer has adequate resources, he or she may face occupational stressors with resiliency and perseverance. Without adequate resources, an officer may have a more negative reaction to the stressors of the job and may be at more risk of developing symptom of PTSD.
In addition to how an officer appraises a critical incident, there are other risk factors associated with the development of PTSD symptoms after exposure to trauma. Gender and race may influence symptom onset for police. For instance, one study by Hartley et al. (2013) extracted information data from 359 officers who participated in the Buffalo Cardio-Metabolic Occupational Police Stress study and found that female officers were more at risk than their male counterparts in developing symptoms severe enough to potentially meet diagnostic criteria for full PTSD (18% and 15% respectively) (Hartley et al., 2013). This trend is also supported in research with the general population (10% for women and 4% for men) (National Center for PTSD, 2022). However, Hartley et al.’s (2013) study found that of the nine types of potential critical events (e.g., assault victims, abused children), officers reported witnessing a total of 4.4 critical incidents in the past year. Sixty percent of men and nearly half of women reported witnessing five or more different types of events. Furthermore, 82.6% of males and 76.4% of female officers reported experiencing a critical incident in the past month.

Prior policing research suggests that people of color, especially African Americans and Hispanics, are also more at risk of developing PTSD than Whites (Pole et al., 2001). However, recent research fails to bolster this finding. McClendon et al. (2020) stress the importance of clarifying racial and ethnic disparities in the prevalence of PTSD. They argue that there are few rigorous studies exploring this phenomenon, which makes it even more challenging to make any kind of conclusive suggestions. However, much of the research that has been done refutes racial and ethnic differences in PTSD outcomes. It is important to take into consideration that people of color typically utilize healthcare services less than their white counterparts and this includes mental health services (McGuire & Miranda, 2008). Therefore, having data on psychological
and physical outcomes for people of color is limited. While the role that these demographic characteristics play in predicting PTSD symptom onset is important, many studies may be limited in including these variables into their statistical model due to sample size.

**Critical Incident Type and Symptoms of PTSD**

Another indicator associated with PTSD symptom development in police is the type of incident the officer experiences. For example, some incidents, like death or injury of a fellow officer in the line of duty, is known to be especially stressful for police (Robinson et al., 1997). Involvement in a shooting incident, working with abused children, and homicide victims have been associated with greater risk for PTSD development in women in some research (Hartley et al., 2013). Other studies have found that personal injury on the job is associated with increased perception of danger and stress in officers, which can increase risk of PTSD symptom onset. For example, in a study of Mexican police officers, those who were injured on the job reported more job-related risks and work stress than those who were not injured on the job (Perez-Floriano & Gonzalez, 2019). Work stress was positively related to potential PTSD symptoms. Perez-Floriano and Gonzalez (2019) theorize that officers who become injured on the job may associate the experience with feelings of failure to execute their jobs appropriately and sustain a blow to their personal pride and identity as a police officer. These perceptions can lead to feelings of guilt and anger associated with the event. In turn, negative cognitions and emotions can lead to developing symptoms of PTSD in officers. Other scholars like Robinson et al. (1997), found in their study of 100 suburban police officers that exposure to death and life threats were significantly associated with developing PTSD. Approximately 26% of respondents
in this sample met criteria to be potentially diagnosed with PTSD. More recently, Hartley et al. (2013) found that women who had no prior experience to trauma, were more likely to report symptoms of PTSD after exposure to victims of homicide and abused children. These trends were partially supported by men without veteran status, in that, they were more likely to be affected by exposure to “abused children” (Hartley et al., 2013).

The literature suggests that not many scholars have conducted studies focused specifically on trauma exposure and mental health outcomes, especially PTSD in police. One large-scale study by Carleton et al. (2019) surveyed 4,441 first responders (municipal/provincial police; Royal Canadian Mounted Police-RCMP; corrections workers; firefighters; paramedics; and call center operators/dispatchers) in Canada. They used the Life Events Checklist for the DSM-5 (LEC-5) which assesses respondents’ lifetime exposure to 16 different possible traumatic events. Twelve of the sixteen events were significant for predicting symptoms of PTSD.

However, Carleton et al. (2019) did explain that the worst traumatic exposures for municipal or provincial police were “serious transportation accidents”, “sudden violent death”, and “sudden accidental death” (Carleton et al., 2019, p. 45). Carleton’s study is paramount to the first responder literature in that, the results can help form a better understanding of the frequencies of potential exposure patterns to traumatic events among a wide range of first responders. Their results also help link exposure to critical incidents and ability to predict likelihood of developing positive screens for several mental health indications, particularly PTSD. Yet, this study did not specify which symptoms of PTSD were most prevalent among the
sample nor did it explore the relationship between cumulative exposure to critical incident types and impact on symptoms of PTSD reported.

Undoubtedly, there have been advances in the policing literature regarding the impact trauma exposure has on officers’ risk of developing PTSD. Occupational stressors may have a more pronounced effect of officers who may be particularly vulnerable to stress, like those with limited support from family or friends and lack healthy coping skills needed to manage a difficult and strenuous job (Gershon et al., 2009). What is unclear is whether certain types of traumatic exposures increase the likelihood of developing specific symptoms of PTSD. More specifically, not much is known on the effect of having exposure to a variety of traumatic incidents over time affect symptoms of PTSD. In addition, PTSD is frequently measured on a scale with cut-off values, which leave sub-clinical symptoms unrecognized (Fox et al., 2012; Jetelina et al., 2020). While PTSD is very challenging to diagnose and requires an evaluation by a mental health professional, understanding the prevalence of potentially disruptive symptoms and associated risk factors for their development may be incredibly beneficial for police. Early detection of potentially problematic symptoms can encourage expedited intervention. This can prevent worsening of symptoms and improve other psychological and even physical outcomes for officers.

**Linking Police Culture to Prevalence of PTSD**

Culture is conceptualized as a “shared group phenomenon” (Paoline & Terrill, 2014, p.5). As such, values, perceptions, and norms that foster culture provide tools necessary for group members to cope with stressors in life. These values, norms, and perception are adopted
and transmitted across generations through a socialization process (Van Maanen, 1975). According to Paoline and Terrill (2014), “culture comprises the attitudes, values, and norms that are transmitted and shared among groups of individuals in an effort to collectively cope with the common problems and conditions members face” (p. 5). This culture helps shape police style (Terpstra & Schaap, 2013) and has implications for influencing officer behavior and psychological outcomes.

As mentioned previously, stress for officers typically cultivates from organizational and community environments (Paoline & Terrill, 2014). Specifically, community environmental stressors include but are not limited to risk of exposure to life threatening situations, danger, unpredictability, role ambiguity, interacting with difficult citizens, and juggling a work and life balance (Gu et al., 2012; PERF, 2019). Organizational environmental stressors can include strained relationships between supervisors and top management, steep departmental hierarchies, not having enough resources to conduct their job, paperwork deadlines, and having unfair policies when facing disciplinary action (Cohen et al., 2019; Paoline & Terrill, 2014). Together, these environments produce tension, anxiety, and stress for officers. In turn, officers form coping mechanisms to help address these tensions. Police culture is characterized by how officers deal with the strains of the job. So, once this culture has matured, it is disseminated from police generation to generation through a socialization process (Van Maanen, 1975).

**Police Culture and Social Isolation**

One of the first scholarly writings illustrating social isolation in police culture was conducted by Westley (1970). The purpose of this ethnographic research was to describe the
ways in which policing cultivated a particular communal, collective response. As an active participant in his research, Westley conducted a series of interviews with a sample of 92 police captains, sergeants, detectives, patrolmen, and rookies. His work provides a detailed description of an overarching hostile environment especially between police community relations. As a result of this stressful environment, officers tended to isolate themselves from those outside of policing and engage in self-protecting behaviors like secrecy. Throughout his analysis, there was a heavy theme associated with solidarity, consensus, and an experience of police culture as a group phenomenon. These all became seemingly core values spread across police culture. Violence was tolerated and frequently excessively used against people of color (Terpstra & Schaap, 2013; Westley, 1970). Officers he observed were cynical. Westley’s study also found that while officers typically viewed real police work to encompass “crime-fighting tasks”, service-related activities were related to a large majority of their work, which is supported in more recent literature (Reiner et al., 2010).

Another pioneer scholar in police culture was Jerome Skolnick. His 1966 work focused on the development of a working personality or how one’s work shapes his or her worldview. Skolnick’s work dove into the policing world and revealed how certain elements in the police environment impact officer’s thinking and behavior. Closely aligned to how we understand police culture today, he thought that the working personality arose from the dangers inherent to the job, issues with authority, discretion in applying the law, and departmental pressure to work efficiently. It was the unpredictable danger present in the environment that led to officers being suspicious of their surroundings in the community. He thought that suspiciousness would lead to social isolation among officers. This social isolation would then fuel solidarity among
officers and promote a detachment (both emotional and political) to those outside of policing (Skolnick, 1994; Terpstra & Schaap, 2013).

Studies that have aimed to explore occupational police culture on subsequent behavior typically fall into one of two categories (Ingram et al., 2018). The first clusters officers into cultural types based off of their adherence to specific occupational attitudes that are seen as a traditional perspective of police culture. Studies have frequently explored attitudes of officers on concepts of “suspiciousness or distrust of citizens”, “excessive use of force”, “perception of supervisors and top management”, “ambiguity of roles”, and “selective enforcement of the law”. The theoretical foundation of police culture proposes that these perceptions are adopted and dispersed throughout officers to cope with the common strains of the occupational and organizational environments (Ingram et al., 2018; Paoline & Terrill, 2014). The second realm of research has focused on how individual cultural attitudes are related to specific behaviors (use of force, role orientation). Some of the novel areas of police culture research produced classic studies in criminal justice in the US and UK. Terpstra and Schaap (2013) describe these early works as being a pivotal platform for contemporary understandings of complex collections of attitudes, values, symbols, rules, prescriptions, and practices of police. These studies have been imperative in how the policing occupation is studied and understood today. They provide a ripe environment to continue to research the stressful nature of policing and how this occupation influences behavior, cognitions, and overall psychological wellness. Scholars posit that while these studies have been invaluable to our scholarly advancement into the occupation of policing, it may have inadvertently assumed that police culture is “universal”.

24
Terpstra and Schaap (2013) explain that early research discusses how police officers emphasize the importance of maintaining “internal solidarity” and when coupled with social isolation, officers are more likely to back each other up. This happens even when an officer violates a rule. In this capacity, police culture grooms a “moral and political conservatism” among police and fosters machismo. Perceiving police culture within these negative contexts tends to take the spotlight in research query. Yet, little research has been done to show how police culture can promote resiliency in officers and help them support citizens (Terpstra & Schaap, 2013).

Early studies of police culture serve a vital role in the development and advancement of police culture. These studies reflect the shared experiences among officers and how officers’ working environments have an instrumental impact on their thoughts, behaviors, cognitions, and feelings. Each of these concepts are observable and measurable, therefore, testable. These pioneer studies support linearity in the perceptions, attitudes, and behaviors of police which contributed to the “monolithic model” of police culture.

The innate dangers within the occupation of policing can be physiologically and emotionally taxing and disrupt work-life balance. These factors can also have a negative impact on officers’ interpersonal relationships (McCarty & Skogan, 2012). Police culture literature, specifically the ethnographic work of Westley (1960) and Niederhoffer (1969), describe how officers may isolate as a means of coping with stress at work. As a result, this can place an undue strain on interpersonal relationships with family and friends. Officers tend to feel like others, especially family and friends, do not understand them, that the job severely limits who they can be friends with, and that they do not have a lot of time to spend with others (Paoline &
Terrill, 2014). In turn, police tend to spend time with other officers out of convenience. As a result, this can foster isolation of officers from others outside of policing.

Earlier scholars in the 1960’s describe the tumultuous relations between the public and the police, which inherently created a space where officers may not have felt respected among those outside of policing, thus contributing to social isolation (Niederhoffer, 1969; Westley, 1960). While some may argue these behaviors strengthen the bond among officers (Paoline & Terrill, 2014; Van Maanen, 1975; Westley, 1960), others suggest isolation may have a negative impact on psychological wellbeing (Violanti et al., 2017), enhancing risk of developing depression and burnout among officers (Adams & Mastracci, 2019). For example, in a study from West et al. (2008), scholars found that of the 912 participants who completed the surveys, officers who rarely saw their families after Hurricane Katrina were more likely to report symptoms of depression. In addition, officers reported feeling isolated from their usual assignments and team within the New Orleans Police Department.

Isolation among officers can also have a negative impact on marriages and other serious relationships. Social isolation could contribute to officers displacing their occupational stress onto their families and spouses (Alexander & Walker, 1994). In Gershon et al.’s (2009) large-scale survey study of 1,072 Baltimore Police, the scholars found a strong association between police stress and negative behaviors (intimate partner violence [IPV], aggression, and elevated alcohol consumption). According to the U.S. Department of Justice (2000), data suggest that up to 20-40% of police families experience IPV, in comparison with 10% of the general population. Erwin et al. (2005) conducted a case-controlled study on officers from a large urban police department who were charged with IPV (n=106) with officers not charged with IPV
(n=105). They found that officers of color with greater than seven years tenure on the force and were assigned to a “high crime” and potentially more stressful beat were more likely to perpetrate IPV.

Thwarted relationships with those outside of the profession may not only be a coping mechanism of the stressful nature of the job but may also be reinforced by symptoms of mental distress, particularly depression, anxiety, and PTSD (American Psychiatric Association, 2013). Officers who suffer from stress, sadness, and tension may feel “cut off” from the rest of the non-policing world. In turn, this can amplify a sense of isolation and limit social support among officers. Interpersonal distress is associated with a host of negative effects, including psychological stress, a decrease in organizational commitment, turnover, burnout, and overall poorer quality of life (Boyd et al., 2016). In policing, this is particularly concerning because family and friends can be the most important protective factor against the development of mental illness among officers (PERF, 2019; Violanti et al., 2017). Addis and Stephens (2008) found that outside of professional help, discussing a traumatic or stressful event with fellow officers and close family or friends is helpful in preventing PTSD or depression. Studies have shown that social support is significantly influential in the predisposition, onset, and trajectory of PTSD in the general population (NIMH, n.d.; Vlachos et al., 2020). Therefore, it is reasonable to assume that social support can be tested as a predictor of PTSD symptomatology in police in the current study.
Gaps in Police Culture Literature

Studies have been conducted linking cultural attitudes and officers’ behavior. However, Ingram et al. (2018) argue that the research tends underestimate the shared experience of culture among officers, which is anticipated to amplify the dynamic between police culture and behavioral outcomes. The literature favors analyzing culture on an individual level, when there may be more common features shared among police. The formation of culture is a social process, thus a shared experience (Van Maanen, 1974). Therefore, it is important when studying police culture to utilize assessments that tap into more of the combined impact of all those who contribute to the culture. Ingram et al. (2018) suggest that these issues have limited scholars’ ability to assess culture’s impact on officer behavior. While there have been some theoretical developments in police culture, there are gaps in understanding the extent to which certain features within police culture are adopted and how these elements within culture can impact officers’ attitudes, perceptions, and behaviors. Specifically, there is a paucity of research exploring the association between occupational stressors, like cumulative exposure to critical incidents and symptoms of PTSD. Furthermore, more research needs to be done to explore how social support from a variety of sources may protect officers against developing PTSD after experiencing a critical incident. Existing literature bolsters the continuous need for systematic and empirical means to research and understand police culture’s influence on officer behavior. It is reasonable to assume the same can be said for studying police culture and officers’ psychological wellness.

Police culture is a theoretical area fertile for scholarship in continuing the growth and development of understanding the occupation of police. It may serve as a critical element in
researching officer behavior and psychological outcomes. Others propose that one cannot adequately research police behavior and other outcomes without taking into consideration police culture (Kuhns et al., 2015). However, there is a need to graduate beyond ambiguous and historical characteristics associated within police culture and subsequent behavior. In addition, more systematic research needs to be done in the United States that examines the relationship between police culture and psychological outcomes of officers, as a majority of this research has been conducted in European countries (Velasquez & Hernandez, 2019). The United States federal government has been cognizant on the importance of researching officers’ psychological wellbeing as illustrated from former President Obama’s President’s Task Force for Policing (2015) to the Law Enforcement Mental Health and Wellness Act of 2017. Yet, despite these efforts to cultivate more research in understanding the psychological wellness of police officers, studies that include police culture as a theoretical framework to help predict mental health outcomes is sparse.

**Exploring the Barriers to Officers Receiving Mental Health Services**

Literature largely buttresses the deleterious impact occupational stress has on psychological wellbeing in first responders (Cohen et al., 2019), especially in police officers (Spence et al., 2019; White et al. 2016). Recent scholars have estimated that up to one-third of first responders will develop PTSD (Cohen et al., 2019). More recent research has found that unaddressed symptoms of PTSD in officers contributes to the onset of physical ailments like chronic fatigue syndrome, fibromyalgia, gastrointestinal disorders, autoimmune disorders, and chronic pain (Thejus, 2013; Violanti et al., 2017). Symptoms of PTSD are also associated with
comorbid psychological distress (McCanlies et al., 2017) like major depressive disorder, panic disorder, suicidal ideation (Violanti et al., 2017), alcohol use (Carleton et al., 2019), and other substance abuse (Violanti et al., 2017). As a result, police who experience distressing symptoms of PTSD may have an overall diminished quality of life and poorer health outcomes (Gershon et al., 2009; Violanti et al., 2017).

The stressful nature of policing is widely acknowledged and established. Officers are continuously placed in unpredictable environments, which may be life-or-death situations. These circumstances can prime officers to see the darkest elements of humanity. Given the hazards that officers face between the community, occupational, and organizational environments, police are at exponential risk of developing various psychological disorders (like anxiety, depression, PTSD, and alcohol abuse to name a few) than the civilian population (Thoen et al., 2020; Velasquez & Hernandez, 2019; White et al., 2016). If left unaddressed, mental health issues can have a deleterious impact on an officer’s psychological wellbeing (Spence et al., 2019; White et al., 2016) and have significant negative effects on his or her work productivity (Fox et al., 2012), expedite retirement, elevate divorce risk, and contribute to suicide more than the general population (Velazquez & Hernandez, 2019; White et al., 2016). Nationwide risk of suicide among police is around 54% greater than the average American (PERF, 2019) and police are 2.4 times more likely to die by suicide than homicide (Thoen et al., 2020). In 2019, approximately 228 officers died by suicide (https://bluehelp.org, 2022), which is a 42.5 percent increase from 2018 (Thoen et al., 2020). These numbers highlight the importance of offering and supporting officers to receive help for psychological distress. This data also emphasizes the need for agencies to offer formal, structured mental health programs to promote
resilience for officers within their department because of the occupational stressors associated with the job. Officers may not have adequate support systems in place or coping skills to maintain psychological wellness.

Knowing these risks, officers are still reluctant to receive help for mental health issues (Fox et al., 2012). Studies have found that among police officers, the most common barriers that prevent police from receiving mental health services when they need it are 1) poor mental health literacy or inability to identify the signs of distress or mental illness 2) perceptions of confidentiality, 3) a fear that mental health counselors will not be able to relate to them, or that they will be labeled, and 4) stigma (e.g., being accused of not fit for duty) (Jetelina et al., 2020; Thoen et al., 2020; Velasquez & Hernandez, 2019; White et al., 2016).

Scholars have attempted to uncover the underlying influences that bolster the reluctance for officers to not only seek out mental health services when they are needed, but also to follow through on treatment regimens. Even though there is a paucity of data exploring the prevalence and patterns of use of mental health services among police officers, especially in the United States, existing literature sheds some light on this predicament (Jetelina et al., 2020; Thoen et al., 2020). The literature has found that the topic of mental illness alone and openly discussing barriers to receiving services is challenging for the everyday person to talk about. However, this phenomenon may be more pronounced for police (Thoen et al., 2020).

Barriers to mental health services among the general population are typically classified under two umbrellas: attitudinal barriers and structural barriers. Attitudinal barriers are characterized by negative perceptions attached to receiving mental health services or having a mental illness which may lead to stigma and fear as shown in Figure 1 (Andrade et al., 2014).
The same scholars characterized structural barriers pertain to issues of accessibility, location, insurance, or cost of mental health services. Together, attitudinal and structural barriers may prevent people, especially police officers, from having a clear understanding of what psychological wellness is and contribute to poor mental health literacy. Mental health literacy is largely conceived as the ability to identify psychological distress in oneself and others, recognizing maladaptive thoughts and behaviors, and acknowledge that help is needed (Furnham & Swami, 2018). In the general population, recent studies have suggested that attitudinal barriers are significantly more commonly reported barriers to people receiving mental health care than structural barriers (Andrade et al., 2014; Jetelina et al., 2020). Similar trends have been found in the policing literature (Jetelina et al., 2020; Thoen et al., 2020; Velasquez & Hernandez, 2019; White et al., 2016).

Figure 1. Illustration of Attitudinal Barriers to Receiving Mental Health Services
Mental Health Literacy and Knowledge of Available Resources

One of the common barriers for officers receiving mental health services that has emerged from the literature is a lack of mental health literacy and knowledge of available resources (McKay-Davis et al., 2020). For example, in one study of forensic technicians and sworn police officers, the forensic techs reported a lower awareness of available mental health resources at the agency level than sworn officers (Kleim & Westphal, 2011). Thoen et al. (2020) evaluated the use of wellness programs among police. Among the 55 agencies who participated in the study, the most common counseling services were offered through Employee Assistance Program (EAP) and other counseling resources. However, of the 144 officers who participated in the individual level surveys, 25% of the officers did not know whether their agency had mental health services available to them.

Similarly, Carleton et al. (2018), in their study of 147 Canadian officers found that officers need training on mental health awareness. Those that engaged in the training, at post-training assessment, there were small, but still significant reductions in stigma, which could foster more help-seeking behaviors in police. Officers reported that training is helpful for changing attitudes and enhancing communication. Thus, more engagement with mental health and available resources to help address issues may produce larger and sustainable results. Psychoeducation about mental health in officers may address the problems with officers identifying psychiatric symptoms.
Stigma

Hakik and Langlois (2020) explain that mental illness is largely stigmatized in our society. Stigma is generally seen as having negative social attitudes attached to a characteristic of any individual that may be regardless of a mental, physical, or social deficiency. Negative stereotypes are attached to those people and can lead to discriminatory behaviors directed at the individual. So, those with mental health issues have even more stress dealing with these negative perceptions associated with having a mental illness.

Stigma toward mental health has typically been conceptualized by society as a pervasive adverse stereotype and belief that leads to negative experiences when seeking mental health treatment (Velasquez & Hernandez, 2019). Stigma attached to receiving mental health services is one of the largest attitudinal barriers associated with receiving mental health services in the general population. Scholars like White et al. (2016) characterize stigma as being a product of a disparity between an “actual social identity” and an idealized or perceived “social identity”. In policing, stigma is prevalent for officers seeking mental health counseling. Police leaders and scholars argue that resources can be allocated to enhance the psychological wellbeing of police, but if officers cannot work through stigma attached to receiving those services, the resources will likely be underutilized. It is in this way that stigma is seen as one of the most pressing issues facing police and enhancing psychological wellness (PERF, 2019).

Conceptually, stigma can proliferate as public or within oneself. “Public stigma” is identifying how social predispositions make a person aware of the negative stereotypes and descriptions of people who utilize mental health services. Self-stigma is associated with a perception of low self-esteem and self-image a person experiences when he or she receives
psychiatric services. The person believes internally that those who require help to resolve personal psychological issues are deemed inadequate or less than those who can cope independently. For police officers, these perceptions of inadequacy are related to feelings of vulnerability and admitting personal flaws and fallacies (White et al., 2016). Self-stigma and conformity to dominant masculine norms are indicators of poor perceptions of seeking out mental health services, especially for men.

Public stigma is characterized by a perception of those needing psychological services as crazy, unstable, and otherwise undesirable (White et al., 2016). Sources of this stigma can be related to communities, culture, family, churches, friends, and coworkers (Hakik & Langlois, 2020; White et al., 2016). Public stigma can be a detrimental barrier to officers receiving services. Labeling a person with a mental illness can make the disorder define the person, which can lead to feelings of being devalued and promote discrimination (Hakik & Langlois, 2020). Stigma can also lead to low self-esteem and feeling misunderstood. This can promote social isolation. In turn, this can have serious negative implications on a person’s quality of life. So, discussing the role stigma plays in officers’ mental health wellness is important to study because understanding how stigma cultivates in the workplace and is reinforced by aspects of police culture influences those suffering in silence. There is limited research that has been conducted examining the proliferation of stigma throughout the policing community and how this stigma impacts officers receiving mental health services (Velazquez & Hernandez, 2019).

Stigma attached to receiving psychological services can foster ineffective coping skills like denial (White et al., 2016). There is persistent worry that others may find out about these psychological anomalies and treat him or her differently. The problem with denial is that when
an officer ignores or suppresses these thoughts and feelings, the capacity of him or her to deal with exposure to trauma and life-threatening situations eventually break down. Scholars and clinicians agree that without solid, healthy coping skills, police officers can become less resilient (Violanti, 2021) and more psychologically incapacitated (White et al., 2016). However, even existing skills may not be enough to deal with constant strains of the job in policing, especially after exposure to a critical incident. Therefore, officers need to continually undergo regular psychological maintenance and monitoring to keep themselves mentally fit for duty. In addition, to improve utilization of mental health resources for officers, it is optimal for officers to buy into and promote the utilization of these resources for each other. For example, stigma related to gender roles in police officers was highlighted in Wester et al.’s (2010) survey of 178 male police officers in Wisconsin. They found that perceived benefits of mental health counseling did not outweigh the stigma attached with receiving psychological services. There was a persistent adherence to gender roles and subsequent stigma that seemed to threaten the officers’ self-esteem. Historically, women foster a more positive perception of seeking services for mental health than their male counterparts (McKenzie et al., 2018). While psychoeducation about the benefits of counseling for male officers did improve the general attitude of officers toward mental health therapy, it was not enough to convince them to act on those needs or desires to receive services. This response was attributed to the underlying self-stigma and public stigma attached to receiving psychiatric services (Wester et al., 2010).

Wester et al.’s (2010) study highlights the importance of psychoeducation on preserving officers’ psychological wellbeing and to create change. It also amplifies a cognitive dissonance for officers, especially males, in that, they are going against their training and other gender roles
they may adhere to if they seek mental health help. So, to promote change and address stigma attached to police officers receiving mental health services, providers are required to be mindful and understand how specific features within police culture (like the danger imperative, suspiciousness of others, exposure to trauma—especially personal assault, and social isolation), may play a critical role in officers’ behavior and personal worldview.

The stigma that officers encounter about seeking help is pervasive (Hakik & Langlois, 2020; PERF, 2019). Studies have found that even if departments offer Employee Assistance Program and other resources to help officers overcome mental health issues, officers may be hesitant to receive services when they need it. For agencies to improve their officers’ psychological wellness, departments are required to address stigma related to officers receiving mental health services. Police chiefs, sheriffs, and other members of top management are required to demonstrate leadership to end “stigma against mental health care in policing” (PERF, 2019, p. 6).

Fear

Attitudinal barriers also include fear both in the general population and in policing. For officers, there is a fear of being labeled “unfit for duty”, having a documented history of receiving psychiatric services on their permanent record, and apprehension of being vulnerable to such emotional openness (White et al. 2016). The fears that catalyze stigma attached to needing and receiving psychological services thwart the ability to trust non-police mental health professionals and could contribute to concerns about confidentiality behind receiving services. Police may be concerned that word will get out to their supervisors and peers, who may
consider them unfit for duty (PERF, 2019). This thinking may be reinforced by a belief that top administrators do not care about officers’ psychological wellbeing (Thoen et al., 2020). So, scholars argue that to improve the psychological wellness of officers, it is best to create an effective means of overcoming and minimizing fear (PERF, 2019). This change may begin from the top down encouraging an open discussion about the issues. It is believed that top management set the tone of the department and can create positive change among subsequent ranks. Addressing fear associated with mental health will save lives and enhance the quality of life for police and their families in exponential ways.

Employee Assistance Program (EAP) services are routinely offered throughout agencies in the United States and are the most common source of mental health services for police departments (Thoen et al., 2020). However, there can be apprehension about trusting EAP services, specifically that the information disclosed in sessions will be leaked to their superiors. Officers may fear that supervisors may not understand the psychological distress he or she is experiencing. Police may also be fearful that they will lose their gun (PERF, 2019). There is also a general sense of fear about others perceiving the officer as being weak if he or she seeks out help for mental health issues (Thoen et al., 2020). In summary, fear can lead to lack of trust and stifle the opportunity for officers to obtain help when in distress. Furthermore, lack of trust can prevent advancements in interventions and general data collection about officer’s psychological wellness. In turn, not only do officers continue to suffer, but those in the helping industry, families, friends, and police supervisors are no closer to addressing these issues in an effective manner. Fear can paralyze advancement in knowledge of the psychological wellbeing and personal growth in officers.
Confidentiality

Another common barrier to officers receiving mental health care when they need it is concern over the confidentiality of their health information (Fox et al., 2012; Jetelina et al., 2020). In any clinical setting, it is imperative that providers be clear about the expectations and limitations of confidentiality, especially for police (White et al., 2016). Confidentiality is important to consider for police officers for many reasons. First, information captured in sessions can be a part of the officer’s official medical record which can follow an officer throughout his or her career. Mental health and other clinicians are required to also understand that fitness for duty or history of procuring psychiatric services can be generated as a part of the officer’s medical history and permanent work record (White et al., 2016). There can be unintended consequences for officers if there is poor documentation of services received, erroneous mental health diagnoses given, or if too much personal information is disclosed on the record. Disclosure of personal health information or content discussed during sessions might be defamatory towards an officer if top management is made aware. So, providers are required to be careful, clear, and concise with their recordkeeping. This is especially important when providers submit claims for services rendered to insurance companies affiliated with the police department. Again, these records become a part of the officer’s permanent health record, which can be transferred to other providers and may be subpoenaed in legal matters (White et al., 2016).

Scholars also argue that many employees use insurance copays to reduce the out-of-pocket cost of counseling services. However, this may limit confidentiality for police. The problem is that the alternative, paying out of pocket for counseling in the United States, is
costly. So, due to structural barriers like cost, officers who use insurance to help pay for psychological services may be forced to make compromises to confidentiality and privacy (White et al., 2016). Fox et al. (2012) found that of the 150 police officers surveyed, just under half had reported ever using mental health services. Over one-third sought care outside of the department. Indications of PTSD were highly associated with non-EAP use (45%). The reasoning behind this finding was not discussed Fox et al.’s study. Nearly half of the respondents with a diagnosed mental health condition expressed concern about using the department’s EAP program. These findings may have serious implications for the lack of use of mental health resources for police officers and deserves more attention in research.

Fox et al.’s (2012) research also highlights the importance of anonymity in mental health counseling, stressing the demand for more private, non-department related mental health resources for police. The authors also advise that interventions may be more effective if they are culturally competent. This means that tactics to address mental health concerns need to consider the delicate cultural factors unique to policing that lead to and potentially exacerbate mental health issues. In addition, scholars suggest that there needs to be more private, non-department related services available to officers for mental health issues (Fox et al., 2012).

Police Culture and Barriers to Receiving Mental Health Services

Police culture may also play a key role in officers’ willingness to receive mental health services (Hakik & Langlois, 2020; PERF, 2019; White et al., 2016). Culture may impact the likelihood of police officers receiving treatment, especially for symptoms of PTSD. While there is no one police culture (Paoline & Terrill, 2014), if culture within a department stigmatizes
mental illness, this may deter officers from receiving mental health services when they need it. Thoen et al. (2020) describes how some administrators refused to participate in their study on officer mental health because they did not want the public to know that their officers were suicidal. When we better understand how culture impacts perception of use of mental health services for officers, policies can be drafted to better protect and preserve mental health and wellbeing of officers (Hakik & Langlois, 2020). Police culture that cultivates supportiveness, empathy, and resiliency tend to establish protective social environments for those officers having psychological difficulties at work, especially in relation to symptoms of post-traumatic stress (Violanti, 2021).

Andrade et al. (2014) found that there are differences among various population groups in acknowledging that they have a mental illness and obtain help. There is apprehension and shame surrounding reporting of symptoms, misinformation about psychiatric indications, stigma, and ensuring that mental health counselors understand cultural influences on mental health care. This concept can be applied to the occupation of policing. Literature claims that police culture can stigmatize help-seeking behaviors for mental health (Violanti, 2021; White et al., 2016). However, exactly what aspects of the police culture that contribute to this stigma against seeking mental health services is not well explored (Thoen et al., 2020). Scholars and police professionals strongly encourage that to effectively identify, understand, and address these barriers effectively, police culture is imperative to consider (Kuhns et al., 2015; President’s Task Force on 21st Century Policing, 2015).

Frequently, police culture is siloed into a primary viewpoint about the job which is characterized by repeated exposures to trauma and daily psychological stressors (White et al.,
2016). The policing occupation requires one of the highest standards of professionalism. Any misstep is caught on camera, for the world to be a spectator and a judge of action. This may create an environment where officers feel the need to protect each other from this unpredictable and sometimes hostile environment. White et al. (2016) explain that this experience fosters solidarity and trust among officers, and a sense of being closed off to others outside of policing. This bond and camaraderie can be perceived as being closer than a traditional family unit. As a result, it is often suspected that officers have a very difficult time trusting those outside of the field. Some may argue that adherence to these values is perceived as a critical feature in retaining their position as a police officer and even play an important role in advancing an officers’ career. In turn, the policing occupation can consume an officer’s life, shutting out activities and relationships unaffiliated with law enforcement (White et al., 2016). Paoline and Terrill (2014) discuss how loyalty and social isolation are major pillars within police culture literature and these concepts have been studied by criminal justice pioneer scholars (Skolnick, 1994; Westley, 1960). Loyalty and social isolation may contribute to fear and stigma surrounding the concept of psychological wellness of officers, which can be a massive barrier to officers addressing mental health issues and receiving services.

It is theorized that keeping others outside the occupation of police work at a psychosocial distance is a defense mechanism deployed to assist an officer cope with the strains of the job (Paoline & Terrill, 2014; White et al., 2016). This mentality can prematurely cut off officers from the rest of society and have serious implications for maintaining relationships outside of policing. Social isolation can also prevent fostering trust and support for those in the mental health profession who are not a part of law enforcement. So, officers may be reluctant to
seek help for mental health issues outside of the department for fear that others will not understand their occupation, their experience, or their existence. Police may find that it is significantly easier to talk to another officer about any mental health issues than a mental health professional (White et al., 2016). Some of the largest barriers to officers receiving services for mental health issues is the inability to openly talk about the traumas they face to people outside policing (Velazquez & Hernandez, 2019).

Changing police culture is incredibly challenging, though (White & Robinson, 2014). Coupled with evolvement of humanity and society, the environment in which officers’ interface with is constantly shifting. Over the decades, officers’ roles have changed drastically. Traditional police roles may have adhered to a warrior mentality (Ingram et al., 2018) and the new age of policing demands a guardian mentality (President’s Task Force for 21st Century Policing, 2015). Some scholars argue that stigma against mental health treatment also stems from the experience officers have that can reinforce a warrior mindset to their occupation (White et al., 2016). The warrior mentality is described as “the desire to move to the sounds of guns, to deliberately go into the realm of violence, death, and destruction” (White et al., 2016, p. 142). The argument is that the average person would run away from these threats, not run towards them. It is in this way that the warrior thrives on values of courage, strength, and perseverance, adhering to a “suck it up buttercup” mentality. The industry of policing is largely dominated by men, which may be more likely to adopt roles of self-sufficiency, stoicism (Fox et al., 2012), control over emotions, and power (White et al., 2016). All the while, with this warrior mentality, White et al. (2016) explain that there is a salient expectation for officers to cope through the stressors of their careers and subsequent personal lives with tenants of intrinsic
valor and self-sufficiency. It seems like society expects that police are unaffected by the trauma they encounter (Thoen et al., 2020).

Other scholars state that frequent exposure to trauma builds a recipe for toughness (Velazquez & Hernandez, 2019). When an officer is tough, he or she can engage in the dangers and traumas of the job fearlessly and unscathed. Inadvertently, expressing any emotions that deviate from this perception of toughness is labeled as weak. There is a lingering perception that weak officers are undesirable to work with (White et al., 2016). Being perceived as weak has many negative connotations associated with it, among which include not appearing as competent as peers, fit for duty, dangerous, or unpredictable (Thoen et al., 2020; White et al., 2016). Feelings of shame and guilt may proliferate among those who desire to seek services for psychological issues. As a result, an officer may suffer in silence and feel alienated from peers on force.

So, for officers who adopt the warrior mentality, seeking help outside of the world of policing for mental health is met with adversity and skepticism (White et al., 2016). Reaching out may be a sign of weakness or incompetence, so officers may ignore their symptoms (Hakik & Langlois, 2020). This perception can set the foundation for developing attitudinal barriers associated with seeking mental health services when officers need it (White et al., 2016). It is important to identify the predictive variables that are associated with the apprehension of officers seeking psychiatric services when they need it. When studying attitudinal barriers associated with officers receiving mental health services, it may be beneficial to explore how each of these barriers interact with each other and within the police culture to create a potential profound impact on officer’s psychological wellness. Including officers’ perception of barriers
to receiving psychiatric services was imperative to capture in the current study. This will add depth and perspective through an open-ended question and complement the questions in the quantitative data gathered for this study.

**Current Study**

The current study is an analysis of data collected in a cross-sectional, exploratory, survey design study. The primary purpose of the current research is to identify predictors associated with likelihood of officers reporting symptoms of PTSD. The analysis includes exploring the relationship between the cumulative exposure to critical incidents, experienced personally and witnessed, as a primary occupational stressor and its impact on five self-reported symptoms of PTSD in a sample of officers from a suburban police department in Central Florida. In addition, the impact of the perception of social support from top management, supervisors, and family and friends outside of policing on PTSD symptoms is investigated. Finally, the perceived barriers to officers receiving mental health services will be discussed in a separate analysis.
CHAPTER THREE: METHODOLOGY

Introduction

The goal of the current study is to examine the cumulative impact of type of trauma exposure and likelihood of officers reporting symptoms of PTSD. This analysis also tests the potential moderating relationship of perception of social support from family and friends and the likelihood of developing symptoms of PTSD after cumulative exposure to critical incidents. Finally, the qualitative portion of the study of the study is explored by diving into the barriers officers face when needing mental health services. This chapter describes the methodology used to accomplish these aims. The following section presents research questions and overview of the data collected and sampling strategy used for recruitment and selection of the study participants. After discussing the research design, the survey instruments and measures will be discussed. This chapter then concludes with a discussion of the analytic strategies including ordinary least squares (OLS) and logistic regression, moderation analysis, and thematic statistical analysis on the qualitative style data.

Research Questions

The current study consists of three primary research questions. First, what cumulative impact does type of trauma exposure have on the likelihood of reporting PTSD symptoms? This research question is curated from the paucity of research examining the cumulative impact of exposure to different types of traumatic events that officers may experience which may be more likely to contribute to the development of PTSD. Often times, traumatic exposure is reported as an arbitrary continuous number that a respondent estimates or may not yield a viable response
such as “too many to count” (Beagley et al., 2017, p. 627). The current study used the Life Events Checklist for DSM-5 (LEC-5) to operationalize 16 categories of traumatic incidents and an “other” category. The scale was scored from 0-17 to capture the different types of trauma officers had been exposed to throughout their lifetime. The LEC-5 checklist has been largely used in industry sponsored clinical drug trials and other research inclusive of experiences of first responders and police officers across the globe.

Second, this study explores the potential moderating effect of perception of social support from family and friends has on cumulative personal trauma exposure and the likelihood of reporting symptoms of PTSD in police officers. Since literature strongly bolsters the impact of social support on the development of various mental health outcomes, it was thought that social support would be an important indicator of PTSD symptoms. Existing literature in police suggest the importance of supervisor, peer, and top management support after experiencing a traumatic incident. Little systematic research has been done to explore the influence perception of support from family and friends on likelihood of developing PTSD. Support in this study was operationalized as perceptions of support from supervisors, peers, and top management. Social support from family and friends was also included in the analysis. During preliminary analyses, there was little variability in responses from perceptions of peers, perceptions of support from supervisors and top management. While positive perceptions from peers is probably expected, this was not included this in the final analysis. More variability in responses were found between perceptions of top management and supervisors. This research will explore any kind of moderating effect perception of social support could have on likelihood of developing PTSD.
symptoms among officers. There is a paucity of research that exists that systematically uses police culture to examine such an inquiry.

Methods and Data

Study Site and Sample
To test the proposed research questions, this study used survey data from officers in one police department in a mid-size municipal department in Central Florida. This department serves approximately 55,000 residents (United States Census, 2020). The department was chosen out of convenience and the researcher had conducted a ride-along with the department years prior. In addition, it was thought that the demographic makeup of the department and the city in which the police department serves might be a good sample that could be more generalizable to other departments and cities. The police chief was contacted first. He was advised of the purpose of the study and all study related procedures prior to consenting the researcher to have permission to survey the officers. Sworn officers of all ranks (patrol, sergeant, lieutenant, special operations- detectives, and school resource officers) were invited to participate in the study. Surveys were completed during roll calls at the start of officers’ shifts during designated days from September 2021 to December 2021. The department has three standard 10-hour patrol shifts (0530-1530, 1400-2400, and 2030-0630). Two groups met between patrol shifts at 1400 and 2000 on separate days. Higher-ranking officers and those assigned to special units were approached during a designated group meeting time prior to a training. At each meeting time, the researcher provided a brief overview of the purpose of the
survey, discussed the voluntary nature of participation, assured anonymity, and discussed the protection of human subjects and efforts to minimize risk.

At the time of the survey, there were 150 sworn officers within the department, but due to officers’ schedule, days off, injuries, and training, there were 85 officers present to be surveyed. All 85 agreed to participate, resulting in 100% response rate of those present at the time of survey administration, and approximately 56.7% of the official count of sworn personnel in the department. These response rates align with other scholars who have applied the same administration methods of surveys (Gau & Paoline, 2020; Paoline & Terrill, 2014). Data was collected during the COVID-19 pandemic in Fall 2021. This could have impacted availability of officers during data collection.

For the current study, analysis was run on a sample of officers who self-reported a history of exposure to one or more critical incidents regardless of whether or not it was work related. In order to have PTSD or even symptoms of PTSD, traditionally, one must have exposure, either direct or witness, to trauma or a critical incident (American Psychiatric Association, 2013). Seventy-eight of the 85 respondents reported a lifetime exposure to a critical incident and are included in the ordinary least squares (OLS) regression analysis and logistic regression model. Qualitative data analysis was completed using thematic analysis about the barriers to officers’ receiving mental health services. Fifty-four of 85 (63.5%) respondents who answered this question were included in this analysis.
Measures and Primary Study Variables

Dependent Variable

Post-Traumatic Stress Symptoms

One primary dependent variable was used in the current study (PTSD symptoms). In a clinical setting, a score of three or more symptoms is considered a positive screen for post-traumatic stress disorder (Fox et al., 2012; Jetelina et al., 2020). Response to critical incidents was drafted from the Primary Care PTSD Screen for DSM-5 (PC-PTSD-5), which was used in Jetelina et al.’s (2020) work on police officer wellness. In Jetelina and scholars’ study of 434 officers, 114 reported significant symptoms of mental illness. Of those with self-reported symptoms of mental illness, 61% had positive responses (three of five) on the PC-PTSD-5. Similarly, Fox et al. (2012) used the prior version of the PC-PTSD which had four the five statements above in their study of 150 officers. The fourth version of the PC-PTSD did not include the item “feeling guilty or self-blame for the incident”. In the current study, respondents who answered “yes” to critical incident exposure were asked five targeted questions in regard to the respondents’ worst critical incident. The response choices were dichotomous 1= “Yes” or 0= “No” to indicate if the symptom bothered them in the past 30 days. A cumulative score from 0-5 will be given, with 1 point given per symptom experienced. Officers were queried on the following symptoms: “have had nightmares about it or thought about it when you did not want to”; “tried hard not to think about it or went out of your way to avoid situations that reminded you of it”; “were constantly on guard, watchful, or easily startled”; “felt numb or detached from others, activities, or your surroundings?”; “felt guilty or unable to stop blaming yourself or others for the event(s) or any problems the event(s) may have caused”.

50
While capturing post-traumatic stress symptoms can be very challenging to successfully measure in a self-reported survey, these five symptoms tap into key facets of the disorder (intrusion, avoidance, negative alterations in cognition, and arousal or reactivity) (American Psychiatric Association, 2013). The PC-PTSD-5 has been deemed an adequate and acceptable tool to use in primary care settings for the VA (Bovin et al., 2021). It is a good source of measuring potential symptoms of PTSD, when a full clinical interview is not possible (U.S. Department of Veterans Affairs, n.d.). For example, Prins et al. (2016) found excellent sensitivity in the PC-PTSD-5 in a sample of 398 veterans (AUC = .941, 95% CI). The scale has been cited as having good test-retest reliability (r = .83) and good predictive validity when compared to the Clinician Administered Scale (CAPS-5) (r = .83) which is a diagnostic tool for PTSD. The total PTSD score was used as the primary dependent variable. Factor loadings for all variables are included in Table 1.
Table 1: Scale Items and Factor Loadings

<table>
<thead>
<tr>
<th>Scale and Items</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Post-Traumatic Stress Symptoms</strong></td>
<td></td>
</tr>
<tr>
<td>- Have had nightmares about it or thought about it when you did not want to</td>
<td>.841</td>
</tr>
<tr>
<td>- Tried hard not to think about it or went out of your way to avoid situations that reminded you of it</td>
<td>.788</td>
</tr>
<tr>
<td>- Were constantly on guard, watchful, or easily startled</td>
<td>.671</td>
</tr>
<tr>
<td>- Felt numb or detached from others, activities, or your surroundings</td>
<td>.756</td>
</tr>
<tr>
<td>- Felt guilty or unable to stop blaming yourself or others for the event(s) or any problems the event(s) may have caused</td>
<td>.636</td>
</tr>
<tr>
<td><strong>Social Support from Family and Friends</strong></td>
<td></td>
</tr>
<tr>
<td>- Most people, including my family, do not understand how difficult it is to be a police officer.</td>
<td>.764</td>
</tr>
<tr>
<td>- I do not spend enough time with friends and family.</td>
<td>.903</td>
</tr>
<tr>
<td>- Being a police officer limits my social life.</td>
<td>.855</td>
</tr>
<tr>
<td><strong>Perception of Supervisor</strong></td>
<td></td>
</tr>
<tr>
<td>- My supervisor lets officers know what is expected of them.</td>
<td>.851</td>
</tr>
<tr>
<td>- My supervisor looks out for the personal welfare of his/her subordinates.</td>
<td>.882</td>
</tr>
<tr>
<td>- My supervisor will support me when I am right, even if it makes things difficult for him or her.</td>
<td>.905</td>
</tr>
<tr>
<td>- The decisions I make are seldom criticized by my supervisor.</td>
<td>.638</td>
</tr>
<tr>
<td><strong>Perception of Top Management</strong></td>
<td></td>
</tr>
<tr>
<td>- When a community member files a complaint against an officer, top management is objective in their investigation of the incident.</td>
<td>.810</td>
</tr>
<tr>
<td>- When an officer contributes to a team effort rather than looking good individually, top management will recognize it.</td>
<td>.839</td>
</tr>
<tr>
<td>- When an officer gets written up for rule violations, s/he will be treated fairly by top management.</td>
<td>.859</td>
</tr>
<tr>
<td>- I feel supported by top management.</td>
<td>.837</td>
</tr>
</tbody>
</table>

**Independent Variables**

The independent variables in the current study capture various features of the occupational and organizational environments that directly affect officers’ perceptions and attitudes about their job. Police culture posits that officers’ attitudes toward their job is a coping mechanism to deal with the occupational and organizational strains of the job (Gau & Paul, 2019; Paoline & Terrill, 2014). Therefore, the current study uses historical exposure to critical
incidents, perception of support from family and friends, top management, and supervisors and their influence on reporting symptoms of PTSD.

Critical Incidents

The survey asked respondents to consider events that they directly experienced or witnessed during their lifetime (on or off the job) that have had a major and lasting impact on his or her life and wellbeing dichotomously as 1= “Yes” or 0= “No.” Respondents who answered “no” to this question were asked to skip forward to the Lifestyle questions. Historical exposure to critical incidents was operationalized by using a modified version of the Life Events Checklist for the DSM-5 (LEC-5). This scale was created by the Department of Veteran Affairs to assess exposure to 16 potential sources of trauma known to be associated with PTSD in the general public (U.S. Department of Veterans Affairs, n.d.) and police officers (Marchand et al., 2015). The scale also includes an “other” category. Critical incidents included: “life threatening natural disaster”, “fire or explosion”, “serious transportation accident”, “serious accident at work, home, or during a recreational activity”, “exposure to toxic substance”, “physical assault”, “assault with a weapon”, “sexual assault”, “other unwanted or uncomfortable sexual experience”, “combat”, “captority”, “life threatening illness or injury”, “severe human suffering”, “sudden violent death (homicide, suicide)”, “sudden accidental death”, “serious injury, harm, or death you caused to someone else”, “any other very stressful event or experience (asked to specify).” Several scholars have used this tool in policing literature (Carleton et al., 2019; Chopko et al., 2010; Marchand et al., 2015) and it is widely used to assess trauma in clinical trials and throughout the Veterans Association. Officers were asked to
check the box if the incident happened to them and/or if they witnessed the event. A score was given from 0-17 to capture a cumulative exposure score of potential critical incidents separately for direct personal experiences and witnessed experiences.

Social Support from Family and Friends

Social support from family and friends items were derived from two sources, Paoline & Terrill’s work and the Police Stress Questionnaire (PSQ). The one item from Paoline and Terrill’s (2014) research was used “most people, including my family, do not understand how difficult it is to be a police officer”. The other two social support questions were influence by the Police Stress Questionnaire (PSQ), “I do not spend enough time with friends and family” and “being a police officer limits my social life” (α=.795). The original 40-item scale measures operational and occupational stressors known to policing on a 7-point Likert Scale (1-Absence of Stress to 7-Extreme Stress). Response items were modified for this survey so that questions could be analyzed with other indicators. A four-point Likert Scale (3=Strongly Disagree; 2=Disagree; 1=Agree; 0=Strongly Agree) was used for each of these items. These questions were reverse coded in comparison to other questions about support. It is understood that the scaling of these two items from the PSQ is very different from the original scale. There is further discussion on this in the limitations section. The scores ranged from 0-9. So, the higher the score on these items, the more perceived social support with others outside of policing.

In police culture, perception of support from supervisors and top management has implications for psychological and physical outcomes for officers (Gershon et al., 2009). Scholars like Cohen et al. (2019) discuss the importance of organizational support as a
protective factor in preventing the development of PTSD after a critical incident. In addition, some studies have indicated that organizational pressure has more of an impact on officer’s psychological wellness than exposure to critical incidents (Thoen et al., 2020). Therefore, perception of support from supervisors and top management was included in this analysis. However, it was essential to separate “supervisors” from “top management”, as officers generally do have favorable opinions of their immediate supervisors, but the same is not necessarily seen in their perception of top management. Survey items were scored on a four-point Likert Scale, 0=Strongly Disagree, 1=Disagree, 2=Agree, 3= Strongly Agree. Like the other questions about support mentioned previously, the higher the score on the scale, the greater the perception of support. Four items are borrowed from Gau and Paul (2019): “My supervisor lets officers know what is expected of them”; “my supervisor looks out for the personal welfare of his/her subordinates”; “my supervisor will support me when I am right, even if it makes things difficult for him or her”; “the decisions I make are seldom criticized by my supervisor” (α=.841).

Four items captured the perception of support from top management. “When a community member files a complaint against an officer, top management is objective in their investigation of the incident”; “when an officer contributes to a team effort rather than looking good individually, top management will recognize it”; “when an officer gets written up for rule violations, s/he will be treated fairly by top management”; “I feel supported by top management” (α=.855).
Moderating Variables

Trauma literature explains that social support is a strong predictor of psychiatric conditions (Cox et al., 2017) and especially PTSD (American Psychiatric Association, 2013). The current study tests whether the cumulative effect of critical incident exposure on the likelihood of officers reporting symptoms of PTSD is moderated by the degree of perceived social support from family and friends. Another variable was created by combining critical incident exposure that happened to the officer personally and perception of support from family and friends. A mean centered approach was used to create an interaction variable between cumulative exposure to critical incidents that the officer experienced personally and perception of social support from family and friends. The rationale behind using the mean center was to account for multicollinearity between the interaction variable and the main effects. The moderation analysis was run in the OLS regression model and the logistic regression model.

Officer Characteristics

Several demographic variables were included in the analyses. Age was scaled on a continuous level of measurement reported in years. Gender was coded as 0=Male, 1=Female. Involvement in a serious relationship, having children, owning pets, and military status were all captured dichotomously as 1=Yes, 0=No. Race was coded as 0=White, 1=Non-White. Years of experience as a police officer was captured in years. Education was coded as 0=Non-Degree and 1=Degree.
Barriers to Mental Health Services

Barriers to receiving services for mental health was captured as an open-ended question on the survey. Respondents were asked to identify in their own words one or two barriers to officers receiving mental health services. Literature largely cites stigma and fear of losing ones’ gun as barriers to receiving mental health (PERF, 2019). Gathering data beyond these expected answers might prove to uncover other barriers to mental health services not readily known in the literature.

Analytical Plan

Quantitative Data Analysis

Summary Statistics

A total of 85 officers completed the survey. However, only 78 reported lifetime exposure to critical incidents. So, those with no exposure to critical incidents did not answer the questions related to PTSD symptoms. Therefore, for the quantitative data analysis, only the 78 respondents who reported lifetime exposure to critical incidents were included in the statistical model. Quantitative data was analyzed using IBM SPSS. Descriptive statistics, like frequencies, means, and standard deviations were calculated for all study variables and were used to summarize the results of the study. Continuous variables were summarized by reporting the number of observations, mean, standard deviation, minimum, and maximum. Categorical variables were summarized using frequency tables illustrating the number and percentage of respondents within a particular category. For PTSD symptomatology, the frequency of each of the five symptoms were reported individually in a contingency table. This variable was then
calculated into a continuous variable. An OLS regression model was used to test two research questions. The first explores the cumulative effect of exposure to different kinds of traumatic events has on PTSD symptomatology. The second research question focuses on the potential moderating effect perception of social support from family and friends outside of policing has on the relationship between cumulative critical incident exposure and the likelihood of reporting PTSD symptoms. Bias in the model was checked for violation of assumptions using histograms to ensure that the data was distributed normally. Multicollinearity was checked among variables and the variance inflation factor (VIF) values was less than 2.00.

**RQ1: What cumulative impact does type of trauma exposure have on the likelihood of reporting PTSD symptoms?**

To answer the first research question about the cumulative impact type of trauma exposure has on the likelihood of reporting PTSD symptoms in officers, a multivariate regression model analysis was run. Ordinary least squares (OLS) regression models allow for analysis of a single dependent variable with multiple independent variables. For the current analysis, OLS models were estimated that independently regressed each cumulative type of trauma exposure for both that happened to the officer personally or witnessed. All OLS model estimates reported unstandardized (b) and standardized (Beta) coefficients. Post-estimation tests were performed across OLS models to ensure no issues of heteroskedasticity and multicollinearity were met.

The dependent variable of PTSD symptoms was not normally distributed. To address this, a new dichotomous dependent variable was created (those who reported 0-2 symptoms and those who reported three or more symptoms of PTSD). Prior studies using the PC-PTSD have
used three or more symptoms as a threshold for positive screens for PTSD (Fox et al., 2012; Jetelina et al., 2020). Prins et al. (2016) found in their sample of 398 Veterans that a score of three was optimal for sensitivity, specifically, with a cut off of three, they were able to identify 94.8% of participants actually diagnosed with PTSD using the MINI-International Neuropsychiatric Interview (MINI). A single logistic regression model was run. Overall fit was assessed by using the likelihood ratio chi-square test, the Hosmer-Lemeshow, and Omnibus Test of model coefficients (Hosmer et al., 2013).

RQ 2: What moderating effect does perception of social support from family and friends have on cumulative personal trauma exposure and the likelihood of reporting symptoms of PTSD in police officers?

The second research question was answered in the OLS regression model initially using an interaction variable between the total perception of social support from family and friends and cumulative score on exposure to critical incidents that happened personally to the respondent. Since the dependent variable of PTSD symptoms was not normally distributed, it was transformed from a continuous variable to a categorical variable and these interaction variables were rerun in a logistic regression model.

RQ3: What influence does police culture have on perceived barriers to officers receiving mental health services?

The final research question was created using qualitative data captured from an open-ended question included in the original survey pertaining to identifying how police culture affects the perception of barriers to officers receiving mental health services. In the survey, officers were asked “what are one or two barriers to officers receiving mental health services?”
Fifty-four of the 85 respondents answered the question on barriers to officers receiving mental health services. Thematic data analysis was used to identify patterns, themes, and common categories that emerged from the data (Maxfield & Babbie, 2018). Data was coded manually and key themes were verified by another member of the research team to ensure consistency in findings. A diagram is provided to illustrate each type of theme that emerged from analysis. Qualitative data may provide additional insights into the potential for alleviation of symptoms of PTSD in respondents. Thoen et al. (2020) and Jetelina et al. (2020) incorporated similar analysis in their studies, in that both used qualitative analysis to further their understanding of mental illness in police officers, specifically PTSD.

Handling of Missing Data

Participants were told they could skip over any items they did not want to answer. Missing data was handled by incorporating listwise deletion. Seven respondents were omitted from the analysis due to missing responses on the items of the independent variables. Several respondents did not respond to the demographic items. Demographic data was included in the first OLS regression model, but were not statistically significant. Therefore, no demographic variables were used in the final regression model. The qualitative component was analyzed separately from the quantitative data because several participants did not respond to the question about the barriers associated to officers receiving mental health services.
CHAPTER FOUR: RESULTS

The goal of this study was to examine the relationship between critical incident exposure and social support on the likelihood of officers reporting symptoms of PTSD. This analysis also provides a separate qualitative analysis of the barriers officers experience in receiving mental health services when they need it. Bivariate analysis, ordinary least squares, and logistic regression were used to answer the first two research questions. Thematic analysis was used to answer the third research question. This chapter highlights the analytic procedures and dissertation findings.

Descriptives and Correlations

Table 2 displays descriptive results for variables in the current study. Characteristics of the sample are also summarized in Table 2. On average, respondents were 39.15 years of age, with 12.31 years of experience. Forty-seven percent were patrol officers. A majority of the respondents were male (81.7%), 65% had children, 21% reported having military experience, 83% reported having a pet, and 83% reported being involved in a serious relationship. As far as education is concerned, a majority of respondents either had a high school education or some college (70.4%).
Table 2: Mean Differences Between Variables

<table>
<thead>
<tr>
<th>Domain and Variable</th>
<th>Min-Max</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variable</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTSD Total Symptom Score</td>
<td>0-5</td>
<td>1.78 (1.73)</td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perception of Support - Family &amp; Friends</td>
<td>0-9</td>
<td>3.77 (5.12)</td>
</tr>
<tr>
<td>Perception of Supervisor</td>
<td>0-12</td>
<td>8.96 (2.16)</td>
</tr>
<tr>
<td>Perception of Top Management</td>
<td>0-12</td>
<td>6.68 (2.62)</td>
</tr>
<tr>
<td>Personal Exposure to CI</td>
<td>0-12</td>
<td>2.96 (2.81)</td>
</tr>
<tr>
<td>Witness to CI</td>
<td>0-17</td>
<td>9.12 (3.93)</td>
</tr>
<tr>
<td><strong>Demographics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>24-60</td>
<td>38.70 (9.01)</td>
</tr>
<tr>
<td>Gender (Male ref.)</td>
<td>0-1</td>
<td>.17</td>
</tr>
<tr>
<td>Race (White ref.)</td>
<td>0-1</td>
<td>.26</td>
</tr>
<tr>
<td>Education (Non-Degree ref)</td>
<td>0-1</td>
<td>.29</td>
</tr>
<tr>
<td>Serious Relationship</td>
<td>0-1</td>
<td>.83</td>
</tr>
<tr>
<td>Children</td>
<td>0-1</td>
<td>.68</td>
</tr>
<tr>
<td>Pet</td>
<td>0-1</td>
<td>.83</td>
</tr>
<tr>
<td>Veteran</td>
<td>0-1</td>
<td>.21</td>
</tr>
<tr>
<td>Rank (Patrol ref.)</td>
<td>0-1</td>
<td>.46</td>
</tr>
<tr>
<td>Tenure</td>
<td>1-38.03</td>
<td>12.31 (8.64)</td>
</tr>
</tbody>
</table>

Correlation Analysis

A correlation matrix for continuously measured independent variables was run with PTSD symptoms (Table 3). The results showed a significant positive relationship between personal critical incident exposure and self-reported PTSD symptoms ($r = .35, p < .01$). This suggests that the higher the cumulative amount of exposure to different types of critical incidents (that were experienced personally), the more likely self-reported symptoms of PTSD were reported. However, no significant relationship was found between the cumulative impact of witnessing critical incidents and not any other variable in the correlation matrix. As far as relationships with perceptions of social support, there was a significant negative relationship
between perception of support from family and friends and reported symptoms of PTSD ($r = - .41, p < .01$). So, individuals who reported higher perceptions of support from family and friends were less likely to report symptoms of PTSD. This suggests that perception of support from family and friends might be a protective factor in mitigating symptoms of PTSD after exposure to critical incidents. No significant correlations were found between perceptions of support from supervisors, or perception of support from top management and any other variables included in the correlation matrix.

As previously mentioned, perception of support from family and friends is another primary variable in the current study. In the correlation matrix, revealed that having a pet was positively associated with perception of support from family and friends ($r = .24, p < .05$). So, those with pets had potentially stronger perceptions of supportive relationships with family and friends. Pets can be a major source of psychological support for people and enhance socialization (Lass-Hennemann et al., 2012). The correlation matrix also showed a negative relationship between rank and perception of support from family and friends, ($r = -.33, p < .01$). In turn, the higher the rank of an officer, the lower the perception of support from family and friends. Now, tenure, which is often associated with rank, was not significantly associated with perception of support from family and friends. In turn, as an officer progresses in their rank within a department, this may have significant impacts on their relationships with those outside of policing.

Finally, perception of top management was also included in the correlation matrix. Here, age and children were both positively associated with perception of support from top management ($r = .30, p < .05$) and ($r = .26, p < .05$) respectively. The older the officer, the more
likely they were to have reported a positive perception of top management. No other variables were associated with perception of support for top management, including symptoms of PTSD.

It is worth noting that perception of support from peers was included in the survey. However, there was little variability in the responses, \((M = 8.79, SD = 2.21)\) with a range from 1-12, with 12 being the highest score in the subscale. So, there could be support for a ceiling effect which may skew the data left. In turn, these results suggest that there is a very high perception of peer-to-peer support among officers overall. Just over 11% of the sample scored a 12 on this sub-scale across the four primary questions asked “I feel supported by my fellow officers”, “I trust my fellow officers”, “protecting a fellow officer is one of my top priorities”, “there is a camaraderie and bond among officers that others outside of policing would not understand”. In turn, many of the respondents either “agree” or “strongly agree” with the prior mentioned statements.

The correlation matrix also revealed some significant relationships between key variables used in the final analysis. First of all, age was positively associated with cumulative critical incident exposure \((r = .341, p < .01)\). This is to be expected. The older the officer, the higher the risk of critical incident exposure. There was not a significant relationship between age and witnessing critical incidents. Similarly, tenure (the number of years as being a police officer) was also positively associated with the likelihood of cumulative exposure to critical incidents that personally happened to the officer \((r = .30, p < .05)\). Again, it is expected that the longer an officer has been on the force, the more likely they are to be exposed to critical incidents. Although, tenure may be mediated by age. Those with children were also more likely to report higher critical incident exposures that personally happened to the officer, \((r =.34, p <\)
This finding overall may be due to an age effect. Older respondents had more incident exposure and were more likely to have children.

Table 3 describes the correlation matrix for the dependent variable and the primary independent variables. It is important to note that of the variables, very few were related to the dependent variable. Perceptions of social support from supervisors or top management were not statistically significant in predicting the likelihood of officers reporting symptoms of PTSD. Similarly, witnessing critical incidents was not related to the likelihood of officers reporting symptoms of PTSD.

Table 3: Correlation Matrix (n=71)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PTSD Symptoms</td>
<td>1</td>
<td>-.409**</td>
<td>-0.183</td>
<td>.153</td>
<td>1</td>
<td>-0.064</td>
<td>0.039</td>
<td>-0.205</td>
<td>0.115</td>
<td>-0.080</td>
</tr>
<tr>
<td>2. Support Family &amp; Friends</td>
<td>-.409**</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>0.199</td>
<td>-0.186</td>
<td>0.263</td>
<td>-0.327**</td>
<td>-0.143</td>
</tr>
<tr>
<td>3. Support Supervisor</td>
<td>-0.183</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>-0.263</td>
<td>0.302*</td>
<td>0.264</td>
<td>-0.143</td>
<td>0.248</td>
</tr>
<tr>
<td>4. Support Top Management</td>
<td>0.153</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>0.302*</td>
<td>0.341**</td>
<td>0.264</td>
<td>0.438</td>
<td>0.298*</td>
</tr>
<tr>
<td>5. CI (Personal)</td>
<td>1</td>
<td>-.076</td>
<td>-.142</td>
<td>1</td>
<td></td>
<td>-0.142</td>
<td>0.263*</td>
<td>0.342**</td>
<td>0.528**</td>
<td>0.379**</td>
</tr>
<tr>
<td>6. Age</td>
<td>0.153</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>-.0142</td>
<td>0.263*</td>
<td>0.342**</td>
<td>0.528**</td>
<td>0.379**</td>
</tr>
<tr>
<td>7. Children</td>
<td>1</td>
<td>-.076</td>
<td>-.142</td>
<td>1</td>
<td></td>
<td>1</td>
<td>0.341**</td>
<td>0.342**</td>
<td>0.438</td>
<td>0.432**</td>
</tr>
<tr>
<td>8. Pet</td>
<td>0.115</td>
<td>-0.327**</td>
<td>-0.046</td>
<td>0.215</td>
<td>0.171</td>
<td>0.438</td>
<td>0.459**</td>
<td>0.432**</td>
<td>0.113</td>
<td>0.559**</td>
</tr>
<tr>
<td>9. Rank</td>
<td>0.248</td>
<td>0.298*</td>
<td>0.379**</td>
<td>0.528**</td>
<td>0.438</td>
<td>0.459</td>
<td>0.432**</td>
<td>0.113</td>
<td>.559**</td>
<td></td>
</tr>
</tbody>
</table>

Note: **Correlation is significant at .01 level, *Correlation is significant at .05 level

Descriptives of Symptoms of PTSD

Mental health outcomes of PTSD symptoms in this study were fairly consistent with studies conducted in other police departments (Table 4). Hypervigilance or being on guard was the most commonly reported symptom of PTSD (45.1%). Nightmares or invasive memories and feelings of numbness were also commonly reported among the sample (40.8%). Avoidance
symptoms were reported by 33.8% of the sample. Feelings of blame were not widely reported and was the least common symptom reported (12.7%). These findings were very similar symptoms reported in the literature. For example, Fox et al.’s (2012) study of 150 police officers found that the most common symptoms of PTSD were nightmares or intrusive thoughts (30%) and feelings of numbness. Avoidance symptoms were seen among 22% of the sample in Fox et al.’s, (2012) study. The current study found higher incidence of avoidance symptoms in the sample (33.8%).

As far as the cumulative PTSD score, the total PTSD score of the sample was (M=1.73, SD=1.70, range 0-5). So, on average, over the past 30 days, respondents experienced nearly two symptoms of PTSD that bothered them. Many respondents reported no symptoms of PTSD (35.2% or 25); 19.7% (14) reported one symptom; 8.5% (6) reported two symptoms, 16.9% (12) had three symptoms, 12.7% (9) reported four symptoms, followed by only 7% (5) experienced all five symptoms in the past 30 days. When divided into dichotomous variables, 63.4% (45) reported 0-2 symptoms, 36.6% (26) reported 3+ symptoms.

Table 4: Contingency Table of PTSD Symptoms from PC-PTSD-5

<table>
<thead>
<tr>
<th>Symptom</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Have had nightmares about it or thought about it when you did not want to</td>
<td>29</td>
<td>40.8</td>
</tr>
<tr>
<td>2. Tried hard not to think about it or went out of your way to avoid situations that reminded you of it</td>
<td>24</td>
<td>33.8</td>
</tr>
<tr>
<td>3. Were constantly on guard, watchful, or easily startled</td>
<td>32</td>
<td>45.1</td>
</tr>
<tr>
<td>4. Felt numb or detached from others, activities, or your surroundings</td>
<td>29</td>
<td>40.8</td>
</tr>
<tr>
<td>5. Felt guilty or unable to stop blaming yourself or others for the event(s) or any problems the event(s) may have caused</td>
<td>9</td>
<td>12.7</td>
</tr>
</tbody>
</table>
Descriptives: Critical Incident Type

The Life Events Checklist-5 (LEC-5) has 17 potential traumatic incidents to elect from, one of which is an other category. In our sample, critical incident exposure was broken up into two primary categories (happened to me personally or witnessed). For critical incident in the first category, happened to me personally, the (M= 2.99, SD= 2.86, range 0-12).

Specifically, 18.3% reported no critical incident exposure to them personally. Cumulatively, about 21.1% reported at least one personal critical incident exposure, 15.5% reported two and 12.7% reported three personal critical incident exposures. Nearly one third of the sample reported 4+ critical incident exposures.

Descriptives: Critical Incident Personal

The most common reported critical incident type that happened to the officer personally was physical assault (46.5%), combat (38%), and assault with a weapon (31%). Respondents also reported other serious accidents at work, home, or during a recreational activity (28.2%) and exposure to toxic substance (25.4%) that had happened to them personally. Serious transportation accidents were reported by 18.3% of respondents, and serious injury, harm, or death you caused to someone else (16.9%). Life threatening illness or injury was reported by 15.5% of participants. Exposure to fire or explosion was reported by 12.7% of respondents. Other very stressful event or traumatic experience was reported by 11.3% of participants. The least reported events included: Sudden accidental death (8.5%), human suffering (7%), natural disaster and other unwanted or uncomfortable sexual experience sudden violent death (2.8%). No one reported captivity or sexual assault. See Table 5 for descriptive statistics.
Descriptives: Critical Incidents Witnessed

Witnessing all types of critical incidents derived from the LEC-5 were reported by participants in significantly higher percentages than personal exposure. For example, the most common critical incident witnessed was serious transportation accident (87.3%) followed by sudden violent death (homicide or suicide). Other serious accidents were witnessed by 62% of participants. Witnessing fire or explosion was another common critical incident reported (64%) as was exposure to natural disasters (57.7%). In addition, 80.3% of respondents reported witnessing sudden violent death (like homicide or suicide) and 73.2% reported exposure to sudden accidental death. Over half (69%) of participants reported exposure to life threatening illness or injury and severe human suffering. Witnessing physical assault was reported by 67.6% of participants. Serious injury, harm, or death you caused to someone else was reported by 39.4% of officers. Other unwanted or uncomfortable sexual experiences were reported by 33.8% of survey respondents. Approximately 26.8% reported witnessing captivity and combat. Fewer respondent reported exposure to other kinds of stressful events or experiences (8.5%).
Table 5. Critical Incident Exposure Type Frequency (Personal & Witnessed)

<table>
<thead>
<tr>
<th>Critical Incident Exposure</th>
<th>Happened to Me</th>
<th>Witnessed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f (%)</td>
<td>f (%)</td>
</tr>
<tr>
<td>Life Threatening Natural Disaster</td>
<td>2 (2.8%)</td>
<td>41 (57.7%)</td>
</tr>
<tr>
<td>Fire or Explosion</td>
<td>9 (12.7%)</td>
<td>46 (64.8%)</td>
</tr>
<tr>
<td>Serious Transportation Accident</td>
<td>13 (18.3%)</td>
<td>62 (87.3%)</td>
</tr>
<tr>
<td>Other Serious Accident at work, home, or during a recreation activity</td>
<td>20 (28.2%)</td>
<td>44 (62%)</td>
</tr>
<tr>
<td>Exposure to Toxic Substance</td>
<td>18 (25.4%)</td>
<td>26 (36.6%)</td>
</tr>
<tr>
<td>Physical Assault</td>
<td>33 (46.5%)</td>
<td>48 (67.6%)</td>
</tr>
<tr>
<td>Assault with a weapon</td>
<td>22 (31%)</td>
<td>48 (67.6%)</td>
</tr>
<tr>
<td>Sexual assault</td>
<td>0 (0%)</td>
<td>31 (43.7%)</td>
</tr>
<tr>
<td>Other unwanted or uncomfortable sexual experience</td>
<td>4 (5.6%)</td>
<td>24 (33.8%)</td>
</tr>
<tr>
<td>Combat</td>
<td>27 (38%)</td>
<td>19 (26.8%)</td>
</tr>
<tr>
<td>Captivity</td>
<td>0 (0%)</td>
<td>19 (26.8%)</td>
</tr>
<tr>
<td>Life Threatening illness or injury</td>
<td>11 (15.5%)</td>
<td>49 (69.0%)</td>
</tr>
<tr>
<td>Severe human suffering</td>
<td>5 (7.0%)</td>
<td>49 (69.0%)</td>
</tr>
<tr>
<td>Sudden violent death (homicide, suicide)</td>
<td>2 (2.8%)</td>
<td>57 (80.3%)</td>
</tr>
<tr>
<td>Sudden accidental death</td>
<td>6 (8.5%)</td>
<td>52 (73.2%)</td>
</tr>
<tr>
<td>Serious injury, harm, or death you caused to someone else</td>
<td>12 (16.9%)</td>
<td>28 (39.4%)</td>
</tr>
<tr>
<td>Any other very stressful event or experience</td>
<td>8 (11.3%)</td>
<td>6 (8.5%)</td>
</tr>
</tbody>
</table>

Assessing the Fit of the OLS Regression Model

A forced entry approach was used for the OLS regression model because the variables largely coincide with police culture. So, this study aimed to test how perceptions of social support from family and friends and cumulative exposure to critical incidents affect likelihood of predicting current symptoms of PTSD in officers. These variables are largely cited in the
police culture literature and it seemed logical to include them in the model. Demographic variables were run in the first OLS regression model, but were not statistically significant and there was so much missing data, the control variables were dropped. For a table of the OLS model with controls reference Appendix D. In the final model, only the cumulative critical incident score that happened to the officer personally, perception of support from friends and family, perception of support from top management, and perception of support from supervisors were included in the final model. Overall, the model accounted for 24.6% of variance in the dependent variable, self-reported symptoms of PTSD experienced in the past 30 days. However, 75.4% of the model cannot be explained by this model alone. This could be due to having a small sample size. The OLS model propose that the main independent variables reliably and significantly predict the likelihood of reporting symptoms of PTSD in officers as suggested by a significant F-statistic ($F = 6.702$, $p < .001$). Multi-collinearity was ruled out because none of the variables had a VIF higher than 2.00. For complete OLS regression model including all variables reference (Table 6).

<table>
<thead>
<tr>
<th>Variables</th>
<th>$B$</th>
<th>$SE$</th>
<th>$B$</th>
<th>$t$</th>
<th>$p$</th>
<th>CI 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tot. CI Personal</td>
<td>.184**</td>
<td>.063</td>
<td>.309</td>
<td>2.935</td>
<td>.005</td>
<td>.059</td>
</tr>
<tr>
<td>Supervisor Support</td>
<td>-.050</td>
<td>.087</td>
<td>-.062</td>
<td>-.576</td>
<td>.566</td>
<td>-.223</td>
</tr>
<tr>
<td>Top Management Support</td>
<td>-.063</td>
<td>.069</td>
<td>-.096</td>
<td>-.911</td>
<td>.366</td>
<td>-.200</td>
</tr>
<tr>
<td>Family &amp; Friends Support</td>
<td>-.312***</td>
<td>.081</td>
<td>-.408</td>
<td>-3.853</td>
<td>&lt;.001</td>
<td>-.473</td>
</tr>
</tbody>
</table>

Notes: $R^2$=.289, Adjusted $R^2$=.246, Regression $F$= 6.702, $p < .001$, ** $p < .01$, *** $p < .001$
RQ1: “What cumulative impact does type of trauma exposure have on the likelihood of reporting PTSD symptoms?”

The OLS regression model showed significance in cumulative critical incident exposure personally predicting the likelihood of officers reporting symptoms of PTSD ($b = .184$, $p < .01$, $\beta = .309$). These results lean toward a positive relationship between personal critical incident exposure cumulative scale and likelihood of reporting PTSD symptoms among officers over the past 30 days. So, the greater the cumulative score (0-17), the more likely the respondent reported higher symptoms of PTSD.

Perception of Supervisor Support

Overall, the sample reported a very favorable perception of supervisor support. Therefore, it is not surprising that perception of supervisor support was not a significant indicator of PTSD symptomatology among the sample ($b = -.050$, $p = .576$, $\beta = -.062$). Other literature supports favorable perception of supervisors from officers (Gau & Paul, 2019; Paoline & Terrill, 2014).

Perception of Top Management Support

As with supervisor support, the overall perception of top management support was relatively high (M=6.68, SD= 2.62). Using a similar scale to gauge perception of support, Gau & Paul (2019) found in their study of 203 officers, high perceptions of top management. However, like perception of support from supervisors, perception of top management support was not significant in the OLS model in predicting PTSD symptoms of respondents ($b = -.063$, $p = .366$, $\beta = -.096$). This could be due to the small sample size.
Perception of Support from Family and Friends

The perception of support from family and friends was significant in predicting PTSD symptoms in the past 30 days among respondents ($b = -0.312, p < .001, \beta = -0.408$). So, the higher the perception of support from family and friends, the lower the cumulative score on the PTSD scale or the less likely the respondent experienced symptoms of PTSD in the last 30 days. The field of psychology suggests that support from family and friends can be the leading protective factor in preventing the development of mental health indications (American Psychiatric Association, 2013) and the same trend can be seen in some studies and reports about psychological outcomes for police (Violanti et al., 2017; PERF, 2019).

The Logistic Regression Model

Since the dependent variable was skewed, a logistic regression model was run as a supplement to the OLS model. In the OLS model, the PTSD variable was coded on a continuous scale of 0 to 5. In the logistic regression model, the dependent variable is dichotomized as 0 to 2 and 3 to 5. The purpose of the logistic regression model was to strengthen the study findings by testing the model. Several studies have used a 3+ cutoff on the PC-PTSD-5 to indicate a positive screen of PTSD (Fox et al., 2012; Jetelina et al., 2020; Prins et al., 2016). Witnessing critical incidents was initially included to see if it would have any significance in the model on predicting PTSD symptoms in the logistic regression model. However, these results were not significant. So, it was decided to keep the same predictors in the OLS regression model in the logistic regression model.
Overall Model Fit of Logistic Regression Model

The overall fit of the logistic regression model was tested by the Omnibus Test, evaluation of the Nagelkerke R Square, and the Hosmer and Lemeshow Test. The chi-square model fit statistic for the logistic regression model predicting symptoms of PTSD was significant when using the variables of critical incident exposure that happened to the officer directly and perception of social support from family and friends. The Hosmer-Lemeshow goodness of fit was not statistically significant, indicating the model with predictors was better than the intercept-only model.

For the classification table, 86.7% of the model adequately predicted those respondents who reported 0 to 2 symptoms of PTSD. Over half of the observed cases matched what was predicted for the 3+ PTSD symptom group (53.8%). Total critical incident type that happened to the officer personally was positively and statistically significant in predicting the likelihood of an officer reporting 3+ symptoms of PTSD in the last 30 days in the sample (OR = 1.37, p < .01). As the number of total critical incidents that happened to the officer personally increased by one, the probability of an officer belonging to the 3+ PTSD symptom group over the last 30 days increases by 1.37.

Similarly, as the score on the subscale of perception of support from family and friends increases by one unit, the likelihood of an officer belonging to the 3+ PTSD symptom group over the last 30 days decreased (OR = .663, p < .01). So, the higher the perception of support from friends and family, the odds of the officer experiencing 3+ symptoms of PTSD decrease by .663. None of the other indicators of support were significant in the model. Perception of top management and supervisor support were not predictors in officers reporting symptoms of
PTSD in the model. Total critical incident type that happened to the officer personally and perception of support from family and friends were significant in predicting likelihood of officers reporting 3+ symptoms of PTSD.

Table 7. Logistic Regression Predicting 3+ Symptoms of PTSD

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>OR</th>
<th>95% CI OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tot. CI (Personal)</td>
<td>.315**</td>
<td>.118</td>
<td>7.090</td>
<td>1</td>
<td>.008</td>
<td>1.371</td>
<td>1.087</td>
</tr>
<tr>
<td>Family &amp; Friends Support</td>
<td>-.411**</td>
<td>.157</td>
<td>6.824</td>
<td>1</td>
<td>.009</td>
<td>.663</td>
<td>.487</td>
</tr>
<tr>
<td>Top Management Support</td>
<td>-.153</td>
<td>.114</td>
<td>1.815</td>
<td>1</td>
<td>.984</td>
<td>.858</td>
<td>.686</td>
</tr>
<tr>
<td>Supervisor Support</td>
<td>-.003</td>
<td>.141</td>
<td>.000</td>
<td>1</td>
<td>.984</td>
<td>.997</td>
<td>.757</td>
</tr>
</tbody>
</table>

Note: n=71, b=unstandardized coefficients; SE=robust standard errors; β (OR)=standardized coefficient, ** p < .01

RQ2: “What moderating impact does perception of social support from family and friends have on likelihood of developing PTSD symptoms after exposure to critical incidents?”

To answer the second research question, a moderating effect was tested for using an interaction term combining cumulative critical incident exposure and perception of social support from family and friends. A new variable was created by using the mean center of the critical incident exposure that happened to the officer personally and perception of social support. Essentially, the mean was subtracted from each variable. Applying the mean center approach addressed the issue of multi-collinearity among variables because the original variables were included in the interaction model.

As with the original OLS regression model, only the cumulative critical incident score that happened to the officer personally, perception of support from friends and family, perception of support from top management, and perception of support from supervisors were included in the final model. Overall, the model including the interaction term accounted for
25.2% of variance in the dependent variable, self-reported symptoms of PTSD experienced in the past 30 days. However, 74.8% of the model cannot be explained by this model alone. This could be due to having a small sample size. The OLS model including the interaction term propose that the main independent variables reliably and significantly predict the likelihood of reporting symptoms of PTSD in officers as suggested by a significant F-statistic (F = 5.570, p < .001). The R² change of adding the interaction term between models was .011. So, adding the interaction term did not affect the variance explained in the model by any significant amount. Multi-collinearity was ruled out because the mean centered approach was applied to create a new variable for critical incidents that happened to the officer personally and perception of support from family and friends. For complete OLS regression model including the main effects and inclusion of the interaction term, reference (Table 8).

The model did not show support for a significant interaction between cumulative exposure to critical incidents that happened to the officer directly and degree of perception of social support from friends and family. The interaction term was not statistically significant (b = -.026, p = .298, \( \beta = -.219 \)) in the OLS regression model. Table 8 illustrates the findings of the interaction term in the OLS regression model.
Table 8. Regressed Model with Interaction Term in Predicting PTSS (n=71)

<table>
<thead>
<tr>
<th>Model</th>
<th>Model</th>
<th>b</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>LL</th>
<th>UL</th>
<th>95 % CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>2.523</td>
<td>.831</td>
<td>3.036</td>
<td>.003</td>
<td>.863</td>
<td>4.183</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tot. CI Personal_C</td>
<td>.174 **</td>
<td>.063</td>
<td>.297</td>
<td>2.773</td>
<td>.007</td>
<td>.049</td>
<td>.300</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Family &amp; Friends_C</td>
<td>-.300 ***</td>
<td>.082</td>
<td>-.389</td>
<td>3.640</td>
<td>&lt;.001</td>
<td>-.464</td>
<td>-.135</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Top Management</td>
<td>-.081</td>
<td>.064</td>
<td>-.389</td>
<td>3.640</td>
<td>&lt;.001</td>
<td>-.209</td>
<td>.047</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supervisor Support</td>
<td>-.035</td>
<td>.087</td>
<td>-.399</td>
<td>.691</td>
<td>-.208</td>
<td>.139</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Model</th>
<th>b</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>LL</th>
<th>UL</th>
<th>95 % CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>(Constant)</td>
<td>2.492</td>
<td>.831</td>
<td>2.997</td>
<td>.004</td>
<td>.830</td>
<td>4.153</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tot. CI Personal_C</td>
<td>.162 *</td>
<td>.064</td>
<td>.276</td>
<td>2.527</td>
<td>.014</td>
<td>.034</td>
<td>.290</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Family &amp; Friends_C</td>
<td>.287 ***</td>
<td>.083</td>
<td>.373</td>
<td>3.449</td>
<td>&lt;.001</td>
<td>-.454</td>
<td>-.121</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Top Management</td>
<td>-.089</td>
<td>.064</td>
<td>-.389</td>
<td>3.640</td>
<td>&lt;.001</td>
<td>-.217</td>
<td>.040</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supervisor Support</td>
<td>-.027</td>
<td>.087</td>
<td>-.310</td>
<td>.758</td>
<td>-.201</td>
<td>.147</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>INTERFAM_CI</td>
<td>-.023</td>
<td>.023</td>
<td>-.310</td>
<td>.317</td>
<td>-.070</td>
<td>.023</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: Model 2: R²=.307, Adjusted R²=.252, Regression F= 5.570, p < .001, n = 71, ** p < .01, *** p < .001

The same variables were run in the logistic regression model. The main effects were run first, followed by the interaction variable. Omnibus Tests of Model Coefficients were statistically significant, signaling that the model is an improved fit for the data when compared to the y-intercept model only. Chi-square tests in the Hosmer Lemeshow model were not significant, also indicating a good fit for the model. The model also correctly classified 70.4% of cases. Similar to the OLS regression model, there was not a statistically significant relationship between the main effects and the interaction variable (b = .060, p = .353, OR = .942). So, cumulative exposure to critical incidents was not moderated by perception of social support from family and friends on likelihood of reporting three or more symptoms of PTSD. The adjusted R-square variance was less than 1% between the interaction model and original...
model, meaning that the impact of adding the interaction variable to the model was minimal (Table 9).

Table 9. Moderation Analysis for Dichotomized PTSS

<table>
<thead>
<tr>
<th>Step</th>
<th></th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>OR</th>
<th>95 % CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>(Constant)</td>
<td>.372</td>
<td>1.349</td>
<td>.076</td>
<td>1</td>
<td>.783</td>
<td>1.450</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tot. CI Personal_C</td>
<td>.315**</td>
<td>.118</td>
<td>7.090</td>
<td>1</td>
<td>.008</td>
<td>1.371</td>
<td>1.087 - 1.729</td>
</tr>
<tr>
<td></td>
<td>Family &amp; Friends_C</td>
<td>-.411**</td>
<td>.157</td>
<td>6.824</td>
<td>1</td>
<td>.009</td>
<td>.663</td>
<td>.487 - .902</td>
</tr>
<tr>
<td></td>
<td>Top Management</td>
<td>-.153</td>
<td>.114</td>
<td>1.815</td>
<td>1</td>
<td>.178</td>
<td>.858</td>
<td>.686 - 1.072</td>
</tr>
<tr>
<td></td>
<td>Supervisor Support</td>
<td>-.003</td>
<td>.141</td>
<td>0</td>
<td>1</td>
<td>.984</td>
<td>.997</td>
<td>.757 - 1.314</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.372</td>
<td>1.355</td>
<td>.075</td>
<td>1</td>
<td>.784</td>
<td>1.451</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tot. CI Personal_C</td>
<td>.349**</td>
<td>.132</td>
<td>6.959</td>
<td>1</td>
<td>.008</td>
<td>1.418</td>
<td>1.094 - 1.837</td>
</tr>
<tr>
<td></td>
<td>Family &amp; Friends_C</td>
<td>-.410**</td>
<td>.159</td>
<td>6.627</td>
<td>1</td>
<td>.010</td>
<td>.664</td>
<td>.486 - .907</td>
</tr>
<tr>
<td></td>
<td>Top Management</td>
<td>-.166</td>
<td>.116</td>
<td>2.040</td>
<td>1</td>
<td>.153</td>
<td>.847</td>
<td>.674 - 1.064</td>
</tr>
<tr>
<td></td>
<td>Supervisor Support</td>
<td>.017</td>
<td>.143</td>
<td>.014</td>
<td>1</td>
<td>.905</td>
<td>1.017</td>
<td>.769 - 1.346</td>
</tr>
<tr>
<td></td>
<td>INTERFAM_CI</td>
<td>-.060</td>
<td>.064</td>
<td>.864</td>
<td>1</td>
<td>.353</td>
<td>.942</td>
<td>.831 - 1.068</td>
</tr>
</tbody>
</table>

Note: n=71, b=unstandardized coefficients; SE=robust standard errors; β (OR)=standardized coefficient, ** p < .01.

RQ3: What influence does police culture have on perceived barriers to officers receiving mental health services?

Qualitative Results

While the quantitative analysis included 71 respondents, not all 71 of these respondents answered the open-ended question. Therefore, the qualitative analysis used all 85 of the original sample surveyed in the thematic analysis. Respondents were asked “what are one or two barriers to officers receiving mental health services?” Of the 54 respondents of the total sample (85), attitudinal barriers were cited more commonly to barriers to officers receiving mental health services when they need it (94%). Structural barriers were mentioned in 16.7% of the responses. The largest attitudinal barrier reported was stigma associated with receiving mental health services (14.8%), which is supported in the general literature (Fox et al., 2012; Jetelina et al., 2020; Thoen et al., 2020; White et al., 2016). Further analysis of the responses found significant
differences in the type of stigma respondents reported, which centered around general societal stigma, self-stigma. Mental health is largely stigmatized in our society, not just for police. Nearly 17% specifically reported general stigma as a major barrier for officers receiving services for mental health. Other responses like (“negative stigma attached R: 10403, or the stigma over the years that mental health treatment is for the weak of mind” R: 20135) also supported general societal stigma.

Self-stigma emerged in a third of the answers. Particularly, self-stigma focused on one’s ego and pride and was found in about 27.8% of responses. Approximately 15% of responses explicitly stated “ego or pride” as a major barrier to officers receiving mental health services when they need it. Further analysis suggested that this ego and pride could be reflected in perceptions of personal weakness or fear associated with obtaining mental health services. Perceptions of personal weakness attached to receiving mental health services were found in 7.4% of responses like “stigma of feeling weak, denial” (R. 30150); “embarrassed about it” (R. 50196), “having a superman mentality” (R. 30162), or a “macho-mentality” (R. 30157). Meanwhile, fear was exemplified in 16.7% of answers like ”letting people find out” (R. 10407), “too scared to ask for help” (R. 50196), reluctant to get help” (R. 10419), “avoidance” (R. 20124), and “afraid to speak up” (R. 30138).

Occupational stigma was found in 27.8% of responses and generally was related to themes of fear associated with job security and fear of looking weak to peers. For example, responses of “knowing whether or not its going to affect my job” (R. 30142), “worry about loss of job” (R. 10410) or “fear of being deemed unfit for duty by staff” (R. 30169) all suggest feelings of fear associated with job security. On the other hand, “fear of being thought of as
weak by peers” (R. 20133), “not wanting to look weak to other employees/officers (R. 30170)” ; “being judged” (r. 10410), “being labeled as unstable” (R. 30157), or “not being tough enough to handle (Respondent 20126)” present a completely different aspect of fear associated with occupational stigma. Fear was a commonly reported theme among respondents, but it is imperative to understand the context of the fear associated with the deeper meaning behind the barriers specific to officers in receiving mental health services. There is a difference between being afraid of what other officers will think of you if you receive mental health services and fear associated with losing your job. Respondents were very concerned about occupational consequences (i.e. losing ones’ gun; being labeled unfit for duty) or fearful about what others would think. A frequency table illustrating the major themes associated with the qualitative analysis with supporting quotes is found in Table 10.

**Table 10. Thematic Analysis of Barriers to Officers Receiving Mental Health Services**

<table>
<thead>
<tr>
<th>Major Theme</th>
<th>f</th>
<th>%</th>
<th>Supporting Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attitudinal Barriers</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Societal Stigma</td>
<td>9</td>
<td>16.7%</td>
<td>“Negative stigma attached” (R. 10403), “…mental health treatment is for the weak of mind (R. 20135)</td>
</tr>
<tr>
<td>Self-Machismo (Self-Stigma)</td>
<td>18</td>
<td>33.3%</td>
<td>“Recognizing that you need help” (R. 10419; “too shy to say anything” (R. 30159)</td>
</tr>
<tr>
<td>Pride/Ego</td>
<td>15</td>
<td>27.8%</td>
<td>“ego” (R. 20125); “Pride” (R. 20127, 30166)</td>
</tr>
<tr>
<td>Personal Weakness</td>
<td>5</td>
<td>7.4%</td>
<td>“Stigma of feeling weak, denial (R. 30150); “macho-machismo” (R.30157), “embarrassed about it” (R.50196), “Having a superman mentality (R. 30162)</td>
</tr>
<tr>
<td>Occupational Machismo (Occupational Stigma)</td>
<td>15</td>
<td>27.8%</td>
<td>“What others would say, think, credibility” (R. 10417); “returning to job difficult” (R. 30151)</td>
</tr>
<tr>
<td>Perception of Weakness of Other Officers</td>
<td>10</td>
<td>18.5%</td>
<td>“weak appearance, not being tough enough to handle” (R. 20126); “you believing that other officers will think you are weak” (R. 20131); “fear of being labeled” (R. 10128)</td>
</tr>
<tr>
<td>Job security</td>
<td>9</td>
<td>16.7%</td>
<td>“Worry about job loss” (R. 10410); “Fear of how it will affect employment as LEO” (R. 20134); “Job security” (R. 30156)</td>
</tr>
</tbody>
</table>
From a culture perspective, another theme emerged from analysis, one of machismo. Machismo can be separated into two categories, occupational machismo and self-machismo. Occupational stigma, which is related to fear associated with job security and being perceived as weak by peers or top management pertains to more of upholding the “occupational machismo”, or maintaining the tough, stoic image of a police officer. Meanwhile, self-machismo is more related to self-stigma, in that obtaining mental health services would be a blow to the officer’s personal ego or pride. Self-machismo is the self-preservation of ideals of what he or she thinks a police officer should be (strong, stoic, tough, for instance)-adhering to the “superman mentality”. If an officer adheres to self-machismo, he or she may attach perceptions of weakness and embarrassment to receiving mental health services because help seeking behaviors may pose a sharp disparity between their ideal of what a police officer is and reality. The culture within policing emulates officers who are stoic, tough, and unaffected by events or situations they encounter, including exposure to trauma (Medlin, 2020). This perception of stoicism is reflected in the officers’ perception of themselves and how others perceive them. Overall, the respondents cared very much about how others in the department perceive them and this was highlighted in their responses to the qualitative portion of the survey. See Figure 2 which illustrates the major themes that emerged from the qualitative analysis.
Figure 2. Thematic Analysis of the Barriers to Officers Receiving Mental Health Services
CHAPTER FIVE: DISCUSSION

This study provides an exploratory investigation into how exposure to different types of critical incidents affect the likelihood of officers developing symptoms of PTSD. In addition, the current study explores protective factors of support for officers by examining a variety of sources of perception of support (i.e. support from family and friends, supervisors, and top management). There is a growing body of literature about mental health outcomes for officers and the current study adds to the existing literature on psychological outcomes for police officers. This study also sheds light on identifying the barriers to officers receiving mental health services when they need it. Furthermore, this research offers an additional benefit of using moderation analysis to test potential interaction effects of perception of social support from family and friends and cumulative exposure to different types of critical incidents. Results of this study have implications for practice and theoretical constructs for police culture and psychological outcomes for officers.

Summary Findings RQ #1: What cumulative impact does type of trauma exposure have on the likelihood of reporting PTSD symptoms?

Substantial findings emerged from the OLS regression model predicting the likelihood of officers reporting PTSD symptoms. For example, personal exposure to cumulative various types of traumatic incidents was statistically significant \( p < .01 \). However, there was not a significant difference for cumulative exposure to various critical incidents that were witnessed \( (p = .854) \). So, the greater the number of different types of personal critical incident exposure an officer reported, the more likely they were to report bothersome symptoms of PTSD (in the last
30 days). This positive relationship was also observed in the logistic regression model. Collectively, these findings suggest that symptoms of PTSD may be related to a combination of a variety of traumatic exposures and not associated with just one main event, which is also supported in the literature (Hartley et al., 2013; Violanti, 2021).

These findings may help departments better understand how different types of trauma impact officers’ psychological wellbeing over time. More studies have been conducted evaluating the longitudinal impact trauma exposure has on officers. For example, Carleton et al. (2019), found in their large-scale study how various traumatic exposures has a significant effect on officers’ psychological wellbeing, especially in relation to depression, anxiety, and PTSD. Twelve of the sixteen events in the LEC-5 in Carleton et al’s study were associated with predicting symptoms of PTSD. Furthermore, Hartley et al. (2013) also found support for cumulative impact of critical incident exposure and psychological outcomes for officers. Hartley and scholars found that on average, officers reported being exposed to over four critical incidents in the last year. Whether or not these incidents were “witnessed” or “personal” exposure was not discussed. However, in the current study found that the average officer was personally exposed to nearly three different types of trauma over their lifetime (including events not associated with policing). It would be beneficial to further explore cumulative impact on personal exposure to critical incidents and psychological outcomes using semi-structured interviews with officers. Several scholars have used semi-structured interviews to discuss mental health outcomes in police (Jetelina et al., 2020; Thoen et al., 2020).

Notably, the current study did not find a similar pattern of a cumulative impact on witnessing trauma (M=9.14, SD=3.93) in the OLS regression model and in the logistic
regression model. This could have been due to a small sample size. It would be worth exploring the impact of cumulative exposure to witnessed trauma with a larger data set in police. It is an important topic to talk about because witnessing trauma, coupled with personal exposure to trauma, may have additional cumulative effects on psychological outcomes in officers. While not statistically significant in the current analysis, witnessing critical incidents and overall impact on mental health of officers is an inherent risk associated with the job. That said, regardless, data from the current study highlights the importance of the cumulative effect of being exposed to trauma and psychological outcomes for officers and may have serious implications for training officers in the academy about the risk of exposure to critical incidents and cumulative impact on psychological wellbeing. Learning about maintaining self-care begins at the academy, which has been mentioned in some current studies (Violanti et al., 2017). People who practice psychology are warned early on in their education the importance of vicarious trauma and self-care. Similar messages might be beneficial to officers in the academy.

**Theoretical Implications**

While the current study did not provide additional analysis regarding specific critical incident exposure (like physical assault and likelihood of developing PTSD symptoms in officers) or the “worst traumatic incident for officers”, officers in the sample were more likely to report physical assault, combat, and assault with a deadly weapon. Physical assault was reported in 46.5% of respondents in the current study and 31% reported assault with a weapon. Risk of physical assault and serious injury or death may contribute to perception of danger, which was captured on the original survey. A vast majority of respondents agreed (22.5%) or
strongly agreed (73.2%) that they worked a “dangerous job”, that their job was more dangerous than other jobs “agree” (28.2%) and strongly agree (66.2%), and in their job, “a person stands a good chance of getting hurt” agree (40.8%) and strongly agree (52.1%).

Perception of danger is exemplified given recent statistics on assaults on police. In the US, over 60,000 police officers were assaulted in the line of duty in 2020, which is nearly 4,000 more than reports in 2019 (FBI Dallas, 2021). It makes sense that perception of danger is largely embedded in police culture. Officers perceive their job as being potentially dangerous, even in cases where actual threat or danger may not necessarily exist. Regardless, experiencing physical assault, combat, and assault with a deadly weapon may happen only once or twice in an officer’s life, but the effect of that incident may have lasting impacts on the officers’ perception of danger in the field. As perceptions of danger elevate, so may and officer’s perception of anxiety and stress in the occupation. In turn, anxiety and stress may have concentric impacts on officers after exposure to critical incidents and may have an influence on an officers’ perception of incidents that happen. Police culture explains that the police vacillate between two environments, the occupational and organizational environments. Specifically, the occupational environment includes potential exposure to dangerous situations and traumatic events. Our results largely coincide with existing literature on police culture regarding type of critical incident exposure type and perceptions of danger for officers.
Summary of findings RQ2: “What moderating impact does perception of social support from friends and family have on likelihood of developing PTSD symptoms after exposure to critical incidents?”

In the OLS regression model, results suggest a significant negative relationship between perception of support from friends and family and likelihood of an officer reporting symptoms of PTSD in the last 30 days (p < .001). Those with higher perceptions of support from friends and family were significantly less likely to report symptoms of PTSD in the last 30 days. This finding is not necessarily surprising, given the importance of social support in mitigating a variety of mental health issues across a variety of populations (American Psychiatric Association, 2013). In addition, officers with more positive perceptions of support from family and friends may have a feeling of inclusion with others, which decreases the likelihood of feeling isolated among others. Other studies have highlighted the importance of officers not being cut off from others outside of policing and could likely help prevent psychological distress, especially suicide (PERF, 2019).

Support from friends and family yielded similar results in the logistic regression model. Just as in the OLS regression model, those with higher perceptions of support from family and friends were significantly less likely to report three or more symptoms of PTSD in the last 30 days. Three or more symptoms of PTSD on the PC-PTSD-5 scale is considered clinically relevant and are highly associated with the likelihood of a person meeting diagnostic criteria for PTSD (Fox et al., 2012; Jetelina et al., 2020). Having greater symptoms of PTSD can have implications for police officers in all areas of their life, professionally and interpersonally. In addition, those with greater symptoms of PTSD may be more susceptible to burnout, poorer perception of job satisfaction, and other negative mental health outcomes (Boyd et al., 2016).
This study sheds light on just how important it is to 1) operationalize support across various categories (friends and family, peers, supervisors, and top management) and 2) emphasizes the importance of officers maintaining social relationships outside of policing. No other support category was significantly related to predicting symptoms of PTSD. This is contrary to what other scholars like Perez-Floriano & Gonzalez (2019) who found a negative relationship between perception of support from the police organization and PTSD in their work, in that officers who had a better perception of support from the police organization were less likely to report symptoms of PTSD. Even though perception of support from supervisors and top management was not significantly related to PTSD symptom outcomes for officers in the current study, perception of support from the police department (supervisors and top management) may have other important implications in other psychological outcomes for officers (i.e. job satisfaction, turnover intention, overall psychological wellness). Thoen et al. (2020) discussed in great length the importance of perception of top management on officers’ psychological wellness and this perception was probably more influential on officers’ wellbeing than exposure to critical incidents.

The current study did not show support for moderation between cumulative exposure to critical incidents and perception of social support from friends and family on likelihood of reporting symptoms of PTSD in either the OLS regression model or the logistic regression model. The model including the interaction variable between personal cumulative critical incident exposure and perception of social support from family and friends did not explain much more of the variance in the model compared to the main effects model. So, the slope of the relationship between cumulative personal exposure to critical incidents and post-traumatic
stress symptoms were not contingent on the score of perception of support from family and friends. Perhaps an interaction between these variables would have been seen in a larger sample size. Further research should be done to test the potential for moderation between critical incident exposure and perception of social support from family and friends.

Theoretical Implications

Police culture also explains that stressors for police come from two environments, the organizational and occupational environments in which officers interact with (Paoline & Terrill, 2014). Officers develop coping skills to deal with the stressors of the job that are produced from these environments. While perception of support from supervisors and top management may not necessarily be a protective factor to officers in preventing PTSD per say in the current study, a positive perception of support from the organizational environments may have other significant effects on overall job satisfaction and turnover intention. In the current study, officers had a generally high perception of both supervisors \((M=8.93)\) and top management \((M=6.70)\) management. These findings were partially expected as literature suggests that officers generally have a favorable perception of supervisors (Gau & Paul, 2019; Paoline & Terrill, 2014). However, a similar positive perception of top management was not necessarily expected in the current study. Therefore, more research should be done to explore how perceptions of support from top management and supervisors affect other areas of officers’ physical and psychological well-being in larger sample size. In addition, it might be beneficial to explore how peers, supervisors, and top management address cumulative critical incident exposure.
Summary of findings RQ 3: What influence does police culture have on perceived barriers to officers receiving mental health services?

Several respondents did not answer the open-ended question on barriers to officers receiving mental health services. Therefore, instead of using the responses from the 71 officers that was used in the quantitative analysis, it was decided to use all potential responses to this question in the analysis. So, even those who did not report exposure to traumatic incidents were included in the qualitative analysis. In turn, 54 of the 85 participants’ responses were used in the analysis. The findings in the qualitative thematic analysis largely fell under attitudinal barriers, specifically stigma. Attitudinal barriers superseded structural barriers to officers receiving mental health services, which is largely seen in the general population (Andrade et al., 2014; Jetelina et al., 2020). Attitudinal barriers were mentioned in 94% of responses while only 16.7% of respondents reported structural barriers in their responses like “time” (Respondent 10416 and Respondent 10412) and “who to ask” (Respondent 50190). Stigma was the largest attitudinal barrier mentioned among respondents.

Stigma

Stigma was the most reported attitudinal barrier to officers receiving mental health services among participants. This largely echoes what is seen in the police literature (Jetelina et al., 2020; Thoen et al., 2020). However, in our society, mental health is still largely stigmatized. People are conditioned to not talk about their psychological wellness. Admitting that you have a psychological problem is perceived as a “personal flaw” or for the “weak of mind”. White et al. (2016) explained that stigma stems from a cognitive disparity between an existing social identity and an ideal social identity. It is this dissonance that causes people to stigmatize mental
illness because thoughts, feelings, behaviors, cognitions etc. deviate from the status quo or norm. This is particularly important to police organizations because regardless of addressing any kind of structural barriers to mental health services like offering psychological support for officers, if officers cannot dissolve the perception of stigma about receiving psychological services, many resources will go unused. The results from the current study’s qualitative analysis reinforce existing literature on the impact stigma has on perceptions of mental health and receiving mental health services for officers (PERF, 2019). If officers are distraught, particularly battling with disruptive and distressing symptoms of PTSD, stigma may be a large contributing factor for avoiding getting help. In turn, untreated symptoms of PTSD specifically can lead to other compounding problematic symptoms both physical (gastrointestinal issues, chronic pain) and comorbid mental health conditions (substance use) (Violanti et al., 2017).

In order to effectively address the theme of stigma in the current sample, further analysis had to be completed. Lumping all responses into one general category of stigma appeared to overgeneralize the findings and did not yield much that could further the understanding of barriers officers have in receiving services for mental health. Analysis found that stigma tended to be conceptualized into general societal stigma, self-stigma, and occupational stigma.

General Societal Stigma

The literature largely supports how society as a whole tends to attach negative stigma to mental health issues and those who seek out help (Hakik & Langlois, 2020). There is a pervasive aversive perception attached to individuals who receive mental health services in mainstream society. These negative stereotypes that get attached to people with mental illness
or those who receive help can ultimately lead to discriminatory behaviors and an overall lack of understanding of those with mental illness. As mentioned earlier, this can cause even more stress for those struggling with mental health, thus compounding their current issues.

Scholars explain that stigma toward mental health has frequently been conceptualized by society as a fixed stereotype and belief that leads to negative perceptions associated with seeking mental health treatment (Velasquez & Hernandez, 2019). This misperception attached to mental health has caused stigma to proliferate in our society, not just for police. White et al. (2016) characterize stigma as being the result of a cognitive clash between an actual social identity and an idealized or perceived social identity. So, it makes sense that a major theme in the current analysis is related to general societal stigma. It is reasonable that since mental health is largely stigmatized in the general population, it is expected that a similar general societal stigma would surface in the current analysis. As police leaders and scholars continue to grapple with improving psychological outcomes for officers, they are required to consider just how much mental illness is largely stigmatized in our society, not just within the department. So, even if steps are made to address stigma within the department, there are a host of negative attitudes in our society attached to mental health that still exist and may be difficult to control for.

**Self-Stigma**

Self-stigma is more related to a personal negative perception of a person receiving mental health services. In other words, with self-stigma, there is a feeling of inadequacy or an inability to cope with life stressors independently. In turn, this can have negative impacts on a
person’s pride and personal ego. Interestingly, pride and ego were also referenced as barriers in the current analysis in nearly 15% of the responses.

Those with a negative perception of receiving mental health services may cloud the individual’s ability to recognize when there is a problem. Self-stigma of mental health services may also be related to mental health literacy, in that those with a lower perception of mental health might also be less knowledgeable of the signs and symptoms associated with psychological distress and subsequent problematic behaviors. For example, in the current analysis, several respondents mentioned “recognizing that you need help” (Respondent 10401; Respondent 30148) or “need it” {mental health services} (Respondent 10419). Jetelina et al. (2020) also found that mental health literacy was a major theme that emerged from their analysis of barriers to officers’ receiving mental health services.

Cultural Implications: Self-Machismo

In the current analysis, self-stigma was largely characterized by one’s own ego and pride getting in the way of officers getting help for mental health issues. In turn, further analysis found that perceptions of personal weakness and fear are attached to personal stigma of feeling weak or being scared to ask for help. These concepts can be applied to police culture, in that, they support self-machismo. White et al. (2016) explained that self-stigma is also associated with a lack of adherence to a “dominant masculine norm” in policing. So, officers who are more likely to adhere to a machismo mentality, may be more likely to attach stigma to receiving mental health services. Those who receive help for mental health issues contrast with the “superman mentality” officers can adopt, in that, those who need help are perceived as weak. Inadvertently, not adhering to the self-machismo mentality of policing can create internal
feelings of embarrassment for an officer. It is in this way that bolstering self-machismo in officers can have concentric effects on officers and create further misunderstanding and underuse of resources available to police when they need it. Understanding exactly how self-machismo manifests within a police department can impact the kind of resources and education needed to adequately address these perceptions and improve mental health outcomes for officers.

Occupational Stigma

Occupational stigma was another common theme that emerged from 27.8% of the respondents. Occupational stigma pertains to the fear associated with the attitudes, perceptions, and beliefs a person presumes others in the department have about mental health that conflict with the stoic and tough image that officers attach to policing (White et al., 2016). There is a mentality that officers are supposed to be unaffected by events or situations that they encounter (Medlin, 2020). Specifically, in the current study, officers frequently reported that they would be worried about job security and others perceiving the officer as being weak. It was important to highlight and discuss each of these themes separately to better understand how these perceptions create barriers to officers obtaining mental health services.

Weakness was characterized by statements like “what others would say, think…” (Respondent 10417), “letting people find out” (Respondent 104107) or “other officers’ perception” (Respondent 30142). These responses highlight the importance of other officers’ perception associated with one seeking out mental health services. Perceptions like this can be damaging and help perpetuate stigma that can prevent officers from getting help when they need
it. In general, responses suggested that there is a perception that those who need mental health services are not strong enough to handle the job. For example, Respondent (20131) stated “you believing that other officers will think you are weak”. Another respondent (30162) mentioned “not wanting to look weak to their peers”. Again, these responses shed light on a poor perception of mental health within the department and those that use mental health services are weak. In other words, if you are strong, you can handle anything (i.e. trauma, stress, etc.).

Officers face a tremendous amount of stress and potential danger. They are exposed to potentially the worst of humanity and are expected to automatically be resilient and resistant to the potential negative psychological impact their job has on their wellness. Yet, is this perception realistic? Probably not.

Perception of weakness from other officers as a barrier to police receiving mental health services has also been highlighted in other studies (Thoen et al., 2020; White et al., 2016). White et al. (2016) found that perception of weakness was associated with failure, not being reliable, and not being stable. Point blank, no one wants to work with a weak officer. As other scholars have mentioned, being strong is largely valorized in policing (Thoen et al., 2020). If officers receive mental health services, they are perceived as weak and not being tough enough to handle the job.

Fear attached to job security is significantly different from others finding out or merely being judged. For instance, those who were concerned about job security indicated that there was a fear associated with not knowing how receiving mental health services would affect their job, or whether it would cause them to lose their job or be deemed unfit for duty. Fear of how receiving services for mental health would affect their job was mentioned in 16.7% of
responses. This is largely congruent to existing literature on barriers to officers getting help for psychological wellness. White et al. (2016) described fear in the context of being perceived as unfit for work, or having a permanent record of receiving psychological services, which has the potential to follow the officer throughout their tenure. Existing literature largely supports these findings in that officers are very concerned about the impact receiving mental health services will have on their job (Kuhns et al., 2015; Thoen et al., 2020; White et al., 2016).

Fear is also associated with perceptions of confidentiality. For instance, according to PERF (2019) police may be concerned about confidentiality and having a breach of protected health information to their superiors and peers who may think that because the officer is reaching out for services (i.e. counseling, medication management), they are unstable. As mentioned earlier, other researchers explain that this frame of thinking may be catalyzed by a belief that top management does not care about officers’ psychological wellbeing (Thoen et al., 2020). In Thoen and scholars’ research, they cited that one agency explicitly said “the general public does not need to know that officers are suicidal” (Thoen et al., 2020, p. 131). Avoiding this mentality may take a paradigm shift for policing agencies, but for officers to be able to maintain good mental health, a change is required to be more open to discussing this important issue. Some officers may be fearful that they will not “measure up” to other officers if they receive services for mental health (White et al., 2016). Just because officers may be going through a tough time, or they need to seek out help to talk about personal problems, it does not necessarily mean that they are unfit for duty or less than their peers.
Theoretical Implications: Occupational Machismo

Fear associated with perceptions of weakness from others in the department and fear related to how receiving mental health services are aspects of occupational stigma that bolster occupational machismo. These themes may work in tandem to create a negative culture related to mental health for police. For instance, from a departmental standpoint, if an officer receives services for mental health issues, and is potentially given “light duty” or their gun is revoked, this may further foster fear that the officer is weak and not tough enough to handle the job. Similarly, if others on the force associate negative perceptions of officers who do receive mental health support as being unstable, scholars have suggested that no one wants to work with a weak officer (Thoen et al., 2020). In turn, the officer who receives services may inadvertently feel disconnected with their fellow officers and isolate. As a result, the psychological outcomes for an officer who works in an environment that adopts the culture of occupational machismo may have significantly different outcomes from those officers who come from more supportive environments that do not attach negative perceptions to use of mental health services.

Officers may also be afraid of the unknown consequences of obtaining mental health services because not enough people talk about mental health or those who do report having mental health issues may have had a job loss. For example, in Orlando, FL. at least three officers were terminated from their positions because of psychological distress associated with the Pulse Nightclub shooting in the summer of 2016 (Butler, 2019; Hadad, 2017; Sheets, 2019). Stories like this perpetuate fear associated with mental health because of a paucity of available facts associated with the outcome (job loss) to other officers and the community. Mental health is private and unfortunately, in cases like this, people are only given a few details associated
with a final outcome (i.e. being relieved of duty). In turn, people tend to “fill in the blanks” with assumptions and potentially false information. This mentality can create and reinforce a culture of “fear” and promote denial associated with the negative effects of the occupational stressors of the job (White et al., 2016). To address this negative cultural perception, it would be beneficial for officers to adopt the perspective that talking to someone may make them more fit for duty, by enabling officers to learn healthy coping skills, and give them the personal resources they need to help them through their difficult time. Having this approach may help foster proactive attitudes to address fear associated with mental health that tends to be embedded in police culture.

Concern about what others would think if the officer received mental health services in the current study is not surprising. In fact, these results might align closely with the general perception of support from fellow peers, supervisors, and top management, which was captured in the quantitative analysis of the current study. Since officers do have a favorable opinion of others in their department, it is logical for officers to care more about how others in the department perceive them. Police culture embedded within a department may play a massive role in the growth, development, and perpetuation of stigma associated with mental health utilization for officers. For instance, if a department (from top administrators to line level officers) adopts a negative perception of mental health and those who receive services as being “personally flawed” or “weak”, officers within that department may be more likely to adopt perceptions of stigma that adhere to occupational machismo and self-machismo. In addition, officers may condition themselves to “stuff” negative cognitions, beliefs, and feelings because there may not be an appropriate outlet for officers to discuss these often uncomfortable
experiences. In turn, the more an officer “stuffs” these emotions, the more he or she may suffer
in silence and the more likely these cognitions may fester and lead to sequelae of the original
problem (i.e. irritability, excessive use of force) (Sierra-Arévalo, 2021). So, if police agencies
want to address the psychological wellness of officers, they are required to take into
consideration departmental culture (PERF, 2019). De-stigmatizing mental health is required to
be addressed bidirectionally, so from police chiefs and executives all the way down to patrol.
Both parties are required to be open to acknowledge how stigma proliferates in their
departments and come together jointly to arrive at appropriate and viable solutions. Officers
may have different perceptions and psychological outcomes if they abandon the idea that they
are unaffected by what they see and experience on the job (Medlin, 2020).

It has been implied that policing is a “craft”. If one were to compare policing to that of a
home builder, the greatest craftsmen need tools to build a house. It would be unreasonable to
assume that a person waves his or her hand and automatically the home gets built. Home
builders need resources to create a home and often require a team of people to build the home.
Needing help, tools, and other resources to achieve the end goal is not considered weak. The
same can be applied to policing and maintaining psychological wellness. Officers require tools
and resources to build and maintain physical and psychological wellness. One tool to
maintaining wellness is to seek out help to achieve personal goals. If addressing psychological
distress in the occupation of policing is seen as a sign of weakness, this can perpetuate stigma
associated with mental health. In turn, the “machismo” mentality or the “superman” mentality is
supported, perpetuated, and adopted throughout the department.
If mental health resource utilization within a department is automatically associated with being weak, officers will be less likely to discuss their distress. As a result, clinicians, police administrators, peers, friends, family, and scholars are no closer to obtaining data about perceptions of mental health nor finding appropriate solutions to address the mental health needs of police. No one gains anything by attaching perceptions of weakness with mental health. Essentially, there is only loss: potential loss of productivity, reduction in quality of life, alienation from others, and even greater risk of loss of life. Police officers face an alarmingly higher rate of suicides than the general population (Gershon et al., 2009; Violanti, 2021). So, when officers do attempt to address any kind of psychological distress, instead of feeling empowered, heard, and understood, they may feel shame and guilt (White et al., 2016) if perceptions of weakness are attached to getting help.

Perceptions of weakness are largely associated with a “warrior mentality” to policing, which can be linked to a militarization approach to policing (White et al., 2016). Furthermore, this mentality suggests courage and ability to persevere during difficult times. Scholars suggest that the “warrior mentality” emulates inner strength and independence, which fosters a personal toughness which enables a person to simply not allow pain, suffering, or injury to affect them. One Respondent (30149) explained that the “job doesn’t slow, the second you’re better, something else pops up”. Not only does this response suggest the impact of cumulative exposure to stress, but also may be associated with why officers may feel inclined to adopt a “warrior mentality” to the job. Any overt expression of emotion under this mentality is often seen as weak. Seeking help outside of police is met with adversity and is not trusted (White et al., 2016).
Nearly 10 years ago, former President Obama created a task force to help propose best practices and recommendations to help promote trust of police officers in communities. One of the major suggestions he proposed was to encourage a shift from the traditional “warrior” mindset of policing to that of a “guardian” (President’s Task Force on Policing, 2015). Adopting a “guardian” mentality is inclusive of being an advocate for a person’s well-being in eyes of the law, which is characterized in procedural justice. Procedural justice in policing has been researched more over the past decade. Utilizing procedural justice encompasses fairness and a neutral approach used by officers in their encounters with citizens. Procedural justice has concentric and lasting effects on citizens and their interactions with police and can help promote police legitimacy, foster positive perceptions and respectfulness of police (Gau, 2014). Positive encounters with police can help build better police-community relationships, which may help reinforce a more “guardian” mentality of police and lessen the “warrior” mentality which can promote ideals of (getting the bad guys or us vs. them) perception. Changing the “warrior” mentality of policing can begin with training on procedural justice, not just in the academy but throughout an officers’ tenure.

Policy Implications

For first responders as a whole, not just police officers, it is best for stigma associated with mental health to be addressed at a federal, state, and local level. For instance, having an open discussion about stigmatizing mental health has been emphasized at the federal level over the past 10 years (i.e. President’s Task Force for Policing, 2015, the Law Enforcement Mental Health and Wellness Act of 2017), which prioritizes acknowledging the problem of unaddressed
mental health issues among police. If the federal government is acknowledging the problem, state and local agencies may be more willing to speak up about problematic psychological issues and distress officers may face. Basically, it helps open a door to discussing sensitive topics and may be the first step to address the psychological wellness of officers. These discussions can help foster the development of more relevant policies that promote officer wellbeing.

Defunding the police in any way is required to stop (Violanti, 2021). Instead, federal and state governments would benefit from investing more funding to support research associated with stigma of mental health for officers. In addition, officers may benefit from learning how to cope with stressors associated with the job in the academy that may help promote resiliency early in their careers. Officers that have a firm understanding that the experiences that they have on and off the job do affect them may have different quality of life outcomes than those who do not. The Law Enforcement Mental Health and Wellness Act of 2017 was supposed to buttress research associated with officer wellness, but little is known about the studies that have been produced as a result of this act.

**Improving Mental Health Literacy Beyond the Baker Act**

Stigma can also play a role in the perception of what mental health is or (mental health literacy). Police in the state of Florida have the unique capacity to involuntarily commit those who pose a threat to themselves or others. In other words, those who are threatening to commit suicide, threatening to kill or hurt others, or maybe it is a person wandering the streets in rush hour traffic screaming to him or herself (i.e. responding to visual or auditory hallucinations). If
these situations are what an officer classifies as a “mental health issue”, and involuntary commitment is what it means to “receive psychiatric services”, this could be a reason why officers or anyone would be reluctant to 1) admit they are having any kind of mental health issue, and 2) be willing to seek out mental health services. In turn, this can lead to misperception and misinformation that can lead to a gross misunderstanding of what mental health is. If all an officer has to associate with mental health is the person in crisis (threatening to hurt oneself or others), he or she may only associate the concept of mental health with that incredibly unstable situation. This ideology promotes stigma attached to mental health.

Departmental policies need to be drafted that promote mental health literacy, which can create a better understanding of what mental health is. This education can begin at the academy. Officers can learn at the beginning of their training how to address the stigma of mental health and know the warning signs of a problem. This training can also be inclusive of educating officers on the importance of stress management and self-care (physical and psychological). In addition, officers can be groomed to take the stigma out of talking about negative cognitions, feelings, and emotions in an unbiased environment before they morph into a major psychological crisis. Instead of masking negative perceptions, officers can learn that it is ok to talk about the “f” word (feelings). More is being done to help promote education that combats the stigma associated with mental health for first responders and police officers, especially with publicly available websites that are tailored to psychoeducation for officers (i.e. Blue H.E.L.P.). Even platforms like YouTube can help provide meaningful resources to officers by listening to other first responders share their mental health experiences and journey to wellness.
Even though mental health is protected health information, it might be better for police agencies to be more transparent with policies on officers receiving mental health services. Transparency about the true consequences of officers seeking help for mental health services is a powerful approach to addressing fear associated with psychological distress. For example, top management can provide de-identified statistics associated with officers’ termination and mental health issues at a state and national level. Statistics can help generate a more realistic perception of risk of job loss associated with receiving mental health services.

Policing agencies can also encourage open discussion of use of Employee Assistance Programs (EAP) and other psychological wellness resources available to officers. Top management can provide data on the benefits of discussing any kind of psychological issues an officer may experience with someone and the potential consequences of “stuffing”, ignoring, or avoiding negative feelings and experiences associated with the job. This is particularly relevant to officers who have been exposed to several critical incidents, which is what is suggested by the current study’s quantitative findings of cumulative exposure to critical incidents and likelihood of reporting three or more symptoms of PTSD in the last 30 days. Administrators and educators at the academy might benefit from educating new officers on addressing fears of discussing negative cognitions, attitudes, feelings, and beliefs associated with critical incidents. Ignoring difficult feelings can lead to greater problems in the long run and lead to a skewed perception of the event and facts surrounding the incident. That said, it might also be beneficial for officers to acknowledge that it’s ok to not be ok. However, addressing the “why” behind not being ok is important to understand and address. If left unaddressed, these perceptions may have a negative effect on interpersonal relationships and work for the officer.
Improving Availability of Psychological Resources that Promote Confidentiality

One major issue associated with fear of receiving mental health services is confidentiality. Often times, agencies only offer Employee Assistance Programs as a primary mental health resource for employees (Thoen et al., 2020). Usually, EAP offers three counseling sessions for employees (at no charge). While EAP theoretically is a good resource, it requires employers making employees aware of the services and ensure that people know who to contact for counseling. In addition, this service provides limitations on who and where officers can obtain counseling services. Officers may be reluctant to use EAP because they may fear a breach of confidentiality from the EAP therapist to their direct supervisor. This alone could be a deterrent for officers receiving mental health services when they need it.

Therefore, it would also be beneficial for agencies to adopt policies regarding providing mental health services that promote anonymity and confidentiality beyond EAP. Recent literature has indicated several alternatives to EAP that are user friendly anonymous resources to police (PERF, 2019). These self-help resources can be used to facilitate the “first steps” necessary for officers to build confidence and strength to identify potential problems and to be more open to talking to mental health professional. Self-help tools can be offered online or through mobile devices (i.e. iPads and text messages) to help the officer connect with mental health literature and services. For instance, the American Foundation for Suicide Prevention (AFSP) offers an “interactive screening program” that allows officers to navigate self-assessments for targeted mental health issues like depression and stress. After completion of the assessment, officers can receive information about resources available and connect with their police department in an anonymous fashion (PERF, 2019). Self-assessments are largely used in
clinical drug trials and tend to capture sensitive information about mental health more honestly than an in-person interview.

Resources like AFSP are beneficial because they collaborate with police agencies to create a tailored website, which includes targeted mental health questionnaires. It turn, the website allows officers to get connected with various resources available (like peer support) within their agency anonymously (PERF, 2019). So, the inquiring officer receives a customized response from the peer support program or EAP informing the person of local resources available to him or her. Offering resources like this to those who work in occupations (like policing) are incredibly because they promote rapid response on available resources and maintain anonymity. In turn, the concerns about confidentiality and fear of reprimand for seeking out help are drastically reduced, while still obtaining relevant resources.

Another on-line tool available for officers is a “peer support quiz” (PERF, 2019). The website is set up to where it is open access for any officer to create a profile with a username and password. The officer then takes a questionnaire and submits it. Within 24 hours, a personal email is sent dependent on questionnaire responses inclusive of available resources. In turn, it is up to the officer’s discretion on whether he or she wants to pursue action. The purpose of this assessment is not to be a diagnostic tool nor a rapid response to psychological crisis situations. The primary goal is to identify problems before they morph into an emergency mental health situation and offer anonymous resources to officers.

Digital resources (mobile apps) are also available to police officers (PERF, 2019). For example, Cordico Shield is a mobile wellness app that offers a broad scope of programs regarding psychological and physical wellness. This app is inclusive of a “wellness toolkit”
which provides information about wide range of topics like interpersonal relationships, improving family support, financial planning and budgeting, and mental health, among others. Similar to other digital resources mentioned in this chapter, Cordico Shield offers self-scoring tools that provide officers with rapid results and relevant feedback about their personal wellness. This app has four major benefits to police: 1) on-demand access that provides safe, confidential, and relevant information “24/7/365”; 2) offers a breadth of resources to officers (stress management, financial fitness); 3) promotes mental health literacy and ability to acknowledge self-awareness of problems and has the potential to improve outcomes for police. This is particularly relevant in the current study because several respondents in the qualitative analysis mentioned that officers may have trouble acknowledging and recognizing when they need help. Resources like Cordico Shield may be viable solution to address this issue; 4) the app offers HIPAA compliant teletherapy, with direct connection to a counselor. This may be beneficial for officers because a person may be more willing to click a button on an app to reach out for help as opposed to dialing a number, probably leaving a voicemail, and waiting to hear back. More systematic evaluation research needs to be done regarding the utilization and effectiveness of resources like Cordico Shield in promoting and preserving officer wellness.

If an officer is in crisis, meaning, they are a threat to themselves or others, there is a service called “Crisis Text Line” that officers 24/7 access to free trained counselors via text messaging. So, officers can text “Blue” to 741741 and receive confidential support from trained counselors who specialize in policing issues. This service can help address feelings of isolation that officers may experience due to the nature of their job. Isolation of officers from those outside of policing has been a theme in police culture for decades. Officers may feel that
“people won’t be able to understand what they going through” or “people have no idea what it is like to be a police officer” (Jetelina et al., 2020; Paoline & Terrill, 2014). Services like Crisis Text Line can help bridge the gap between an isolated officer and a caring support person. Another benefit of the Crisis Text Line is that it is a national program that is not affiliated with a specific police department. So, officers may feel more comfortable using this service and it has been linked to facilitating prevention of suicides among police.

**Integrating the Quantitative and Qualitative Findings**

The quantitative analysis of the current study had two main findings. First, across all statistical models, cumulative exposure to various types of trauma that the officer experienced personally was consistently, positively related to the likelihood of officers reporting symptoms of post-traumatic stress disorder and 3 or more symptoms. Here, there is consistency in the finding that officers tend to be affected by experiences that they have not only at work, but throughout their lifetime. These quantitative findings may not necessarily adhere to the “machismo” theme associated with the qualitative results. Furthermore, if officers who experience repeated exposure to different types of trauma are more likely to report symptoms of PTSD, they may also be less likely to seek out help. This could be due to the preservation of the self-machismo (getting help is a blow to ones ego) or occupational machismo (will be reluctant to get help due to potential career ramifications or others in the department judging/labeling them). Regardless, the negative stigma attached to officers receiving help for mental health issues was pervasive in the qualitative analysis and may help explain the quantitative findings and vice versa.
Officers who may be experiencing symptoms of PTSD may be more reluctant to seek out help and speak up if they need help perhaps because they do not want to feel vulnerable. According to the qualitative results, there is so much fear attached to the unknown consequences (work or interpersonal effects) of obtaining mental health services that officers may be willing to suffer in silence than to experience a potential job loss or be perceived negatively by peers. As a result, officers who may be struggling with even one or two symptoms of PTSD may be at increased risk for developing other comorbid psychiatric conditions and physical ailments. Stress may be further compounded by an internal battle (to preserve the self-machismo) or an external one (preserving the occupational machismo). So, an officer may think that if he or she seeks out help, they will automatically fail to conform with the “stoic and tough” image that he or she thinks an officer should be or what the department emulates an officer ought to be. If an officer attaches any negative perceptions to mental health and getting help, there is little likelihood that he or she will be willing to seek out support when experiencing any mental health symptoms, especially those associated with PTSD. Even if an officer does not necessarily believe that receiving services will be a personal blow to their ego, he or she may be more concerned about occupational risks (job loss, others judging them). This mentality can essentially psychologically paralyze an officer in difficult times.

Another finding across the statistical models in the quantitative analysis was the impact perception of support from family and friends had on the likelihood of officers reporting symptoms of PTSD and 3 or more symptoms of PTSD. Officers who reported higher perceptions of support from family and friends were significantly less likely to report symptoms of PTSD across all models. Perception of support from family and friends may be a key
protective factor for staving off mental health issues, particularly PTSD, for police. Interpersonal support from those outside of policing may have significant implications regarding the negative stigma attached to officers receiving services for mental health, as well. Family and friends may be the first people to notice that something is wrong with the officer (Medlin, 2020). In turn, they may be more likely to initiate a conversation with the officer about his or her psychological wellness. If an officer is talking to a trusted friend or family member about an issue he or she is having, there is less risk of a breach of confidentiality (anyone in the department finding out). In addition, family and friends outside of policing may also be able to gently challenge false beliefs associated with mental health and receiving services. As mentioned earlier, the qualitative analysis revealed a copious amount of negative stigma attached to officers receiving services for mental health issues. A large portion of these beliefs and perceptions were associated with those inside of the occupation. If an officer believes that others will judge him or her for talking about mental health issues, there is less chance the officer will divulge any information about his or her troubles to another person in the department. However, he or she may be willing to discuss such content with friends or family outside of policing. When an officer opens up emotionally to those outside of policing, he or she may feel more interpersonally connected to others outside of the occupation. In turn, this could have concentric impacts on the officers’ overall quality of life, and psychological and physical wellness. More research needs to be done to help promote interpersonal relationships outside of policing for officers and how these relationships may function as a protective factor in the wellness of police.
Limitations and Future Research

The current study needs to be viewed within the context of several limitations. First, this study only surveyed a purposive sample of police officers from one police department from one southern state. Therefore, it is difficult to make generalizations to the population. Additionally, responses were dependent on personal reflection and truthfulness. Some officers may have been reluctant to answer questions about mental health symptoms and could have provided more “socially desirable responses”. There could have also been reservations about confidentiality of the responses, especially in relation to survey items dealing with psychological wellness. In turn, this may have yielded an underreporting of symptoms and thus an underestimate of symptoms of PTSD. Only five potential symptoms of PTSD were explored in the current study and the disruptive nature or severity of symptoms was not addressed. Furthermore, the worst, most distressing event was not identified. Although, Fox et al. (2012) and Jetelina et al. (2020) procured similar results related to the dependent variable in the current study. Therefore, our results are likely to be within reasonable and logical representation of the whole sample.

Another limitation of the current study is that it did not account for pre-existing diagnoses or treatment for mental health conditions. Utilization of resources both historical and current were not explored. Recent research has suggested that officers who have experienced personal trauma as a child are more likely to develop symptoms of PTSD (Violanti, 2021). So, follow-up research needs to be done, inclusive of individual interviews, to further explore the frequency and severity of symptoms in police officers and contributing trauma associated with these symptoms. The Clinician Administered PTSD Scale for DSM-5 (CAPS-5) could be used alongside the MINI Neurological Rating Scale to accomplish this. Furthermore, the current
study is cross-sectional, which the findings here cannot address temporal ordering or causality issues. Longitudinal designs would better be able to highlight the relationship between critical incident exposure and post-traumatic stress disorder symptoms, as well as potential reciprocal effects. These studies may be better in exploring the long-term impact of exposure to cumulative traumatic events on psychological outcomes for officers.

The current study is also limited because these results of the quantitative analysis may underestimate the true impact of peer-to-peer support in policing. In general, officers had a positive cumulative score on perception of other officers (M=8.79, SD=2.210, range 1-11). There was very little variability in the responses and it was judged to probably not have a significant impact on propensity of reporting PTSD symptoms. Among the four items included in the survey, 88.6% either agreed or strongly agreed that they felt supported by other officers. Similarly, 77.9% agreed or strongly agreed to trusting their fellow officers. Protecting fellow officers was also heavily supported in the sample (agreed-29.6%) and (strongly agreed-66.2%). In addition, endorsing a special bond with other officers that others outside of policing may not understand was very prominent in the sample (agreed-47.9%, strongly agreed- 38%).

Along these lines, it is imperative to discuss the promise of peer-to-peer support for officers after exposure to traumatic events (critical incidents). According to several scholars, this has much promise in the field and promotion of officer psychological wellness. For example, Millard (2020) found in her qualitative study of officers in Canada, that peer-to-peer support may provide a vehicle to appropriately address negative perception of officers receiving mental health services when they need it, which can cultivate perceptions of stigma within
departments. Programs like peer-to-peer support may enhance and improve mental health literacy in officers.

Millard (2020) argues that peer-to-peer support services for police are relatively novel, especially in relation to organizational and occupational stressors associated with police work. “In the workplace, peer support encompasses co-workers who help one another through confidential discussions” to process difficulties at work (Millard, 2020, p. 2). Personal problems can bleed from home into the workplace, drastically affecting their efficacy at work. If left unaddressed, it can lead to an overall decrease in functioning. The purpose of peer-to-peer support is more general in scope and does not focus on addressing specific traumatic events or stressful incidents. Literature suggests promise in implementing peer-to-peer support services for officers to promote self-efficacy. In addition, other studies propose that peer support can have positive gains toward positive validation of experiences which can have an impact on self-confidence among officers. It is not so much necessarily experiencing the same circumstances, but more as a means of reflective listening and being compassionate. Increases in self-efficacy can have concentric effects of officer self-esteem, which can improve job satisfaction and wellness among officers.

The current study adds to the literature on psychological outcomes of police, particularly PTSD. Specifically, this study provided examples of various types of exposure to trauma from the Life Events Checklist (LEC-5) and provided a cumulative score on the different types of trauma either personally experienced by the officer or witnessed. Cumulative personal exposure to different types of trauma was significantly positively related to likelihood of reporting PTSD symptoms in respondents. Furthermore, perception of support from family and friends were
significantly related to likelihood in reporting symptoms of PTSD. Specifically, those with a stronger perception of family and friends support were significantly less likely to report symptoms of PTSD. These findings were significant in the OLS regression model, as well as, the logistic regression model. The results of this study can encourage police organizations to promote officer communication with family and friends after exposure to a critical incident on the job. In particular, more services can be offered to help support families of officers, even before they experience critical incidents. More outreach and education can be provided to officers to encourage positive relationships with others, especially after being exposed to trauma. Policies within policing organizations can be adjusted to incorporate these findings to help bolster officer health and wellness.

This study adds to the literature on trauma and psychological outcomes, especially PTSD in police. It also shows practical use and validity/reliability for two scales, the PC-PTSD-5 and the LEC-5 in police officers. Using these two tools as gold standards in researching PTSD in police may streamline the operationalization of trauma exposure and PTSD outcomes for police and may help replicate and advance research. Replication of research can help promote positive change in police departments and help preserve and protect psychological wellness among officers. Officers who have good mental hygiene will ultimately be able to execute their jobs better and may have implications toward job and life satisfaction. In turn, this could have concentric effects on their relationships with others, both inside and outside of the police department.

Top management and supervisors within police departments need to bolster a positive perception of officers receiving mental health services when they need it in times of crisis or to
avoid crisis, especially after exposure to critical incidents. The current study also suggests that more attention needs to be paid to the potential negative effect of cumulative personal exposure to critical incidents. Furthermore, management within police departments need to be mindful of the potential negative impact of just one or two symptoms of PTSD, as these can be disruptive to the officer and prevent him or her from executing the job to the best ability. Researchers need to investigate more on officers’ support system and more needs to be done to promote friends and family relationships outside of policing.

Qualitative analysis in this study also found significant themes in cultural barriers and perceptions to officers receiving mental health services when they need it. Attitudinal barriers were commonly reported and largely fell under the umbrella of stigma, which manifested largely as occupational stigma and self-stigma. Officers’ responses bolstered the stoic and tough ideology often attached to police, which ultimately supports “machismo” in policing. In turn, this impacted participants’ personal view of mental health and in the department. This is important for organizations to understand so that they can address these attitudes and perceptions towards receiving mental health services for officers. There needs to be a bi-directional approach to addressing these attitudinal barriers to officers receiving mental health services to adequately address the issue and to promote and preserve officers’ psychological wellness.

Addressing the psychological wellness needs of police is a concern for officers themselves, the agencies they work in, their friends and families, and the communities in which police serve. No agency can address this issue alone. Ultimately, it will take a network of resources and partnerships to adequately address the growing need and concern for officers’
mental health. Officers who are psychologically well will likely perform their job more effectively, have more positive relationships with others (inside the department and outside), demonstrate resilience to adversity, and have an overall better quality of life. However, a collective effort is required from police agencies to the community to help achieve optimal psychological wellness for officers.
APPENDIX A: IRB APPROVAL LETTER
EXEMPTION DETERMINATION

August 12, 2021

Dear Lori Camacho:

On 8/12/2021, the IRB determined the following submission to be human subjects research that is exempt from regulation:

<table>
<thead>
<tr>
<th>Type of Review:</th>
<th>Initial Study, Category 2(ii)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Exploring the Relationship of Exposure to Critical Incidents, Occupational Stress, and Perception of Danger on the Psychological Wellness of Police Officers</td>
</tr>
<tr>
<td>Investigator:</td>
<td>Lori Camacho</td>
</tr>
<tr>
<td>IRB ID:</td>
<td>STUDY00003306</td>
</tr>
<tr>
<td>Funding:</td>
<td>None</td>
</tr>
<tr>
<td>Grant ID:</td>
<td>None</td>
</tr>
<tr>
<td>Documents Reviewed:</td>
<td></td>
</tr>
<tr>
<td>HRP-251- FORM - Faculty Advisor Scientific-Scholarly Review fillable form (003).pdf, Category: Faculty Research Approval;</td>
<td></td>
</tr>
<tr>
<td>Camacho Wellness Survey_Version 1.docx, Category: Survey / Questionnaire;</td>
<td></td>
</tr>
<tr>
<td>CITI training Basic, Category: Other;</td>
<td></td>
</tr>
<tr>
<td>email from , Category: Other;</td>
<td></td>
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<tr>
<td>explanation of research, Category: Consent Form;</td>
<td></td>
</tr>
<tr>
<td>HIPAA Training, Category: Other;</td>
<td></td>
</tr>
<tr>
<td>References, Category: IRB Protocol;</td>
<td></td>
</tr>
<tr>
<td>Request for Exemption, Category: IRB Protocol</td>
<td></td>
</tr>
</tbody>
</table>

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made, and there are questions about whether these changes affect the exempt status of the human research, please submit a modification request to the IRB. Guidance on submitting Modifications and Administrative Check-in are detailed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the IRB system. When you have completed your research, please submit a Study Closure request so that IRB records will be accurate.

If you have any questions, please contact the UCF IRB at 407-823-2901 or irb@ucf.edu Please include your project title and IRB number in all correspondence with this office.

Sincerely,

Katie Kilgore
Designated Reviewer
APPENDIX B: EXPLANATION OF RESEARCH
EXPLANATION OF RESEARCH

Title of Project: Exploring the Relationship of Exposure to Critical Incidents, Occupational Stress, and Perception of Danger on the Psychological Wellness of Police Officers

Principal Investigator: Lori Camacho, M.A.

Faculty Supervisor: Jacinta Gau, Ph.D.

You are being invited to take part in a research study because you are an active, full-time sworn police officer with the police department. Whether you take part is up to you.

The purpose of this research is to identify how occupational stress, perceived sense of danger, and exposure to critical incidents can impact psychological wellness in police officers. In addition, we will explore the barriers to officer’s receiving support for mental health services. We hope that the results of this research can affect and guide policies that influence officer wellness.

You will be approached by the study team in person at the police department prior to your shift during roll call or at another group meeting time. Data will be collected on specific days coordinated by the chief of police.

If you decide to participate, you will be given a study participation packet which will include a brief consent form and a paper survey together. The survey will ask you questions about how you have been feeling physically and emotionally over the past month and your perceptions of policing overall. You can skip over any items you do not wish to answer. Your participation in this study is voluntary. You are free to withdraw your consent and discontinue participation in this study at any time without prejudice or penalty. Your decision to participate or not participate in this study will in no way affect your employment or your relationship with the individuals who may have an interest in this study.

We expect that the survey will take approximately 10-15 minutes to complete. This is the extent of your participation in the research.

Efforts will be made to limit the use and disclosure of your personal information, including research study to people who have a need to review this information. We cannot promise complete secrecy. Organizations that may inspect and copy your information include the IRB and other representatives of this organization. All surveys will be kept in a double locked facility with limited access only to the study team. The data collected will not have any identifiers like name, initials, or date of birth. Data will be coded using a unique six-digit identifier. The data will be kept for at least five years. The police department or no other third party not mentioned above will not have access to this information.

You must be 18 years of age or older to take part in this research study and a full-time, sworn officer with Apopka Police Department.

Study contact for questions about the study or to report a problem: If you have questions, concerns, or complaints please contact: Lori Camacho, Graduate Student, Public Affairs, College of Community Innovation and Education, (407) 782-7902 email lori.camacho@ucf.edu or Dr. Gau, Faculty Supervisor, Department of Criminal Justice at (407)823-4131 or by email at Jacinta.Gau@ucf.edu.

IRB contact about your rights in this study or to report a complaint: If you have questions about your rights as a research participant, or have concerns about the conduct of this study, please contact Institutional Review Board (IRB), University of Central Florida, Office of Research, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 623-2901, or email irb@ucf.edu.

UCF HRP-254 Form v.5/1/2020
APPENDIX C: SURVEY INSTRUMENT
Exploring the Relationship of Exposure to Critical Incidents, Occupational Stress, and Perception of Danger on the Psychological Wellness of Police Officers

The following questions are designed to gather information about your perceptions and experiences of being a police officer. Your answers will be anonymous. Please answer each question to the best of your knowledge.

**Occupational Attitudes**

Below is a list of items that describe different aspects of being a police officer. After each statement, tick the response that best indicates how you feel about the particular topic.

<table>
<thead>
<tr>
<th>Job Satisfaction</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have sufficient resources to do my job.</td>
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<td></td>
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<tr>
<td>2. I would not consider taking another job.</td>
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<tr>
<td>3. I find real enjoyment in my job.</td>
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<td></td>
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<tr>
<td>4. I believe I am truly helping people by being a police officer.</td>
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</tbody>
</table>

**Perceptions of Danger**

| 5. I work a dangerous job.                                                        |                   |          |       |                |
| 6. My job is a lot more dangerous than other kinds of jobs.                       |                   |          |       |                |
| 7. I worry about getting sick (like contracting COVID-19).                         |                   |          |       |                |
| 8. In my job, a person stands a good chance of getting hurt.                      |                   |          |       |                |

**Stress**

| 9. At the end of my shift, I feel emotionally exhausted.                          |                   |          |       |                |
| 10. Working with people all day is really a strain for me.                        |                   |          |       |                |
| 11. During my days off, I still feel like I am on the job.                        |                   |          |       |                |
| 12. When I’m at work I often feel tense.                                          |                   |          |       |                |
| 13. Most days, my job makes me very frustrated or angry.                          |                   |          |       |                |
| 14. I am usually under a lot of pressure when I am at work.                      |                   |          |       |                |

**Interpersonal Relationships**

| 15. I do not spend enough time with friends and family.                           |                   |          |       |                |
| 16. Being a police officer limits my social life (e.g. who your friends are, where you socialize). | | | | |
| 17. Most people, including my family and friends, do not understand how difficult it is to be a police officer. | | | | |
| 18. In order to remain effective, a police officer should remain detached from the community. | | | | |

**Perception of other Officers**

<p>| 19. I feel supported by my fellow officers.                                      |                   |          |       |                |
| 20. I trust my fellow officers.                                                   |                   |          |       |                |
| 21. Protecting a fellow officer is one of my top priorities.                     |                   |          |       |                |
| 22. There is a comradery and bond among officers that others outside of policing would not understand. | | | | |</p>
<table>
<thead>
<tr>
<th>Perception of Supervisor</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>23. My supervisor lets officers know what is expected of them.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>24. My supervisor looks out for the personal welfare of his/her subordinates.</td>
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<tr>
<td>25. My supervisor will support me when I am right, even if it makes things difficult for him or her.</td>
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<td></td>
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<tr>
<td>26. The decisions I make are seldom criticized by my supervisor.</td>
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</table>

**Perception of Top Management**

<p>| | | | | |</p>
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<tr>
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<tbody>
<tr>
<td>27. When a community member files a complaint against an officer, top management is objective in their investigation of the incident.</td>
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<tr>
<td>28. When an officer contributes to a team effort rather than looking good individually, top management will recognize it.</td>
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<tr>
<td>29. When an officer gets written up for rule violations, s/he will be treated fairly by top management.</td>
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<tr>
<td>30. I feel supported by top management.</td>
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<tr>
<td>31. Top management supports officers’ emotional wellbeing.</td>
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</tbody>
</table>

**Sleep**

The following questions relate to your usual sleep habits during the past 30 days (one month) only. Your answers should indicate the most accurate reply for the majority of days and nights in the past month.

<table>
<thead>
<tr>
<th></th>
<th>Not during the past month</th>
<th>Less than once a week</th>
<th>Once or twice a week</th>
<th>Three or more times a week</th>
</tr>
</thead>
<tbody>
<tr>
<td>32. I have been satisfied with the quality of my sleep.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>33. I cannot get to sleep within 30 minutes.</td>
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<tr>
<td>34. I get enough sleep to get through the day or night (if applicable).</td>
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<tr>
<td>35. I feel well rested after I sleep.</td>
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<tr>
<td>36. I have had bad dreams.</td>
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<tr>
<td>37. I took medication to help me sleep.</td>
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<tr>
<td>38. I have had trouble staying awake while driving.</td>
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<tr>
<td>39. I have had trouble staying awake during social functions.</td>
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</tbody>
</table>
Mood

Tick the box beside the reply that is closest to how you have been feeling during the past 30 days (one month). Don’t take too long over your replies, immediate response is best.

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Not Often</th>
<th>Sometimes</th>
<th>Most of the Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>40. I still enjoy the things I used to enjoy.</td>
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<tr>
<td>41. I can enjoy a good book, podcast, radio, or TV show.</td>
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<tr>
<td>42. I can laugh and see the funny side of things.</td>
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<td>43. I have felt sad and unhappy.</td>
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<td>44. I have lost interest in my appearance.</td>
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<tr>
<td>45. I feel tense or ‘wound up’.</td>
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<tr>
<td>46. Worry thoughts go through my mind.</td>
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<tr>
<td>47. I get a sort of frightened feeling like ‘butterflies’ in the stomach.</td>
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<tr>
<td>48. I feel restless as I have to be on the move.</td>
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<tr>
<td>49. I get sudden feelings of panic.</td>
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<tr>
<td>50. I get a sort of frightened feeling as if something awful is about to happen.</td>
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<tr>
<td>51. I have been not been able to get as much done as I usually do because of my mood.</td>
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<td>52. I feel as if I am slowed down.</td>
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<tr>
<td>53. I have a hard time making it through stressful times.</td>
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<tr>
<td>54. Emotional problems have interfered with my social life.</td>
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<tr>
<td>55. I have called out sick due to my mood.</td>
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</tbody>
</table>

Critical Incidents

A critical or traumatic incident is characterized as an event that you personally experienced or witnessed that is beyond the normal range of everyday policing and the human experience. Consider events that you have experienced or witnessed during your lifetime (on or off the job) that have had a major and lasting impact on you and your wellbeing.

56. In your lifetime, have you ever experienced a critical event on or off the job? □ Yes □ No

If no, please go to Question 50

57. If yes, what are the total estimated number of critical incidents you have experienced in your lifetime (on or off the job) involving:  Children:______  Adults:______
58. If yes, for each type of critical incident, check if the event was something that happened to you or that you witnessed:

<table>
<thead>
<tr>
<th>Critical Incident</th>
<th>Happened to Me</th>
<th>Witnessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Life threatening natural disaster</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Fire or explosion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Serious transportation accident</td>
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<td></td>
</tr>
<tr>
<td>d. Serious accident at work, home or during a recreational activity</td>
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<td></td>
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<tr>
<td>e. Exposure to toxic substance</td>
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<tr>
<td>f. Physical assault</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Assault with a weapon</td>
<td></td>
<td></td>
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<tr>
<td>h. Sexual assault</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Other unwanted or uncomfortable sexual experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>j. Combat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>k. Captivity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>l. Life threatening illness or injury</td>
<td></td>
<td></td>
</tr>
<tr>
<td>m. Severe human suffering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n. Sudden violent death (homicide, suicide)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o. Sudden accidental death</td>
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<td></td>
</tr>
<tr>
<td>p. Serious injury, harm, or death you caused to someone else</td>
<td></td>
<td></td>
</tr>
<tr>
<td>q. Any other very stressful event or experience. Please specify:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

59. Below is a list of problems that people sometimes have in response to a very stressful experience or a critical incident. Over the past month (30 days), have you experienced any of the following due to exposure to any critical incident? (Please check yes or no.)

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Have had nightmares about it or thought about it when you did not want to?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Tried hard not to think about it or went out of your way to avoid situations that reminded you of it?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Were constantly on guard, watchful, or easily startled?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Felt numb or detached from others, activities, or your surroundings?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Felt guilty or unable to stop blaming yourself or others for the event(s) or any problems the event(s) may have caused?</td>
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</tr>
</tbody>
</table>

60. If an officer needed resources for emotional support, resources are available within the department?

☐ Yes   ☐ No

61. What are one or two barriers to officers receiving mental health services?

62. In a few words, describe how COVID-19 has affected being a police officer?
63. Use of tobacco products? □ Current □ Former □ Never
64. Do you currently “vape”? □ Yes □ No
65. On average, how many alcoholic beverages do you consume on a daily basis? __________
66. How many hours of physical activity do you get every week? (Include cardio, strength training): ________

Demographics

67. Age: __________
68. Gender you identify as: □ Male □ Female □ Prefer not to answer
69. How would you describe your race?
   □ African American/Black □ Asian □ Alaskan Native □ Caucasian/White □ Native Hawaiian/Pacific Islander
   □ Native American □ Latino □ Biracial □ Prefer not to answer
70. How would you describe your ethnicity? □ Hispanic □ Non-Hispanic
71. Indicate your highest level of education:
   □ HS diploma/GED □ Some College □ Associates Degree □ Bachelor’s Degree □ Master’s Degree □ Ph.D.
72. Are you currently in a serious relationship? □ Yes □ No
73. Do you have children? □ Yes □ No
74. Do you have a pet? □ Yes □ No
75. Are you a member of the Armed Services? □ Yes □ No
76. How long have you been a sworn officer with the department? ____ Years ____ Months
77. If you were an officer at another police department, please indicate your experience prior to the department: ____ Years ____ Months
78. Rank: □ Patrol □ Sergeant □ Other (Specify): __________________________
79. Average hours worked per week: __________
80. What hours are your usual shift? □ 05:30-15:30 □ 14:00-24:00 □ 20:30-06:30 □ Other (Specify): ____

Thank you for taking time to participate in this survey. If you would like a detailed report of your results or other resources please contact me at forl.camacho@ucf.edu.
APPENDIX D: TABLE OF FULL OLS REGRESSION MODEL
### Table 11. OLS Regression Model Predicting PTSD Symptoms with Demographic Data

<table>
<thead>
<tr>
<th>Variables</th>
<th>b</th>
<th>SE</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tot. CI (Personal)</td>
<td>.215*</td>
<td>.082</td>
<td>.377</td>
</tr>
<tr>
<td>Tot. CI (Witnessed)</td>
<td>-.043</td>
<td>.057</td>
<td>-.101</td>
</tr>
<tr>
<td>Supervisor Support</td>
<td>-.012</td>
<td>.119</td>
<td>-.013</td>
</tr>
<tr>
<td>Top Management Support</td>
<td>-.079</td>
<td>.090</td>
<td>-.121</td>
</tr>
<tr>
<td>Family &amp; Friends Support</td>
<td>-.284*</td>
<td>.120</td>
<td>-.352</td>
</tr>
<tr>
<td>Age</td>
<td>-.054</td>
<td>.043</td>
<td>-.302</td>
</tr>
<tr>
<td>Children</td>
<td>.868</td>
<td>.585</td>
<td>.523</td>
</tr>
<tr>
<td>Pet</td>
<td>-1.112</td>
<td>.556</td>
<td>-.257</td>
</tr>
<tr>
<td>Experience</td>
<td>.036</td>
<td>.045</td>
<td>.193</td>
</tr>
<tr>
<td>Rank (ref. patrol)</td>
<td>-.730</td>
<td>.536</td>
<td>-.224</td>
</tr>
</tbody>
</table>

Note: n=71, b=unstandardized coefficients; SE=robust standard errors; β=standardized coefficient.

*p< .05
REFERENCES

10.1177/1098611118783987


https://doi.org/10.1002/smi.2460100210


doi:10.1017/S0033291713001943


Blue H.E.L.P-Honoring the service of law enforcement officers who died by suicide. (nd).
Retrieved from: https://bluehelp.org/


http://dx.doi.org/10.1080/13668803.2015.1074545

nij.ojp.gov: https://nij.ojp.gov/topics/articles/police-research-important-tool-police-often-underutilized

Carleton, R.N., Korol, S., Mason, J.E., Hozempa, K., Anderson, G.S., Jones, N.A.,
mental readiness training among municipal police. *Cognitive Behaviour Therapy, 47*(6),
508-528, DOI: 10.1080/16506073.2018.1475504

*The American Journal of Psychotherapy, 64*(1), 55-72.
https://doi.org/10.1176/appi.psychotherapy.2010.64.1.55

*School of Criminology and Criminal Justice, 13*(2), 213-229.

PTSD and depression: A study of trauma-exposed veterans. *Journal of Traumatic Stress,
30*(5), 545-549.

Diamond, P.R., Airdrie, J.N., Hiller, R., Fraser, A., Hiscox, L.V., Hamilton-Giachritsis, C.,
years following trauma. *European Journal of Psychotraumatology, 13*(1). DOI:
https://doi.org/10.1080/20008198.2002.2066456

investigation into the stigma with mental illness. *International Journal of Mental Health

made against police officers. *Journal of Family Violence, 20*(1), 13-19. DOI:
10.1007/s10896-005-1505-3


Kale, A., & Gedik, Z. (2020). Quality of life in riot police: Links to anger, emotion regulation,


of the current evidence regarding interventions for anxiety, PTSD, sleepiness and fatigue in the law enforcement workplace. *Industrial Health, 57*, 655-667.


Parker, J.R. (2011). *Florida law enforcement and corrections officers compared to Florida’s*
general population. Office of the Sheriff-Brevard County.


Washington, D.C.


https://doi.org/10.2307/2391695


Wender, J. (2022). 5 myths and truths about officers and PTSD: Improving the ability of LEOs to cognize when to seek help. Retrieved from: Officer wellness: Debunking law enforcement PTSD myths (police1.com)


https://doi.org/10.1016/j.euroneuro.2013.10.009