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Relationship Between Substance Use, Alcohol, and Posttraumatic Stress Disorder Symptoms in Law Enforcement

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This is to certify that the doctoral dissertation by

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2023

Abstract

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by

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MA, Walden University, 2021

MA, Brandman University, 2017

BA, San Jose State University, 2014

Dissertation Submitted in Partial Fulfillment

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Abstract

Law enforcement officers are plagued by a variety of traumatic incidents and organizational stressors. As a result, officers are more likely to use maladaptive coping skills and develop stress-related disorders. The purpose of this study was to identify the predictive relationship between substance use, alcohol use, and posttraumatic stress symptoms (PTSS)/dissociation symptoms in 107 law enforcement officers using the Personal Observation Wellness and Evaluation Report- POWER Portfolio survey through an archival dataset. Lazurus and Folkman's transactional model of stress and coping was used for the theoretical understanding of the current study. The independent variable for this study was PTSS as measured by the Dissociation/PTSD scale of the POWER Portfolio survey. The dependent variables for this study included substance abuse and alcohol use as measured by the Substance Use scale of the POWER Portfolio survey. Two simple regression analyses were used to identify any predictive relationships between PTSS, alcohol use, and substance use. Data used in this study were archival data provided by a nonprofit company. The results of this study indicated a statistically significant relationship between PTSS, alcohol use, and substance use. While this does not indicate causality, it does indicate the officers' PTSS were likely to impact their use of substances and alcohol. Implications for positive social change include the development and access to mental health services and programs, focusing not only on PTSS but on substance use and other mental health disorders for law enforcement officers.

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Dedication

I am dedicating this dissertation to my family: my kids, my husband, my parents, my sister, and my grandparents. I may have done the work, but this wouldn't have been possible without all of you.

To my kids, I want to show you that anything is possible. You can do hard things. You can do great things in this world. I love you both so much.

To my husband, you deserve the world. You motivate me to keep going, to do better. You sacrificed so I could keep moving forward. I love you to the moon and back.

To my parents, sister, and grandparents: This is for all of us. I love you!

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I want to say thank you to Dr. Price-Sharps and to Dr. Gfeller. You both have been amazing mentors throughout this process. You knew I needed more than just a "gentle push" to keep moving forward. I don't think I would've even attempted the PhD journey without the both of you. It's been a long and grueling process, but we did it. I am so grateful to have had you walk the path with me.

Lastly, thank you to all of our first responders and military members! Thank you for your service and willingness to put everything on the line.

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Chapter 1: Introduction to the Study

The current study addressed the relationship between substance use, alcohol use, and posttraumatic stress symptoms (PTSS) within the law enforcement community. Specifically, I attempted to identify any predictive relationship between substance use and PTSS and alcohol use and PTSS within law enforcement officers who have experienced traumatic events.

Officers often face a variety of stressors that are not common within the general population, such as exposure to sudden deaths, transportation accidents, and physical assaults (Carleton et al., 2019). In addition to exposure to traumatic incidents, they must also deal with a variety of organizational stressors, including excessive paperwork, staffing issues, inadequate salaries, inadequate support by upper management, and political issues within management and the public (Padilla, 2020). Due to the exposure to traumatic incidents and organizational stressors, officers are more likely to develop stress related disorders. Officers may experience anxiety, depression, and posttraumatic stress disorder (PTSD; Price, 2017). Furthermore, officers who are exposed to critical incidents are more likely to use alcohol or substances (Ménard et al., 2016). However, officers are often reluctant to reach out for help due to the fear of administrative backlash, such as being labeled as unfit for duty, being seen as weak or incompetent, or losing rank (Burns & Buchanan, 2020).

What was not known is how PTSS impacts the severity of alcohol or substance use within the law enforcement population. Officers who use alcohol or substances are at greater risk of domestic violence, drunk driving, and suicide or suicidal ideation (Chae &

Boyle, 2013; Oehme et al., 2012; Stinson et al., 2014). As such, it was important to conduct this study to highlight the impact that PTSS can have on an officer's alcohol and substance use. The results of this study help to provide reasoning for developing future programs to support officers' mental health to reduce the potential for posttraumatic stress, alcohol, and substance use as a response to experiencing traumatic events.

This chapter provides a brief background of the topic, including a highlight of previous research related to PTSS, alcohol use, and substance use within law enforcement. I then discuss the purpose of the study and research questions. The theoretical framework, Lazarus and Folkman's (1984) transactional model of stress and coping, is described and applied to the current study. Finally, the significance and limitations of the study are highlighted.

Background

Law enforcement officers are often exposed to a wide variety of traumatic events. Traumatic events can include exposure to sudden violent death, sudden accidental death, transportation accidents, physical assaults, assaults with weapons, or serious accidents (Carleton et al., 2019). In addition to the traumatic events officers may be exposed to, they often deal with other stressors, such as organizational stressors and family problems (Padilla, 2020). Organizational stressors, such as shift work, department policies, and paperwork, have been shown to contribute to the development of mental health disorders in public safety personnel (Carleton et al., 2020; Maran et al., 2018; Padilla, 2020). Due to the risk of exposure to potentially traumatic events in addition to the organizational stressors, officers may be more at risk of developing a variety of mental health disorders,

including depression, anxiety, PTSD, and addictive disorders (Brunault et al., 2019; Stevelink et al., 2020).

In response to experiencing traumatic or critical incidents, officers may employ various coping skills to reduce or mediate the effects of these incidents. However, the coping skills used may be detrimental to their mental health, and they often fail to reach out for help. For example, Crosbie (2018) stated that officers may be reluctant to reach out for help due to the fear that receiving mental health treatment will have several repercussions, such as being removed from their work or being passed over for promotions. Instead, officers may internalize or hide their emotional stress and use alcohol or other illicit substances to cope with the demands of the job (Arble et al., 2018; Chopko et al., 2013).

Despite previous research, which has begun to address substance and alcohol use, as well as the prevalence of mental health disorders within law enforcement, the results found have not been consistent. The discrepancies may be due to officers' misrepresentation or underreporting of symptoms. Velazquez and Hernandez (2019) reported that officers may be reluctant to accurately report their PTSD symptoms, substance use, and alcohol use due to the negative mental health stigma that is present within law enforcement culture. This study helped to fill the gap in the literature by contributing knowledge regarding the relationship between substance use, alcohol use, and PTSS within the law enforcement community. Violanti et al. (2017) found that officers who are struggling with substance use, alcohol use, and PTSD symptoms often face both problems on the home front and at work, which is likely to exacerbate or

increase the use of negative coping strategies. Therefore, it is important to highlight the impact that substance use and alcohol use can have on an officer's functioning, including the severity of PTSS. The study has several implications, including adding to the body of knowledge that highlights the importance of providing support to law enforcement communities, and the detrimental effects that may occur when officers' mental health is not addressed or supported. The results provided by this study can also help contribute to the development of prevention or intervention programs.

Problem Statement

Police officers are tasked with maintaining the safety of the community. Due to their job duties, they often experience or witness a significant number of traumatic events. According to Ma et al. (2015), officers reported that, on average, they experienced at least three stressful work-related events per day, including administrative pressures and situations that were perceived as physically or psychologically dangerous. However, officers may lack adaptive coping skills to manage the emotional, psychological, and behavioral reactions of witnessing and responding to traumatic events. As a result of these occupational stressors, officers are at greater risk of developing psychological and emotional problems, such as PTSD and depression (Klimley et al., 2018). For example, Klimley et al. (2018) found that 7 to 19% of officers met the criteria for a PTSD diagnosis. Officers are also more at risk for suicidal ideation and suicide attempt as a result of the occupational stressors (Violanti et al., 2019). Furthermore, officers may be more likely to use maladaptive coping skills, such as illicit substances or alcohol, to manage the psychological, emotional, and physical responses to experiencing

stressful and traumatic events (Arble et al., 2018). Specifically, Chopko et al. (2013) found that when officers were not provided with proper support and training, they were more likely to internalize or hide their stress responses. Moreover, the researchers found that over 77% of officers had reported using alcohol as a way of coping with their emotional and psychological distress (Chopko et al., 2013).

While there have been many studies that have examined coping strategies within law enforcement, there is a lack of current information regarding the relationship between alcohol or substance use and the severity of PTSD symptoms among police officers. The goal of this study was to address the gap in the literature about how an officer's use of substances and alcohol affects the severity of PTSD symptoms.

Purpose of Study

The purpose of this study was to examine the relationship between alcohol use, substance use, and PTSS within law enforcement officers. A quantitative approach was used to determine the extent to which substance use and alcohol are related to PTSS, including dissociation, reliving events, and nightmares. In this study, I used archival data collected by a nonprofit agency to examine the relationship between alcohol use, substance use, and symptoms of PTSD.

Research Questions and Hypotheses

Research question (RQ)1: Does the law enforcement officer's score on the overall scale of Dissociation/PTSD predict their overall score of substance use, as measured by the scales within the POWER Portfolio?

$H_0$1: There is no relationship between the law enforcement officer's overall scale score of Dissociation/PTSD and their overall score of substance use, as measured by the scales within the POWER Portfolio.

H_a1: A relationship exists between the law enforcement officer's overall scale score of Dissociation/PTSD and their overall score of substance use, as measured by the scales within the POWER Portfolio.

RQ2: Does the law enforcement officer's score on the overall scale of Dissociation/PTSD predict their scores on the alcohol use items within the substance abuse scale, as measured by the scales within the POWER Portfolio?

$H_0$2: There is no relationship between the law enforcement officer's overall scale score of Dissociation/PTSD and their overall score of alcohol use, as measured by the scales within the POWER Portfolio.

H_a2: A relationship exists between the law enforcement officer's overall scale score of Dissociation/PTSD and their overall score of alcohol use, as measured by the scales within the POWER Portfolio.

Theoretical Framework

The theoretical base for this study was Lazarus and Folkman's (1984) transactional model of stress and coping. The transactional model of stress and coping highlights the interaction between stress, cognitive appraisal, and coping strategies. The model posits that how people appraise an event as stressful or nonstressful will impact how they cope with the event (Lazarus & Folkman, 1984). The first appraisal process is called primary appraisal, in which the person evaluates the threat of the event or situation

(Lazarus & Folkman, 1984). In other words, how stressful or impactful the event is. After evaluating the event, the person begins the secondary appraisal process in which the person determines what coping skills can be used to manage the stressor (Lazarus & Folkman, 1984). According to Lazarus and Folkman (1987), coping strategies can be grouped into two categories: problem-focused coping or emotional-focused coping. Problem-focused coping typically involves directly addressing the event (Lazarus & Folkman, 1987). Alternatively, emotional-focused coping strategies are aimed at regulating the emotions related to the event (Lazarus & Folkman, 1987). After engaging in the coping process, the person evaluates the effectiveness of the coping strategy. The strategy's perceived effectiveness determines if the person will continue applying other coping strategies or appraise the situation as resolved (Lazarus & Folkman, 1984).

Officers often appraise their environment and the situations they must manage for inherent dangers and stressors (Webster, 2014). Officers must engage in coping skills to manage any behavioral or psychological responses to the events they appraise as threatening or stressful (Webster, 2014). The transactional model of stress and coping can be applied to understand how officers appraise any experienced stressors and consequent use of maladaptive and adaptive coping strategies.

Nature of Study

In this study, I used a quantitative research design to examine the relationship between substance use, alcohol use, and PTSS in law enforcement officers as measured by the Dissociation/PTSD and Substance Abuse scales on the POWER Portfolio. A quantitative approach was the most appropriate because this study was based upon data

gathered from a survey (see Creswell & Creswell, 2018). The data were archival in nature and were collected as part of a larger study conducted by the director of a nonprofit in Central California with the assistance of The National Police Suicide Foundation. A total of 100 participants were randomly selected from a larger pool of data for inclusion in the study. The participants were law enforcement officers employed by local, state, and federal law enforcement agencies. The data were provided by the nonprofit in a protected EXCEL sheet. All identifying information was removed to ensure confidentiality for the participants.

Definitions

In this section, I define language and acronyms used throughout this dissertation to ensure understanding for readers.

Coping skills: Behavioral, emotional, and mental responses to manage an environmental stressor (Penwell-Waines et al., 2015).

Critical incident: Any event, episode, or outcome that can cause a person to experience a large amount of stress or anxiety, often in a short amount of time, such as traffic accidents or violent crimes (Rufo, 2016).

Distress: Distress refers to a type of stress that results in negative symptoms in response to internal and external stimuli (Rufo, 2016).

Personal Observation Wellness Evaluation Report (POWER) Portfolio: The primary assessment tool used for this study. The assessment contains a total of 109 self-report items designed to assess both risk and protective factors of law enforcement professionals, including mania, attention deficit hyperactivity disorder (ADHD),

impulsivity, concentration, fatigue, depression, anxiety, panic attacks, dissociation/PTSD, family problems, work-related problems, anger, substance abuse, and suicidal ideation.

Posttraumatic stress disorder (PTSD): PTSD is a mental health disorder that occurs as a result of witnessing a traumatic event, such as combat, assaults, and natural disasters. A person who experiences PTSD may struggle with reliving the traumatic events, nightmares, and changes in cognition and mood (American Psychiatric Association, 2013; Rufo, 2016).

Stress: A general term used to describe a person's physical and emotional response to internal and external stimuli (Rufo, 2016).

Assumptions

There were several assumptions for this study. First, I assumed that all participants of the study were employed by local, state, and federal law enforcement agencies. Furthermore, I assumed that participants were forthcoming and honest with their responses to the questionnaire.

Delimitations

Delimitations refer to the boundaries set within the study. The delimitations of the current study included the chosen participant sample. The participants of this study voluntarily participated in a training on police suicide. As such, the data may not be an accurate representation of the entire police culture. Instead, the data may represent a subsection of police officers. Therefore, the data may not be generalizable to the entire police officer population. Furthermore, the items within the questionnaire used in the

original study used a Likert scale to measure the responses. Therefore, participants responses' were limited and may not create an accurate or full depiction of the variables.

Limitations

There were several limitations to this study that may have affected the outcome of the study. First, I was not part of the original data collection process. The data were collected during a training presented by the National Police Suicide Foundation. The participants completed the questionnaire in large classroom settings, which may have impacted their responses. Additionally, participants may have felt uncomfortable in admitting to certain problems. Therefore, their responses may not have been forthcoming or accurate. Finally, the original data were collected during a training on police suicide, which limited the participant pool and may have affected the generalizability of the results of this study.

Significance of Study

While there have been studies addressing officers' rates of substance or alcohol use and PTSD, there has been a lack of studies to date that has addressed how the severity of substance or alcohol use is related to the severity of PTSD symptoms. For example, Violanti et al. (2018) found that, on average, officers have six alcoholic beverages a week, but some reported having up to 18+ alcoholic beverages a week. Furthermore, other studies resulted in conflicting data. Specifically, Ballenger et al. (2011) found no relationship between cumulative duty-related incident exposure nor PTSD symptom levels with alcohol use. Alternatively, Chopko et al. (2013) conducted a similar study and found that work-related traumatic stress and avoidance strategies predicted hazardous

alcohol use. In addition, work-related traumatic stress and depression accounted for a significant degree of variance in alcohol dependence; as the rates of stress and depression increase, so does alcohol use (Chopko et al., 2013). The conflicting results highlighted the need to investigate further the relationship between alcohol use, substance use, and PTSD symptoms among law enforcement officers. There is also concern about the generalizability of these results. For example, Chopko et al.'s study had several limitations, including not using a demographically diverse population and using a convenience sample. Furthermore, there is a stigma within police culture that may prevent officers from accurately or honestly reporting their substance use, alcohol use, and PTSS (Velazquez & Hernandez, 2019). Therefore, many studies using an officer population may not be representative of the total officer population.

The purpose of this study was to address the gap in the literature regarding the lack of consistent information pertaining to the relationship between substance or alcohol use and the severity of symptoms of PTSD among law enforcement officers. Officers who are dealing with substance use and alcohol use problems and PTSD symptoms may experience a variety of consequences, such as problems at work and at home (Violanti et al., 2017). Therefore, it is important to highlight the impact that substance use and alcohol use can have on an officer's functioning. The results provided by this study may help contribute to the development of prevention or intervention programs.

Summary

Law enforcement officers are unique in that they are tasked with job responsibilities that put them in harm's way or expose them to traumatic events on a daily

basis. Due to the exposure to critical incidents and other stressors, officers are at a greater risk of developing a wide range of mental illnesses, such as posttraumatic stress, depression, and anxiety (Price, 2017). Despite the prevalence of stress and mental illness within the field, officers often do not reach out for help. Officers will sometimes use maladaptive coping strategies, including substance and alcohol use, which may further exacerbate the severity of the mental illnesses (Arble et al., 2018). In this study, I attempted to highlight the potential relationship between PTSS and substance use and alcohol use within law enforcement.

As previously discussed within this chapter, the purpose and need for this study were discussed, along with the theoretical framework (Lazarus and Folkman's 1984 transactional model of stress and coping) and background of this study. Additionally, the RQs, hypotheses, nature of the study, definitions, assumptions, limitations, and delimitations were identified. Chapter 2 provides relevant literature regarding the topic of interest. Furthermore, research methods, including key words and databases used, are addressed.

Chapter 2: Literature Review

Introduction

The law enforcement occupation is a unique field faced with a variety of stressors that are uncommon to the general working population. They are tasked with responding to multiple, potentially traumatic events, community outreach, administrative duties, among a plethora of other duties on a daily basis. Officers often enter into law enforcement because they want to help people and make a difference (Burns & Buchanan, 2020). However, this desire to help does not come without consequences. Officers are often repeatedly place in dangerous, high-risk, and stressful situations (Velazquez & Hernandez, 2019).

The impact of stress and trauma of law enforcement officers has been widely studied for many years. Scholars and practitioners have sought to understand the types of stressors officers experience, and how those stressors impact officers' well-being. Furthermore, research has aimed to understand how to mitigate the effects of trauma on officers and their organizations. Due to their job duties, officers are often faced with diverse organizational and occupational stressors, which may lead to a variety of mental, emotional, and physical hardships for officers (Carleton et al., 2019). Officers are required to respond to a variety of traumatic events, such as sudden deaths, physical assaults, and traffic accidents. Continued exposure to these events has been found to be positively correlated with severe mental illnesses, such as PTSD, generalized anxiety disorder, panic disorder, alcohol abuse, tobacco use, among others (Carleton et al., 2020; Copenhaver & Tewksbury, 2018).

Due to the continuous stress related to their job duties, officers must use a wide range of coping skills to mitigate the mental, emotional, and physical consequences of their careers. Coping skills may include active coping mechanisms, such as planning, positive reframing, acceptance, and humor (Allison et al., 2019). However, some of these coping mechanisms may further exacerbate officers' responses to stress. For example, officers have also been known to use passive coping strategies, such as denial, substance use, self-blame, and isolation or disengagement (Allison et al., 2019). Maladaptive or passive coping strategies have been shown to increase rates of depression and other mental health disorders (Allison et al., 2019; Brunault et al., 2019).

Despite the need for mental health support to manage the various stressors and to develop healthy coping strategies, officers may be reluctant to reach out for help. As such, officers may develop long-term mental health issues, such as PTSD, and alcohol and substance use. Scholars have found it difficult to obtain accurate rates of these disorders due lack of support for mental health within their departments, stigma around receiving mental health treatment, fear of repercussions for seeking mental health treatment, among a variety of other barriers (Drew & Martin, 2021; Martin et al., 2021). Thus, the purpose of this study was to add to the body of knowledge regarding officer's use of substances and alcohol and the relationship to the severity of PTSD symptoms.

Chapter 2 begins with a description of the strategies and methods used to complete a thorough literature search. This is followed by a description of the theoretical framework used to understand the current research study. Finally, there is a

comprehensive review of current research regarding the relationship between PTSD, alcohol use, and substance use within law enforcement.

Literature Search Strategy

A variety of approaches were used to find scholarly, peer-reviewed articles, journals, books, and other publications relevant to the current topic. Several databases offered within the Walden University Library were used to search for resources related to the current topic, including Academic Search Complete, APA PsycArticles, APA PsycInfo, ProQuest Central, SAGE Journals, and Thoreau Multi-Database Search. Other search engines included Wiley Library and Elsevier. Two notable journals used in this search included the Society for Police and Criminal Psychology Journal and Policing: An International Journal of Police Strategies & Management, which provided a plethora of related research. Key words used during the search included *PTSD, stress, coping skills, law enforcement, alcohol use, substance use, organizational stress, police culture,* and *mental health*. The collected research used within this literature review provide data and background that highlight the importance of the current topic. The articles selected within this study were published between 2016 and 2022. However, there are some articles and books outside of the identified date range. These materials aided in describing the theoretical framework applied to this study and added substantial background information to aid in the development of the topic.

Theoretical Framework

I used Lazarus and Folkman's (1984) transactional model of stress and coping as the theoretical framework for this current study. According to this model, an event by

itself is not a stressor. Instead, the event becomes a stressor after the person has perceived the event as harmful, threatening, or exceeds the person's natural coping capabilities (Lazarus & Folkman, 1984). Officers often face a variety of situations that may cause them stress, but, ultimately, the officer has to make sense of the situation and then deem it as stressful before responding (Violanti et al., 2018) Lazarus and Folkman stated that there are several appraisal processes to determine how a person interprets and reacts to an event. The first process is called primary appraisal, in which the individual decides whether an event is irrelevant, benign-positive, or stressful (Lazarus & Folkman, 1984). A person may categorize an event as irrelevant when there is no direct consequence or outcome that effects the person (Lazarus & Folkman, 1984). An event is categorized as benign-positive when it somehow creates a benefit for the person, such as a positive emotion or reward (Lazarus & Folkman, 1984). Finally, an event may be categorized as stressful when the event may cause harm, threat, loss, or a challenge (Lazarus & Folkman, 1984). An officer may choose to react to a stressor, whether that is in the department while dealing with organizational components or when working with the community to provide safety, based upon the harm or threat perceived within the environment. Once the event has gone through the primary appraisal, it then proceeds to the secondary appraisal. An officer who interprets the situation as needing a response is more likely to move into secondary appraisal (Webster, 2014). Secondary appraisal is the reaction stage. It occurs when the person perceives that something must be done to respond to the situation. During the secondary appraisal stage, the person evaluates what coping skills may be valuable in the moment, and how effective those skills may be in

mediating the situation (Lazarus & Folkman, 1984). An officer responding to an event in which they appraise as taxing or stressful will then begin to determine which coping skills may be appropriate for managing the psychological distress. These skills may include both adaptive and maladaptive coping mechanisms, such as reaching out for social support, denial, alcohol use, and even humor. According to Webster (2014), in policing, it is the officer's perception as well as the reality of the situation that creates the stress and shapes the officer's ability to engage in a coping mechanism.

The primary and secondary appraisal greatly affect the emotional control and effectiveness the person experiences (Lazarus & Folkman, 1984). A person who appraises the situation as highly stressful while also being unable to identify positive or adaptive coping strategies is likely to experience a greater amount of emotional discomfort compared to someone who feels like they are capable of managing the same situation. For example, officers who are higher in rank and perceive that they have more control over their work activities report lower levels of stress (Webster, 2014).

Lazarus and Folkman (1984) stated that there is one final step in the appraisal process. After employing whatever coping mechanism that is deemed appropriate, the person engages in reappraisal to determine if the coping mechanism was effective (Lazarus & Folkman, 1984). If the coping mechanism was effective, the process ends, and the stress is reduced. If the mechanism was not effective, the person engages in another method. The reappraisal process repeats until the stressor is diminished.

Factors Influencing Stress Responses

In addition to a person's coping mechanisms, there are a variety of components that may impact a person's response to stress, such as the individual's personality traits and situational factors. Lazarus and Folkman (1984) reported that a person's commitments and beliefs influence how they appraise a situation. Commitments refer to what is at stake for the person; commitments relate to what the person sees as important or has meaning (Lazarus & Folkman, 1984). A person who has high commitment to a situation is more likely to view the situation as stressful because they have an emotional attachment to the situation. With that said, there are some studies that hold contrary to Lazarus and Folkman's previous findings. For example, Allison et al. (2019) found that officers with high levels of commitment to their job had the lowest increases in their Center for Epidemiologic Studies Depression scale scores across all stress components. Officers who have found meaning and purpose in their careers often experience less depressive and stress symptoms, even when faced with traumatic events (Allison et al., 2019). Beliefs refer to the personal thoughts that the person may have about a situation, such as their belief that they can control the situation (Lazarus & Folkman, 1984). For example, officers who believe that the system is actually providing justice or helping the community is more likely to engage fully in their occupations and report lower levels of stress (Webster, 2014). Additionally, the novelty and predictability of a situation is also likely to influence appraisal (Lazarus & Folkman, 1984). If the person experiences situation that is completely novel, they are not likely to appraise the situation as stressful. A novel situation only becomes stressful if there is a previous association. Predictability

also plays a role in the appraisal process. Predictability refers to the ability to discern that a stressful event may occur (Lazarus & Folkman, 1984). It is hypothesized that people can engage in anticipatory coping to manage the stress when there is predictability.

Styles of Coping

Lazarus and Folkman (1984) described coping as the "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p. 141). Coping is the mechanism used to manage a stressor. However, types of coping and the effectiveness of these methods have been widely debated throughout research. Lazarus and Folkman categorized coping strategies into emotion-focused forms of coping and problem-focused forms of coping. Problem-focused coping is the process of directly managing the problem or stressor (Lazarus & Folkman, 1984). A person who employs problem-focused coping may use skills to minimize or remove the stressor. The person is able to solve the problem or dissolve the stressful situation. Alternatively, emotion-focused coping involves minimizing the distress that accompanies the stressful event (Lazarus & Folkman, 1984). Emotion-focused coping is often used when the actual event cannot be controlled or changed. Instead, the person employs skills to manage the emotional reaction to the event. Officers have reported using both types of coping methods, but the benefits of problem-focused compared to emotion-focused coping have been noted in several studies (Civilotti et al., 2021; Pitel et al., 2020). For example, officers who reported using emotion-focused coping have reported higher levels of depression, work stress, and overall impairment (Arble et al., 2018; Civilotti et al., 2021; Pitel et al., 2020).

Other researchers have recategorized coping methods based upon the work of Lazarus and Folkman (1984). For instance, Arble et al. (2018) separated coping strategies into approach coping versus avoidance coping. Approach coping is described as methods to address the issue directly (Arble et al., 2018). Alternatively, avoidance coping is described as coping methods that distract or help the person avoid dealing with the stress responses or stimuli that elicit a stress response (Arble et al., 2018). Arble et al. found that officers who used approach coping reported higher overall well-being compared to officers who used avoidance coping methods. These findings are further supported by the work of Pitel et al. (2020), who found that avoidant coping behaviors, such as distraction, substance abuse, disengagement, and self-blame, in law enforcement officers resulted in higher levels of impairment after experiencing a traumatic event at work. Carver (1997), working off Lazarus and Folkman's research, made a distinction between active and passive coping. Similar to Lazarus and Folkman's definitions, active coping is any effort that brings about a direct change in the stressor (Carver, 1997). Passive coping is described as methods that attempt to reduce stress responses but do not directly affect, reduce, or diminish the identified stressor (Carver, 1997).

Officers are experts at appraising their environments and making decisions quickly on how to react to the environment. They are trained to identify any potential harm to themselves or others and to respond appropriately to mitigate the harmful situation. In the same manner, officers must also learn how to cope with their own reactions to the traumatic incidents that they respond to, such as violent deaths, traffic accidents, physical assaults, fires/explosions, and accidental deaths (Carleton et al.,

2019). The coping strategies employed, whether approach, avoidant, active, or passive, all have impacts of the psychological well-being and resiliency of the officer when they respond to or witness traumatic events. Officers who appraise their situation as uncontrollable may use avoidant or maladaptive coping mechanisms, such as self-blame, alcohol, substances, or denial to try and cope with event. However, the maladaptive coping mechanisms, such as alcohol or substances, are unlikely to resolve the stress, so the officer is never able to discontinue the secondary reappraisal cycle (Arble et al., 2018). The feelings of helplessness and hopelessness in being unable to resolve the stress are likely to lead to more pervasive disorders, such depression, PTSD, generalized anxiety disorder, among others (Arble et al., 2018; Carleton et al., 2019; Webster, 2014).

Literature Review Related to Key Variables and/or Concepts

Police Culture

Law enforcement officers represent a subgroup of the work force that is especially vulnerable to work-place stress. They are tasked with deterring criminal behavior, monitoring activities to ensure safety of the general public, responding to crimes and accidents, gathering evidence, investigating crimes, among other duties (Viegas & Henriques, 2020). Furthermore, officers must respond to a variety of stressful and potentially traumatic incidents, such as violent physical and sexual assaults, deaths, serious traffic collisions, fires or explosions, child abuse and neglect cases, and severe human suffering (Carleton et al., 2019).

Additionally, officers must deal with organizational demands, some of which may be perceived as an added stress. Padilla (2020) found that experiencing negative attitudes

from the public or media, excessive paperwork, insufficient manpower, policies and procedures, inadequate salaries, new assignments, issues with supervisors or hierarchy, and promotions are all part of law enforcement culture. These organizational stressors may actually cause more stress than being put in danger while on patrol (Padilla, 2020). Wolter et al. (2018) found that officers who experience high levels or amounts organizational demands reported higher levels of emotional exhaustion.

Law enforcement can be seen as a way of life. Individuals within law enforcement often begin to intrinsically identify as a cop; their careers become part of their identity. Careers are considered an integral part of an adult's identity. Law enforcement is one such occupation that has strong ties to a person's identity because of the culture that has developed within the field. Burns and Buchanan (2020) described police culture as a paramilitary structure that demands conformity, loyalty, and commitment to the department or law enforcement as a whole. Sierra-Arevalo (2018) described officers of having a "warrior mentality," in which facing death and destruction is normalized.

There is this idea of the law enforcement family or the "blue family" (Du Plessis et al., 2021). Individuals within law enforcement are a different breed than the general population, which has created an "us versus them" mentality. In one such study, researchers found that officers believe that being a "copper" is a job for life (Du Plessis et al., 2021). It is not just a job but rather a group of individuals who come together and have similar traits, such as the desire to help their communities, keep people safe, and create a more positive, safer environment; all while dealing with the dangerous public (Du Plessis et al., 2021). It is common for law enforcement officers and culture to

emphasize mental toughness and ability to withstand more than the average person in regard to trauma and stress.

Mental Health Stigma

The culture that has developed within law enforcement has greatly impacted officers' help-seeking behaviors. Along with the culture that has emphasized the importance of mental toughness, it has also been emphasized that seeking help is discouraged. Officers commonly report that there is a stigma within law enforcement regarding seeking mental health treatment. Stigma has been described as an attribute, behavior, or reputation that is socially discrediting (Caddell, 2022). There are three types of stigma, including public, self, and peer stigma (Karaffa & Koch, 2016). Public stigma describes the general societal perceptions, assumptions, and stereotypes about a subject, such as mental health (Karaffa & Koch, 2016). Officers may be reluctant to seek help when the feel that the general public is not supportive of the department. Self-stigma is the internalized thoughts, stereotypes, and prejudices that are associated with the topic (Wheeler et al., 2018). Officers often view themselves as masculine. It is a critical part of their identity as an officer. Officers may be reluctant to seek out mental health treatment because seeking help challenges the ideal of being tough or masculine, which is an integral part of their identity. Struggling with mental illness and receiving mental health treatment may create a negative self-stigma. Peer stigma is the beliefs people hold about how their peers perceive mental health issues. Trusting a fellow officer is a critical part of the safety and success of a department and police work (Richards et al., 2021). If officers within a department label another officer as incapable of handling their mental health

issues, then they are not to be trusted. An officer may choose to hide their mental health issues to avoid being alienated from their peers and avoid peer stigma.

Mental health issues, such as depression, are typically not openly talked about. Seeking outside help, such as a mental health professional, can lead to feelings of distrust or being seen as "weak." Officers do not trust a "weak" officer to provide aid when in a dangerous situation (Soomro & Yanos, 2018). During training, officers are rebuilt to display self-reliance, independence, toughness, and reduce weakness (Soomro & Yanos, 2018). Admitting to mental health issues and seeking help is the opposite of what they have been taught to display as an officer. Furthermore, without a supportive departmental culture, officers are more likely to feel isolated by their department, making them less likely to reach out for help (Richards et al., 2021). Officers often report not wanting to reach out for help because they fear the negative impact on their career (Martin et al., 2021).

One study found that of 7927 officers who participated in their study, 90.3% reported that mental health stigma was one of the main barriers for seeking out mental health treatment (Drew & Martin, 2021). Of that 90.3% officers, 84.7% of officers felt that they would be seen as weak or unfit for duty due to seeking out mental health treatment (Drew & Martin, 2021). Furthermore, over half (65.4%) of that sample believed that the culture of the department played a role in the stigma related to seeking mental health treatment (Drew & Martin, 2021). In other words, officers whose departments who did not openly support mental health treatment or have programs in place, are less likely to seek out mental health treatment. Officers also reported concerns

that their treatment provider would not understand the unique law enforcement culture and stressors, as well as concern for the impact seeking treatment may have on their families (Drew & Martin, 2021).

The stigma related to seeking out mental health treatment poses a great risk to the mental and physical health of law enforcement officers. Officers who experience a traumatic event may be able to reduce their stress responses if they receive mental health treatment in a timely and supportive manner. The mental health problem is compounded when treatment is delayed, and officers continue to be exposed to traumatic incidents. According to the Centers for Disease Control and Prevention (2020), suicide was the 10th leading cause of death in the United States for the general population in 2019. For officers, suicide causes more deaths than line of duty incidents. In one study, 32% of officers reported depressive symptoms and 12% of those officers met the criteria for PTSD (Boland & Salami, 2021). Almost 8% reported hopelessness in addition to PTSD and depressive symptoms (Boland & Salami, 2021). Consequently, officers who are experiencing mental health issues and avoid treatment try to find their own ways of coping with stress symptoms and frequent traumatic events. The coping mechanism may not always be adaptive and effective at reducing mental illnesses in the long-term.

Coping Methods

Coping methods are the skills officers use to process and manage the stress of their occupation. The experience of trauma and the associated effects are highly variable and dependent upon the person's interpretation of the event (Violanti et al., 2018). There are a variety of factors that affect how a person responds to trauma, including the type of

coping skills used to manage the effects of the event, presence of sleep problems, access to mental health treatment and programs, personality characteristics, previous exposure to trauma, and the presence of other mental health disorders (Bhowmick & Mulla, 2020; Chopko et al., 2018; Price, 2017; Violanti et al., 2018). One person who experiences a traumatic event may not have the same emotional or physiological response as another person who experienced the same traumatic event. A plethora of research has been conducted on how different types of coping can act as a moderating factor for the development of mental health disorders after experiencing a traumatic event.

Coping strategies can be broadly categorized as adaptive or maladaptive. Active, problem-focused, or approach coping is thought to be more adaptive and efficacious compared to emotion-focused, passive or avoidance coping behaviors. For example, in a study using 342 officers found that passive coping strategies were positively and significantly associated with administrative and organizational pressure, physical and psychological threats, and lack of support (Violanti et al., 2018). Furthermore, Violanti and his colleagues (2018) found that coping styles acted as a moderator for PTSD. Officers who reported low active coping skills and high passive coping skills reported more severe levels of PTSD in response to work stressors (Violanti et al., 2018). Specifically, it was found that officers who engage in active-coping strategies, such as active acceptance, positive reframing, and planning, lessened the association between PTSD and physical or psychological threats (Violanti et al., 2018).

Adaptive Coping Strategies

Adaptive coping strategies, also known as approach-based coping strategies, tend to result in posttraumatic growth and greater well-being. It is hypothesized that adaptive coping strategies allow officers to process and deal with the traumatic event and associated thoughts, emotions, and reactions rather than ignoring the traumatic experience (Arble et al., 2018). Common coping methods used by officers include exercise, talking to colleagues, and praying. Although, many methods that require more disclosure are less likely to be used by officers. For example, Ermasova et al. (2020) found that 190 officers reported using exercise, while only 96 reported talking to others, and 60 reported praying. Meditating was only reported by 4% of the officers (Ermasova et al., 2020). Social support is also considered another buffer between trauma and mental health issues. Officers who report using some form of emotional support tend to report lower levels of perceived work stress (Singh, 2017). Officers who reported having lower social standing and less support were more likely to report higher levels of work stress and depressive symptoms (Habersaat et al., 2015).

While adaptive coping strategies are important for reducing stress responses, there are other components that act as moderators for the effects of trauma. Personality and beliefs often play a role in how officers perceive stressful situations and how the officers may react to those situations. Allison et al. (2019) identified a concept named “hardiness” as a potential personality trait that may influence how a person perceives a critical incident or stressor. Hardiness has three components: control, commitment, and challenge. Control refers to the belief that the person can manage stressful situations;

commitment is the ability to find meaning or purpose behind the stressor; challenge is the ability to see events as an opportunity rather than a hindrance (Allison et al., 2019). Officers who report having higher levels of hardiness report lower levels of depressive symptoms after experiencing a traumatic event (Allison et al., 2019). Hardiness can be seen not only as a personality trait but also, as an effective way of coping because of how it can help officers reframe trauma experiences. Hardiness allows the officer to psychologically process the event by finding meaning, opportunity, and confidence in being able to work through that event. This is in contrast to maladaptive coping strategies, which may only distract or help the officer avoid dealing with the repercussions of responding to a traumatic event.

Maladaptive Coping Strategies

While unhealthy or maladaptive coping strategies may provide immediate relief from the stress response, these strategies tend to lead to an increase in psychological and physiological risks over time (Ermasova et al., 2020). Avoidant coping strategies diminish the immediate emotions or responses to a stressful situation by denying, minimizing, or avoiding the situation (Balmores-Paulino, 2018). An avoidant coping strategy helps the person feel better but does not address the issue directly. The risk of developing a mental health disorder increases because the person is unlikely to solve or process the stressor in a healthy way when utilizing a maladaptive coping strategy. Marchand et al. (2015) found that the more officers used avoidant- or emotion-coping strategies, the more PTSD symptoms were reported. Additionally, avoidant coping strategies have been found to be positively associated with greater substance use in law

enforcement officers (Arble et al., 2018). Furthermore, avoidant coping strategies have resulted in worse overall well-being (Arble et al., 2018)

Ermasova et al. (2020) conducted a study utilizing 427 officers and found that some of the most commonly used stress relievers were alcohol (13.8%), eating (11.7%), and sexual activity (13.3%). Avoidant coping strategies, such as gambling, drugs, drinking, sexual activity, all provide some sort of physical or psychological relief. However, these coping mechanisms only act as distractions from the stressors. Avoidant coping mechanisms do not take an active approach in neither eliminating the actual stressor nor in changing the long-term emotional response. Instead, avoidant coping mechanisms operate as a way to temporarily blunt or avoid the effect of experiencing a traumatic event. Using maladaptive coping strategies may increase the stress response experienced by officers, resulting in PTSD and other mental disorders (Syed et al., 2020). Denial, mental or behavioral disengagement, drugs, and even humor have been shown to have a positive, significant relationship with interpersonal stress, physical ailments, job interest, and work stress as a whole (Singh, 2017).

PTSD

According to the American Psychiatric Association (APA, 2013), PTSD is a cluster of symptoms that arise after a person has been exposed to actual or threatened death, serious injury or violence. It can also occur after repeated exposure to traumatic event(s), such as a first responder responding to multiple critical incidents, calls or reviewing cases where there was serious injury or death. Individuals experiencing PTSD report a variety of symptoms, including distressing memories, dissociation, psychological

or physiological reactions, avoidant behaviors, negative alterations in cognition and mood, hypervigilance, and sleep disturbances (APA, 2013). The World Health Organization conducted a study across multiple nations and found that of the 71,083 participants, 3.9% of respondents reported lifetime PTSD (Koenen et al., 2017). Additionally, high income countries, such as the United States, had higher levels of lifetime PTSD (Koenen et al., 2017). According to Koenen at al. (2017), in the United States, 6.9% of the population report having lifetime PTSD. Despite a large number of participants reporting a lifetime prevalence of PTSD symptoms, the number of people receiving treatment was negligible. Approximately half of those reporting PTSD symptoms have ever received treatment, but only 7% of those individuals sought treatment from a mental health professional (Koenen et al., 2017). Furthermore, these individuals were more likely to seek treatment from general medical doctors rather than professionals who specialize in the treatment of mental health and trauma (Koenen et al., 2017).

Compared to the general population, law enforcement officers are more likely to be exposed to traumatic incidents on a recurrent basis. Estimates have reported that 87% of officers have experienced at least one traumatic event on the job (Soravia et al., 2021). These traumatic incidents often involve witnessing or responding to death, violence, serious injuries, and traffic accidents, meeting several criteria within the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) description of PTSD (APA, 2013). The exposure to repeated traumatic events makes officers more at risk for developing mental disorders, such as PTSD. PTSD in law enforcement officers has been found to be much

higher than the national average. Soravia et al. (2021) found that approximately 15% of their sample containing 499 officers met the criteria for PTSD. Another study cited that PTSD in law enforcement has been reported as high as 19% (Klimley et al., 2018). These estimates often involve a full PTSD diagnosis. With that said, a plethora of officers may experience PTSS that do not meet the full criteria for PTSD, but still cause significant impairment for the officer. Klimley et al. (2018) estimates that approximately 34% of officers suffer from PTSS, including re-experiencing and avoidance symptoms.

Law enforcement officers may experience and display PTSS differently from the general public. Bryant (2021) reports that officers are more likely to experience dysphoric or numbing features than the general population. Officers who meet the criteria for PTSD report higher levels of re-experiencing, avoidance, arousal, depressive symptoms, and blunted affect (Bryant, 2021).

Accurately assessing for PTSD symptoms in law enforcement is difficult. The significant stigma around mental health issues within the law enforcement culture may shape what officers feel is appropriate to express when experiencing stress- and trauma-related symptoms. Furthermore, officers may be reluctant to accurately or truthfully report the severity of their symptoms. Marshall et al. (2021) conducted a study to investigate the factors associated with underreporting symptoms in officers. The researchers compared the responses provided by officers whose assessment was administered by their employer to responses given anonymously through an outside organization (Marshall et al., 2021). The researchers found that only 53 officers out of 694 invited, completed the survey administered by their respective departments (Marshall

et al., 2021). A total of 90 officers completed the survey administered by the outside organization (Marshall et al., 2021). Consistently, officers who completed the survey administered by their departments reported lower levels of depression, anxiety, stress, and PTSS compared to those who completed the assessment administered by the independent organization (Marshall et al., 2021). This type of underreporting makes it difficult to assess for the types of symptoms, as well as the severity of the symptoms officers are experiencing.

Effects of PTSD on LEO Functioning

PTSD can have a profound impact on an officer's functioning. Officers struggling with PTSS or PTSD have reported issues with sleep, work performance, and homelife (Chopko et al., 2021; Desrochers et al., 2021; DeVylder et al., 2019; James et al., 2021). Additionally, officers have reported experiencing other comorbid mental and decreased cognitive functioning (Chopko et al., 2021; Desrochers et al., 2021; DeVylder et al., 2019; James et al., 2021). These issues may worsen PTSS symptoms, creating a negative feedback loop that often further prolongs or intensifies officers' suffering.

PTSD negatively impacts officers' sleep quality. For example, de Boer et al. (2020) found that individuals diagnosed with PTSD reported extremely poor sleep quality, high levels of insomnia, frequent nighttime waking, and nightmares. Similarly, Chopko et al. (2021) found that higher levels of PTSD avoidance and hyperarousal symptoms have been found to be significantly and positively related to sleep problems for law enforcement officers. Officers struggling with PTSD symptoms often report trouble falling asleep, staying asleep, having nightmares, and feeling tired during the day

(Chopko et al., 2021). Lack of sleep often leads to greater experiences of PTSD symptoms, and increases the risk of other mental health issues, such as depression. Researchers have proposed that this occurs because lack of sleep increases experiences of negative emotions and emotional sensitivity to situations, as well as negatively impacting certain neurotransmitters, such as dopamine and serotonin, related to positive mood (Zhai et al., 2015).

The specific relationships between sleep, emotional processing, and PTSD are still under investigation, but many studies have begun to highlight the relationship between sleep disturbances and PTSD symptoms. Like all memories, traumatic memories must be processed and consolidated. Sleep is thought to play an important role in this process. More specifically, rapid eye movement (REM) sleep has been linked to the consolidation of emotional memories, as well as the extinction of traumatic memories (Murkar & De Koninck, 2018). Furthermore, REM sleep deprivation has been linked to enhanced emotional reactivity when a person is awake (Rosales-Largarde et al., 2012; Tempesta et al, 2018). Individuals with PTSD have been found to spend significantly less time in REM sleep (de Boer et al., 2020). Without adequate REM sleep, individuals may struggle with consolidating and processing traumatic events, resulting in the symptoms commonly found among those diagnoses with PTSD, such as hyperarousal, dissociation, and flashbacks (Pace-Schott et al., 2015).

Lack of sleep combined with PTSD symptoms can also lead to decreased cognitive functioning. Desrochers et al. (2021) compared officers to a control group, assessing for PTSD and other mental illnesses, as well as assessing cognitive functioning.

It was found that officers who met the criteria for a PTSD diagnosis had lower levels of executive functioning, lexical access, and verbal memory compared to officers who did not meet the criteria for PTSD (Desrochers et al., 2021). More specifically, it was found that intrusion symptoms were negatively correlated with attention, working memory, processing speed, and executive functioning (Desrochers et al., 2021).

Cognitive functioning can be affected even over a relatively short amount of time. Acute, severe stress can impact an officer's cognitive ability. Gutshall et al. (2017) examined the memory, behavioral, and personality characteristics of 30 officers. The researchers compared the officers' baseline scores to scores taken 10 days later, after the end of the officers' two-week shifts. While the researchers did not find a change in personality or behavioral characteristics, there was a significant change in the officers' cognitive functioning (Gutshall et al., 2017). More specifically, officers' experienced a statistically significant decline in their processing of information, learning, and working memory (Gutshall et al., 2017).

When an officer's cognitive functioning has been impaired due to PTSD symptoms, issues with work performance are likely to arise for that officer. Officers and other first responders are expected to make good judgment decisions in high stress situations. High levels of prolonged stress and PTSD symptoms can impair an officer's ability to make those good decisions. This is due to the fact that PTSD and stress trigger the sympathetic nervous system (SNS) and limits the functioning of the parasympathetic nervous system (PNS) (Fonkoue et al., 2018). The sympathetic nervous system triggers the fight or flight response leading to decreased cognitive functioning (Marko &

Riečanský, 2018). More specifically, Marko and Riečanský (2018) found that people who had an activated SNS struggled with cognitive flexibility, working memory capacity, and increased cognitive interference. Supporting the idea that PNS activation improves cognitive functioning, James et al. (2021) found that officers who had higher heart rate variability (HRV) and PNS activation had better work performance scores than officers who had lower HRV and SNS activation. James et al. suggest that this is because officers with higher HRV scores have greater parasympathetic responses, meaning that they were not overly stressed in critical incidents, compared to officers who have higher stress responses.

Nisar and Rasheed (2019) also found that occupational stress impacts not only in-role job performance but also extra-role job performance. Nisar and Rasheed described in-role job performance as fulfilling identified job responsibilities and meeting formal performance requirements. Extra-role job performance included adhering to informal rules of the job, helping in other unassigned tasks, among others (Nisar & Rasheed, 2019). The researchers found that occupational stress has a negative relationship with in-role and extra-role job performance (Nisar & Rasheed, 2019). As officers stress level rises, officers may struggle to complete regular day to day job-related activities, such as paperwork and following protocols, as well as struggle with ethical decisions that may not have a formal outline.

Potentially more threatening to officers is the impact that stress and PTSD symptoms have on decision making processes. Because stress, both long-term and acute, impacts cognitive functioning and the nervous system, officers may be more prone to

having decision making difficulties. For example, higher dissociation scores have resulted in longer time to shoot for male officers (Liao et al., 2018). Male officers who experience higher levels of dissociation take longer to shoot when the officer makes the decision to shoot. Obviously, a delay in responding to a potentially dangerous situation can result in life-threatening harm to the officer or those the officer may be protecting.

Officers are more likely to experience long-term, chronic as well as acute stress due to the nature of their job. Exposure to chronic traumatic events and stressors can lead to a variety of disorders, including PTSD (Price, 2017). Compared to the general public, law enforcement officers are more likely to develop a variety of mental disorders due to chronic stressors. PTSD and related symptoms have a profound impact on officers' functioning both at home as well as at work. Officers who report struggling with stress related illnesses, including PTSD, also struggle with decision making, memory, and executive functioning, among a variety of other issues (Gutshall et al., 2017). Officers may be more inclined to turn towards alcohol and other substances to manage the impact of their stress when they lack adaptive coping skills (APA, 2013).

Alcohol Use

According to the 2018 National Survey on Drug Use and Health, 26.5% of people report binge drinking (SAMHSA, 2018). Furthermore, approximately 14.4 million adults aged 18 or older meet the criteria for alcohol use disorder. Alcohol misuse, on average, costs the United States over $249 billion (Sacks et al., 2015). While there is a plethora of research on alcohol use in the general population, including prevalence rates, effects of alcohol use, and a variety of other alcohol-related factors, alcohol use within law

enforcement has been much less studied. The few studies that have been produced using first responder populations have had a variety of issues, including conflicting results, small sample sizes, and underreporting of symptoms. The prevalence of alcohol use within law enforcement has been much more variable, with some studies citing problematic alcohol use as low as 3% (Stevelink et al., 2020).

Despite the research issues, several notable studies are relevant to the proposed study. Stevelink et al. (2020) found that out of a sample size of 40,299 police employees, at least 32% were identified as having an increased risk of problematic drinking, while 3% of the sample size met the criteria for heavy drinking. The officers who were identified as high-risk drinking were more likely to report having probable depression and anxiety (Stevelink et al., 2020). Officers identified as consuming alcohol at an increasing risk to health and high risk to health reported the highest rates of probable PTSD (Stevelink et al., 2020).

Argustaitė-Zailskienė et al. (2020) hypothesized that law enforcement officers would be more prone to alcohol use disorders. Furthermore, Argustaitė-Zailskienė et al. hypothesized that PTSD, years of employment, and traumatization would correlate with alcohol use. Argustaitė-Zailskienė et al. found that of 513 officers, 4.2% of respondents were at an increased risk of alcohol dependence. Furthermore, high traumatization and more than 14 years in law enforcement were more likely to result in alcohol dependence (Argustaitė-Zailskienė et al., 2020). Contrary to the study conducted by Stevelink et al. (2020), PTSD symptoms were not found to be correlated to alcohol dependence (Argustaitė-Zailskienė et al., 2020). The researchers note that they believe the prevalence

rates within their sample are likely not representative due to underreporting of symptoms and social desirability (Argustaitė-Zailskienė et al., 2020).

Contrary to the findings of Argustaitė-Zailskienė et al. (2020), other studies have found a correlation between PTSD symptoms and alcohol use. For example, Brunault et al. (2019) assessed whether PTSD is associated with alcohol use disorders among law enforcement officers who had been hospitalized for alcohol use. The researchers also looked at a variety of other substance use disorders, including tobacco, cannabis, and gambling. Of the 133 participants, 38.3% of participants met the criteria for PTSD (Brunault et al., 2019). Participants with PTSD experienced higher alcohol use disorder severity compared to those without PTSD (Brunault et al., 2019). A diagnosis of PTSD was found to be a statistically significant predictor of alcohol use disorder in officers (Brunault et al., 2019).

While PTSD and stress related symptoms are noted to impact drinking within the law enforcement population, those facets are not the only variables. For example, it was found that officers who work the second or third shift and drink stimulants, such as energy drinks, are more likely to engage in alcohol consumption (Copenhaver & Tewksbury, 2018). More specifically, these officers reported consuming alcohol a greater number of days each week compared to officers who did not drink stimulants and were on first shift. Copenhaver & Tewksbury (2018) proposed that this phenomenon occurs because the second and third shifts cause more stress than the first shift. Additionally, Copenhaver & Tewksbury proposed that in order to deal with being on the second or third shift and fight the fatigue that often comes with these shifts, officers would use

stimulants to stay awake. Officers would then turn to alcohol to help combat the effects of the stimulants when they finally come off shift (Copenhaver & Tewksbury, 2018). It is often not just the exposure to traumatic or critical incidents that increases the risk of stress disorders or addictions. Officers face a wide variety of stress that may lead to maladaptive coping mechanisms, such as stimulants or alcohol, to manage the negative symptoms caused by the career.

Substance Use (Other Than Alcohol Use)

Substance use among law enforcement officers is a much less researched area. Stigma, culture, and potential job and family-related repercussions for officers contribute to the lack of reporting of substance use (Karaffa & Koch, 2016; Krakauer et al., 2020). Furthermore, when researching substance use, substances are often lumped together, making it difficult to discern what types of substances are being used by officers. The lack of adequate reporting and research has led to a deficit in available, up-to-date information regarding substance use within the law enforcement population. As such, some research included in the following section will be outdated but provide valuable information regarding the topic.

Officers have been known to use tobacco, prescription drug use, sedatives, and cannabis (Wakil, 2015; Copenhaver & Tewksbury, 2018; Seigfried-Spellar, 2018; Brunault et al., 2019). Tobacco appears to be one of the more commonly reported and researched substances used by officers. Though, the numbers reported differ greatly. For example, Ermasova et al. (2020) found that only 6.1% of their sample reported smoking. Copenhaver and Tewksbury (2018) reported that 26% of officers within their sample

reported utilizing tobacco as a coping method. Brunault et al. (2019) found that approximately 68% of their sample met the criteria for tobacco dependence. In addition to tobacco use, officers report utilizing cannabis. Brunault et al. found that 3.8% of officers in their sample met the criteria for cannabis dependence. While not necessarily meeting the criteria for dependence, Seigfried-Spellar (2018) that law enforcement officers were likely to use sedatives and cannabis as a coping mechanism.

Despite the limited research available, substance use has been found to have deleterious effects on officer's well-being. For example, substance use has been linked to officer suicide. Roberts (2019) found that 4% of their officer population who attempted suicide also reported substance use. Similarly, found that officers who reported illegal drug use and prescription drug misuse were significantly more likely to report having suicidal ideation (Kyron et al., 2021). With that said, substance use may be less reported or used by law enforcement because of recruitment testing processes and during employment processes (Roberts, 2019).

The connection between PTSD and substance use has been well documented. Research has shown that PTSD and substance use are highly comorbid disorders (María-Ríos & Morrow, 2020). Substance use can be seen as a way to cope with the symptoms that plague someone suffering from PTSD. Substances, such as benzodiazepines, heroin, and cannabis, can decrease symptoms of anxiety and flashbacks, and help with sleep (María-Ríos & Morrow, 2020). While there may be a quick reduction in symptoms, using certain substances can also have negative effects. For example, in a study examining cannabis use in veterans, it was found that veterans who met the criteria for PTSD and

cannabis use disorder experienced worse intrusive symptoms and no improvement in long-term recovery from PTSD (Metrik et al., 2022). Similarly, De Aquino et al. (2020) found that veterans who used opioids and cannabis, also reported greater use of other substances and experienced more PTSD symptoms. Additionally, Hser et al. (2017) found that a reduction in cannabis use resulted in a reduction of PTSD symptoms in law enforcement officers. When officers lack adaptive or effective coping skills, they are more likely to turn to alcohol and substances as a way to cope with PTSD symptoms. However, the use of alcohol and other substances to cope with PTSD symptoms often results in an increase rather than a decrease in symptom severity.

Conclusion

The literature review provided the groundwork for the current study. The information presented in this literature review illustrates the complex nature of being a law enforcement officer. Furthermore, researchers have made strong connections between workplace stress and trauma and certain mental illnesses, such as PTSD, substance and alcohol use. Based on the current literature, it was identified that due to the occupational and organizational stressors that officers face, officers use a variety of adaptive and maladaptive coping mechanisms to manage those stressors (Allison et al., 2019; Carleton et al., 2020). If officers do not possess the necessary, healthy skills to deal with the stressors, they are at a higher risk of developing a wide range of psychological issues (Carleton et al., 2020; Copenhaver & Tewksbury, 2018).

Lazarus and Folkman's transactional model of stress and coping (1984) provides a theoretical understanding of how officers experience, interpret, and cope with

workplace stressors and trauma. The model explains how officers may respond to stressors and trauma in adaptive and maladaptive ways. Officers may continue the reappraisal process, utilizing several maladaptive coping strategies leading to the development of PTSD and substance and alcohol use.

Despite the vast research on occupational and organizational stress within law enforcement, researchers have found it difficult to get an accurate representation of the effects of those stressors due to a wide range of issues (Martin et al., 2021; Drew & Martin, 2021). More specifically, there is a lack of current research that addresses how substance and alcohol use is related to the severity of PTSD symptoms. Much research fails to address substance use altogether. Mental health stigma, fear of departmental and social group repercussions, and lack of department support all play a role in officers' lack of honest reporting of mental health issues (Drew & Martin, 2021; Martin et al., 2021). The current study aimed to fill the gap of knowledge between officers' use of substances and alcohol and the severity of PTSD symptoms. The results of this study could provide further knowledge on how substance and alcohol use is related to the severity of PTSD symptoms in law enforcement officers. Results from similar research can help to develop more effective treatment support and mental health treatment access for officers.

Chapter 3 will describe the research method and design for the current study. Chapter 3 will also identify the instrumentation, RQs and hypotheses, threats to validity, data analysis plan, and ethical procedures for this study.

Chapter 3: Research Method

Introduction

Chapter 3 includes information on the research design, methodology, population, sample, data collection process, and data analysis for the current study. PTSD and alcohol use and substance use have been found to be prevalent within the general public as well as the law enforcement community. The purpose of the current study was to determine if there is a relationship between symptoms of PTSD and alcohol use and substance use within law enforcement officers. Two simple linear regressions were run via Statistical Package for the Social Sciences (SPSS) to analyze the archival data and answer the RQs. This study built upon research conducted by Arble et al. (2018), Violanti et al. (2017), and Chopko et al. (2013), who have extensively studied police officer stress, substance use, and alcohol use.

Research Design and Rationale

In this study, I used archival data collected as part of a larger study conducted by the director of a nonprofit organization. The data were gathered by the National Police Suicide Foundation. Permission was received to use the data, which were provided in a password protected format to me and my dissertation committee.

The purpose of this study was to determine if there is a significant relationship between the severity of PTSD symptoms as measured by the POWER Portfolio and the severity of alcohol and substance use as measured by the POWER Portfolio. The dependent variable for this study was alcohol and substance use. The independent variable for the study was PTSD symptoms. The study was quantitative in nature. A

quantitative approach was appropriate for this study because it helped determine the significance and relationship between variables (see Creswell & Creswell, 2018).

Methodology

In this quantitative study, I determined if there was a relationship between symptoms of PTSD and alcohol use and substance use, as measured by the subscales located within the Power Portfolio. The archival data were collected by the National Police Suicide Foundation and the director of a nonprofit organization that specializes in treating law enforcement. Participants included in this study were attending a training on police suicide and voluntarily participated in the study.

Population

The population included in the original archival sample were police professionals who attended a training on police suicide. Participants were law enforcement officers from various departments across the United States. All participants were 18 years or older. A total of 667 law enforcement officers participated in the original study.

Sample Participant Information

Participants in the original study included law enforcement officers from multiple municipal, local, state, and federal law enforcement agencies located within the United States. The participants participated in the study voluntarily. Participants' personal information and privacy were protected and confidential. Participants' names were not included in the research. Participants were also told that they could choose to not answer any question if they did not feel comfortable answering. No incentives and/or payments were offered for their participation within the study. Only my dissertation committee and

I had access to the data set to protect the confidentiality of the participants. The archival data were provided in a password protected Excel sheet. At the completion of this study, the data set was destroyed in compliance with the ethical guidelines and standards set by the American Psychiatric Association.

The participant sample was drawn from the archival data provided by the director of the nonprofit organization and the National Police Suicide Foundation. (SPSS was used to randomly select the sample of 107 participants. The sample size was determined using the G*Power software developed by Faul et al. (2007).

G*Power

G*Power software can be used to determine an appropriate sample size to determine significant associations between variables (Creswell & Creswell, 2018). In this study, I employed an a priori power analysis calculation to determine the appropriate sample size of 107 participants. A sample size of 107 participants was needed to detect a medium effect size ($f^2 = 0.15$) with two predictors for each RQ at alpha = .05 and power = .95.

Procedures

The participant sample was randomly selected by SPSS using the archival data provided by the nonprofit organization that is currently responsible for storing the data. I used SPSS software to analyze the relationship between PTSD symptoms and alcohol use and substance use, as measured by the POWER Portfolio subscales. I conducted two simple linear regressions in the SPSS application. SPSS was used to randomly select 107

available cases for analyzation. A probability level of $p < .05$ was used to determine statistical significance between the independent and dependent variables.

Instrumentation

I used the POWER Portfolio. Permission was received to use the data, which were provided in a password protected format to my dissertation committee and me.

The POWER Portfolio is a 109-item self-report questionnaire designed to assess both risk and protective factors of law enforcement professionals, including mania, ADHD, impulsivity, concentration, fatigue, depression, anxiety, panic attacks, dissociation/PTSD, family problems, work-related problems, anger, substance abuse, and suicidal ideation. The administration time for this instrument is approximately 15 to 20 minutes. The questionnaire was designed by a licensed psychologist who specialized in treating law enforcement officers and other first responders. The independent variable, PTSD symptoms, was measured by the Dissociation/PTSD subscale. Items located within Dissociation/PTSD subscale are based on the symptoms described in the DSM-V used to diagnose PTSD (APA, 2013). The dependent variables, substance abuse and alcohol use, were measured by the Substance Abuse subscale developed based on the clinical experience of the police psychologist, as well as criteria from the DSM-V used to diagnose substance use disorders (APA, 2013). I only used items from the Dissociation/PTSD and Substance Abuse subscales. The Dissociation/PTSD subscale contains 13 items that identify exposure to traumatic events, irritability, fear of death or dying, feelings of isolation, hypervigilance, concentration issues, nightmares, and flashbacks. The substance abuse subscale contains 12 items that measures drinking

patterns, medication use, sleep, and work and/or family problems caused by substance use.

RQs

RQ1: Does the law enforcement officer's score on the overall scale of Dissociation/PTSD predict their overall score of substance use, as measured by the scales within the POWER Portfolio?

$H_0$1: There is no relationship between the law enforcement officer's overall scale score of Dissociation/PTSD and their overall score of substance use, as measured by the scales within the POWER Portfolio.

H_a1: A relationship exists between the law enforcement officer's overall scale score of Dissociation/PTSD and their overall score of substance use, as measured by the scales within the POWER Portfolio.

RQ2: Does the law enforcement officer's score on the overall scale of Dissociation/PTSD predict their scores on the alcohol use items within the substance abuse scale, as measured by the scales within the POWER Portfolio?

$H_0$2: There is no relationship between the law enforcement officer's overall scale score of Dissociation/PTSD and their overall score of alcohol use, as measured by the scales within the POWER Portfolio.

H_a2: A relationship exists between the law enforcement officer's overall scale score of Dissociation/PTSD and their overall score of alcohol use, as measured by the scales within the POWER Portfolio.

Threats to Validity

Creswell and Creswell (2018) defined threats to validity as issues or components that raise question to whether the manipulated variables of interest truly affect the outcome, rather than some other factor. Creswell and Creswell identified two types of threats to validity: internal threats and external threats. Internal threats to validity are issues within the experimental procedures and treatment of the participants that inhibit the ability of the researcher to draw correct inferences from the results of the experiment (Creswell & Creswell, 2018). External threats to validity occur when the researcher draws incorrect inferences from the sample data to other populations, settings, and situations (Creswell & Creswell, 2018).

There were several threats to validity within this study. First, the data were collected during a training on police suicide, which limited the participant pool. The participants completed the survey in a large classroom during their breaks. Thus, confidentiality and privacy could have been comprised. As such, the participants' responses could have been affected by the environment. Furthermore, the participants may not be an accurate representation of the police culture as a whole. In addition, the surveys were self-report, which increases the risk of bias, such as under- or over-reporting. Therefore, it is not recommended that the findings of this study be generalized to the whole law enforcement population.

Data Analysis Plan

A simple regression analysis was conducted to examine the RQs of whether there was a relationship between symptoms of PTSD and alcohol use and substance use among

law enforcement officers. The independent variable was the overall score of the PTSD/Dissociation subscale. The dependent variables were substance use and alcohol use scale items taken from the Substance Abuse scale. A total of two regression analyses were conducted to identify the relationship between symptoms of PTSD and the dependent variables including alcohol use and substance use, as measured by the POWER Portfolio. The SPSS software provided by Walden University was used to perform the statistical analysis for this study.

Ethical Procedures

According to Creswell and Creswell (2018), ethical issues that need to be anticipated are extensive and present throughout the entire research process. Sound ethical procedures protect the participants from unethical procedures that may harm the participant as well as alter the integrity of the research study (Creswell & Creswell, 2018). The archival data used in the current study were originally obtained during a study conducted by the National Police Suicide Foundation. The participants consented to the study by completing the packet. Participants were made aware that they could withdraw their consent at any time. The data used in the current study did not include any identifying participant information and were stored in an encrypted format only accessible to me and my committee. The data were destroyed in compliance with ethical and legal standards. The IRB number assigned to the study is 01-31-23-1010077.

Summary

Chapter 3 outlined the research design, methodology, population, sample, data collection process, and data analysis, as well as ethical considerations for the current

study. The study was quantitative, nonexperimental, and used archival data collected by the National Police Suicide Foundation and Director of a nonprofit organization. In this study, I aimed to determine if there was a relationship between the severity of PTSD symptoms and substance use and alcohol use within law enforcement officers. Results of the study are discussed in Chapter 4.

Chapter 4: Results

Introduction

Chapter 4 provides the results from the present study, where PTSD, substance and alcohol use, as measured by the POWER Portfolio, were examined for any predictive relationship. The independent variable for the study was PTSD, as measured by the Dissociation/PTSD scale located within the POWER Portfolio. The dependent variables for the study were substance use and alcohol use, as measured by the Substance Use scale located within the POWER Portfolio. The purpose of the current research study was to address the gap in the literature regarding the relationship between substance use, alcohol use, and PTSS within the law enforcement community. The following are the RQs and hypotheses of the current study:

RQ1: Does the law enforcement officer's score on the overall scale of Dissociation/PTSD predict their overall score of substance use, as measured by the scales within the POWER Portfolio?

$H_0$1: There is no relationship between the law enforcement officer's overall scale score of Dissociation/PTSD and their overall score of substance use, as measured by the scales within the POWER Portfolio.

H_a1: A relationship exists between the law enforcement officer's overall scale score of Dissociation/PTSD and their overall score of substance use, as measured by the scales within the POWER Portfolio.

RQ2: Does the law enforcement officer's score on the overall scale of Dissociation/PTSD predict their scores on the alcohol use items within the substance abuse scale, as measured by the scales within the POWER Portfolio?

$H_0$2: There is no relationship between the law enforcement officer's overall scale score of Dissociation/PTSD and their overall score of alcohol use, as measured by the scales within the POWER Portfolio.

H_a2: A relationship exists between the law enforcement officer's overall scale score of Dissociation/PTSD and their overall score of alcohol use, as measured by the scales within the POWER Portfolio.

Data Collection

The data used in this study included archival data. Permission was obtained from the nonprofit organization to use the data. A formal data release agreement was also completed and signed by me and the nonprofit's organizational representatives. The data were originally collected during a previous, larger study conducted by a licensed psychologist who specialized in the treatment of law enforcement officers and other first responders. The data collected during the original study were provided to me in a password protected Excel sheet. I used the POWER Portfolio to measure the constructs, including PTSD, substance use, and alcohol use. The POWER Portfolio is a 109-item self-report questionnaire designed to assess both risk and protective factors of law enforcement professionals, including mania, ADHD, impulsivity, concentration, fatigue, depression, anxiety, panic attacks, dissociation/PTSD, family problems, work-related

problems, anger, substance abuse, and suicidal ideation. The administration time for this instrument is approximately 15 to 20 minutes.

In this study, I examined the Dissociation/PTSD subscale and Substance Abuse subscale. The Dissociation/PTSD subscale contains 13 items that identify exposure to traumatic events, irritability, fear of death or dying, feelings of isolation, hypervigilance, concentration issues, nightmares, and flashbacks. The Substance Abuse subscale contains 12 items that measure drinking patterns, medication use, sleep, and work and/or family problems caused by substance use.

The archival data consisted of 664 participants, however; a subsample of 107 randomly selected participants was created for the current study, which maintained the G*Power calculation of a final sample size of 107 in order to obtain a medium effect size (f^2= 0.15) with an alpha level of .05 and a power level of .95. The full data set was provided to me in an Excel spreadsheet and then inputted into the SPSS software. The subsample of participants was selected randomly using SPSS. The current statistics included only cases with no missing values for any of the variables used within the study.

Demographics

A demographics survey was included in the original study questionnaire that contained the participant's age, the number of years employed as a police officer, the rank official of the officers, whether officers had received formal mental health treatment, and whether they had received stress management training. All participants were over the age of 18 and were law enforcement professionals from local, state, and federal agencies who were participating in a training on police suicide. However, the data used in this

study were archival, and specific demographic regarding age and other characteristics were not provided to me. Therefore, the demographic data are not included in the current study.

Results

The statistical test used for this study was a simple linear regression, also known as a bivariate regression. A linear regression can be used for scores of one independent variable to predict scores on a dependent variable (Frankfort-Nachmias & Leon-Guerrero, 2016). The dependent variables for this study were substance use (M = 20.01, SD = 7.59) and alcohol use (M = 10.47, SD = 5.03). The independent variable for this study was dissociation/PTSD (M = 31.15, SD =1 4.30). Two separate simple linear regression procedures were performed using SPSS for this study. The archival data used for this study met the assumptions for a linear analysis, including linearity, independence, homoscedasticity, and normality.

Linear Regression Results for RQ1

A simple linear regression was conducted using the officer's overall scale of Dissociation/PTSD to predict their overall score of substance use, as measured by the scales within the POWER Portfolio. Overall, a significant relationship between the two variables was found, $F(1, 105) = 12.642$, $p = .001$, $R^2 = .099$ (see Table 1). Dissociation/PTSD symptoms were found to predict officer's overall score of substance use (β=.328, $t(106) = 3.556$, $p < .05$; see Table 2).

Based on the results of this simple linear regression, the null hypothesis can be rejected. A relationship exists between the law enforcement officer's overall scale score

of Dissociation/PTSD and the overall score of substance use, as measured by the scales within the POWER Portfolio. Additionally, the effect size of this linear regression is .099, which indicates a small effect size. Dissociation/PTSD accounted for approximately 9.9% of the variance in substance use.

Table 1

Simple Linear Regression Model Summary RQ1

Model	*R*	R^2	Adjusted R^2	*SE*
1	.328	0.107	0.99	7.20144

Note: Predictors: (Constant), Dissociation

Table 2

ANOVA RQ1

Model	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	655.612	1	655.612	12.642	<.001[b]
Residual	5445.279	105	51.861		
Total	6100.991	106			

Note: Dependent Variable: Substance, Predictors: (Constant), Dissociation

Table 3

Simple Linear Regression Coefficients RQ1

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	*SE*	*ß*	*t*	Sig.
(Constant)	14.591	1.675		8.708	0.000
Dissociation	0.174	0.049	0.328	3.556	0.001

a. Dependent Variable: Substance

Linear Regression Results for RQ2

A simple linear regression was conducted using the officer's overall scale of Dissociation/PTSD to predict their score on the alcohol use items within the substance

use scale within the POWER Portfolio. Overall, a significant relationship between the two variables was found, $F(1, 105) = 24.047$, $p = .001$, $R^2 = .179$ (see Table 3). Dissociation/PTSD symptoms were found to predict officer's alcohol use ($\beta = .432$, $t(106) = 4.904$, $p < .05$; see Table 4).

Based on the results of this simple linear regression, the null hypothesis can be rejected. A relationship exists between the law enforcement officer's overall scale score of Dissociation/PTSD and their overall score of alcohol use, as measured by the scales within the POWER Portfolio. Additionally, the effect size of this linear regression is .179, which indicates a small effect size. Dissociation/PTSD accounted for approximately 17.9% of the variance in alcohol use.

Table 4

Model Summary RQ1

Model	*R*	R^2	Adjusted R^2	*SE*
1	.432	0.186	0.179	4.55599

Note: Predictors: (Constant), Dissociation

Table 5

ANOVA RQ2

Model	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	499.150	1	499.150	24.047	<.001[b]
Residual	2179.486	105	20.757		
Total	2678.636	106			

Note: Dependent Variable: Alcohol, Predictors: (Constant), Dissociation

Table 6

Simple Linear Regression Coefficients RQ2

Model	Unstandardized	Standardized

	Coefficients		Coefficients		
	B	*SE*	*β*	*t*	Sig.
(Constant)	5.379	1.060		*5.414*	0.000
Dissociation	0.152	0.031	*0.432*	*4.904*	0.000

a. Dependent Variable: Alcohol

Summary

Two simple linear regressions were used to predict whether dissociation/PTSD was related to substance use and alcohol use in law enforcement officers. The simple regression analyses indicated that the null hypotheses from RQ1 and RQ2 could be rejected. The results from both simple regressions were found to be statistically significant, indicating there is a predictive relationship between dissociation/PTSD and alcohol use and substance use. In Chapter 5, I present an interpretation of these findings, as well as the limitations of the current study, recommendations for future research, and further implications for the current research results.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this quantitative study was to determine if there was a relationship between alcohol use, substance use, and PTSS in law enforcement officers. Law enforcement officers who use substances and alcohol are at a greater risk of domestic violence, driving under the influence, and suicide or suicidal ideation (Chae & Boyle, 2013; Oehme et al., 2012; Stinson et al., 2014). Due to the inherent stressors of their careers, officers must use coping skills to continue functioning or to manage stress symptoms. However, some of the coping methods used by law enforcement officers, such as alcohol and substances, are likely enhance or exacerbate those symptoms (Arble et al., 2018). Current research on alcohol, substance use, and PTSS in law enforcement is scarce and often conflicting (Ballenger et al., 2011; Chopko et al., 2013; Velazquez et al., 2019). Thus, the current study was conducted to provide further data on how substance use and alcohol use are related to PTSS in law enforcement officers. Furthermore, the study can contribute to the development and access to comprehensive mental health services and programs, focusing not only on PTSS, but alcohol and substance use as well as other mental health disorders for law enforcement officers.

The first RQ for this study was as follows: Does a law enforcement officer's score on the overall scale of Dissociation/PTSD predict their overall score of substance use, as measured by the scales within the POWER Portfolio? The second RQ for this study was as follows: Does a law enforcement officer's score on the overall scale of Dissociation/PTSD predict their scores on the alcohol use items within the substance

abuse scale, as measured by the scales within the POWER Portfolio? Two simple linear regressions were used to analyze the archival data. The first simple linear regression analyzed the relationship between officers' PTSS and substance use. The second simple linear regression analyzed the relationship between officers' PTSS and alcohol use. Results from the first simple regression indicated a significant, positive relationship between PTSS and substance use in law enforcement officers. More specifically, PTSS were found to relate to officers' substance use. As officers' reporting of PTSS increased, so did their use of substances. Results from the second regression also indicated a significant, positive relationship between an officer's PTSS and alcohol use. As officers reported more PTSS their use of alcohol also increased.

Interpretation of Findings

The findings of this study illustrated statistically significant relationships between PTSS and substance use as well as PTSS and alcohol use in law enforcement officers. Therefore, the current study adds to the findings of studies conducted by Ermasova et al. (2020) and Violanti et al. (2017) regarding how alcohol and substance use impact police officers' PTSS.

The law enforcement culture has not always been supportive of help-seeking behaviors. Officers often fear the impact on their careers if they seek out help and often avoid seeking out mental health treatment due to the mental health stigma present in the law enforcement culture (Drew & Martin, 2021; Martin et al., 2021). However, this may leave officers without access to or knowledge of healthy coping strategies. As officers continue to face chronic stressors, such as responding to traumatic events, they are more

likely to experience PTSS (Carleton et al., 2019; Copenhaver & Tewksbury, 2018; Soravia et al., 2021). The findings of the current study illustrated that the combination of lack of healthy coping strategies and increase in PTSS results in the officers' use of more maladaptive coping strategies, specifically alcohol and substance use.

In this study, I used Lazarus and Folkman's (1984) transactional model of stress and coping as the theoretical foundation. The model posits that individuals will experience stressors and go through an appraisal process to help them determine appropriate coping strategies to manage the symptoms or consequences of that stressor (Lazarus & Folkman, 1984). The coping skills used may be categorized as adaptive or maladaptive (Lazarus & Folkman, 1984). Officers face a wide variety of stressors, including administrative and organizational pressure, as well as physical and psychological threats when responding to public incidents (Violanti et al., 2018). According to this model, in order to deal with these unique, chronic stressors, officer will go through an appraisal process to determine the effect of these stressors and use adaptive or passive coping mechanisms to reduce the impact of those stressors (Lazarus & Folkman, 1984). Research has shown that officers use a variety of coping mechanisms to manage the wide range of stressors they may experience due to their employment (Arble et al., 2018; Carleton et al., 2019). If an officer lacks effective coping strategies, they are more likely to use maladaptive coping strategies (Pitel et al., 2020). Researchers have found that passive coping strategies do not directly impact the stressor, so they may be less effective at actually managing the stressor and may result in exacerbated PTSD symptoms (Violanti et al., 2018). The current study supports this theory that as an officer

experiences more stress symptoms, they are more likely to increase their coping strategies. Furthermore, officers using passive or maladaptive coping strategies, such as alcohol and substance use, are more likely to experience an increase in PTSS.

Limitations of the Study

One limitation of this study was the archival nature of the data. Archival data can be impacted by incomplete data points, issues with data collection, and researcher bias. With that said, the data used for the current study were complete, free of issues with data collection, and void of researcher bias. Another issue with the original data collection is the potential for misrepresentation or inaccuracy of participant responses. As stated previously, officers may fear the repercussions of admitting to mental health issues. Consequently, the participants responses may have resulted in under- or over-reporting of certain symptoms. Additionally, the original data were collected during a training on police suicide; officers were asked to fill out the questionnaire during their break. Confidentiality and privacy issues may have further impacted officers' accurate responses. Finally, there are issues with generalizability of the findings to the larger police population because the sample only included officers attending a training on police suicide. As such, the findings may not accurately represent the whole law enforcement field.

Recommendations

The current study used archival data taken from a study conducted during a police suicide training. Future research on the current topic could focus on replicating the study using a broader law enforcement population who did not attend this kind of training.

Future research may also address privacy issues. The original study was conducted during a training, so offering more privacy while answering the questionnaire may result in more accurate responses from participants so that more accurate reporting of symptoms may be recorded. Future research can also focus on what other maladaptive coping mechanisms may contribute to the severity of PTSD symptoms and identify adaptive coping mechanisms that may reduce the severity of PTSD symptoms. The findings from the current study and future research in these identified areas may help with the development of comprehensive mental health treatment options for law enforcement officers. Comprehensive treatment options may be used to reduce the prevalence of PTSD and other mental illnesses in law enforcement officers.

Implications

As stated throughout Chapter 1 and Chapter 2, law enforcement officers are especially vulnerable to developing work-related stress symptoms and disorders, due to the nature of their careers. Officers must respond to a variety of traumatic and stressful incidents, such as traffic accidents, suicides, domestic violence, sexual assault, child abuse, and human suffering (Carleton et al., 2019). Additionally, officers must manage organizational demands, such as excessive paperwork, policies and procedures, forced overtime, and negative attitudes from the public (Padilla, 2020). In order to manage these stressors, officers may employ a variety of coping mechanisms, such as humor, reframing, physical exercise, engaging in social support, avoidance, gambling, and alcohol and substance use (Arble et al., 2018; Ermasova et al., 2020). However, some of these coping skills, such as alcohol and substance use, denial, and disengagement have

been linked to decrease functioning and an increase in mental health disorders within law enforcement (Singh, 2017; Syed et al., 2020).

Past research has started to address how coping skills impact law enforcement officers' mental, emotional, and physical health. The results of this study revealed that PTSS increase an officer's use of both alcohol and substance use, indicating that officers may use alcohol and substances to cope with PTSS. The results of the current study could aid departments and mental health professionals in becoming more aware of warning signs, symptoms, and treatment guides for law enforcement officers, especially related to the identification and treatment of PTSD, alcohol use, and substance use.

Positive Social Change

Law enforcement officers who are experiencing PTSS/PTSD, substance use, alcohol use, or other mental health issues as a result of work stress are more likely to experience citizen complaints, struggle with decision making at work, struggle with following protocols, and report having home life issues, such as divorce (Desrochers et al., 2021; Gutshall et al., 2017; Nisar & Rasheed, 2019; Violanti et al., 2017). All of these issues create a positive feedback loop of stress for the officers. The stress responses experienced by officers not only put the general public in potential danger but greatly impact the officers' functioning both at work and at home. The current study and future research can create positive social change by aiding in the development and access to comprehensive mental health services and programs that focus not only on PTSD but on substance use and other mental health disorders. Furthermore, research similar to the current study can continue to support the impact of trauma and stress on law enforcement

and work to break down mental health stigma within the culture, creating easier access to mental health treatment. Preventative and reactive mental health treatment options for law enforcement officers not only creates stability and better functioning officers. It also may increase the safety and effectiveness of officers while responding to incidents.

Conclusion

Law enforcement officers are tasked with protecting and serving the community, which often means responding to a wide range of potentially traumatic and stressful events (Bano & Talib, 2017; Carleton et al., 2019). In addition to responding to public incidents, officers also deal with administrative stress, such as overtime, shift changes, excessive paperwork, and low staffing issues (Padilla, 2020). Research has shown that officers may lack healthy coping skills to manage these stressors. As such, the wide range of stressors associated with the law enforcement career put officers at risk of developing PTSS, depression, anxiety, and substance and alcohol use disorders (Ménard et al., 2016; Price, 2017). The current study contributed to current literature by identifying how PTSS severity impacts substance and alcohol use in law enforcement. The study found that an increase in PTSS increase the use of substances and alcohol within law enforcement officers, as measured by the scales in the POWER Portfolio.

Officers are tasked with making split-second decisions that often impact not only their own lives but the lives of the general public (Gutshall et al., 2017; Liao et al., 2018). Stress greatly influences officers' abilities to make those decisions. Therefore, it is imperative that the mental health of our officers be supported so that they can continue to effectively serve their communities, while also continuing to thrive in their personal lives.

The findings of this study highlighted the negative impact of stress on officers' functioning and can encourage future development of mental health treatment programs that help officers better cope with the stressors of their career.

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