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Police Officers' Cognitive Appraisals

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Walden University

College of Social and Behavioral Sciences

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Naomi Yolanda Estrada

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Walden University
2020

Abstract

Police Officers' Cognitive Appraisals

by

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MA, Webster University, 2008

BA, University of Texas at El Paso, 2006

Proposal Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Forensic Psychology

Walden University

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Abstract

Studies have found that police officers often experience stress. The purpose of this quantitative study was to determine if the cognitive appraisal of perceived stress of police officers differed between two police groups, those assigned to regular policing duties and those assigned to hot-spot policing. The survey chosen for this study was the Cognitive Appraisal Questionnaire, with composite scores taken from the Threat/Anxiety/Guilt Domain. The final sample ($n = 109$) comprised police officers from a midsized police department in West Texas. A one-way ANOVA was conducted to test the hypotheses and compare the two types of policing. A regression was also conducted on years of service and levels of stress from the Threat/Anxiety/Guilt Domain. The results from the ANOVA showed that there were no differences in perceived stress between the two groups; therefore, the null hypothesis was accepted. The regression showed there was a relationship between years of service and levels of stress. This study has implications for positive social change in that understanding the stressors that police officers face each day can lead to the development of healthier officer coping strategies and may motivate police departments to develop readily available psychological support and interventions for their officers.

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Dedication

This study is dedicated to my two daughters, Leila Angelina and Emma Rose. May I always be an inspiration to both of you. To my husband, Christopher, thank you for always pushing me to finish my goals and always being by my side. I want to thank my parents, Yolanda and Robert Nieto, for inspiring me and encouraging me to follow my dreams. To my brother in heaven, Robert Jr., thank you for always watching me and guiding me when I needed it the most.

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Chapter 1: Introduction

Introduction

Policing is one of the most dangerous occupations in the world (Chopko, Palmieri, & Adams, 2015). In a recent study, police officers between the ages 23 to 63 with 1-42 years of experience reported that being shot by criminals was the most severe and traumatic experience officers faced during policing duties (Chopko et al., 2015). The increased frequency of repeated exposure and severity of the stress reported by police officers also increased traumatic responses, which led to depression and insomnia (Chopko et al., 2015). The Critical Incident History Questionnaire has been used in the past to assess police officers' frequency of stress, where police officers are exposed to threats, stress, and trauma at minimum every shift. Police officers working in smaller police organizations experience fewer critical incidents, while police in larger organizations may experience more critical incidents (Chopko et al., 2015). Chopko et al (2015) indicated that the more severe exposure police officers face, the more it may be a predictor for psychological stress. One specialized unit in police is called hot-spot policing.

This quantitative study assessed the differences between police officers' cognitive appraisals while assigned to either hot-spot policing or regular policing duties. Hot-spot policing is a crime-displacement strategy of battling high concentrations of crime in smaller geographic areas. According to Groff et al. (2015), hot-spot policing is a promising policing method to reduce crime. Police officers are assigned to shift work in regular policing. Shift work is also seen in hot-spot policing assignments (Groff et al.,

2015). Little information is available on the stress levels and cognitive appraisals of officers assigned to hot-spot policing and how their stress levels and cognitive appraisals differ from officers assigned to regular patrol.

This research may lead to positive social change by providing additional insight on mental health wellness in officers assigned to both hot-spot and regular policing duties. The data provides quality information on ways to improve policies and procedures for the provision of mental health services for officers employed at police departments. For example, these results can be used to improve policies in reference to stress management, overall mental health, and drug and alcohol treatment. Mental health professionals can use this research to better serve the mental health needs of police officers. Furthermore, this research will benefit the police officer, their families, the police departments, and mental health professionals by providing more specific information on how stress and cognitive appraisal can influence the overall well-being of officers working on patrol in hot-spot policing.

In this chapter, the following topics are covered: problem statement, the gap in the literature, the study's purpose and intent, the research questions, the hypotheses, the theoretical foundation, and relevant definitions. Lastly, I address assumptions pertinent to the significance of the study, limitations and delimitations. I also review implications for social change.

Background

Hot-spot policing is an empirically effective form of targeted policing and crime control for geographic areas with a high concentration of crime (Groff et al., 2015). There

are different hot-spot policing analytical strategies deployed by police departments such as spatial analysis and temporal analysis. Spatial analysis entails geographic data on a map as a visual to depict the “hot-spots” of high concentration of crime. Spatially, the concentration of crime, also known as hot-spot policing-based practices, can be addresses, intersections, or a block of residences (Haberman, Sorg, Ratcliffe, 2017). Temporal analysis entails a time of day and day of the week analysis (Haberman et al., 2017). The time of day analysis includes the most prevalent time of day with the high concentration of crime, and the day of week analysis pertains to the most frequent days crime occurs (Haberman et al., 2017). Hot-spot policing is becoming a theoretical groundwork called “environmental criminology” because criminological crime models are deployed in geographic areas of high crime (Haberman et al., 2017).

Traumatic experiences may change performance levels in police officers. This change in performance may cause disruption as distracted and non-vigilant approaches on shift. With further distraction and life-threatening situations, the officer may be subjected to their own injury or death (Renden et al., 2017). Renden et al (2017) found that police officers’ performance declined with higher levels of stress while being exposed to high tension on duty. The authors assessed two types of anxiety called trait anxiety and state anxiety of those officers exposed to high stress while on duty. State anxiety is defined as unpleasant emotional responses from a threatening situation. Trait anxiety is defined as unpleasant emotional responses from being in a threatening situation and how the officer responds (Renden et al., 2017). The findings from this study implied that officers are more stressed while having made an arrest after a stressful encounter (Renden et al.,

2017). These findings suggest assessment of police officers' anxieties in hot-spot policing from cognitive appraisal and stress scaling.

Police officers often feel burnout from the overload of occupational stressors. Occupational burnout may come from working excessive hours, occupational stress, and stress from occupational staff (Kula, 2017). Kula (2017) states that the higher the mental health well-being of the officers, the better the work performance in the police department. It is vital for police officers to reduce their stress because their ability to work may be affected. Although police organizations do the same job in any county, which is to enforce the law and reduce crime, stress levels affect police officers differently (Kula, 2017). It may become difficult for the police officers to understand and analyze acquired stress from the policing duties. Furthermore, it is vital to study police acquired stress for the police officers' overall mental health, especially the job satisfaction that is linked to mental health (Kula, 2017). Changes in policies about overtime, shifts, and assignments may decrease psychological and emotional distress of officers in both hot-spot and regular policing.

Problem Statement

There is a research gap in the literature with very limited research on assessing police officers in specialized police units in which police officers are taken out of routine patrol and assigned to combat centralized areas of crime. This type of centralized crime-fighting strategy is called hot-spot policing. Framing the problem and determining the persistent exposure to hot-spots of violent crime may indicate there may also increase stress in police officers, even possibly more than those in regular patrol. In identifying the

research gap, hot-spot policing exposure may increase the number of police officers who develop mental health problems from the prolonged exposure during long shifts (LaMontagne et al., 2016). It is important to study the mental health of police officers. This study will add to existing research of police stress in the specialization of hot-spot policing.

Another area with limited research is the years of service of the police officer and cognitive appraisals of them while on duty. The longer police officers have been on the force, the more frequent the exposure to stress and trauma (Chopko et al., 2015). Comparing the years of service and the police officers' exposure may provide insight about the duration of a career and how it may have an effect on police officers' cognitive appraisals. Measuring the effect of time of service on officers' cognitive appraisals can reveal the importance for police officers to understand that the longer their career, the more it may affect their psychological well-being (Chopko et al., 2015).

Purpose of the Study

The purpose of this quantitative research was to study the cognitive appraisal of stress of police officers assigned to hot-spot policing. This study compared cognitive appraisals of perceived stress of those assigned to regular policing duties and those assigned to hot-spot policing. The cognitive appraisal assessment for this study may have determined mental health difficulties in those assigned to hot-spot policing. Hot-spot policing and regular policing groups were the independent variables. The Cognitive Appraisal Questionnaire (CAQ) responses from the police officers was the dependent

variable. This comparison illustrated if there are differences between hot-spot and regular policing.

Research Questions and Hypotheses

RQ1: Is there a difference in self-reported cognitive appraisal of perceived stress scores between police officers assigned to hot-spot policing duties versus regular policing duties?

H₀1: There is no difference in self-reported cognitive appraisal of perceived stress scores between police officers assigned to hot-spot policing duties versus regular policing duties.

H_a1: There is a difference in self-reported cognitive appraisal of perceived stress scores between police officers assigned to hot-spot policing duties versus regular policing duties.

RQ2: Do years of service on the force predict the outcome of police officers' cognitive appraisal of perceived stress scores?

H₀2: Years of service on the force do not predict the outcome of police officers' cognitive appraisal of perceived stress scores.

H_a2: Years of service on the force predict the outcome of police officers' cognitive appraisal of perceived stress scores.

Theoretical Foundation

The theoretical foundation for this study was from Folkman and Lazarus (1988), who developed a theory that conceptualizes stress as a two-way interactional process: the environment and the reaction. There are two cognitive appraisals that occur when the

officers are faced with stress or danger, *primary appraisals* and *secondary appraisals*. Primary appraisals include the awareness that the person is in an unpleasant, unwanted, or stressful situation (Folkman & Lazarus, 1988). Secondary appraisals are those in which the officers evaluate resources and their options for coping strategies. Cognitive appraisals may change in stressful situations.

The cognitive appraisal theory by Folkman and Lazarus (1988) was applicable to this quantitative study because police officers are engaged in stressful situations. Both police officers in regular policing and hot-spot policing are in positions that require both primary and secondary appraisals. The officers engage in a decision-making process to determine how to handle a stressful situation during policing. There is little research and decision making used in hot-spot policing and it differs from normal police duties. This study measured cognitive appraisal awareness and the stress during hot-spot policing duties. This study also measured how the officers evaluate stressors and their options to reduce or eliminate their stress during hot-spot policing (Colwell, Lyons, Bruce, Garner, & Miller, 2011). The cognitive appraisal theory offers an explanation on how officers decide to cope with stressful situations and whether the individual officer feels that they have the personal resources to deal with the fight-or-flight decision.

The cognitive appraisal theory can be applied to police officers' personal interpretation of a stressful situation while on duty and when fight-or-flight reactions may inaugurate (Colwel et al., 2011). Police stress research has shown that police officers work their regular police duties in threatening environments (Colwell et al., 2011). Within these duties, officers are faced with repeated exposure that may lead to

occupational stress. The review of the police stress literature showed that significant stress in policing can accumulate over a period of time (Colwell et al., 2011). Persistent exposure to devastating events while on shift can impact the police officer. While the officer may develop mental health concerns from repeated exposure to stressful situations, another negative impact on the officer may be the lack of social/peer and familial support. There may be a lack of such support, and long working hours and attitude changes in the police officers from the lack of support may enhance the stress and anxiety levels of police officers (Colwell et al., 2011).

Nature of the Study: Quantitative

The rationale of this quantitative study was to conduct a comparative study. Comparing two types of policing groups provided insight about cognitive appraisals and stress accumulated from policing methodologies that differ from regular policing. The independent variables for this study were the types of policing: hot-spot or regular policing. The dependent variable was the responses of the individual police officers on their cognitive appraisal of their work as police officers. Using SurveyMonkey, the data was collected in the online survey format. The analysis compared police officers who work in hot-spot policing areas versus officers who work in regular patrol on how they respond on the CAQ. Police officers from both comparative police groups answered the CAQ candidly. The police officers' responses were anonymous. The results from the study was shared with a debriefing with the police department.

Definitions

Stress: The danger and exposure that police officers endure while on duty including exposure to situations involving death, injury, and home-work conflicts (Can & Hendy, 2014).

Cognitive appraisal: The way police officers perceive the environmental threat while on duty (Colwell et al., 2011).

Fight-or-flight: The feeling of action to flee a threatening situation or to endure the battle (Colwell et al., 2011).

Regular policing: Police officers regularly enforce laws on community and are routinely arresting criminals and providing public safety (Renden et al, 2017).

Hot-spot policing: Targeted policing to reduce crime in highly concentrated areas of crime (Rosenfeld et al, 2014).

Assumptions

Police officers remained anonymous while participating in the study. Making the assessment process anonymous allowed the police officers to be more open about their cognitive appraisal experiences of perceived stress. Keeping the responses anonymous protected the police officers' identities. It may be assumed that since their identity was protected, and they remained anonymous, the officers were more honest and forthright in their answers. Anonymity was assured, and the police officer responses were used solely for research purposes.

Scope and Delimitations

The scope of this research was limited to full-time police officers employed with a midsized police department in Texas. Although one police department was the sample population for this study, the results may be related to other midsized police departments in the police psychology field. These findings may not be generalizable to all police departments, but the scope of this sample may allow for insight on how policing assignments may have influenced cognitive appraisals of officers working in midsized police departments.

Limitations

The police officers were asked to take the assessment called the CAQ that captured police officers' policing stress perceptions. The CAQ was used to assess the police officers' appraisal of stressful events. The CAQ assessed how police officers cope when stress is accumulated; however, police officers may have potentially minimized their stress and not answered in a forthright manner. Also, police officers are exposed to stress daily, but not all police officers experience the same trauma. There may be slight differences in the stress experienced, but police officers may be exposed to critical incidents daily.

Police officers may not have answered candidly when filling out the questionnaire and may have shown resistance. Police officers may have been concerned about portraying their department in a negative light. The police officers may also not have wanted to answer negatively about personal experiences they have experienced on the job. Another limitation was that the sample of police officers were recruited from one

department. The results of this study may not be generalizable to other departments in different areas. Police officers may not be evenly distributed between hot-spot policing and regular policing groups.

There is no previous research on the stressors related to hot-spot policing. There was dependence on the self-reporting of the cognitive appraisals in this study; the implications from this study are the first of their kind. Police officers may have based their answers on what the researcher was looking to discover in the study from the content presented during shift meetings for recruitment. Also, using one police department as the sample may not have been fully representative of all law enforcement agencies that deploy hot-spot policing assignments. The stressors accumulated from policing may affect officers differently; therefore, the data came from police officers who have knowledge of their negative experiences.

Significance of the Study

Most of the literature on police stress focuses on the stressors in regular policing assignments. Measuring stress levels and cognitive appraisals of officers assigned to hot-spot policing contributes to the existing research on stress in policing. The gap in existing research on policing stress was in understanding how hot-spot policing impacts the cognitive and overall mental health of officers. It is important for departments to understand how to best make changes to policies and services. This study increased the breadth of the literature by also focusing on hot-spot policing stressors. The results of this study assist in determining the mental health services needed by law enforcement personnel in both regular and hot-spot policing. Police officers assigned to hot-spot

policing may have developed mental health illnesses such as depression, anxiety, posttraumatic stress disorder (PTSD), or insomnia, and mental health services are vital for the police officers. Departments providing better mental health options may potentially make the police officer physically and mentally able to cope with occupational stressors. A healthy mentality may lead to a healthier home and work life balance.

There is an abundance of literature addressing stress in law enforcement. However, there is little research that addresses stress associated with hot-spot policing. This study addressed the gap in the literature. Cognitive appraisal has also been addressed as to how it relates to regular police duties. However, the cognitive appraisal theory has not been studied in relationship to hot-spot policing. Cognitive appraisal is the assessment that may occur when officers are faced with a threat that causes stress. Capturing the cognitive appraisal of the officers who face these stressors in hot-spot policing provides valuable insight and awareness. Police officer self-awareness may increase coping strategies so that the overall well-being of the officer can be maximized.

Understanding stress in law enforcement is vital because ongoing stressors may impair the officer's performance and overall well-being both on duty and off-duty (Colwell et al., 2011). Police psychology professionals may encourage police officers to use psychological support and interventions that are available to enhance the police officers' mental health. Much of the officers' personalities are shaped from the experiences from their job; therefore, it is necessary for the police officer to maintain a positive mental health outlook (Colwell et al., 2011). With the help of this study, police

officers may be open to psychological support and interventions for learning better coping mechanisms.

Summary

While there is a vast amount of research in regular policing stress, there is very limited research that focuses on stress accumulated by police officers in hot-spot policing. Hot-spot policing is a form of policing that focuses on high crime areas. There may be a higher probability of police officers becoming injured more severely in hot-spot policing than those on regular patrol. Police officers on regular patrol are exposed to threats as well; however, hot-spot police assignees are in crime areas that can be twice as dangerous. This study addressed the variables in researching hot-spot policing. Chapter 2 presents a review of the appropriate literature on stress of police officers from exposure to trauma or threats from their environment.

Chapter 2: Literature Review

In this chapter I discuss the importance of the dangers in the police occupation. I also discuss the two types of policing for this comparative study: hot-spot and regular policing. Other areas for review include police organizational structure, police culture, police stress assessments, and misconceptions about police officers. I also discuss physiological effects of police work, trauma, PTSD, burnout, and coping.

Introduction

Policing is considered one of the most dangerous and stressful occupations in the world, posing countless risks to the officers (Talavera-Velasco, Luceno-Moreno, Garcia, & Vazquez-Estevez, 2018). Aside from the physical dangers from the job, policing also poses several psychological and emotional risks including probable development of severe anxiety, depression, and stress. Psychological risk factor analysis for occupational stress take into consideration the high demands of the job, unpredictable work schedules, interpersonal conflict, and even times of lack of support from the police organization (Talavera-Velasco et al., 2018). There is a relationship between mental health matters such as severe anxiety, depression, and stress and becoming hostile. There is a general belief that police officers become hostile and callous over the course of their careers (Velden et al., 2013). Velden et al. (2013) compared police cultures from difference occupations and found that police are also subjected to stress from within their agency, such as agency goals, professional goals, and pressure from supervisors. Historically, police officers reported that stress negatively affected their work performance, decision

making, and emotional states, which in return affected the police officers' personal lives (Talavera-Velasco et al., 2018).

Stress is one of the most widely researched topics in the field of police psychology. Stress exposure can be constant with police officers while on duty, especially over the course of a career (Groff et al., 2015). Significant research has been conducted on police stress over the decades; however, stress accumulation in an area of policing called hot-spot policing is not widely researched. Hot-spot policing is a crime-fighting strategy that is data-driven for pre-deployment of specialized police units to deter and decrease crime, which can be more dangerous exposure for the officers. Police officers are assigned to different shifts that include regular policing duties or hot-spot policing. Hot-spot policing differs from regular policing in that regular policing entails police officers conducting routine patrol. The stress problem area of hot-spot policing is that police officers may be placed in more dangerous situations than regular patrol (Groff et al., 2015).

For years, researchers have tried to study the predictors for police officer stress. Webster (2013) found that there is a link between chronic job stress and negative consequences among police officers. Police stress is mentioned as being unique by researchers. The uniqueness of the police officers' stress may come from the exclusive scenarios police officers experience. Systematic documentation of studies from the past 30 years has reported that police officers do experience levels of stress in their careers (Webster, 2013). The levels of stress may be further explained as lesser traumatic incidents to the larger traumatic incidents to which officers are exposed (Webster, 2013).

Police officers are not immune to stress and may at some point in their career acquire stress (Webster, 2013).

The number of stressors police officers face is significant. The stressors may become too overwhelming and can begin to affect the officers' ability to cope (Colwell et al., 2011). Trauma victims, such as those whom police assist, often have a better chance to cope than police officers (Colwell et al., 2011). Police officers are unable to avoid traumatic situations because it is part of the occupational demands (Colwell, et al., 2011). Officers are aware of the stressors, but the officers underestimate the magnitude of the effect of stress and that it can influence maladaptive coping skills (Colwell, et al., 2011).

Hot-spot policing identifies micro and macro areas of crime and the practice and evaluation to fight these crimes (Haberman, 2017). Cities may benefit from the effectiveness of hot-spot policing in the reduction of crime. If crimes overlap in a community, police departments may also use their resources to fight the crimes simultaneously (Haberman, 2017). Statistical analysis shows the effectiveness of combating hot-spots and keeping a community safer, which is sometimes referred to as geographic criminology. Geographic criminology is the study of the distribution and patterns of crimes in geographic areas with high crime (Haberman, 2017). However, in regard to deployments of hot-spot policing in the different geographic areas, there is very limited research on the prevalence of stress and the hazards of policing.

Police officers may fall into a mental health crisis when the stressors have accumulated over a period of time. A mental health crisis is defined as a more severe mental health state resulting from occupational stress (Tribolet, Kesic & Thomas, 2015).

Although many of the day-to-day duties are unchanging for police officers, there are several instances where police officers are in imminent danger. Tribolet et al. (2015) found that officers during a mental crisis may be more likely to use excessive force. This “deadly mix” is unhealthy for police officers, as they are putting their careers at risk (Tribolet et al., 2015).

Overall, there is little known about how police officers process traumatic events from policing and how the severities of events impact the officers’ personal lives (Lyons et al., 2011). Officers encounter threats of violence, extreme danger, and unpredictable situations that leave emotional and psychological scarring (Lyons et al., 2011). Extreme exposure is highly concerning because the constant stress may begin to interfere with the officers’ ability to cope. The police officer accumulates more stress as the officer continues to work over their careers (Lyons et al., 2011). The stressors should be assessed along with how they affect the police officers’ ability to cope with their experiences.

Literature Search Strategy

The research process began with the review of peer-reviewed, scholarly articles from PsychInfo and PsychArticles via the EBSCOHost portal. The databases were accessed through the student portal at Walden University. Addressing the research gap was to prospectively measure cognitive appraisals and stress levels police officers encounter when instructed to police in hot-spot policing. I conducted keyword searches, and sufficient journal articles and empirical studies were located. The specific database used was Psych Info, where there is a plethora of information in police psychology. The keywords utilized in the searches included *crime AND policing*, *stress AND policing*,

crime mapping AND policing, crime mapping AND police stress, crime mapping AND police anxiety, and hot-spot policing AND police officers.

Theoretical Foundation

Emotions and cognition are two different entities in one (Lazarus, 1982). It is known that the brain controls the body and emotions come from the limbic system (Matlin & Farmer, 2016). The interpretation of an event determines the reaction from the individual. For instance, when an officer is perceiving a threat from their environment, the threat is processed in the brain as stress. Affective and motivational reactions from the threat are determined by the cognitive functioning (Matlin & Farmer, 2016). The affective and motivational reactions may be used to reduce or eliminate the stress. The theory of human condition is two-fold when it comes to reactions. Stress can either be interpreted as good or bad. The good stress is usually referred as eustress, and the bad is referred to as distress.

Assessing the level of a threat from the environment is called cognitive appraisal. Cognitive appraisals are a multidimensional assessment that encompass emotion, cognition, and reaction (Ellsworth, 2013). Basic emotions that are appraised, or evaluated, are joy, sorrow, fear, and anger. These basic emotions are processed when an individual is faced with an emotional situation in their environment (Ellsworth, 2013). Police officers are often being exposed to emotional, grave situations at work. Many emotions are processed at the police office, which entails making the appraisal. These appraisals are often thought provoking for the officer as involving the question “What do I do?” (Ellsworth, 2013).

Cognitive appraisals entail a transactional model of stress where the police officer assesses a situation and is cognizant of their ability to react in a situation. When the police officer first assesses a threatening situation, this is called a primary appraisal (Lyons et al, 2011). The police officers' ability to cope or not from the threatening situation is called the secondary appraisal. Lyons et al (2011) stated significant damage from policing includes harm or loss and threats. When challenges are presented to the police officer, police officers perceived control is used to bring order to desired outcomes. Police officers may feel more distressed when officers feel they have no control of a situation (Lyons et al, 2011).

Psychological stress is unhealthy for the police officer. The occupational demands require considerable physical and emotional health tolerance of the police officer. However, police officers can begin to show signs of psychological distress from the exposure from work over time (Gomes, Faria, & Lopes, 2016). Threats from the environment can become huge psychological hurdles for the police officer to properly cope with and to perceive the dangers from overwhelming distress (Gomes et al., 2016). Awareness of the cognitive appraisals' mechanism can be important to police officers' mental health as it can help officers perform resiliently in a stressful occupation (Gomes et al., 2016). Although police officers are expected to act in control during stressful situations, cognitive appraisals depend on how the police officer interprets each situation (Gomes et al., 2016).

While police officers may need to be in control of high-risk situations daily, they may also be expected to act as para-militaristic or bureaucratic with thick skin, even

when a threat is in their environment (Weber-Brooks & Leeper-Piquero, 1998). Police officers' evaluation when in a perceived threat may have the officer not pay attention the stress as a defense mechanism. The officer may push the stressor out of their mind. Negative outcomes may occur if the officer does not bring to light the stressors (Weber-Brooks & Leeper-Piquero, 1998). A snowball effect may occur with the police officer with maladaptive coping. Police officers may show lower work performance, increased absenteeism, poor organizational commitment, and lower life satisfaction (Weber-Brooks & Leeper-Piquero, 1998).

In relation to cognitive appraisal, or evaluation of a threat in the environment, one of the causations is the level of meaningfulness, as the threat will then correspond with the level of emotional output from the police officer (Smith et al., 2016). Some police officers may push aside their true feelings of the threat, to later reap the negative consequences of built up emotions. Other police officers may react to the threatening situation with fight, maybe even flight, but will recognize their emotions from the stress (Smith et al., 2016). Smith, Tong, and Ellsworth (2016) state that emotions can be perceived as negative or positive, but the truth is that emotions are not necessarily good or bad; they just exist. It depends on how the police officers perceived the threat and reacts to it (Smith et al., 2016).

Literature Review

Police Organizational Structure

Police departments are an organizational structure that consists of title rankings of patrol officers, Sergeants, Lieutenants, Commanders, and Police Chiefs (Ingram et al.,

2013). Police research of police culture mentioned that there are universally shared police attitudes, values, norms, and coping strategies among the brothers in blue. Occupational attitudes are one of the more commonly researched areas of police culture. There are three police cultural types of attitudes towards their police role. Cynicism development, views on traditionalism or policing, and receptiveness of the officer of these changes after joining a police department are the cultural roles (Ingram et al., 2013). Cynicism develops when the officer deals with so many negative situations that may ultimately result in the police officer having a negative outlook of humans. Police views on traditionalism involves on how officers respond as being necessary primary servicers to the community and how many officers want to uphold a positive reputation (Ingram et al., 2013). Receptiveness of the officer is how approachable officers are in when in public; officers may generally be easily identifiable in uniform, making their occupation distinct from other occupations.

At times, the internal dynamics of a police organization shape the way officers relate to the organization. The dynamics can also shape the way police officers approach their job (Trinkner et al., 2016). Being in a supportive organizational climate, and when police officers feel they are treated fairly, police officers may be more likely to engage in service-oriented style of policing. In this kind of climate, it has been found that police tend to enjoy their jobs. Police officers become more encouraging and become a more positive influence within the organization (Trinkner et al., 2016). When this is seen within the organization, the public can see the inner workings and attitudes from the behaviors of the officers (Trinkner et al., 2016). The public can examine officers' daily

experiences and well-being within the community and begin to see how officers are present to serve and protect communities.

Leadership, management, and communication are related to police officer performance (Lone et al., 2018). Performance of police chiefs, senior investigators, and detectives were assessed for the purpose of exploring police departments and its impact on police officer performance. There is a positive correlation between organizational environment and police performance. The police environment can affect police officers' psychological states such as their well-being, attitudes, job satisfaction, work commitment, and work engagement (Lone et al., 2018).

Police Culture

Terpstra and Schaap (2013) defines police culture as a “distinct culture” where police officers promote a divergent style of policing to safeguard the public. In recent years, police culture has been taken for granted, and police officers' accountability has been taken for granted (Terstra and Schaap, 2013). Police officers are in a unique occupation so there is no clear, “one theory fits all” definition. Ingram et al (2013) define police culture as the shared attitudes among the police officers that have a unique occupation. Police officers may share the same attitudes, values, and norms in their patrol work shifts (Ingram et al., 2013). Patrol work shifts are one of the first organizational starting points for shared police culture. Police officers begin teamwork on the streets, where the police officers depend on each other to accomplish goals and work within societal constraints (Ingram et al., 2013). Officers in the same work groups are exposed

to the same stressors and same crime levels. Officers may share the same understanding of coping strategies for the stressors acquired in the line of duty (Ingram et al., 2013).

Researchers have noted that police officers' culture may include negative cognitive and behavioral responses within their work environment that can be a direct result of stress. This work environment, known as police culture, is sometimes referred as "cop culture" (Coombe, 2013). Police officers interact with their social and family environments that are centered on themes of identity, social life, family life, and living environment. Interviews conducted with police officers reported that there are expectations placed on the police officer, often making their work environment more stressful (Coombe, 2013). Officers are required to show high levels of integrity and morality within their position as a police officer (Coombe, 2013). Their position of responsibility may display trust to the public and to their police organization, as it has seen centuries ago (Coombe, 2013).

Police Stress Assessments

There are a variety of assessments to evaluate police officer occupational stress. These assessments include psychological inventories, questionnaires, interviews, and focus groups (Talavera-Velasco et al., 2018). Assessments can determine the severity and levels of work performance disruption, and stress of the police officer. Talavera-Velasco et al. (2018) found that police officers reported high stress levels which stemmed from conflicts with citizens, high crime, and constant enforcement of the law in a disorderly area. Police officers included that lack of control during a demanding situation or working more hours than necessary added to stress already accumulated. It was also

reported that police officers that received organizational support from peers or supervisors help to minimize the stress and these officers fared better than officers from departments with poor organizational support (Talavera-Velasco et al., 2018).

Police officers who are faced with occupational stressors and threats to their work environment engage in a fight-or-flight decision making process. This is called the cognitive appraisal of the perceived threat. Cognitive appraisal occurs from a threat police officers face while on duty (Talavera-Velasco et al., 2018). A notable assessment that has been used in the past to assess police officers' cognitive appraisals and stress is the DECORE-21. The DECORE-21 questionnaire, a 21-item survey used to assess police officers' appraisal and adjustment to stress reported that police officers reported unsatisfactory adjustment from occupational stress (Talavera-Velasco et al., 2018). The use of this assessment in research has highlighted the problems associated with job stress and how it influences police officers' health including physical, emotional, and mental states while working on the force (Talavera-Velasco et al., 2018).

Many newly hired police officers may not comprehend the severity of the potential exposure of trauma over the course of their careers. One of the widely used personality assessments is the Minnesota Multiphasic Personality Inventory (MMPI-2). There are two forms of the MMPI-2, the MMPI-2 with 567 true and false questions and the MMPI-2-RF with 338 true and false questions. Corey et al (2018) examined police departments' pre-employment assessments of police recruits and found that the developing police personality of the police officer begins in the academy. MMPI-2-RF scores have found that police officers are potentially externalizing their behaviors,

leading to poor performance and poor judgment. Corey et al (2018) reported that police officer recruits can become future police officers that may externalize and internalize problems. Police recruits showed in their screening using the MMPI-2-RF scores that they are at risk for personal externalized and internalized problems with this career line of work.

Misconceptions About Police Officers

Police officers deal with a range of individuals in society in which these individuals are from different levels in society (Kula, 2017). Police officers interact with the community, professionals, and criminals. Society is diverse with different kinds of community members. Although police officers are trained to manage and interact with different kinds of people, policing in stressful environments may bring consequences for the officer. Recent clashes between the public and law enforcement have increased attention on recent policing strategies and public trust. Controversial police shootings and misconduct have made the national spotlight (Trinkner et al., 2016). There is a deeper sense of mistrust on both sides due to the scrutiny of problematic relationships between law enforcement and the public (Trinkner et al., 2016). The public may eventually adopt views that many police officers encourage a democratic-style of trust and to be fair and respectful in the community (Trinkner et al., 2016). Deploying a community-focused form of policing may largely increase the trust of the public.

While little is known about hot-spot policing and the stressors accumulated from it, there are significant results of hot-spot policing in reducing crime (Rotenberg et al., 2016). It is important for the public to understand that police officers are faced with daily

stressors in combating crime and keeping the public safe, while an accumulation of extreme danger leads to police officers' distress. In a recent study from Rotenberg et al (2016), the public's trust of police officers has been the center of attention for quite some time. Police officers were assessed on their honesty-based trust and emotion-based trust beliefs. It was found that police officers held themselves higher with honesty-based trust and emotion-based trust beliefs than the public did (Rotenberg et al., 2016).

Police officers join the police service to protect and serve. The police officers work different crimes within their cities; however, hot-spot crimes can be the most dangerous for both the city and the police officer (Telep and Hibdon, 2017). A police agency may be interested in reducing hotspot crimes to maximize the effectiveness and efficiency of its police resources within the city. Cities may not want to be branded as being a high crime city (Telep and Hibdon, 2017). Being branded as a high crime city brings on additional complexities and negative outlooks on the city. Working the high crime areas may be the most effective way to keep a community safe. With these approaches, the public may begin to understand the duties of many of the productive police officers (Telep and Hibdon, 2017).

The central duty for police departments and its officers is to maintain social order and decrease violence in society (Carmichael and Kent, 2015). Police officers are easily scrutinized while working in the public's eye (Carmichael and Kent, 2015). Policing is notably difficult for police officers because there are different views on police officers' performance by the public. For example, many police officers justifiably enforce to maintain order, while other officers use excessive force to display some sort of authority

(Carmichael and Kent, 2015). The public viewing the police officers, often scrutinizing justifiable enforcement, increases stress for police officers who are trying to balance public safety while protecting people's civil liberties and civil rights. The few "bad apples" on police departments further cause the public to view police in a negative light (Carmichael and Kent, 2015).

Police officers work to maintain order. However, the scrutiny from the public is an additional stressor police officers face (Carmichael and Kent, 2015). Carmichael and Kent (2015) found that female officers are less affected by the scrutiny from the public than their male counterparts. Female police officers may be more altruistic and possess unique, nurturing qualities towards the public (Carmichael and Kent, 2015). The public is less likely to scrutinize female police officers' actions during a call (Carmichael and Kent, 2015). Citizens are 2-3 times less likely to file complaints on female officers than male officers. Female police officers are ten times less likely to have excessive force complaints than male counterparts (Carmichael and Kent, 2015).

Increasing the public understanding of police stress and how they constantly are coping with stressful situations may result in a better relationship between officers and their community. Generally, the public has a more negative view of law enforcement due to the publicity of perceived excessive force in the media. In a recent study, Leroux and McShane (2017) found that changing the attitudes of the youth about police officers may allow youths to have positive global attitudes towards police. Students were surveyed about attitudes towards the police and explored factors that shaped the students' attitudes.

Physiological Effects of Stress

Research points to the fact that policing is in fact stressful (Anderson et al., 2002). Increased stress exposure for the police officers has shown to affect the officers' performance; however, research has found that physiological effects can become a larger issue compared to the officer's emotional welfare. Stress has been known to affect the police officers' immune systems, with an increase in short term and long-term illnesses stressful (Anderson et al., 2002). Physiological stress can also lead to a premature death in the police officer. If there is a sudden onset of stress that the police officer experiences, there is an increased release of neurotransmitters epinephrine, norepinephrine, and dopamine (Anderson et al., 2002). The physiological arousal and alertness are followed by an increase in cortisol, the stress-inducing hormone linked to the slowdown of the digestive system (Anderson et al., 2002).

The stress hormone release in the brain and within the rest of the body causes an alarm reaction, placing the police officer in a fight-or-flight response (Anderson et al., 2002). Generally, the fight-or-flight responses are a normal reaction to stress, which is an activation of the sympathetic nervous system is established. The sympathetic nervous system is the center where the fight-or-flight response is activated. However, an assembly and constant reaction to stress may become a challenge for the human body with repeated stressful events (Anderson et al., 2002). Stress reactivity is complex, but physical reaction to stress is important to study, especially chemical reactions from the brain.

Affected performance begins to produce a chemical reaction in the brain of the police officers during the environmental stressor. Police officers are faced with chronic

occupational stressors and traumatic events in the line of duty (Papazoglou and Andersen, 2014). When officers were placed in stressed-simulation exercise, neurochemical reactions indicated the officer displayed stressors during the simulation as they were in real life line of duty (Papazoglou and Andersen, 2014). There was an increase of stress during policing with their heavy equipment in extreme weathers as cold and hot weather. Enough form of coping for police officers is psychoeducation. Psychoeducation involves the officers recognizing stress by examining one's mental and physical states. There is emphasis on the mind-body connection for the officers facing daily on duty stressors (Papazoglou and Andersen, 2014).

Officers who re-experience and hyper-aroused from trauma clusters have shown the strongest association between stress and alcohol use (Chopko et al., 2013). Police officers reported that during cognitive techniques while in therapy have addressed issues of guilt and shame in their choice of self-medication for their stress and mental health symptoms. Police officers have reported negative relationships from occupational stress and how alcohol has been a positive dependent (Chopko et al., 2013). Officers may need to seek healthier coping mechanisms when dealing with work-related and personal relationship stress.

Police officers spend most of their career in their patrol cars and out in the public. A study using the Spielberger Police Stress Scale reported that over 350 police officers patrol daily records showed the officers spend much of their career on a dominant shift (Ma et al., 2015). The dominant shift was the total time the police officer worked their shift. The shifts were day, afternoon, or night. Police officers were primarily assigned to

one of these shifts throughout their career (Ma et al., 2015). Analysis of variance and co-variances reported that police officers felt physical and psychological danger the longer they were on their dominant shift over the course of their career, leaving the officer feeling stressed from events that they came across within their shift (Ma et al., 2015).

Police officers who don't establish recognition that stress is harmful may be affected in the future. "Later strain" is the psychological strain that occurs when a police officer numbs their symptoms and it occurs later. Depression, anxiety, stress, and many more psychological distresses can creep up on the police officer later in their career (Kurtz et al., 2015). Work-induced strain occurs when the police officer is often exposed to dreadful situations. However, Kurtz et al (2015) state that is the officer is exposed to dreadful situations during childhood, as sexual abuse as a child, the police officer is at higher risk for work-related strain. The sexual abuse as a child, also known as childhood strain, can become problematic for police officers when they see their fair share of person crimes (Kurtz, Zavala, and Melander, 2015).

Police Burnout

Prolonged occupational stress may damage and affect police officers' well-being. Work-related stressors as organizational, personal, and duty-related stressors may decrease the work-related well-being of the police officers (Kula, 2017). Social psychological research reported that police officers suffered occupational burnout with police officers decreased occupational well-being (Kula, 2017). Police officers with an increased occupational well-being felt less burnt out from the stressors. The police agency operated significantly higher when its officers had increased well-being. The

lower the well-being, the lower performance the agency operated as a whole (Kula, 2017).

Police burnout is evaluated from police occupation job satisfaction scale. The Spielberger State-Trait (STP) model of occupational stress examined the police officers' exposure of stress and burnout rate. Police officers' constant exposure to stress that is not handled effectively can be destructive for both their mental state and quality of work (Kula, 2017). If the police officer appears to display ineffective stress coping from the occupation, the mind and body may be deviating from normal functioning (Kula, 2017). The police officers' psychological and physiological conditions suffer with the ineffective stress coping from the occupation.

Stigmas about police officers not showing weakness exists in many cultures (Karaffa and Koch, 2015). Police officers may need to display no weakness when confronted with stressors daily. Concealing these emotions stemmed from stress can be damaging to the police officer. Karaffa and Koch (2015) state that police officers are more likely to burnout if they do not recognize the emotional roller coasters in which officers experience. Furthermore, burnout is just the beginning of a slew of problems that can occur within a police officer. Police officers may begin to numb their depression or anxiety (Karaffa and Koch, 2015). Historically, police officers have been known to use alcohol to sooth many depressed and anxious symptoms, even burnout feelings; however, the levels or depression and anxiety may rise if police officers' with severe symptoms (Karaffa and Koch, 2015).

Trauma, Stress, and Posttraumatic Stress Disorder

Police officers that are frequently exposed to stress in their policing group are prone to acute or chronic stressors (Marchand et al., 2015). Police face unpredictable incidents that expose them to environmental threats. Road accidents, gunfire, suicides, and homicides are some examples that police officer face that may lead to the development of acute stress disorder (ASD) or PTSD (Marchand et al., 2015). The presence of a psychiatric disorder in the family makes the police officer more vulnerable to ASD or PTSD (Marchand et al., 2015). Both male and female officers have the same risk of developing a stress disorder following a critical incident. Those officers that have a difficult time expressing their emotions are the most increased risk for developing a stress disorder (Marchand et al., 2015).

Dichotomous stress can occur in police officers when they either exposed to a threat or harm of a fellow officer or to oneself (Chopko et al., 2018). The different types of trauma exposure produce negative posttraumatic responses that can induce PTSD symptoms. When the officer or fellow officers are exposed and survive the threat of harm, police officers experience survivor stress (Chopko et al., 2018). Groupings of trauma exposures is far more detrimental to the police officers' stress (Chopko et al., 2018). Police officers may have to cope and adapt to these posttraumatic experiences over the duration of their careers (Chopko et al., 2018).

Psychological trauma is the focus for the well-being of police officers. Police officers at risk for a stress disorder may be also at risk for a neurotic personality (Marchand et al., 2015). Neurotic personalities develop characteristics that include the

trait of disassociation. The disassociation may leave the officer unfeeling, uncaring, and with a negative attitude (Marchand et al., 2015). Past personal trauma may also affect the police officer with the development of a stress disorder. Significant predictors as family history or past history for stress disorders may allow police officers to become aware of their psychological welfare.

Police officers frequently respond to dynamic and dangerous incidents. Being a police officer be challenging. Stress and fatigue may affect the police officers' performance (Hope, 2016). The potential effects of stress and fatigue on the police officer may affect their performance for firing a weapon and response times (Hope, 2016). Due to the stress and fatigue that may impair the officer, previous research has reported that stress and fatigue may also affect memory and cognitive functioning for the police officer (Hope, 2016). Police officers may find it stressful to recall incidents; their recounts of events when interviews may be impaired (Hope, 2016).

One of the common duties police officers engage is arresting those in violation of the law. Arresting offenders may be deadly for police officers if the offenders poses a danger to the police officer (Renden, et al., 2015). During a regular shift, police officers are exposed to high-anxiety situations, and it is revealed that officers perform worse in high-anxiety situations than low-anxiety situations (Renden, et al., 2015). Officers were also likely to draw their guns faster during high-anxiety situations. In a recent study, Nieuwenhuys et al (2017) found that police officers' shooting performance was affected when the officer is under threat. Police officers perform differently when they are under high threat. Police officers' emotions, such as fear and anxiety, stimulate alertness in the

brain (Nieuwenhuys et al., 2017). High alert mental and physical states may bring anxiety and fear and becomes stress-induced.

While stress and anxiety can affect the police officer, many police officers generally display a positive work-related attitude (Inwald, 2008). Personality on how the police officer copes with their stressors is something that has been researched since the 1970's (Inwald, 2008). However, while decades of pre-employment testing have been conducted, a multitude of research on stress has been studied on police officer personality development. Pre-employment personality assessments have predicted future police psychological distress (Inwald, 2008). Even before the police officer is trained to work, some police officers may display predisposed characteristics to work stress.

With today's technology, researchers have been able to use neuroimaging of psychological distress of police officers. This integration of neuroimaging and psychological states show an inter-display of brain appraisal systems (Gianaros & Wager, 2015). Appraisal systems are measured by neuroimaging to evaluate the police officers' thoughts, memories, and life events (Gianaros & Wager, 2015). It has been found that significant findings in the neuroimaging significantly assesses cognitive appraisals that psychological stress, threats to social, physical, and personal well-being, were seen (Gianaros & Wager, 2015). Researchers were able to correlate the neuroimaging of the stress to high blood pressure and heart rate. It was also found that there was a correlation with atherosclerosis and stress seen from the neuroimaging (Gianaros & Wager, 2015). It is seen in several physical assessments of cognitive appraisals that police officers are affected more often than the average person (Gianaros & Wager, 2015).

Police Coping

Police officers are human, but they are exposed to situations daily than the average person. Police coping strategies differ than the average person. The average person may not be exposed to the excessive external stressors as police officers (Pereira et al., 2015). Police external stressors include threats of being seriously injured or killed, internal organizational structure, and negative public perception (Pereira et al., 2015). Police officers also differ with the long-lasting effects of these stressors than the average person. The coping that police officers engage from the long-lasting effects include alcoholism, divorce, physical and mental health issues, and lower work performance and output (Pereira et al., 2015). The average person may not feel this long-lasting effects, but police officers are exposed to them every day.

Police make choices every day. Their choices can be good, or their choices can be bad. These choices can be made for work, family, or personal relationships. With these choices come consequences; good and bad. Police officers may need to deal with those consequences from those decisions. One of the most common reactions from a stressful decision made by a police officer is alcohol consumption (Pastwa-Wojciechowska, & Piotrowski, 2016). Longitudinal studies provide research that stress begins prior to police officers beginning their patrol on the streets. Police begin their occupational while in the academy. Police academies expose new recruits to stressful hypothetical situations, when may in return, begin exposing recruits to stress. Police officers can begin to search for coping strategies to help them with stress (Pastwa-Wojciechowska, & Piotrowski, 2016).

Police officers work in various environments and under different circumstances that involve stressful situations. Stressful situations may increase the risk of occupational burnout (Padyab, Backteman-Erlanson, & Brulin, 2016). Researchers have studied the relationship between emotional exhaustion and depersonalization from the stress and lack of coping strategies among police officers. The impact of the psychological demand from the job may require the police officer to seek social support and coping strategies. Padyab et al. (2016) stated there is a notion among police stress research called “stress conscience.” The stress conscience entailed taking into consideration the levels of social support and decision making of the social environment police officers work. Being abreast of the stressful incidents in the police officers’ careers can give the police officers a healthy stress conscience (Padyab et al., 2016).

Prolonged policing incidents that lead to trauma are damaging to the police officer (Wills and Schulberg, 2016). In a recent study by Wills and Schulberg (2016), the impact of cumulative occupational exposure to trauma may lead the police officer developing PTSD. The stressful work environment may impact the officer’s personality. There may be trait changes within the police officer that include cynicism, authoritarianism, and psychopathy (Wills and Schulberg, 2016).

Even though many officers may not fit the criteria for PTSD, it does not mean they will be completely immune to mental health conflict throughout their career. Police officers may still suffer from anxiety and depression from the traumatic experiences (Arnetz et al., 2013). Previous analysis on police occupational stress has clearly

demonstrated a significant association between alcohol use and work-related drama (Chopko et al., 2013).

Furthermore, there is a link between traumatic occupational stress, alcohol use, and PTSD symptoms (Chopko et al., 2013). When Police officers' depressive symptoms increased from a traumatic event or clusters of traumatic events, there was an increase in drinking behaviors. The link between traumatic stress and depression of the police population is the same across the police forces traumatic (Chopko et al., 2013). Police officers may engage in alcohol use as self-medication. The combination between alcohol use and PTSD is often becoming more common amongst the police population (Chopko et al., 2013).

Research has focused on the negative outcomes of stress, but Leppma et al (2017) revealed in their study that police officers demonstrated positive reinforcement and coping when police officers endured gratitude, social support, and life satisfaction. While there is much negative light about police officers' constant exposure to negative life events, there are police officers that look at the bigger picture of being a police officer as a coping strategy. While not all officers are immune to stress, many police officers may show improvement in their emotional and mental states when they begin to look at their coping results in a holistic view (Leppma et al., 2017).

Regular Policing

Communities need police officers more than ever in these times (Taylor et al., 2017). With population growth and higher crime rates, the protection of the police officers is needed. Police officers must be competent in problem-solving and experts in

understanding the law (Taylor et al., 2017). Police officers begin their shift not knowing what they will face. The officers are subjected to situations where they may not be able to gain or maintain control (Taylor et al., 2017). While policing, the police officers must communicate and solve problems their entire shift; it may get exhausting over time (Taylor et al., 2017).

Looking through a historical lens, police officers have worked in different communities to protect and serve for centuries. Within these communities, police officers worked in climates of tension, anger, fear, and trauma (Adegbile, 2017). Policing require the police officers to achieve a symbiosis or a common ground with the public (Adegbile, 2017). Police officers increase the public's safety, while trying to gain publics' trust and positive relationships. It is necessary to police and apprehend criminals, but chronic crime can bring chaos to a community thereby reducing the trust in the community. In some cases, many communities do not like the presence of police officers; however, police officers may be more necessary for concentration of crimes (Adegbile, 2017).

In the last 40 years police officers have taken a more proactive approach of policing rather than a reactive one. The proactive approach can be intended to prevent and deter crime more effectively than a reactive approach (Wu and Lum, 2017). Proactive approaches are innovative ways to build citizen and community relationships that may improve police trust and confidence while combating crime (Wu and Lum, 2017). These proactive innovative ways include problem solving, intelligence-led policing, directed hot-spots patrol, and community policing. Policing has been an

effective way to reduce crime and targeting areas of problems that are in specific places (Wu and Lum, 2017).

Crimes are unequally distributed in cities (Levin et al., 2016). Police work distribution differs across cities depending on the size of the city and the crime type, in which police officers are assigned to their concentration of crime area to decrease all types of crimes (Levin et al., 2016). Policing targets places where there is crime, allocating the resources of the department to decrease crime rates. Police departments receive analytical reports of consistently high crime rates in a city. The direction from the analysis may formulate strategies to combat higher areas of crime crimes are unequally distributed in cities (Levin et al., 2016).

Hot-Spot Policing

While many officers are assigned to regular patrol duties, some officers may be assigned to specialized units such as hot-spot policing units. Hot-spot policing comes from the crime analysis process where pattern analysis is used to depict patterns on of crimes in “hot-spots” (Groff et al., 2015). Hot-spot policing brings greater benefits than routine patrol. Police are sent to hot-spots to reduce the severity of the crime. Many major cities practice crime analysis and hot-spot policing. Police departments are implementing hot-spot policing as part of their structure so high crime areas are more heavily patrolled and crime is combated (Groff et al., 2015). Police departments work closely with analysis to examine the areas for targeting.

It takes many steps to determine the areas of high crime. Many police departments utilize data analysis to collect data and identify these hot-spots (Groff et al., 2015). The

data collection and utilization of hot-spot policing to reduce crime is often referred as “crime science.” Crime science is providing data analysis in order to significantly reduce crime in violent areas (Groff et al., 2015). Analytical tools that police departments utilize have worked in the recent years. These hot-spot policing tools provide a greater consistency of combating high crime (Groff et al., 2015).

There are several tactics for crime reduction. There are three different hot-spot policing strategies called foot patrol [FP], problem-oriented policing [POP], and offender-focused [OF] policing, and these methods have contributed to over 40% crime reduction in cities with high crime. The statistics for violent crime are stem annually from the Federal Bureau of Investigation (FBI) Uniformed Crime Reporting (UCR) statistics. Taylor et al (2011) conducted a study on the different types of policing in hot-spots of violent crime. Eighty-three assigned hot-spots from Jacksonville, Florida were chosen for the data collection, and each hot-spot was examined for 90 days (Taylor et al, 2011). Within the 90 days, three types of conditions within the hot-spot policing were assigned included problem-oriented policing, directed-saturation patrol, or a control condition. The hot-spots were chosen for data collection because they are small geographic areas of concentrated crime, and the extra patrolling is an effective strategy to reduce serious crime (Taylor et al, 2011).

Problem-oriented policing includes special teams of proactive analysis by teams of supervisors, assigned officers, and crime analysts. Directed-saturation patrol included specific patrolling that is grant-funded and is a mix of officers and overtime usage (Taylor et al, 2011). The control group was those assigned to regular policing duties. The

results of the experimental design indicated there were more crime interventions within problem-oriented policing and directed-saturated policing (Taylor et al, 2011).

Three types of problem-oriented policing methodologies, also known as POP, is a type of policing where officers are assigned to areas with prior proactive approaches which are applied. For example, crime analysts are tasked with composing statistical analysis using crime data of a geographical area. The police officers are assigned to this type of strategic policing method to reduce crime. POP can tackle a wide variety of crimes using statistical analysis conducted on various crimes as a proactive approach (Taylor et al, 2011). Follow-up assessments can be conducted to evaluate the POP approach and its future proactive enhancement. Directed-saturation patrol, also known as directed patrol, is useful in reducing crime due to the intense patrol of a particular geographic area. Again, crime analysts conduct analyses on areas of contracted crime, and directed-patrol focuses on these particular areas (Taylor et al, 2011). Previous research on direct-patrol of hot-spots has indicated that these approaches reduce violent crime areas, since the premise behind directed-patrol is to focus on a particular area with possibly particular concentrated of one crime (Taylor et al, 2011).

While working a statistically-proven approach to reduce crime, police officers are exposed to stress in hot-spots. Hot-spot policing is not random patrol. Weisburd et al (2011) found that police officers are effective with hot-spot policing, but the stressors are cumulative over time working hot-spots; however, there is backfire from hot-spot policing strategies that include that there is failure in public trust. When there is failure the officers face, then there is a strain, such as perceived failure to do one's job, that the

officer increases the chances of developing maladaptive coping skills (Menard & Arter, 2013). Officers in the line of duty are fearful of crime affecting the communities, and officers do report heightened fear as a police officer (Weisburd et al, 2011). Weisburd et al (2011) reported that police officers, protectors of the streets, are human and are vulnerable to fear and stress.

Summary

Despite vast amounts of past and current research of police stress, there have been no known empirical comparisons of the cognitive appraisals of stress in police officers who work in hot-spot policing and regular policing. Developing a comparative study that discloses variances in policing methodologies may have implications in identifying cognitive appraisals and stress in police officers all over the country. This comparative study may provide a better understanding of police officer's stress levels who are assigned to different methods of policing. In Chapter 3, is the research design, sampling, data collection, and data analysis will be covered.

Chapter 3: Methodology

The purpose of this quantitative research was to study the cognitive appraisal of perceived stress of police officers assigned to hot-spot policing. This study compared cognitive appraisals of perceived stress of those assigned to regular policing duties and those assigned to hot-spot policing. I intended the cognitive appraisal assessment for this study to determine mental health difficulties in those assigned to hot-spot policing. Hot-spot policing and regular policing were the independent variables. The CAQ responses from the police officers were the dependent variable. This comparison illustrated if there are differences between hot-spot and regular policing.

In this chapter I discuss the methodology of the study, beginning with the research design and rationale for assessment of cognitive appraisals of police officers' perceived stress. This chapter also includes the rationale for the population, sample size, recruitment strategies, instrumentation, operationalization, and how the data was analyzed. This chapter closes with an explanation of validity, the threats to validity, and ethical procedures.

Research Design and Rationale

This study assessed cognitive appraisals of the perceived stress of police officers assigned to hot-spot policing compared to regular policing duties. Shift meetings were used to recruit for the two policing groups. Police officers assigned to different policing methods, either regular or hot-spot policing, were measured for this study. The goal of this study was accomplished by administering an anonymous online survey so the police officers could answer candidly. The questionnaire of choice was the CAQ. This specific

questionnaire has been used in the past to collect volumes of data on samples for comparison.

The independent variables for this study included the types of policing, hot-spot or regular policing. The dependent variable was the responses of the individual police officers on their cognitive appraisal. The data was collected in a survey format where the police officers could answer the CAQ candidly. The police officers' responses remained anonymous. The police officers were provided an online link and asked to complete the online survey within a 2-week period. There was no time constraint for the online survey because the survey took officers approximately 20-30 minutes to complete it without difficulty. The design choice for this study was consistent with collecting a multitude of data from a police demographic. The results from the study were shared with the department.

Methodology

Population

According to Rudestam and Newton (2015), the most ideal sampling strategy for researchers contributing to a “progressing theory” such as police stress is to use convenience sampling. The only requirement for this “progressing theory” for convenience sampling strategy is to use active participants, in this case, active police officers. The experience of the police officers can provide significant insight on their cognitive appraisal and levels of stress. A local police department in Texas agreed to allow participants to be recruited for this study. The selected police department was a midsized department located in Texas that has been in existence for 120 years. The police

department serves and protects a municipality of over 650,000 people. The current number of active sworn at the selected police department is 1,100 police officers.

Sampling and Sampling Procedures

This study used a sample of police officers from a midsized police department in Texas. The police officers were contacted during presentations at their shift briefings. The officers were given a SurveyMonkey link to participate in this study. This comparative study invited police officers who were currently assigned to hot-spot policing and officers assigned to regular patrol duties. It was hypothesized that 100 police officers were needed to complete the CAQ. During shift meetings for various shifts, police officers were recruited who met the requirements of working in a hot-spot policing and regular patrol. Hot-spot policing groups were those police officers assigned to gang and narcotic units, special traffic death investigations, auto theft units, and bike/metro units. All these specialized units have been deployed to combat high crime by the selected city's police department. Regular policing assignees were those who were not assigned to specialized units but combatted crime in traditional, routine patrol assignments in various districts or regions.

According the Faul, Erdfelder, Buchner, & Lang (2013), "G*power was designed as a general stand-alone power analysis program for statistical tests commonly used in social and behavioral research," (p 175). Statistical tests that lack statistical power have lower reliability between the null and alternate hypotheses (Faul et al., 2013). The G*power analysis for a one-way between-subjects analysis of variance (ANOVA) was

set the power at .95, an error probability of .05, and an effect size at .25 for a sample of 100.

Procedures for Recruitment, Participation, and Data Collection

The selected police department was contacted in advance both through writing and phone to obtain permission to recruit sworn police officers as participants for this research. Preapproval from the police department to use their police officers for this study was granted. Permission to attend shift meetings was been granted. The midsized police department held three shift meetings on a daily basis. I recruited officers from the morning shift, afternoon shift, and graveyard shift. I gave participants instructions to fill out the online survey through SurveyMonkey. I analyzed the extracted data running an ANOVA and then multiple regression in SPSS.

Police officers clicked a choice box in an online version of the informed consent agreeing to participate in the study. The acceptance of the consent box from the officers indicated they are willing to participate in this study. The consent form also allowed me to record and view comments from the police officers who were aware of the topic. Once the informed consent was completed for participation, the police officers proceeded to the survey. I made it known to the officers that no identifying data was included in the results of the study. Once the study was finalized, the results of the study were made available to the department through a briefing to the police department. A debriefing was held during regular briefings in order to disseminate the findings of the study.

Instrumentation and Operationalization

The CAQ was scored precisely as the traditional, handout format. SurveyMonkey contained a data analytics section to export the results into SPSS to analyze. The developer for the CAQ is Forensic Psychologist L. H. Colwell. The developer determined the validity and reliability of the instrument. Approval to use the CAQ was given by the developer in an e-mail. The CAQ has “theoretically based measures of cognitive appraisal with psychometric strengths and limitations,” (Neuman, 2009, p 271). According to Neuman (2009), surveys are an inexpensive and convenient format for data collection. Surveys are also used in social settings to collect data from a large group of respondents (Neuman, 2009). The survey format that I used for this study was administered via SurveyMonkey and was appropriate to collect data with a sample. SurveyMonkey is an online service for data analysis.

The first research question included two levels of the independent nominal variable, hot-spot policing and regular policing. Responses on the CAQ was a continuous dependent variable. The second research question included two continuous variables. The ordinal continuous predictor variable were the years of service for the police officers. The other continuous dependent variable was the overall score on the CAQ. Both questions were analyzed by SPSS. I used the CAQ for both research questions in this study. The survey format is useful for a large sample (Neuman, 2009).

Data Analysis Plan

This study was a quantitative study of the impact of hot-spot policing on police officers’ cognitive appraisals and stress. I conducted an ANOVA to determine statistical

significance and mean differences of the officers' self-reported stress on the CAQ. The independent variable was the type of policing, whether it was hot-spot policing duties or regular policing duties. The dependent variable was the levels of stress as measured by the CAQ. The second research question addressed times of service as compared to responses from the CAQ, which was analyzed with a linear regression. The linear regression determined if there was a relationship between years of service and levels of stress.

Police officers participating in this study received a SurveyMonkey link designated for data collection. Police officers are exposed to threats daily, making their profession one of the most stressful. The CAQ may have captured the perception levels of threat the officers report (see Esteves & Gomes, 2013). Stimulation may have occurred with the officers because of the adrenaline released due to the environment or threat; those stress levels were reported in the CAQ (see Esteves & Gomes, 2013).

Research Questions

RQ1: Is there a difference in self-reported cognitive appraisal of perceived stress scores between police officers assigned to hot-spot policing duties versus regular policing duties?

H₀1: There is no difference in self-reported cognitive appraisal of perceived stress scores between police officers assigned to hot-spot policing duties versus regular policing duties.

H_a1: There is a difference in self-reported cognitive appraisal of perceived stress scores between police officers assigned to hot-spot policing duties versus regular policing duties.

RQ2: Do years of service on the force predict the outcome of police officers' cognitive appraisal of perceived stress scores?

H₀2: Years of service on the force do not predict the outcome of police officers' cognitive appraisal of perceived stress scores.

H_a2: Years of service on the force predict the outcome of police officers' cognitive appraisal of perceived stress scores.

External Validity

The biggest threat to external validity for this study was that there will be no control over the responses by the police officers on their account of stress exposure and cognitive appraisals. If a police officer hasn't been exposed to significant stress, it may have resulted in skewing the data. There was no control over how representative this sample will be compared to other police departments. Incomplete surveys were not be included in the analysis.

Internal and Construct Validity

Since the CAQ has been used in other studies as in the Colwell et al. (2015) police stress study, there is no current study that used the CAQ in police officers assigned to hot-spot policing. One of the main questions researchers may ask, is if there is validity in measuring how police officers feel, think, or act using the CAQ. Although different types of events are experienced by officers, the CAQ can capture overall cognitive

appraisals of the perceived threat in the environment. Stressful and traumatic situations can produce different appraisals, as in minimal or major effects, are perceived differently; however, the CAQ is a valid and reliable tool to assess cognitive appraisals and stress in police officers.

Ethical Procedures

Neuman (2009) explained the importance of remaining ethical before, during, and after the research study. A researcher who uses human subjects as part of a study needs to maintain the ethical responsibility of protecting the participants. Although there may be very minimal distress from answering questions about traumatic events, contacts to mental health support will be made available for the police officers. The best contact would be the department's insurance provider for mental health support. All ethical and moral guidelines set by the Institutional Review Board (IRB) were followed in this study. The IRB approval number is 09-04-19-0132515. Keeping the participants' personal information private and making the survey anonymous will ensure the privacy of the participants' information.

Per Section 8 of the American Psychological Association (2017) Code of Ethics, participants were given an informed consent as part of ethical procedures to acquire consent for participation in the study. All data was confidential and was only be available to the researcher and the dissertation chair. Identifying data will not be included in that data analysis nor included in the final document. Data was stored in a password protected file and destroyed per APA guidelines. There are no other issues that may pose as conflicts for this study.

Summary

This chapter discussed the quantitative measures that will be used to examine the CAQ scores of police officers assigned to hot-spot policing and regular policing. Colwell et al. (2015) indicate that police officers are exposed to traumatic experiences while on shift; however, there are no known studies on the impact of the stressors that police officer face while in hot-spot policing. Chapter 4 will discuss the data analysis plan, the recruitment, and results in full detail.

Chapter 4: Results

Introduction

This chapter presents an analysis and explanation of results of the study that used the CAQ) to determine differences between hot-spot policing and regular policing assignees. Hot-spot policing is an area of policing that deploys police officers with specialized tactical experiences to combat severe crime. Hot-spot policing is an empirically effective form of targeted policing and crime control for geographic areas with a high concentration of crime. Regular policing duties include police officers whose daily routine involves patrol throughout a metropolitan area. Many police officers in regular policing can work 10- to 12-hour shifts patrolling and responding to distress calls from citizens.

The nature of the study was a quantitative experimental evaluation of the impact of police duties on officers' cognitive appraisals and stress. I conducted a one-way ANOVA to determine statistical significance and mean differences of the officers' self-reported stress on the CAQ. Furthermore, I conducted a linear regression model to determine if years of employment was related to their scores on the CAQ. The CAQ provided several sections for police officers to rate and answer open-ended questions about their traumatic experiences that may have caused stress. The study's research questions answered in this study were as follows:

RQ1: Is there a difference in self-reported cognitive appraisal of perceived stress scores between police officers assigned to hot-spot policing duties versus regular policing duties?

RQ2: Do years of service on the force predict the outcome of police officers' cognitive appraisal of perceived stress scores?

Setting

Police officers from a midsized police department in Texas volunteered for this study. The department's police chief granted consent to recruit police officers for the study. I recruited police officers as potential participants during shift meetings. All police officers were briefed about an informed consent that would be included in the same online link as the survey. Those police officers willing to participate were given instructions on how to access the survey link. Police officers were also reminded that the survey was completely anonymous and confidential. Lastly, the police participants were given a time frame of 2 weeks to complete the CAQ.

Data Collection

Participants

One hundred fourteen officers from a midsized police department in Texas participated in the study. The final sample ($n = 109$) was made up of 99 (90.82%) male, nine (8.26%) female officers, and one (.91%) officer who declined to answer their gender for disclosure reasons. "Decline to answer" was an option for gender. Surveys were omitted if the participants requested to withdraw from the study, with four police officers removed from final analysis due to withdrawal. The remaining officers completed the sections needed for analysis. The remaining officers had an average of 12.50 years ($SD = 8.74$) of law enforcement experience, ranging from 1 year to 33 years.

Table 1

Sample Demographic Characteristics and Policing Experience

Demographic	M (SD) / %
Gender	
Male	90.82%
Female	8.26%
Decline to answer	.91%
Ethnicity/Race	
Hispanic or Latino	77.98%
White or Caucasian	17.43%
American Indian or Alaska Native	1.83%
Asian or Asian American	.91%
Native Hawaiian or Other Pacific Islander	.91%
Another race	.91%
Age range	
18-24	1.83%
25-34	32.11%
35-44	34.86%
45-54	23.85%
55-64	7.33%
Marital status	
Married	58.72%
Single	22.94%
Divorced	17.43%
No response	.91%
Education	
Some college but no degree	52.13%
Bachelor's degree	22.61%
Associate degree	16.00%
High school degree or equivalent (e.g. GED)	1.83%
Graduate degree	1.83%
Years of policing experience	$M = 12.50 (SD = 8.74)$

Note. ($n = 109$).

Data Analysis

Police officers were asked to define and describe in detail what they consider to be their most traumatic event or experience they have had over their entire careers. Officers answered detailed questions about their specific event, such as (a) years of police experience at the time of the event, (b) number of traumatic experiences prior to the event, (c) total number of traumatic events over their entire careers, (d) the perceived controllability of the event, and (e) the negative impact the experience had on their overall well-being (e.g., stress, anxiety) in the months that followed. The frequency of types of experiences can be seen in Table 2. The most common traumatic experiences were being involved in an active shooter or mass shooting event, which was experienced by nearly 30% of the participants. Police officers were then directed to answer a series of questions on a 5-point Likert Scale, where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. One domain, called the Threat/Anxiety/Guilt Domain, was taken from the CAQ for specific analysis and review of stress and anxiety in relation to police and cognitive appraisals of threat.

Table 2

Officers' "Most Traumatic Experiences" On the Job

Experience	Frequency %
Active shooter/Mass shooting	29.36%
Life threatened (e.g., shot, shot at, physical attack/injury)	17.43%
Fatal/serious accident	14.68%
Homicide/suicide/death scene (adult)	11.01%
Homicide/death scene (child)	10.01%
Fellow officer killed/seriously injured	5.50%
No Response	3.67%
Uncertain danger (e.g., high-speed chase, hostage, suspect arrest)	2.75%
Sexual assault of victim	2.75%
No traumatic event experienced	.91%
Death notification	.91%
Unable to answer (e.g. active investigation)	.91%

Note. ($n = 109$),

Results

Analysis of Variance

RQ1: Is there a difference in self-reported cognitive appraisal of perceived stress scores between police officers assigned to hot-spot policing duties versus regular policing duties?

For the first research question, I ran a one-way ANOVA to determine whether there were significant differences between the types of cognitive appraisals across hot-spot policing and regular policing duties. The ANOVA was used to determine mean differences between groups. The ANOVA results revealed that there were no significant differences across policing methods in cognitive appraisal composite scores, $F(1, 107) = .24, p = .62$. Based on these results, there was no difference in thinking when processing

anxiety and stress as evaluated by their answers on the CAQ; therefore, the alternative hypothesis was rejected, and the null hypothesis was accepted. It may be assumed that police officers are experiencing high anxiety, stress, and trauma regardless of specialization. See Table 3 for ANOVA results.

Table 3

ANOVA Results

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.81	1	1.81	.23	.62
Within Groups	815.14	107	7.61		
Total	816.95	108			

Note. ($n = 109$).

Linear Regression

RQ2: Do years of service on the force predict the outcome of police officers' cognitive appraisal of perceived stress scores?

The second research question would determine if the years of service of the sample ($n = 109$) had an effect on the composite scores of the Threat/Anxiety/Guilt Domain from the full CAQ. The regression results revealed that there was an effect of years of service and the composite scores, ($R^2=.06$, $F(1,107) = 6.69$, $p < .01$). See Tables 4 and 5 for the regression statistics. It is also noted that there was a negative correlation determined during the regression output. Years of service and CAQ Threat/Anxiety/Guilt Domain responses were significantly correlated, $r = -.24$, $p < .05$. There is a small effect

size for $r = -.24$. This would indicate a smaller statistical effect on the years of service and composite scores.

Table 4

Regression Results

ANOVA					
	Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
Regression	49.93	1	49.93	6.96	.01
Residual	767.01	107	7.16		
Total	816.95	108			

Note. ($n = 109$).

Also, the negative correlation found in this analysis is an inverse relationship, when one variable increases, the other variable decreases. The inverse relationship indicated in this analysis is that the longer the officer has been on the force, the lower the composite scores for stress and trauma section in the Threat/Anxiety/Guilt Domain. See Table 6 for the correlation results.

Table 5

Regression Statistics

<i>Regression Statistics</i>	
Multiple R	0.24
R Square	0.06
Adjusted R Square	0.05
Standard Error	2.67
Observations	109

Note. ($n = 109$).

Table 6:

Correlation Results

Correlation		Composite score	Years service
Composite score	Pearson correlation	1	-.247**
	Sig. (2-tailed)		.010
	N	109	109
Years service	Pearson correlation	-.247**	1
	Sig. (2-tailed)	.010	
	N	109	109

Note. ($n = 109$). ** Correlation is significant at the 0.01 level (2-tailed).

Summary

Chapter 4 provided a description of the setting, demographics, data collection, and data analysis of this research study. I collected primary data from police officers in a midsized police department in Texas. The composite scores from the CAQ Threat/Anxiety/Guilt Domain provided insight into how each individual officer perceived what was stressful and increased their anxiety. The officers were asked open-ended questions about their most traumatic experience that caused them stress and anxiety during that experience. The concept of Folkman and Lazarus's (1984) cognitive appraisal theory suggests that persons with a threat in their environment will perceive it differently and react differently. Although there were over 100 open-ended responses provided by the officers for this study, the magnitude of the different scenarios provided were noted as stressful and anxiety-producing. Chapter 5 includes the interpretation of the CAQ Threat/Anxiety/Guilt Domain findings, limitations of the study, recommendations for future research regarding police stress, and trauma, implications, and conclusion.

Chapter 5: Discussion

Introduction

The purpose of this quantitative study was to examine police officers' cognitive appraisals by assessing stressful, traumatic experiences on the force. In the study I sought to identify differences of stress and trauma between those assigned to hot-spot policing and regular policing. Another area of research was to test for the effect of years of service and the CAQ Threat/Anxiety/Guilt Domain composite scores. The Threat/Anxiety/Guilt Domain specifically measured stress, trauma, and anxiety of the police officers. This study also sought to identify what traumatic events were most significant for the police officers. Approximately 30% of the police officers reported that events as an active shooter or mass shooting were their most traumatic experiences. The second most reported traumatic experience was when the police officers' life was personally threatened with a physical threat (i.e. gun, knife, or physical contact).

Most researchers agree that police officers who choose the profession of law enforcement understand that the job is dangerous, requires necessary risk, and includes job-specific stress (Russell, 2014). Measuring the police stress using various assessments like the CAQ can capture specific events and stress that affect the police officer. Many police officers in this study reported that they did not have control of most situations they encountered. They also reported being intimidated and/or physiologically aroused during their most traumatic incident. Their bodies felt tense with anxiety during or immediately following their most traumatic incident. Lastly, following their most traumatic event, the police officers repeatedly thought about what they could have done differently during the

event to make things better. Both policing groups assessed in this studied expressed similar thoughts and feelings.

Interpretation of Findings

As mentioned in Chapter 2, police officers are exposed to significant stressors and traumatic experiences. Police departments are agencies with various units that include specialized personnel. There are units of police departments that specialize in particularly high-crime areas, which is called hot-spot policing. This is an empirically effective form of targeted policing and crime control for geographic areas with a high concentration of crime (Groff et al., 2015). Because many police officers are exposed to more severe crime-fighting areas while working hot-spots, it could be supposed that those officers are more affected by stress and trauma. Police officers, in general, are exposed to daily trauma. This trauma can have long term effects on the officers, such as cynicism, hostility, family problems, and occupational conflict.

The first research question, analyzed with an ANOVA, which addressed if there is a difference of perceived stress between hot spot police officers and regular patrol officers, resulted in the rejection of the alternative hypothesis and acceptance of the null hypothesis. Accepting the null hypothesis suggested that it can be assumed that police officers are experiencing high anxiety, stress, and trauma regardless of specialization. The second research question, analyzed with a regression, suggested that there is an effect of years of service and CAQ scores. A correlation was also discovered from the regression analysis. It was revealed that the longer the officer has been on the force, the lower the composite scores for stress and trauma section in the Threat/Anxiety/Guilt

Domain. Police officers may be becoming desensitized on the force from the stressors to which they are exposed.

The well-being of the police officers is crucial; police officers are exposed to more stress and trauma daily than the average person. It is likely that when police officers understand their own emotions and anxiety from stressful or traumatic events, it will enable them to develop better-coping strategies. The findings of this study may help with that. Departments are becoming much more aware of critical incident stress and cumulative trauma (Coombe, 2013). This increased understanding allows departments to create better support systems for their officers. When officers develop better coping strategies, police officers improve their relationships with their communities and at home (Colwell et al., 2011). Police officers cannot avoid all traumatic experiences, but they can learn to understand their range of emotions and develop coping strategies to increase their resiliency.

Emotionally arousing events are remembered more than neutral ones (Hope, 2016). That appears to be the case with the participants in this study. The police officers from this study seemingly remember emotionally arousing events more than their neutral ones. Most of the police officers reported their most traumatic experience vividly during the open-ended question portion of the CAQ. The experiences by the police officers varied, but a traumatic experience for one person might be more or less of a mental health crisis than for another. For example, police officers were dispatched to accidents and saw victims burn alive. Some police officers were also dispatched to a residence where two children drowned. In other instances, police officers compared homicides of children as

being traumatic, while other officers reported to residences of those who committed suicide, remembering the faces of those who died. Significant events become a significant memory for the police officer.

Police psychologists may help officers to understand their emotional responses to stress, but police officers may change over time (Wills & Schuldberg, 2016). For this study, police officers gave detailed responses about their most traumatic experiences as violence, physical danger, severe injury or death of others, and a fellow officer being killed in the line of duty. According to Wills & Schuldberg (2016), events such as these may activate negative aspects of personality. Negative personality traits brought forth by these events can include cynicism, pessimism, and desensitization to future emotion-evoking crisis incidents (Wills and Schuldberg, 2016).

Limitations of the Study

This study was conducted with members of law enforcement from a midsized police department in Texas. The responses from the participants did not statistically differ because officers in both groups reported experiencing stress, anxiety, and trauma regardless of specialization within the police department. As mentioned in Chapter 1, a limitation of this study was that the sample of 100 police officers was recruited from one department. The results of this study may not be generalizable to other departments in different areas. However, in the future, using a stratified sample from different police departments may increase generalizability. Another limitation was the possibility that police officers would potentially minimize their stress and not answer in a forthright manner. However, police officers were highly descriptive in answering the open-ended

question about their most traumatic experience while being on the force. It was also noted in Chapter 1 that police officers may not have wanted to answer negatively about personal experiences on the job. In addition, as stated in Chapter 1, police officers may not have been evenly distributed between hot-spot policing and regular policing groups. The final sample was slightly uneven, but based on the analysis, this did not influence the final results.

Recommendations

Future research on police stress and trauma can only contribute to the existing literature to assist police officers, police departments, and police families. Studying stress responses from various departments and the specializations from various police departments will help departments and officers in understanding their cognitive appraisals and decision-making processes. Based on this information, forensic psychologists and law enforcement administrators can work together in developing and implementing evidence-based practices that will allow all officers to express their emotions, thoughts, feelings, and ideas without fear of punishment or repercussions. Forensic psychologists can mediate sessions, and all persons involved should be allowed to express themselves openly and candidly. Addressing the research gap discussed in Chapter 1, understanding how hot-spot policing impacts the cognitive and overall mental health of officers, was important for departments to understand how to best make changes to policies and services. The results of this study can assist in determining the mental health services needed by law enforcement personnel in both regular and hot-spot policing because both groups experience stress and trauma.

Police department structure is often paramilitaristic. The relationships and rapport built between members of a police department are mostly professional. However, mental health issues that arise with police officers are not often brought to light. Fraternalization from high-ranking supervisors and their employees is often seen as negative both inside and outside the organization. Telling superiors of mental health issues can be intimidating or produce fear of repercussion. The results of this study may help build stronger relationships between leaders and their subordinates and lead to improved trust and camaraderie, which may lead to improved performance.

Implications

The significance of this study for police departments is that it confirmed that police officers, regardless of policing assignment, are experiencing the same levels of stress and trauma despite different exposure to traumatic situations. Knowing that both groups experienced high stress and anxiety but reported no difference between the groups may guide police departments to better assist the officers from all assignments.

Police officers' traumatic experiences such as those reported in this study can lead to panic attacks. The "fight or flight" response to stressors in the environment to which police officers are exposed may lead to fear and anxiety, and there is evidence that these conditions correlate with panic disorder (Shankman et al., 2012). Officers in this study reported heightened sensitivity from previous trauma-related cues and noted it was particularly threatening to the police officer. However, fear can have both negative and positive implications in that it may help police officers to respond to a threat (Shankman et al., 2012). Anxiety disorders are associated with predictability and unpredictability.

Healthy coping is key for police officers, and police departments can provide services to best assist the officer with processing the traumatic experiences discussed in this study.

Police officers who develop an awareness of the implications of stress on their mental health may increase their coping strategies and ultimately become more effective officers. Police psychology professionals may encourage police officers to use their department's psychological support and interventions, if they are available, to address the police officers' mental health challenges. The implications of social change for this study are a better awareness of how the job impacts police officers' cognitive appraisals of stressful situations. This information may be used by the officers to develop healthier coping strategies and by the departments to develop readily available psychological support and interventions for their officers.

Conclusion

The cognitive appraisal theory helps to explain how officers decide to cope with stressful situations and whether the individual officer feels they have the personal resources to deal with the high stress inherent to the job. The literature review provided insight into the daily stressors and traumatic experiences of police officers. The responses from the CAQ opens the pathway for researchers to begin the process of developing more a productive discourse between police officers and their department leaders. The distress the officers are constantly exposed to may impair the officer's performance and overall well-being both on-duty and off-duty (Colwell et al., 2011).

The results of this research study contributed to the existing body of literature on police stress and trauma. This study compared the stressors and trauma from hot-spot

policing and patrol and how each officer coped with their most traumatic experience. Existing literature has reported that the police occupation is one of the most stressful in the world (Gomes et al., 2016). There have been numerous studies that focus on police trauma and stress and how it affects officers' psychological, physical, and emotional well-being. Critical incidents that ultimately result in trauma may cause anxiety and stress in the police officer. Little research has been conducted on how specific police duties influence these factors.

The results of this study provided insight into the concepts of police trauma and stress. They also offered a deeper understanding of what appears to be officers' most traumatic experiences, which constituted a meaningful appraisal of the events for the officers. Police officers have reported they remember both good and bad experiences. However, the negative, traumatic experiences are often the ones that are more ingrained in the officers' minds. Many police officers want to feel in control of situations that they are exposed to while on the job; however, many police officers, unfortunately, do not have that emotional control or resilience. Positive relationships with family, peers, and colleagues will likely assist in their ability to cope (Coombe, 2013). The officer cannot solely deal with trauma and cope alone (Coombe, 2013). There must be a collective and collaborative effort between the police department, the officers, police administration, forensic or police psychologists, and the public to assist officers with coping and resiliency. The better off the officer is with mental wellness, the more effective the police officer on the force.

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Appendix: Permission to Use the Cognitive Appraisal Questionnaire

Good evening Dr. Hauser,

My name is Naomi Estrada and I am a forensic psychology doctoral student at Walden University that has enjoyed your research in the forensic psychology field. I am currently citing your work for my dissertation's literature review. I am interested in using the Cognitive Appraisal Questionnaire that you administered in your 2011 study "Police Officers' cognitive appraisals for traumatic events: Implications for treatment and training".

I wanted to request permission to use this assessment for my dissertation titled "A Quantitative Study Examining Police Officers' Cognitive Appraisals and Stress Levels in Hot Spot Policing vs. Regular Policing". I also want to request permission, if granted, to use the questionnaire on Survey Monkey. I did research and Survey Monkey's different formats allow a potential researcher to use the same weighted format.

Both my committee members, also both forensic psychologists, are carbon copied in ~~this request~~

Hello Naomi!

My apologies for not returning your call the other day. I was rushing out so I just saved it and meant to come back to it later. J

I am pleased to hear that you want to use the Cognitive Appraisals Questionnaire in your research, and wholeheartedly grant permission to use it (it's not copyrighted or proprietary or anything). In my current position (at a forensic hospital), I have not been able to continue to pursue that arm of my research interests as much as I would have liked, so I am always eager to see that others are. I would be curious to know the results of your work, so if there is any way you could send me a synopsis of your findings when you are finished, I would greatly appreciate it!

Take care, and good luck to you with your research!

Lori