Hiding Behind the Badge

An Examination of Stress, Mental Health Care Services,

and Barriers to Accessing Mental Health Care Services among Police Officers

by

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ABSTRACT

There is little doubt that policing is a stressful occupation. Officers must manage a variety of situations, under oftentimes less-than-ideal circumstances. While departments may provide Employee Assistance Programs or a Departmental Psychologist, there is often little support for officers to utilize these services. Certainly, the culture surrounding policing has often acted as an additional barrier for officers to seek out mental healthcare services. What is more, there is a dearth of research examining the experiences of Hispanic/Latinx police officers, as compared to their White or Black counterparts.

The current project was conducted in collaboration with the Las Cruces Police Department as part of a larger series of projects. These data include self-report surveys completed by 109 officers of all ranks from within the police department in 2019. I utilized a modified version of Spielberger and colleagues (1981) Police Stress Survey, Cohen's (1994) Perceived Stress Scale, and Reisig and Mesko's (2009) procedural justice scale, in addition to questions regarding their personal methods of coping, knowledge of services, and willingness to access services. I examined three research questions. First, what do officers in this department identify as stressful? Second, how are the officers in this department currently coping with stress, including through both prosocial and maladaptive ways? Finally, what barriers do these officers identify to accessing mental healthcare services?

Using a series of regression models, I found that officers generally ranked organizational sources of stress, such as political pressure within the department or inadequate salaries as more stressful than occupational sources of stress, such as writing traffic tickets or going to court. Additionally, while officers generally coped with stress in

prosocial ways such as physical fitness or family activities, they did not access

departmentally provided services. Importantly, however, these officers indicated a

willingness to access specific types of services, such as educational classes or check-ups.

Finally, officers predominately identified resource-related barriers, such as knowledge

about services, to accessing mental healthcare services. These findings suggest that the

culture within policing may be shifting to one that is less stigmatizing towards mental

health services and welcome increased knowledge disbursement about such services.

DEDICATION

There are so many people I want to dedicate this dissertation to. So many people whose lives have intersected with mine, or who I see myself within.

To the over 900 police officers who have died by suicide since I began my research in 2015, I honor your lives, and carry on this work for you and your loved ones.

To those who struggle with mental health issues – I am you, and I implore you to keep fighting. You are loved.

To those students who have struggled in the seemingly boundless grind machine that is academia and don't feel supported – I see you, and we will do better.

We all have a story to tell, and we all deserve the chance to tell it.

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We did it.

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CHAPTER 1

INTRODUCTION

"An officer whose capabilities, judgement, and behavior are adversely affected by poor physical or psychological health not only may be of little use to the community he or she serves but also may be a danger to the community and to other officers"
(DOJ, 2015, p. 61)

Background

The events that marked 2020 were unprecedented. Beginning with a worldwide pandemic and quarantine and followed by a revolution demanding police reform after the murder of George Floyd, these events highlight the importance of understanding and paying particular attention to the health and wellness of law enforcement officials. Over the course of 2020, 366 officers lost their lives in the line of duty, predominately from COVID-19 (238), followed by gunfire (45; ODMP, 2020); an additional 173 officers had died by suicide (Blue H.E.L.P., 2020). In comparison, statistics for 2019 indicated that 151 police officers died in the line of duty (ODMP, 2019), with gunfire being the most prevalent method by which an officer was killed, and 239 officers died by suicide (Blue H.E.L.P., 2019). Similarly, as of June 2021, 154 officers have died in the line of duty, again, largely from COVID-19 (72; ODMP, 2021), with another 66 having died by suicide (Blue H.E.L.P., 2021). Unfortunately, 2019-2020 were not anomalies; rather, the fact that more officers died by suicide than as a result of homicides or accidents reflects a trend that has been occurring since officer suicides began being officially recorded in 2016 (LEOKA, 2016-2020; Blue H.E.L.P., 2020)

It is undeniable that policing is a stressful occupation (*see* Morash et al., 2006; Price, 2017; Violanti & Aron, 1993; Violanti et al., 2017). As the climate surrounding

law enforcement has grown more contentious amid a surge in protests in urban environments, the Black Lives Matter movement, and numerous U.S. Department of Justice investigations (Day, 2015; USDOJ Civil Rights Division, 2017), police are working in an environment that is perceived to be ripe with public apathy (Marier & Moule Jr., 2019) and the stress and risks associated with being a member of this occupation have arguably increased (i.e., the 2016 shooting of five Dallas police officers; Fernandez, Perez-Pena, & Bromwich, 2016). Bittner (1974) said it best when he stated that police officers are charged with handling situations *"that ought not to be happening now and about which somebody had better do something now"* (p. 30). Indeed, the role of the police officer requires that they wear multiple hats and deal with a variety of individuals in any number of situations. In any single shift, a patrol officer may have to transition from an order maintenance/ peace keeping role (Wilson & Kelling, 1982), to one of a law enforcer/ crime fighter (Bittner, 1970), to that of a social service worker (Fyfe, 2015; Klahm & Tillyer, 2010; Eck & Rosenbaum, 1994). Needless to say, this results in significant role ambiguity.

The uniquely urgent, involuntary, and public aspects of police-citizen encounters (Fyfe, 2015; Miller et al., 2017), combined with a general uncertainty about how these situations may unfold, leads to anxiety and stress, further impacting officers psychologically and physiologically (Griffin & Sun, 2018; He et al., 2002; Zimmerman, 2012). The results of these undoubtedly complex interactions can be mundane and result in a warning or a peaceful arrest, or they can be deadly, for either the officer or citizen.

In 2015, due to a number of high-profile officer-involved shootings involving unarmed minority men, President Obama created the Task Force on 21st Century

Policing. Although President Trump began rolling back many of the initiatives put in place by Obama and the Task Force (Ifill, 2019), the conversations begun by the Task Force persisted through 2020, with current events resulting in calls for officials and departments to better select and train officers, hold officers more accountable for their actions, and even defund or abolish police departments altogether (Edwards-Levy & Robillard, 2020; Fox et al., 2020; Pramuk, 2020; Phillip, 2020). The 2015 President's Task Force, which was charged with developing proposals to strengthen community policing and improve overall levels of trust between police officers and the communities– particularly communities of color – they serve, proposed six pillars.

Notably, two of these pillars explicitly called for police departments to improve levels of trust and legitimacy within the community, as well as improve police officer wellness and safety. Prior to and since the disbursement of the Final Report, researchers have been examining aspects of policing such as community policing (Graziano et al., 2014; Leroux & McShane, 2016; Schuck, 2014), officer use of force (Alpert & Dunham, 2004; Telep, 2011; Terrill & Paoline, 2013; Terrill & Reisig, 2003), and the use of technology (Jennings et al., 2015; Ready & Young, 2015; White et al., 2017). Further, scholars have focused substantial attention on police officers' *perceptions* of some of these concepts (e.g., Jennings et al., 2014; Micucci & Gomme, 2005; Wolfe & Nix, 2016). However, given the current contentious climate of law enforcement – what some have termed the "legitimacy crisis" (Gest, 2016; Todak, 2017) – examining police officers' overall health and wellness, and what officers generally think and feel about their working environment, is critical, as police officers themselves should be included in the police reform process.

The current dissertation aims to examine police stress, stress management, and barriers to accessing services designed to alleviate stress. Of particular interest is stress, stress management, and barriers to accessing services among ethno-racial police officers, as they have historically been left underexamined, but make up a substantial portion of the police forces nationwide (approximately 27.6%; Hyland & Davis, 2019). Explicitly, this dissertation has 3 overarching research questions: (1) what do officers in a predominately ethno-racial minority department perceive as stressful? (2) how are these officers managing their stress, either in prosocial or maladaptive ways? and (3) what are some barriers these officers identify to accessing services? This chapter will first situate police stress within the broader medical and psychological literature to exemplify the complexities associated with this area of research. Second, it discusses current services and interventions that are available to police officers, as well as potential barriers to accessing those services. Finally, this chapter concludes with a discussion of how this dissertation situates itself within the broader police psychology and stress literature and extends research on ethno-racial minority officers, officer stress, and access to mental health and wellness services.

Stress

Generally, stress is defined as "the nonspecific response of the body to any demand made upon it" (Selye, 1976, p. 137). However, stress and its associated components have many different definitions, varying both by the field in which one is situated and the lens through which one chooses to examine it. In both psychology and medicine, stress is examined predominately as it relates to a variety of physiological, psychological, and behavioral responses to stressors (Peters, McEwen, & Friston, 2017),

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with a focus on finding ways to ensure those responses are adaptive in nature. Within the field of criminology, stress is typically conceptualized as a precursor for criminal or crime analogous behaviors (Baron, 2019; Jang & Rhodes, 2012; Ostrowsky & Messner, 2005). For example, Agnew's (1992) general strain theory of criminology identifies three primary sources of strain that can lead to criminal behavior: (1) the inability to achieve a positively-valued stimuli; (2) the loss of a positively-valued stimuli; and (3) the presence of a negatively-valued stimuli. These strains often result in negative affect (e.g., poor self-concept and negative emotions) that leads to illegitimate means of coping as a way to alleviate that affect (Agnew, 1992). Throughout this dissertation, I will be referencing research from the fields of biomedicine, psychology, and criminology to present a holistic picture of how stress impacts the law enforcement officer, and what interventions can be implemented in order to mitigate some of the more harmful consequences of stress.

Phrases such as 'stress' and 'stress management' have become buzzwords in policing – akin to "community policing" or even "de-escalation." The impact and importance of stress and stress management is understood, yet there is a lack of consensus on what exactly stress is, how it should be measured, and how it is best addressed. Research demonstrates that a police officer's level of stress is likely to be affected by the characteristics of the individual officer (Padilla, 2020; Zhao et al., 1999), their working group and their department (Maguire et al., 2019; Peterson & Uhnoo, 2012), the neighborhoods in which they patrol, as well as national-level discourse surrounding law enforcement (Padilla et al., unpublished). This dissertation aims to address aspects of stress related to each of these contexts and to illustrate that policing in general, and police stress in particular, does not occur in a vacuum, and those

interventions designed to reduce officer stress should reflect the fact that there are many sources of stress.

Stress in policing stems from a variety of sources but is traditionally grouped into one of two categories: organizational and occupational[1]. Organizational sources of stress are those that are found within many types of occupations and can include having to deal with excessive paperwork or unsupportive supervisors (Kirkcaldy et al., 1995; Lambert & Paoline, 2008; Violanti et al., 2019). These stressors are often deemed more problematic in the lives of police officers as compared to occupational sources of stress, due to their repeated exposure to these situations (Joseph & Nagarajamurthy, 2014; Shane, 2010). Occupational sources of stress, on the other hand, are those that are unique to a particular occupation- in this case, policing. Occupational stress in policing is generated by having to write traffic tickets, deliver death notifications, or being exposed to potentially dangerous or life-threatening incidents (Liberman et al., 2002; Violanti & Aron, 1993).

There are a variety of means with which an individual can choose to cope with the stress they experience. Coping involves an individual's cognitive and behavioral efforts to manage the stressors that are present (Lazarus & Folkman, 1984). Adaptive, or proactive/prosocial coping (Aspinwall & Taylor, 1997), refers to methods of coping that are associated with decreases in psychological distress (Thompson et al., 2010). This can include dealing with the problem head-on, engaging in physical exercise, participating in family activities, traveling, or visiting with a therapist or counselor. Maladaptive coping, on the other hand, refers to methods of coping designed to help an individual avoid the

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[1] While occupational stress has a number of different names, including operational or environmental stress (McCraty et al., 1999; McCreary, Fong, & Groll, 2017; Saunders, Kotzias, & Ramchand, 2019; Shane, 2010; Violanti et al., 2019), *occupational stress* will be used throughout this dissertation.

stress, rather than deal directly with the problem that produced the stress, which generally

leads to further psychological distress (Thompson et al., 2010). While not unique to law

enforcement (see Mak et al., 2012), a well-known method of maladaptive coping is the

use of humor, or "cop humor." Maladaptive coping can also include drug or alcohol

abuse or self-harm, just to name a few. There are a number of reasons why an individual

might rely on one form of coping over another, including the longevity and severity of

the stressors (Agnew, 1992), as well as the individual's personality traits and

predispositions for coping (Arrigo & Claussen, 2003; Carver & Connor-Smith, 2010).

For example, based on the Five-Factor[2] model – a commonly accepted theoretical

framework for the study of personality psychology – an individual who is highly neurotic

and easily distressed is more likely to display avoidance or maladaptive behaviors, as

compared to an individual who is open to new experiences, who is more likely to seek

out prosocial methods of dealing with adversity, such as counseling (Carver & Connor-

Smith, 2010).

       Failure to properly cope with stress can manifest in a variety of dimensions of a

police officer's life. Physiologically, police officers have high rates of cardiovascular

disease and high blood pressure (Zimmerman, 2012; Wirth et al., 2017), as well as

exacerbated spinal issues (Maguire et al., 2019). Psychologically, officers have relatively

high rates of depression and suicidal ideation, as well as high rates of suicide itself

(Milner et al., 2013; Violanti et al., 2016). Behaviorally, there is often high alcohol-use

rates (Chopko et al., 2013), as well as marital issues, such as high rates of divorce and

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[2] The Five-Factor model is an organization of personality traits based on five dimensions: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience (McCrae & John, 1992).

domestic violence (Blumenstein et al., 2012; Burke, 2019). Additionally, the failure to cope appropriately can result in higher rates of use of force in interactions between officers and citizens (Arnsten, 1998; McCraty et al., 1999), resulting in an increase in lawsuits that will have to be managed by the department and their legal team (Schwartz, 2011, 2016). These consequences can be further felt and seen by the organization itself. Officers who are under immense stress without the proper channels or ability to cope with that stress may experience decreased job satisfaction (Maurya & Agalwar, 2015), higher turnover rates (Brown et al., 1996; Yun et al., 2015), or increased use of sick days (Devonish et al., 2008; McCarty et al., 1999), resulting in lost productivity (Fox et al., 2012).

Research demonstrates that race/ethnicity and gender are important covariates of police officer stress – with ethno-racial officers and female officers having higher rates of stress than their White or male officer counterparts (*see* He et al., 2005). An explanation for this can be found in Kanter's (1977) tokenism hypothesis, which suggests that belonging to a minority group – defined as a group compromising less than 15% of the total group – affects one's visibility, isolation, and opportunities to advance in the workplace. The application of Kanter's (1977) tokenism hypothesis was utilized by Gustafson (2008) and Stroshine and Brandl (2011) in their examinations of tokenism in policing, with Stroshine and Brandl (2011) focusing on Latino tokenism. Therefore, it is appropriate for the current study for several reasons: (1) female officers only comprise 12.3% of sworn law enforcement officers nationwide; (2) Hispanic police officers represent 13% of sworn law enforcement officers; (3) Black police officers represent approximately 11% of sworn police officers; and (4) only 3.6% of sworn police officers

identified as Asian, Native American, other Pacific Islander, American Indian, Alaska Native, or 2 or more races (Hyland & Davis, 2019)[3]. This suggests that female police officers and non-white police officers may be experiencing additional stress related to their status as a token within the department and warrants further examination.

Given the multiple sources of stress and the significant consequences of stress for law enforcement, it is important that scholars have a better understanding of stress and stress responses among law enforcement officers, particularly among the ethno-racial and female members of this group. Indeed, this is the first step to ensuring law enforcement officers have proper access to and utilize services designed to alleviate some of the consequences of stress.

Dissertation Overview

The current study explores stress, stress responses, and stress management services in a mid-sized, predominately Hispanic/Latinx police department in New Mexico. Guided by prior research, this dissertation investigates three overarching research questions. First, what do officers in this department deem as stressful? Second, how are these officers coping with that stress, including both prosocially and maladaptively? Third, what are some barriers these officers identify related to accessing mental health services. While controlling for demographic factors, such as race/ethnicity, gender, rank, and marital status, I examine the sources and severity of stress, as well as officers' personal methods for coping with stress, and their overall willingness (and identified barriers) to access mental health services within this department. These

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[3] These numbers are up from 10% women, 8% Hispanic, and 2.1% 'other' or multiple-race officers in 1997. Black police officer representation has remained relatively stable since 1997 (Hyland & Davis, 2019).

questions will be addressed using cross-sectional survey data obtained from a variety of members within the department ($n = 109$).

This dissertation is organized as follows. Following this introductory chapter, Chapter 2 provides an empirical foundation for stress research in policing. It begins with a discussion of the complexity and ambiguities of the police role, then moves to a discussion of stress generally and stress in policing in particular, with a focus on the factors that contribute to stress. Chapter 2 then discusses services that law enforcement departments can and, in some cases, do provide to help alleviate stress, and barriers to accessing those services that may exist. In Chapter 3, the methodology of the current study is described, covering the methods for gaining access to and contextualizing the research setting, the data collection process, research questions, and proposed analytic strategies. Chapter 4 covers the quantitative results, separated by research question. Finally, Chapter 5 summarizes the findings, and discusses the implications of the findings for research, theory, and police practices.

CHAPTER 2

LITERATURE REVIEW

The overall objective of this mixed-methods study is to examine the types and sources of stress experienced by law enforcement officers and to investigate the ways in which officers respond to stress and the barriers they encounter in accessing services designed to mitigate stress. In the sections that follow, I discuss important bodies of work that contribute to the current dissertation. First, I discuss stress, and all of its ambiguities, from a variety of fields, including biomedicine, psychology, and criminology. The aim of this is to help guide discussion surrounding the complexity of stress, the difficulties in 'preventing' stress, and the importance of helping others manage stress. This includes exploring the process of and responses to stressors, and what intervention research identifies as effective methods for alleviating some of the more harmful consequences of stress.

Second, I provide a brief history of the conceptualizations of stress in policing. This includes a discussion of the sources of stress, predominately being organizational or occupational in nature; the impact that stress has on the officers themselves, their family, and the community at large; and how stress in policing is constantly changing as society changes. Of particular emphasis here are the complexities and ambiguities of the police role, and the ways that these complexities and ambiguities contribute to police stress.

The chapter then turns to a discussion of mental health services and stress interventions in policing. This is broken down into categories of stress responses and interventions, including those focused on the psychological, physical, or behavioral consequences of stress. Finally, this chapter discusses general gaps and limitations in

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police stress research, particularly as it relates to the demographics of the individuals being examined and explains how the current study aims to address those gaps.

Stress

The World Health Organization (WHO) has concluded that stress is one of the most significant health problems of the 21st century (Fink, 2016; The World Health Report, 2001). Indeed, it has been linked to the top seven leading causes of death (heart disease, stroke, musculoskeletal disorders or injuries, suicide/murder, cancer, chronic liver disease, and lung disorders; Turton & Campbell, 2005), diseases that occur and accumulate over long periods of time (Stinchcomb, 2004). There are a variety of ways to define stress, dependent in large part on one's field of study. Social science scholars utilize definitions that include a general inability to cope with the demands placed on oneself (Gaines & Kappeler, 2011), and the undue strain placed on a human being by environmental stimuli that results in psychological and/ or physiological changes (Violanti et al., 2006; *see also* Cohen et al., 1997). However, one can understand that criminology is not the sole field to utilize the processes and concepts of stress. Below, I will provide a brief overview of the concept of stress, as discussed in the biomedical and psychological fields, before moving to its discussion in criminology, which will be used as a guiding framework throughout this dissertation.

Biomedicine and Psychology

In both the medical field and psychology, stress is examined as a process that has a variety of physiological and psychological precursors and responses. Broadly speaking, the stress response involves a stressful event (e.g., public speaking), that is followed by a physiological response (e.g., increased heart rate), that oftentimes leads to an additional

psychological response (e.g., anxiety). The subjective evaluation of one's ability to cope with the environmental demand results in the activation of specific physiological systems, intertwining the physical and psychological responses and adaptations to stress (Cohen et al., 1997).

A pioneer in stress research, Selye (1936; 1983) defined stress as a "non-specific physiological defense reaction in experimental animals" (Viner, 1999, p. 392). This was further specified by Mason (1968; 1975) who argued that specific emotional responses necessitated specific endocrine and hormonal reactions. Indeed, Cicchetti and Walker (2001) discuss stress as "a perceived threat to an organism's homeostasis" and "a situation that causes increases in autonomic nervous system activity or hormone secretion" (p.414). Rather than focusing on the stress response, a variety of other definitions examine the stressful event itself, and characterize stress as a "condition where an environmental demand exceeds the natural regulatory capacity of an organism, in particular, situations that include unpredictability and uncontrollability" (Koolhaus et al., 2010, p. 1291); or as the "process that includes the stimulus, the perceptual processing of this input, and the behavioural and physiological output" (*cited in* Koolhaas et al., 2010, p. 1292; Levine & Ursin, 1991; Levine, 2005). The variety of definitions just within the field of medicine and biology paint a salient picture of the complexities of this type of research. Koolhaus and colleagues (2010) acknowledge potential problems with the vast applicability of the use of the term 'stress,' and suggest that it is 'inappropriate' to use it to describe "conditions ranging from even the mildest challenging stimulation to severely aversive conditions" (p. 1291).

Dickerson and Kemeny (2004) add that the presence of a social-evaluative threat, wherein the situation could be negatively judged by others, is an encounter that elicits a particularly large hypothalamus-pituitary-adrenal (HPA) axis response; the endocrine system that is most closely linked to stress responses in mammals (Vazquez, 1998). The stress response and its associated hormonal secretions serves as a protective function, until it becomes overused, or 'chronically mobilized' (Cicchetti & Walker, 2001, p. 414), when it then begins exuding damaging, potentially pathogenic effects on the organism.

There are a number of biological consequences that result from the excess production of stress hormones (in medical terms "hypocortisolism"), including neuronal atrophy (i.e., a reduction in neuronal processes that is reversible with intervention), neurotoxicity (i.e., the destruction or killing of neurons, which can be seen in PTSD and clinical depression), and neuroendangerment (i.e., when steroids make the neurons more vulnerable, impairing the capacity to survive coincident events; Cicchetti & Walker, 2001; Sapolsky, 1996). Additionally, several critical metabolic processes are directly impacted by the limbic-hypothalamic-pituitary-adrenal (LHPA) axis including cognitive functioning, memory, disruption in developmental processes, mental disorders, stress hormones (cortisol) and brain functioning, PTSD (in combat veterans; Stein et al., 1997), and stress-related immunological and physiological disorders (Cicchetti & Walker, 2001).

Koolhaus and colleagues (2010) also note that both aversive and positive situations and stressors can evoke the same levels of physiological arousal, making their impact on the organism virtually indistinguishable. There are also general and stimulus-specific responses to stress that result in either adaptive or maladaptive responses by the

organism (Lopez et al., 1999; Vazquez, 1998). For example, Cannon's (1929) discussion

of the "fight-or-flight" response is a standard adrenal response to stress that occurs

among all healthy organisms (Goldstein, 2010). Conversely, among unhealthy organisms

that have effectively depleted the activation of their adrenal gland, resulting in what

doctors have termed adrenal fatigue (Ross, Jones, & Blockman, 2018), the responses to

stressors that would traditionally activate the adrenal gland vary, and include hormonal

disorders resulting in increased fatigue, insomnia, or joint pain.

Biomedical and Psychological Approaches to Coping with Stress

Individuals differ qualitatively in how they cope with and adapt to different

environmental conditions, whether that be proactive or reactive (Koolhaus et al., 2010),

and only when there is a "mismatch between demands and [one's] adaptive capacity,"

does it become problematic (Koolhaus et al., 2010, p. 1298). Individuals attempt to

anticipate events that may occur, in order to prepare themselves physiologically

(Koolhaus et al., 2010), and the frequency and duration of each individual stressor

impacts the ability of the individual to predict and control their responses to that stressor.

This, in turn, impacts the resiliency and adaptative capabilities of the individual

(Koolhaus et al., 2010). Resiliency can be defined as "a dynamic developmental process

encompassing the attainment of positive adaptation within the context of significant

adversity" (Cicchetti, 2010, p. 145). Organisms, after prolonged exposure to stress, are

likely to experience adaptation and resiliency failure, wherein a point of exhaustion is

reached; this is known as general adaptation syndrome (Selye, 1936; 1950), or burnout

(Rus et al., 2016).

Burnout can generally be described as a cumulative, prolonged response to chronic stressors (Maslach et al., 2001), and is characterized by three distinct dimensions: (1) emotional exhaustion; (2) depersonalization; and (3) reduced personal accomplishment. Emotional exhaustion refers to the effective depletion of an individual's emotional resources, and diminished workload capacities. Depersonalization refers to negative and cynical attitude development by the employee towards the 'client,' in this case, by the police, towards those they encounter while policing. Reduced personal accomplishment refers to an overall tendency to feel unhappy with oneself and one's performance at work (Maslach & Jackson, 1981; Maslach et al., 2001). Burnout and its accompanying components are most often examined among human service professionals, such as healthcare professionals (Dimou et al., 2016; Dyrbye & Shanafelt, 2016; Eliacin et al., 2018) and social service workers (Tartakovsky, 2016; Travis et al., 2018), who generally exert a substantial amount of energy interacting with other humans. More recently, scholars have been examining burnout among first responders (Griffin & Sun, 2018; Violanti et al., 2018; Yun et al., 2015), with some examining the impact that the opioid epidemic may have on police officer burnout (Pike et al., 2019).

Criminology

In criminology the terms "stress or "strain" are used most prevalently with reference to Agnew's (1992) general strain theory (GST), which lays out an almost endless number of interactions that occur between an individual and their environment. Rather than being conceptualized as a dependent variable, the field of criminology has historically examined stress/strain as an independent variable impacting criminal or crime analogous behavior (Baron, 2019; Jang & Rhodes, 2012; Ostrowsky & Messner, 2005).

Where psychology discusses the subjective evaluation of one's ability to manage

stressors (Cohen et al., 1997), criminology discusses the behavior that occurs as a result

of an individual attempting to manage the negative emotions that the stressors cause

(Agnew, 1992; Hay & Meldrum, 2010).

General strain theory (GST) stems from Robert Merton's (1938) social structure

and anomie theory, which posited that when there is a disconnect between what any

given culture values and the ability of its members to attain those values, some

individuals will react to this disconnect in a criminogenic and non-conformist way

(Agnew, 1992; see Akers & Sellers, 2013). Merton's theory formed the foundation for

Agnew's GST (1992), which expanded the types of strains beyond Merton's (1938)

discussion of illegitimate channels resulting from the pressures that accompany the

pursuit of the American Dream. Agnew's (1992) GST also included the loss of

positively-valued stimuli, such as the loss of a partner/spouse, suspension from school, or

difficulties encountered at work. The final strain included in Agnew's (1992) theoretical

perspective is the presentation of negatively-valued stimuli, such as criminal

victimization (Hay & Evans, 2006), or negative relations with peers or family.

These strains are likely to result in negative emotions and a desire to correct or

relieve those emotions. While Agnew (1992) explicitly discusses anger, depression, and

fear as the emotions that are most likely to result in crime or crime analogous behaviors

(e.g., an adult excessively drinking or gambling, which, while not illegal, can be

demonstrative of a failure to adequately or legitimately cope with strain and negative

affect), scholars are increasingly addressing additional negative emotions, such as anxiety

(Daniels & Holtfreter, 2018; Jang, 2007), envy (Daniels & Holtfreter, 2018), and

resentment (Bao, Haas, & Pi, 2004). Negative emotions, such as anger, are more likely to result in externalizing aggressive or violent behaviors (Agnew, 2006; Broidy, 2001), while emotions such as depression or anxiety, are more likely to result in internalizing behaviors, including self-harming behaviors (Agnew, 2006, 2013; Broidy & Agnew, 1997).

Agnew (2001, 2006) also discusses objective versus subjective strains; with objective strains defined as those that are generally disliked by a majority of the population, such as a death in the family, and subjective strains as those typically disliked solely by the person experiencing them, such as public speaking. Scholars examining strain often focus on the impact of objective strains on an individual, rather than on subjective strains or the subjective evaluation of objective strains (Agnew, 2001, 2006; *see* Broidy, 2001; Sharp et al., 2001 for exceptions). The inclusion of measures of subjective strain, as well as subjective evaluations of objective strains, has the potential to allow for the examination of individual and group differences in sources and severity of strains (Froggio & Agnew, 2007).

Further adding to the complexity of GST are the differences between vicarious, experienced, and anticipated strains. That is, strains that an individual has had experienced by those around them, has personally experienced, or anticipates experiencing in the future (Cullen, Agnew, & Wilcox, 2006). Most often examined utilizing victimization as the strain,[4] scholars have generally found that all three forms of strain are associated with further victimization (Zavala & Spohn, 2013) or deviance

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[4] Stack and Wasserman (2007) utilized economic strain in their qualitative analysis and found it was positively associated with suicide.

(Agnew, 2002; Baron, 2019). McGrath and colleagues (2011) focused on experienced and vicarious exposure to violence within a prison population, finding that vicarious experiences with violence increased the association with engagement in violence, and vicarious and experienced violence were both associated with drug and alcohol use. This exemplifies the impact that vicarious experiences can have on criminal behavior and on crime analogous behaviors such as alcohol use.

Criminological Approaches to Coping with Stress

The need to remediate a situation that caused negative emotion(s) and the strategies an individual uses to relieve those emotions depends on a number of factors, including personal and social access to legitimate coping mechanisms (Agnew, 1992). Coping with stress, as it is conceptualized in criminology, takes three primary forms: (1) cognitive coping (e.g., "it's not important," or "I deserve it"); (2) behavioral coping (e.g., engaging in vengeful or illegal behavior); and (3) emotional coping (e.g., acting directly on the negative emotion). Strains that are most likely to result in crime, delinquency, or other crime analogous behaviors as a method of coping are those that (1) are seen as unjust; (2) are perceived as particularly severe; (3) are associated with low social control; and (4) create some pressure or incentive to engage in criminal coping (Agnew, 2001).

Further impacting how an individual copes with the stressors present in their life are the magnitude, recency, duration, and temporal clustering of these events. Events that are low in magnitude or severity (e.g., having to fill out copious amounts of paperwork), but occur close together in time, or over a long period of time, evoke different responses than events that are high in magnitude but occur relatively rarely (e.g., a death in the family; Agnew, 1992). The chronic or cumulative nature of adverse events that occur

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repeatedly and/or over time essentially make GST a theory of both crime and criminality, as strain increases the likelihood of engaging in crime/crime analogous behaviors, which can lead to further strain (Agnew, 1992).

Agnew's (1992; 2001) GST is therefore an appropriate framework when researching stress in policing. The first strain, the inability to achieve positively-valued stimuli, is the easiest to apply to policing, and can be seen in the form of not receiving an anticipated promotion or praise for following protocol. The second source of strain, the loss of positively-valued stimuli, can be interpreted as a suspension or demotion. The final source of strain, the presentation of negatively-valued stimuli, can appear in policing in the form of an on-the-job injury, or as seen recently across the country, in a lawsuit due to a use of force situation.

Stress in Policing

Approximately 15,000 police departments employ around 701,000 full-time, sworn police officers (Hyland & Davis, 2019). Personnel within these departments ranges from 1 to just over 36,000, with an average of 155 full time sworn officers (LEMAS, 2021). Each of these 15,000 agencies is highly decentralized and collectively they vary in terms of size, structure, and level of accountability (Micucci & Gomme, 2005). The variation that exists from one region to the next, trickling down to the smaller aggregate of states, even further down to cities, and finally to the departments within each city, must be taken into account when examining police officer perceptions of various concepts, including stress. Potential differences in crime rates, neighborhood and beat quality, department diversity, and the historical context that may dictate community relationships all likely influence the work environment for police officers.

These considerations are all likely to impact some of the more traditionally researched topics, such as community policing (Graziano et al., 2014; Leroux & McShane, 2016; Schuck, 2014), officer use of force (Bolger, 2015; Terrill & Paoline, 2013; Terrill & Reisig, 2003; Telep, 2011), and the use of technology (Jennings et al., 2015; Ready & Young, 2015; White et al., 2017). These areas of research aside, the current climate surrounding law enforcement has become more and more contentious, stemming from the 2014 shooting of Michael Brown, an unarmed Black male, by White Ferguson, Missouri officer Darren Wilson (Davey & Bosman, 2014).

The concept of 'stress' in policing and policing research has become somewhat of a buzzword. Its impact and importance are understood, yet there is a lack of consensus on what exactly stress is, how stress is measured, and how stress is best addressed. A number of issues are related to *why* stress in policing is such a complex topic, not the least of which is the variety of definitions used in the various fields that examine the concept of stress, as discussed in the previous section. The variability and subjectivity of stressful situations and the ways in which different individuals respond to those situations makes stress difficult to measure and alleviate. Nonetheless, there are a number of constants in the relatively newer field of police psychology and stress research. While stress can result from many different situations, in policing it is often discussed as stemming from organizational and occupational factors (Violanti & Aron, 1993; Brown & Campbell, 1990; Collins & Gibbs, 2003). Source-specific stressors will be discussed further below.

Organizational Stressors

Organizational stressors are those that are shared with other occupations and are considered work-related stressors. The World Health Organization (WHO) described work-related stress as a result of demands that do not necessarily match the knowledge and abilities of any given individual, and that individual lacks the abilities to cope with the mismatch (WHO, 2001). This can include such things as requiring excessive paperwork, dealing with supervisors, navigating internal bureaucratic features of the agency (Maguire et al., 2019), or dealing with racial/ethnic and/or gender discrimination in the workplace. These sources of stress can be found in medical fields, in package delivery fields, and in academia, and are often considered to be more impactful in the lives of police officers (Brown & Campbell, 1990; Collins & Gibbs, 2003), with some reports indicating they may be six times as prominent as occupational stressors (Violanti & Aron, 1993).

Other organization-related aspects, such as recruitment and career progression (Cashmore, 2001; Jain et al., 2000), departmental culture (Peterson & Uhnoo, 2012; Bolger, 2015), the complaint investigation process (De Angelis & Kupchik, 2007) and cultural diversity within the workplace (Cashmore, 2002) have also been examined at length. Research centered on improving individual-level officer perceptions of the organizational climate of a police department often does so with reductions in officer stress and overall increases in job satisfaction as the outcome in mind (Greene, 1989).

Additionally, research has begun to examine the impact of organizational justice on well-being. That is, a link is emerging connecting the ways in which employees are treated by their employers or organizations, and stress. Stemming from this framework is

the procedural justice model[5], commonly utilized in criminology. Particularly applied to police-citizen encounters, this model states that when police officers treat individuals with respect and dignity, and make decisions in an open and transparent way, then citizens are likely to perceive them in a legitimate way (Trinkner et al., 2018). Among faculty members at a variety of universities, Judge and Colquitt (2004) identified organizational *in*justice as a stressor in the workplace, impacting one's ability to cope with the demands of the job. Similarly, Graham (2009) identified a negative relationship between organizational justice and stress among undergraduate students in Texas. Further, a link between distributive justice and components of burnout (such as exhaustion) was identified among a group of technology professionals (Dishon-Berkovits, 2018).

Organizational sources of stress are often discussed as chronic stressors. That is, while they may not be inherently stressful, they are situations that one finds oneself in repeatedly, and over a long period of time, resulting in accumulated psychological and physiological distress. This is much like the discussion of stress in biomedicine (Selye, 1936; 1983), psychology (Travis et al., 2016), and criminology (Violanti et al., 2017) more broadly. Stress in the workplace is often a result of perceived lack of support from supervisors and colleagues, as well as a perceived lack of control over work processes (WHO, 2001). Indeed, lack of support from supervisors is often identified as a key source of stress among law enforcement officers (Anshel, 2000). Although research suggests

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[5] Discussed in later sections, this dissertation utilizes Reisig and Mesko's (2009) procedural justice scale. While scholars often examine either procedural justice or organizational justice, the inclusion of a procedural justice scale in an organizational format has resulted in the scale being referred to as organizational procedural justice, per personal communications with Dr. Rick Trinkner.

that organizational stressors tend to be more prevalent and to cause more distress in officers, relatively rare, but potentially traumatic incidents such as witnessing a death in the field, contribute to psychological distress as well (Menard & Arter, 2013).

Occupational Stressors

Occupational stressors,[6] on the other hand, are those that are inherent to a particular occupation, in this case, policing. This can include instances such as writing a traffic ticket, responding to a high-risk call in progress, or investigating a homicide (Spielberger et al., 1981). The situation that most often comes to mind when one thinks of police officer stress is exposure to critical incidents, such as an officer-involved shooting (*see* Hart et al., 1993 for a review; Liberman et al., 2002). Exposure to potentially traumatic incidents has been associated with hyperarousal and hypervigilance (Violanti et al., 2017), alcohol use, and PTSD symptomology (Menard & Arter, 2013).

A critical incident can be described as an acute stressor, one that involves "particularly stressful episodes or events at work that often involve a sudden onset, are relatively short lived in duration, and manifest in distress almost immediately" (Anshel et al., 1997, p. 338; *see also* Evans & Coman, 1993; Newton, 1989). While these events are posited to result in a higher level of both physiological and psychological strain (Eden, 1990), as discussed above, research has demonstrated that organizational, or chronic stressors, cause more long-term distress among police officers (Violanti & Aron, 1993).

Shift work is discussed as one of the most difficult job requirements of police work (Maguire et al., 2019; Violanti et al., 2017). It is important to note that this is not a

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[6] While occupational stress has a number of different names, including operational or environmental stress (McCraty et al., 1999; McCreary et al., 2017; Saunders et al., 2019; Shane, 2010; Violanti et al., 2019), and job context (Violanti et al., 2014), *occupational stress* will be used throughout this dissertation.

feature that is unique to policing, as medical personnel also experience and must manage physiological and psychological ailments related to shift work (Sofioanopoulos et al., 2012; Chou et al., 2014). Nonetheless, sleep disruption is one of the more common consequences for officers working Night or Graveyard shifts (Rajaratnam et al., 2011) and perpetuates a number of other physiological ailments, including obesity and cardiovascular disease (Ramey et al., 2012), as well as increased need for rest and recovery due to high levels of fatigue (Lammers-van der Holst & Kerkhof, 2014).

Other commonly discussed occupational stressors involve either experiencing a fellow officer being killed in the line of duty, or killing someone in the line of duty, although these events are rare, in comparison to other experienced stressors (Padilla, 2020; Spielberger et al., 1981; Violanti & Aron, 1995). Additionally, difficult interactions with the public and the potential for complaints to be filed against officers contribute to poor psychological and physiological health (Dowler & Arai, 2008; Kula, 2017; Maguire et al., 2019).

The next section discusses the covariates of stress in policing, with a focus on the officer's race/ethnicity and gender. Due to the historically White, male demographic that makes up law enforcement, non-White and female officers are likely to face disparate levels of stress as a result of their 'token' status.

Covariates of Stress in Policing

Kanter's (1977) tokenism hypothesis discusses the impact of belonging to a minority group that comprises less than 15% of the total group, leading to increased visibility, isolation, and inhibited opportunities to advance in the workplace. One's status as a "token" has the potential to increase levels of stress and decrease one's job

satisfaction (Morash et al., 2006), as well as force individuals into roles that are perceived to be consistent with their minority identity (Stroshine & Brandl, 2011). This can include women being assigned to domestic violence or sexual assault cases, or minority officers being assigned to patrol areas that have high concentrations of minority citizens, presumably because they may be 'better equipped to handle' those situations (Brown, 2007; Padilla, Rockwell, & Huff, *unpublished*; Todak, Huff, & James, 2018). Indeed, tokenism in policing is often discussed as impacting non-White officers and female officers.

      Race/Ethnicity. The proportion of non-White officers in America continues to increase slowly. In 1993, 78.5% of officers were non-Hispanic/White; by contrast, only 11.6% were Black/African American, 7.8% were Hispanic/Latinx, and 2.1% were other race/ethnicity (including Asian/Pacific Islander, Native American, other Pacific Islander, American Indian, Alaska Native, or 2 or more races). By 2016, those numbers had shifted somewhat, with 71.5% of officers being non-Hispanic/White, 11.4% being Black/African American (the only minority group to see a decline in representation), 12.5% being Hispanic/Latinx, and 3.6% belonging to the other race or two or more races category (Hyland & Davis, 2019). While attempts to reduce the tension between departments and the communities they serve often come in the form of increasing the diversity of the departments to make them more representative of the communities, this is not always achieved. Compared to their representation among police officers, in 2016 73.3% of the population was non-Hispanic/White, 12.6% was Black/African American, 17.3% was Hispanic/Latinx, and 9.3% belonged to another racial/ethnic group (Asian/Pacific

Islander, Native American, other Pacific Islander, American Indian, Alaska Native, or 2 or more races; Hyland & Davis, 2019; U.S. Census, 2016).

Although race issues are particularly salient in America, they are not uniquely American. Examining ethno-racial minority officer perceptions in an international context further complicates this area of research. In a British study on Afro- Caribbean and South-Asian police officers, Cashmore (2001, 2002) reported that a portion of the officers concluded that racism existed in law enforcement as a result of "the exigencies of police work" (p. 657), rather than as a result of individuals engaging in racist or discriminatory behaviors themselves. Further, many of these officers had personally experienced discrimination in their departments but attributed it to being 'tested' or 'hazed,' instead of overt racism from their peers. The systemic and pervasive ethno-racially biased practices by White police officers, both on the street and in the office, were a key factor in the under recruitment and retention of ethno-racial minority police officers (Cashmore, 2001, 2002). These sentiments indicate it may be "reasonable to presume" that minority police officers have lower levels of job satisfaction, and higher levels of stress, as compared to their White counterparts (Zhao et al., 1999, p. 156). Indeed, more than twenty years after the publication of the Zhao et al (1999) study, Padilla (2020) found that race/ethnicity continued to be a significant, positive predictor of occupational stress, and stress on the job more generally.

Bland and colleagues (1999) examined career progression among ethnic minority officers in England and Wales who identified as White, Asian, Black, or "other," and found that, overall, minority officers were recruited at lower levels, were promoted more slowly, were more likely to resign or be dismissed, and exhibited more job dissatisfaction

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than their White officer counterparts. Further, Jain and colleagues (2000) focused on career progression among minority and aboriginal police officers in Canada, and similar to Cashmore's (2001, 2002) British study, concluded that the department itself was not entirely conducive to making minority officers feel integrated into the organization.

 Black/African American Officers. The proportion of Black/African American officers in the United States has remained relatively constant since 1997 (11.6%), hitting a peak of 11.9% in 2007 and 2013, and declining to 11.4% in 2016. The focus on Black/African American and White officers alone has made sense, given that these are the two demographics that made up policing for quite some time. Perceptual work in policing has often taken a comparative approach to examine differences between Black/African American and White police officers, including officer perceptions of and ability to engage in conflict resolution (Sun & Payne, 2004), officer perceptions of their job role (Sun, 2003), and officer attitudes towards racial animosity (Teahan, 1975).

 Mirroring a trend in criminological research more generally, and facing criticism today, scholarship surrounding policing often uses race as an independent or control variable to examine differences in various phenomenon (e.g., Brady & King, 2018; Padilla, 2020; Paoline & Gau, 2017; White et al., 2019), rather than taking into consideration the totality of experiences of minority individuals and police officers. Work that focuses specifically on the viewpoints and perceptions of Black/African American officers has become more common in the last two decades, with studies examining officer perceptions of racial profiling, both within and outside of the department (Barlow & Barlow, 2002), barriers in policing (Bolton,

2003), the work environment (Martin, 1994) and community relations (Brunson & Gau, 2015), just to name a few.

Hispanic/Latinx Officers. Very few studies include Hispanic/Latinx police officers when examining various topics (contra Karaffa et al., 2015), and even fewer focus exclusively on this group. Despite Hispanic/Latinx citizens being the largest ethno-racial minority group in the U.S. population at 18.3% (U.S. Census, 2018), accounting for more than half of the total U.S. population growth from 2010-2020 (Krogstad, 2020), Hispanic/Latinx officers only make up 12.5% of police officers nationwide (Hyland & Davis, 2019)[7].

There are some notable similarities between policing and Hispanic/Latinx culture. They are often both characterized by a sense of machismo and hypermasculinity (Fielding, 1994; Herbert, 1998), or, gendered rules that typically have prohibited the overt expression of certain feelings and emotions that may portray individuals as weak to their peers, supervisors, or subordinates. Nonetheless, the limited amount of research that explicitly examines Hispanic/Latinx police officers has focused on poor mental health outcomes such as PTSD (Pole et al., 2001; Pole et al., 2005; Marmar et al., 2006) and sleeping disorders (Rajaratnum et al., 2011), generally finding that Hispanic/Latinx police officers have higher rates compared to their White and Black/African American officer counterparts. Further, Gallo and colleagues (2014) indicate that chronic stress is related to cardiovascular disease risk and prevalence in Hispanic/Latinx individuals in the general population.

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[7] This is an increase from 7.8% in 1993 (Hyland & Davis, 2019).

Irlbeck (2008) utilized in-depth interviews with 34 sworn Hispanic/Latinx police officers and concluded that there is wide variation among these police officers in terms of their ability to relate to Hispanic/Latinx citizens. The author further concluded that the assumption that all Hispanic/Latinx police officers believe and behave in a homogenous way is inappropriate (Irlbeck, 2008). What is more, research often ignores the unique experiences of Hispanic/Latinx individuals and assumes their perceptions will be the same as other ethno-racial minority police officers (Brunson & Miller, 2005; Warren, 2010). Differing historical contexts surround these groups of individuals in the general population, therefore impacting individuals who may become police officers (Todak, 2017), influencing the reciprocal relationship between how the community views and interacts with the police, and how the police view and interact with the community.

Work examining the perceptions of Hispanic/Latinx police officers indicates that they believe they have fewer opportunities for promotion or advancement than their White counterparts, which leads to isolation in the workplace (Stroshine & Brandl, 2011). Further, Hispanic/Latinx officers reported they were more likely to be the recipients of derogatory comments and were more likely to feel discriminated against due to their ethnicity, as well as to be excluded from both formal and informal social support networks at work (Stroshine & Brandl, 2011; see also Liberman et al., 2002).

Gender. Although the proportion of women in policing has increased from 10% in 1997 to approximately 12% in 2016 (Hyland & Davis, 2019), women still are substantially underrepresented in policing, especially considering that in 2016 women made up 50.8% of the total U.S. population (U.S. Census, 2016). One important initiative is the 30x30 Pledge, which aims to increase female representation in policing to 30% by

the year 2030 (Advancing Women in Policing, 2021). Previous research indicates that while female officers may have increased levels of stress compared to male officers (Acquadro Maran et al., 2015; McCarty et al., 2007; Violanti, 2008; Yoo & Franke, 2010), they also vary in the sources of stress and the toll that stress takes on their daily lives (He et al., 2002; McCarty et al., 2007; Morash & Haarr, 1995). However, some researchers find no differences between male and female police officers in terms of aspects of burnout, such as emotional exhaustion, depersonalization, and reduced personal accomplishment (Kop et al., 1999).

Female officers may be the primary caregivers in their households and the irregular hours and shift work associated with policing may cause a considerable amount of stress (Collins & Gibbs, 2003; McCarty et al., 2007). More specifically, the emotional exhaustion and depersonalization that female officers accrue in the workplace may transfer to the household (Thompson et al., 2005). This may result in strained marital quality and other family relationships, increasing overall levels of stress, and further impacting a female officers' ability to do her job adequately (Thompson et al., 2005).

The intersection between race/ethnicity and gender also is important to consider. Morash and Haar (1995) reported that Black female police officers reported the highest levels of stress among any race/ethnicity/gender dyad. This is represented in the "triple jeopardy" that is sometimes associated with ethno-racial minority female officers (Holder et al., 2000; McCarty et al., 2007). That is, officers who experience both elements of racial/ethnic discrimination or racism experienced by minority male officers, and elements of gender discrimination or sexism as White female officers, but also

experience potentially unique problems that are due to their status as both a minority and a female officer (McCarty et al., 2007).

Consequences of Stress

There are a variety of dimensions of an officers' life that are impacted by stress, evidenced above by the discussion of the crossover effects of stress on female officers' homelives (Thompson et al., 2005). They are broadly categorized into psychological, physiological, and behavioral consequences of stress, and effective coping mechanisms are one keyway to mitigate these consequences. Evans and colleagues (1993) define effective coping as "the efficacy with which individuals deal with their emotional responses to stressors and act to resolve the stressors" (p. 238). Previous research indicates that police officers may not actively engage in effective coping strategies, with many suffering from various short-term and long-term consequences of stress (Ely & Mostardi, 1986; Singleton & Teahan, 1977; Stratton et al., 1984; Violanti et al., 2018). These consequences can be seen in many dimensions of an officer's life, discussed further below.

Psychological. The psychological consequences of prolonged stress on police officers include depression (Santa Maria et al., 2018), post-traumatic stress disorder (PTSD), anxiety, and exhaustion (Gershen et al., 2009; Stinchcomb, 2004). Additionally, acute stress disorder (ASD), which presents symptoms similar to PTSD (American Psychiatric Association, 2020), but is temporary, can later develop into PTSD. Officer exposure to acute stressors, combined with future exposures to acute stressors, increases the likelihood of developing PTSD (Chopko et al., 2015).

Suicide and Suicidal Ideation. There are a number of reasons why official rates of police officer suicide are unknown, including a general desire to shield victims and their families, as well as the department, from the stigma that is still associated with mental health issues and suicide (Violanti, 1995). Studies of police officer suicide provide inconsistent evidence (see Violanti et al., 2019 for a review) regarding their rate relative to comparison populations. Nonetheless, more police officers die by their own hand than die in the line of duty, approximately 2.4 times as often as they die by homicide (U.S. DOJ, 2015). There also is evidence that suicide rates increase among retired officers, with Gaska (1980) indicating a tenfold increase in suicide rates among retired officers, as compared to White males in the general population. While some estimates state that approximately every 17 hours, an officer dies by suicide (Larned, 2010), the historical frequency at which these events occur is difficult to estimate, as official statistics have only been collected since 2016 (Blue H.E.L.P., 2020). Nonetheless, we have a more contemporary understanding of the prevalence of the problem with 66 reported police officer suicides so far in 2021 (Blue H.E.L.P., 2020).

Covariates of Suicide. There are a number of factors that impact the rates of suicide for law enforcement officers, including stressful working conditions, access to lethal weapons (Larned, 2010; Milner et al., 2013), hopelessness, trauma exposure, threats to physical safety, and perceived futility of their job (Violanti et al., 2016). Research also demonstrates that suicide is more common among older officers and is related to issues with alcoholism (Chae & Boyle, 2013), physical illnesses, impending retirement, the trauma associated with continuous exposure to injury and death (Violanti, 1995; Milner et al., 2013), the social strain resulting from shift work (Chae & Boyle, 2013), and the

perception of a negative public image (Violanti, 1995). Related to retirement specifically, the fear and strain of separation from the police subculture, coupled with loss of friends, loss of status as a police officer, and loss of self-identity, has the potential to exacerbate the risks for suicide (Violanti et al., 2019).

       Physiological. General physiological consequences of stress are discussed in earlier sections (Biomedicine and Psychology), but there are physiological consequences of stress that are prevalent among law enforcement officers, including increased rates of cardiovascular disease (Maguire et al., 2019; Franke et al., 2002; DOJ, 2015; Wirth et al., 2017; Zimmerman, 2012), coronary artery disease and sudden cardiac death (Maguire et al., 2019; Wirth et al., 2017; Zimmerman, 2012), elevated levels of insomnia and chronic pain problems (Gershen et al., 2009), and high rates of death due to liver disease resulting from alcohol use (Menard & Arter, 2013). Additionally, the shift work associated with policing leads to acute and chronic fatigue, resulting in on-duty injuries and higher risk of injury more generally (Fekedulegn et al., 2017). Gastrointestinal issues (Wirth et al., 2017; Zimmerman, 2012; Tewksbury & Copenhaver, 2015), Type 2 diabetes (Wirth et al., 2017; Zimmerman, 2012), and other metabolic disorders (Wirth et al., 2017; Zimmerman, 2012) are also prevalent among this population.

       While also prevalent among health care workers, sleep disruption due to the nature of shift work is common among police officers (Fekedulegn et al., 2017; Wirth et al., 2017; Zimmerman, 2012; Tewksbury & Copenhaver, 2015; Ramey et al., 2012). This is particularly problematic for officers, due to sleep being utilized as a method of recovery and emotional processing for the trauma they are exposed to each day (Lammers-Van der Holst & Kerkhof, 2015). Indeed, officers rarely meet the 7-8 hours of

recommended sleep per night, which leads to a reduced general awareness, decreased job performance, and threats to public safety (Tewksbury & Copenhaver, 2015).

Behavioral. Stress and its resulting psychological and physiological consequences can also impact officers' behavior. Drug and alcohol use and abuse are prevalent among police officers (Maguire et al., 2019; McCarty et al., 2007; Tewksbury & Copenhaver, 2015), who use drugs and alcohol as a way to avoid stressful events, as well as to mitigate PTSD symptomology (Chopko et al., 2013; Menard & Arter, 2013). This method of coping, while fundamentally accepted throughout the police culture, lends credence to the elevated rates of suicide among police officers (Nock et al., 2008; Violanti, 1995).

Additionally, marital issues are commonplace among law enforcement officers (Arnetz et al., 2013; Karaffa et al., 2015), with officers having higher rates of divorce (Nordlicht, 1979), and an approximately 40% higher likelihood of engaging in domestic violence compared to the general population (Gibson et al., 2001; Violanti et al., 1995; Saunders et al., 2016).

Researchers also have investigated whether use of force incidents result from improperly managed stress. Force is broadly defined as "acts that threaten or inflict physical harm on suspects" (Terrill, 2003, p. 56) and is used in about twenty percent of all arrests (Bayley & Garofalo, 1989; Hickman et al., 2008; Terrill et al., 2012). When utilizing a narrower definition of force, including those encounters where more than a physical grip is employed, force is found to be used in less than 5% of all police encounters (Terrill, 2003). Although the prevalence of police use of force is relatively low, there is evidence that officers who are under extreme levels of stress and who are

fatigued as a result may be less likely to consider available alternatives before resorting to force (Keinan, 1987). Acute and chronic stress has a negative impact on shooting accuracy, decision-making skills, and cognitive and perceptual motor performance (Hope, 2016), all of which may enhance the likelihood of use of force.

*The Police Role***.** An important aspect of the police role is that it involves making immediate diagnostic decisions about any given case (Goldstein, 1977), oftentimes with incomplete information. The uniquely urgent, involuntary, and public nature of police-citizen encounters can lead to a higher likelihood for violence to result (Fyfe, 2015). The pressure to do the right thing – particularly in modern times when officer body-worn cameras and citizen ability to record interactions are prevalent – results in ambiguity regarding the police role and what constitutes good police work (Paoline, 2003), and in increased levels of stress (Padilla, 2016).

The Role of Culture in Coping with Stress. Reliance on maladaptive coping mechanisms can be explained, in part, by the nature of the police culture, which is a White, male-dominated field that places a premium on being "tough" and impervious to the stressors of the job (Blumenstein et al., 2012; Cordner, 2017; Terpstra & Schaap, 2013).

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lends credence to the elevated rates of suicide among police officers (Nock et al., 2008;

Violanti, 1995).

      Additionally, marital issues are commonplace among law enforcement officers

(Arnetz et al., 2013; Karaffa et al., 2015), with officers having higher rates of divorce

(Nordlicht, 1979), and an approximately 40% higher likelihood of engaging in domestic

violence compared to the general population (Gibson et al., 2001; Violanti et al., 1995;

Saunders et al., 2016).

      Researchers also have investigated whether use of force incidents result from

improperly managed stress. Force is broadly defined as "acts that threaten or inflict

physical harm on suspects" (Terrill, 2003, p. 56) and is used in about twenty percent of

all arrests (Bayley & Garofalo, 1989; Hickman et al., 2008; Terrill et al., 2012). When

utilizing a narrower definition of force, including those encounters where more than a

physical grip is employed, force is found to be used in less than 5% of all police

encounters (Terrill, 2003). Although the prevalence of police use of force is relatively low, there is evidence that officers who are under extreme levels of stress and who are fatigued as a result may be less likely to consider available alternatives before resorting to force (Keinan, 1987). Acute and chronic stress has a negative impact on shooting accuracy, decision-making skills, and cognitive and perceptual motor performance (Hope, 2016), all of which may enhance the likelihood of use of force.

The Police Role. An important aspect of the police role is that it involves making immediate diagnostic decisions about any given case (Goldstein, 1977), oftentimes with incomplete information. The uniquely urgent, involuntary, and public nature of police-citizen encounters can lead to a higher likelihood for violence to result (Fyfe, 2015). The pressure to do the right thing – particularly in modern times when officer body-worn cameras and citizen ability to record interactions are prevalent – results in ambiguity regarding the police role and what constitutes good police work (Paoline, 2003), and in increased levels of stress (Padilla, 2016).

The Role of Culture in Coping with Stress. Reliance on maladaptive coping mechanisms can be explained, in part, by the nature of the police culture, which is a White, male-dominated field that places a premium on being "tough" and impervious to the stressors of the job (Blumenstein et al., 2012; Cordner, 2017; Terpstra & Schaap, 2013).

Defining Culture. The Final Report of the President's Task Force on 21st Century Policing uses the phrase 'culture' over 40 times but does not define or describe what the term means (DOJ, 2015). According to Manning (1989), the police culture is characterized by a set of "accepted practices, rules and principles of conduct that are

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situationally applied, and generalized rationales and beliefs" (p. 360). Reiner (1992)

offers five components that make up police culture. They include (1) the sense of the

mission, (2) the desire for action and excitement, often leading to the glorification of

violence, (3) an 'Us/Them' mentality that separates officers from the rest of the world,

(4) traits of authoritarianism or conservatism that often lead individuals to self-select into

the profession (see also Colman & Gorman, 1982), and (5) a general suspicion and

cynicism towards the general public and law and legal procedures. Similar to Reiner

(1992), Paoline (2004) discusses a variety of attitudinal dimensions present within police

culture. Among the similarities are views of citizens, policies and procedural guidelines

within an organization, and a general tendency towards aggressive policing. Paoline

(2004) also offers that police culture encompasses officers' views of supervisors and their

general role orientation (discussed briefly above).

It also is important then, to differentiate between socialization and culture.

Although the two terms are often used interchangeably, police culture is fostered *through*

both formal and informal socialization during the academy or one's probationary period

with a field-training officer (FTO), and is reinforced throughout the career (Paoline,

2003). The culture surrounding policing has the potential to produce certain working

personalities, dependent in part on one's role within the organization (Reuss-Ianni &

Ianni, 1983).

The Working Personality. Policing scholars contend that there is a unique police

officer working personality, or "style of life" (Skolnick, 1966, p. 81), that is characterized

by the presence of danger and authority. Others have extended this working personality to

include isolation from the community and solidarity with officers (Decker, 1978), as well

as a general level of suspicion towards civilians (Paoline, 2004; Twersky-Glasner, 2005).

Waddington (1999) argued that the extent of the danger experienced by police officers

was contingent on their use of authority. Arguably that has shifted today, where there is

inherent danger in police work, regardless of whether the officer has exerted authority in

a particular situation, exemplified in the 28 felonious gun deaths of officers in 2021 as of

June (ODMP, 2021). The authoritarian conservatism that is often embedded within police

culture gives credence to the authority an officer has to maintain order within their beat

(Holdaway, 1983). This "law and order" aspect of the job is one that officers see as

primary and crucial (Waddington, 1999). Perhaps the most well-known component of the

working personality is the crime-fighting mentality that officers may have as a result of

the authoritarianism that is present. The irony behind this mentality is that while many

officers believe this is their primary duty, they spend more time on public assistance and

do not substantially influence crime rates (Waddington, 1999).

An additional key aspect of the working personality, *machismo*, lends itself to the

creation of the 'tough-guy' image that officers value (Herbert, 1998; Twersky-Glasner,

2005). Where the notion of acting tough tends to be more crucial than actually being

tough, portraying traits such as aggression or a willingness to take risks elevates the

standing of officers in relation to their peers. In regard to the isolation from citizens, this

"Us/Them" mentality is often paralleled with the military; however, police officers deal

with citizens, while the military deals with perceived enemies overseas (Waddington,

1999). Having to engage in coercive authority with citizens who live within one's

community allows for the increased marginalization of police officers. That is, officers

are less likely to go to community events or socials, and more likely to spend their off-

duty time with other officers, thus increasing their isolation (Padilla, 2016; Waddington, 1999). Defensive solidarity occurs within the rank-and-file as well, as officers of different ranks are more likely to affiliate solely with each other and develop skepticism towards members outside their rank (Waddington, 1999).

Organizational Culture. Organizational culture research provides an understanding that a monolithic culture does not truly exist within policing. That is, police culture varies depending on where one works and for whom one works (Paoline & Gau, 2018). This assumes that the specific department and the community it resides in invariably influence the culture experienced by the officers. At this level it is understood that the leader of the department – the chief, sheriff, or commissioner – is crucial for determining how the culture of the department is fostered (see Shadwick, 2020). Different styles of departments will produce different cultures. That is, a legalistic department which emphasizes quantitative efficiency in the form of arrests or tickets, will differ from a department that endorses a service-orientation (Paoline & Terrill, 2013). The methods used for coping with pressures of the job in each of these departments would likely differ as well.

Occupational Culture. Occupational culture involves the "the attitudes, values, and norms that are transmitted and shared among groups of individuals in an effort to collectively cope with the common problems and conditions members face" (Paoline & Terrill, 2013, p. 5). This is the overarching culture that assumes homogeneity among police officers; the "thin blue line" understanding that often encourages citizens to enter the police force in the first place. Concepts that fit with this level of culture include the "Us/Them" mentality between officers and citizens that then increases the collective

bond and solidarity between police officers (as discussed above; see also Paoline, 2003). Additionally, the presence of danger and authority, the social isolation felt, and the crime fighting mentality are all salient features in the overarching culture of policing.

Rank/Sectional Culture. Rank/sectional culture asserts that differences in one's rank or section designation influences the cultural divergences, as one's stressors and experiences differ substantially from patrol to detective, for example. Reuss-Ianni (1983) differentiates between a street cop culture and a management cop culture wherein the values and concerns are markedly different. These two cultures differ still from that of the middle-management culture of sergeants and lieutenants who are in between the lower- and upper-level cultures and thus may experience additional role ambiguity (Manning, 1989). Additionally, officers of a lower rank may adapt a cover-your-ass (CYA) mentality and avoid making waves in a legalistic department versus how they might cope in a watchmen or service-oriented department (Paoline & Terrill, 2014).

Outcomes of Culture. Culture is often used when discussing how officers deal with citizens. The use of perceptual shorthand and stereotypes when dealing with citizens is a common tactic by police officers (Crow & Adrion, 2011; Pinizzotto & Davis, 1999; Skolnick, 1966), similar to the perceptual shorthand used by judges when faced with incomplete information to inform their decision-making (Hartley et al., 2007; Steffensmeier et al., 1998). When an officer is faced with the need to make an immediate decision, and does not have adequate information, they may rely on perceived blameworthiness, dangerousness, and other practical considerations (i.e., focal concerns), to identify the 'symbolic assailant' (Skolnick, 1966) that may represent a danger to their community. Racial profiling and abuse of authority can be said to occur due to an

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occupational culture of minority oppression or an organizational culture that enforces a legalistic style demanding high arrests and citations (Chan, 2011; Paoline & Terrill, 2014). Conversely, ascribing to perceptual shorthand and stereotypes can also be useful in maximizing efficiency and 'maintaining the edge' over citizens (Waddington, 1999). Given the experience that officers have in dealing with citizens, they become skilled at reading situations and people in order to handle citizen encounters more quickly and effectively.

Culture is also useful in discussing how officers learn the day-to-day components of police work, as well as preventing some forms of inappropriate conduct (see Paoline, 2003). The organizational culture fostered by leadership can sometimes encourage a CYA mentality and avoidant role orientation (Paoline & Terrill, 2014) wherein officers may lay low and avoid certain aspects of their job if they perceive that their leadership will scrutinize their behaviors. This creates additional role ambiguity in officers and increases the defensive solidarity felt by lower-ranking members of the department (Waddington, 1999).

Ultimately, the role that police culture and the working personality of an officer plays in how an individual chooses to (or chooses not to) cope with stress, is complex. The 'machismo,' tough-guy image that is pervasive in the field (Herbert, 1998; Twersky-Glasner, 2005), increases one's standing among peers as being someone known as a risk-taker. However, it can also work to constrict one's prosocial methods of managing stress and mental health and allows avoidance and the prohibition of expressing emotions to become a "style of life" (Skolnick, 1966, p. 81) among law enforcement officers.

Services and Interventions

There are a number of mental health services that are offered for police officers. Aside from departmentally provided resources, which will be described in more detail below, there are numerous ways that officers can appropriately cope with the demands of their job and its impact on their homelife. These include peer support groups, use of exercise, family-involved therapy, training, and more simply, increased availability of off-duty time. New Jersey's Cop 2 Cop program is a salient example of peer hotlines that are becoming more popular. This program provides retired law enforcement officers as hotline speakers that officers can call and talk to about mental health issues, if they so choose (New Jersey Police Suicide Task Force Report, 2009; Waters & Ussery, 2006).

Oftentimes, the first time an individual will come into contact with a psychological professional, is during their pre-employment psychological evaluation, which is designed to identify and select candidates who are "well adjusted, [have] good coping skills, the ability to adapt to unique activities and unusual demands, the ability to accept supervision, a willingness to be exposed to danger, and ability to accept contradictory roles" (Dantzker, 2011, p. 277; *see* also The Presidents Commission on Law Enforcement and Administration of Justice, 1967; Twerskey-Glasner, 2005). While approximately 90% of departments utilize some sort of psychological screening tool (Cochrane et al., 2003; Mark, 2014), the lack of standardization and consistency in the tools used to make these assessments has received some criticism (Arrigo & Claussen, 2003; Dantzker, 2011; Mark, 2014), due to perceptions that these tools may not be effective in 'screening in' candidates (Arrigo & Claussen, 2003).

One of the most widely available support services is the Employee Assistance

Program (EAP), which is available in most police departments and offers a round-the-

clock open door for officers to talk to a clinical psychologist about any problems they

may be having. Because of the easy access of EAPs, most departments rely solely on this

service, neglecting to offer other services that could be just as beneficial. Further,

individuals are likely to only seek out this service after a critical incident, rather than

utilizing it as a routine tool to maintain their mental health (Stinchcomb, 2004).

Some police departments also utilize private or departmentally provided

psychologists who are charged with conducting fitness-for-duty evaluations (FFDEs) and

hosting regular sessions with officers, as well as providing referrals for outside

psychologists. However, these psychologists, while interacting almost exclusively with

police officers, do not always have experience as a police officer, so the comfort and

candor of the officers is not known. A fitness-for-duty evaluation involves a:

> "…formal specialized examination of an incumbent employee that results from
>
> (1) objective evidence that the employee may be unable to safely or effectively
>
> perform a defined job and (2) a reasonable basis for believing that the cause may
>
> be attributable to a psychological condition or impairment. The central purpose of
>
> an FFDE is to determine whether the employee is able to safely and effectively
>
> perform his or her essential job functions" (IACP, 2013, p.2)

The IACP also mandates that agencies should have "direct evidence of impairment, a

credible third-party report or other reliable evidence" (IACP, 2013, p. 2) when ordering a

FFDE because of the potential legal ramifications and disciplinary action the officer may

face (Fischler et al., 2011). Aside from the use of FFDEs in instances related to work

performance, they can be utilized during pre-employment psychological evaluations (as discussed above), after critical incidents to ensure good mental health standing, and simply if an officer's attitude has substantially shifted (Cox & Jacquin, 2020).

In addition to the EAPs and department psychologists, departments oftentimes will host training sessions that inform officers about potential stressors and ways to cope with these stressors, such as physical activity or family time (Stinchcomb, 2004). For example, the East Mesa Group in New Mexico offers a voluntary "Running Through the Fog" emotional exhaustion and burnout seminar designed to prepare officers for what they might encounter on the job (Libicer, 2015). While seminars such as these are beneficial, in that they continue to educate officers on the importance of maintaining good mental and physical health, they do little to prevent stress from occurring in the first place.

Stress Management Interventions

Stress management interventions in policing are often aimed at impacting psychological, physiological, or behavioral outcomes. According to Maguire and colleagues (2019), interventions designed to affect a combination of outcomes and those focused on the organization as a whole tend to be more effective than interventions focusing on a single outcome or on the individual officer. Primary interventions are preventative in nature and work to prevent stress from occurring (Maguire et al., 2019). Secondary interventions are ameliorative and help individuals cope with stress that has occurred (Maguire et al., 2019). Tertiary interventions are reactive and aim to treat the stress-related symptoms that individuals may already be experiencing (Maguire et al., 2019). Interventions are most often secondary or tertiary and aim to help individuals cope

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with stress or alleviate the resulting symptoms, rather than focusing on changing the environment that is responsible for the stress to begin with (Stinchcomb, 2004).

Penalba, McGuire, and Leite (2008) provided a Cochran Systematic Review of psychosocial interventions for psychological distress in law enforcement that focused on randomized and quasi-randomized controlled trials. Of the ten eligible studies, three were related to exercise-based psychological interventions, such as circuit weight training and physical conditioning. The remaining seven studies were related to psychological interventions, such as Eye Movement Desensitization and Reprocessing (EMDR)[8] and group counseling sessions. Only one of the studies that was included examined a primary intervention (Backman, 1997), with significant differences in levels of depression and cynicism reported for the those who participated in mental imagery training to counter potentially damaging encounters. Overall, due to the variability in participant inclusion and lack of methodological rigor, the authors of the systematic review could not definitively say that psychological interventions could assist officers with psychological and physical health symptoms.

Similarly, Patterson, Chung, and Swan (2014) provided a Campbell Collaboration Systematic Review on stress management interventions for police officers and recruits that also focused on randomized and quasi-randomized controlled trials. Of the twelve eligible studies, three studies examined behavioral outcomes, such as overall work performance, marital satisfaction, and drinking or smoking. Two of the eligible studies examined physiological outcomes, such as heart rate and blood pressure measurements.

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[8] EMDR is an integrative psychotherapy treatment that works to enable individuals to heal from distressing life events. Originally used for PTSD, it is now also used for a variety of anxiety-based disorders. For a comprehensive overview, see Shapiro and Solomon (2010).

The remaining studies examined psychological outcomes, such as emotional disclosure and coping, as well as PTSD. Overall, the stress management interventions examined had no significant effect on psychological, behavioral, or physiological outcomes, and the authors could not provide support for the impact of stress management interventions for police officers, due in large part to the methodological weaknesses of the studies, similar to Penalba and colleagues (2008).

Barriers to Accessing Services

There are many barriers when it comes to law enforcement officers seeking out and accessing mental health services (Burke, 2019; Fox et al., 2012). Primarily, there is a fear of judgement from peers or supervisors, as well as a self-imposed stigma that admitting to needing help is a sign of weakness (Karaffa & Tochov, 2013). Officers have described a fear of losing their badge or being terminated as another prominent factor that prohibits them from seeking help (Fox et al., 2012; Padilla, 2016). Additionally, if it becomes known that an officer who is involved in a use-of-force incident has a history of mental health issues, the department may become liable for any uses of force or citizen complaints that are filed against them (Burke, 2019; Price, 2017).

Haugen, McCrillis, Smid, and Nijdam (2017) provided a systematic review and meta-analysis of mental health stigma and barriers to mental health care for first responders more broadly (i.e., rescue workers, paramedic trainees, and combat medics), utilizing non-interventional studies. Fourteen studies were eligible for inclusion. Overall, the most commonly endorsed barriers to seeking mental health care were scheduling concerns and not knowing where to get help. The most commonly endorsed stigmas to

seeking out mental health care included fears regarding confidentiality and negative career impact (Haugen et al., 2017).

There are a number of mental health services that are offered for police officers, including informal methods such as peer support groups, use of exercise, family activities, or time off from work. More formally, interactions with mental health care professionals can occur during a pre-employment psychological evaluation (Twersky-Glasner, 2005), the use of Employee Assistance Programs (EAPs), or a fitness-for-duty evaluation (Stinchcomb, 2004). Stress management interventions in policing are often aimed at impacting psychological, physiological, or behavioral outcomes (Maguire et al., 2019), but overall methodological rigor precludes definitive answers regarding their efficacy. In addition to lack of knowledge about their efficacy in mitigating mental health issues, there are many barriers when it comes to officers accessing mental health care services (Burke, 2019; Fox et al., 2012), mostly surrounding fear; fear of judgement from peers or supervisors (Karaffa & Tochov, 2013), fears of confidentiality (Haugen et al., 2017), and fear of termination (Fox et al., 2012; Padilla, 2016).

Current Study

Despite continued progress in police psychology and stress research, the research that does exist has produced more questions than answers. This reflects in part the sensitivity of the topic and the difficulty of collecting valid and reliable data on the causes and consequences of stress in policing. The present dissertation explores three overarching research questions. In doing so, I will present a better understanding of police officer stress, barriers to accessing services to alleviate stress, and interventions designed to ameliorate and prevent stress altogether. I build on and extend previous

police stress research by Spielberger and colleagues (1981) using self-report survey data from officers in a racially/ethnically diverse police department. Having a better understanding of how minority police officers generally feel about the current state of law enforcement would be beneficial in a number of ways. First, researchers would be able to untangle how the perceptions of the role of Hispanic/Latinx police officers in their community may be different from other non-Hispanic minority and White officers. Second, researchers and practitioners alike may be provided with more clarity as to the role that Hispanic/Latinx officers may play in alleviating the "legitimacy crisis" (Gest, 2016; Todak, 2017) and improving community relations. This is not to say that Hispanic/Latinx and other minority officers should be expected to act as a voice for community members that may share their ethno-racial identity; however, being in a position where they can potentially provide some level of understanding or speak to some of the issues that affect them specifically would be beneficial. Finally, understanding how Hispanic/Latinx police officers are affected by their work environment may enable researchers to identify solutions that will improve their overall health and wellness. The review of the extant literature regarding police officer perceptions across an array of topics indicates that there is a gap regarding the ethno-racial make-up of the officers engaging in these studies. Particularly, these studies often employ a simple Black/White categorization of race – if they examine race at all – without considering the individual officer's ethnicity.

    The overall objective of this mixed-methods study is to examine the types and sources of stress experienced by law enforcement officers and to investigate the ways in which officers respond to stress and the barriers they encounter in accessing services

designed to mitigate stress. To accomplish this, I set out 3 broad research questions. The first research question is What do officers in a predominately Hispanic/Latinx police department identify as stressful? I hypothesize that (1) police officers will be more likely to attribute stress to organizational factors than to occupational or psychosocial factors; and (2) there will be variations based on demographics, with non-Whites, females, and line officers reporting higher levels of stress overall, compared to their White, male, and supervisor-level peers.

Second, I ask how police officers are responding to stress currently, including both prosocial and maladaptive approaches? I hypothesize that (1) officers rely on spending time with their families as social support for managing stress, and (2) a majority of officers would be willing to access mental health care services as a response to stress. Third, I ask "What barriers do officers identify to accessing mental health care services?" In particular, I hypothesize that that there will be three prominent barriers identified: (1) a fear of appearing weak (referred to as the police subculture/machismo), (2) a fear of others finding out, and (3) a general lack of resources or knowledge of available resources.

This dissertation employs ordinary least squares regression and logistic regression models to examine predictors of stress, mental health service utilization, and barriers to accessing mental health services among police officers. Limitations and directions for future research are then discussed in Chapter 5, alongside implications for police research, theory, and practice.

CHAPTER 3

DATA AND METHODS

Introduction

This dissertation is guided by prior research and examines three related research questions in a predominately Hispanic/Latinx, mid-sized police department. First, the current work examines the sources and severity of stress focusing on overall levels of stress, occupational sources of stress, organizational sources of stress, and psychosocial sources of stress. Second, the current project explores methods and responses to stress among police officers, including those present within the department. Third, the current study examines potential barriers to accessing mental health care services among police officers. These research questions will be assessed quantitatively utilizing both ordinary least square and logistic regression models.

The current study is in collaboration with the Las Cruces Police Department (LCPD) and is part of a series of projects in which I have been involved. The first project was a quantitative study that occurred in October of 2015, and the second project was a qualitative study that occurred in December of 2016. The quantitative aspect involved surveying all levels of available sworn employees ($n = 147$) of the LCPD (Padilla, 2020). The qualitative aspect involved interviewing only members of the Criminal Investigations Section (CIS) ($n = 21$; Padilla et al., *unpublished manuscript*). The current project focuses predominately on similar quantitative components and occurred in June of 2019. The survey conducted in 2019 was an extension of the tools utilized in the 2015 study. Additional measures of stress, including psychosocial stressors and an overall stress scale

(Cohen, 1994) are included, as well as an organizational procedural justice scale (Reisig & Mesko, 2009) designed to ascertain officers' perceptions of their administration.

During this time period, all levels of available sworn employees (n=134) were surveyed, however, due to missing data on the primary outcomes of interest (overall severity of stress), the sample size was reduced to 109 respondents (81.34%). The purpose of the quantitative surveys was to ascertain, generally, respondents' views regarding the sources and severity of stress in the LCPD, as well as their knowledge about services that may be offered, their willingness to participate in mental healthcare services, and barriers to accessing mental healthcare services.

This chapter will proceed as follows. First, I describe the research setting, the Las Cruces Police Department, as well as the broader ecological setting, Las Cruces, New Mexico. Then, I discuss my ability to gain access to the police department and participants, as well as protections ensured to those who chose to participate in the study. Finally, I discuss, in further detail, the quantitative sampling, data collection process, research questions, and proposed analytic strategies.

Research Setting

This section provides a brief description of the research setting – the Las Cruces Police Department – at the time of data collection from 2015 to 2019, encompassing all relevant components of the current project. It also provides a brief description of the city – Las Cruces, New Mexico – which likely impacted the environment in which these officers were working.

Las Cruces Police Department[9]

The Las Cruces Police Department (LCPD) is a medium-sized police department in the Southwestern United States. As of August 2019, the LCPD employed 197 sworn police officers.[10] The department falls below the national average in terms of gender representation, with only 10% of its sworn members being female. The LCPD fares better in terms of ethno-racial representation, with 62.9% of its officers being Hispanic/Latinx, 32% being White/Non-Hispanic, 3.6% being Black/African American, and 1.5% being Asian/Pacific Islander. These numbers are roughly reflective of the community in which the officers serve (discussed in more detail below). The number of employees in the LCPD, both sworn and civilian, has remained relatively stable since 2014, ranging between 277 and 283 employees.

The Las Cruces Police Department patrols approximately 77 square miles of incorporated city limits, including both a main police station and a Public Safety Campus. Patrol officers are divided into three shifts: Days (6:30am-4:30pm), Swings (3:30pm-1:30am), and Graveyards (9:00pm-7:00am). In 2018, the Las Cruces Police Department became the first department in the state of New Mexico and far West Texas to meet FBI requirements for National Incident Based Reporting System (NIBRS) certification and completed its first full year utilizing a new records management system that allows for the reporting and tracking of crime via NIBRS.

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[9] Staff and crime statistics found at https://www.las-cruces.org/Archive.aspx?AMID=1052; https://las-cruces.org/157/About

[10] Demographics were provided via personal communications with agency staff.

Figure 1. LCPD Organizational Hierarchy
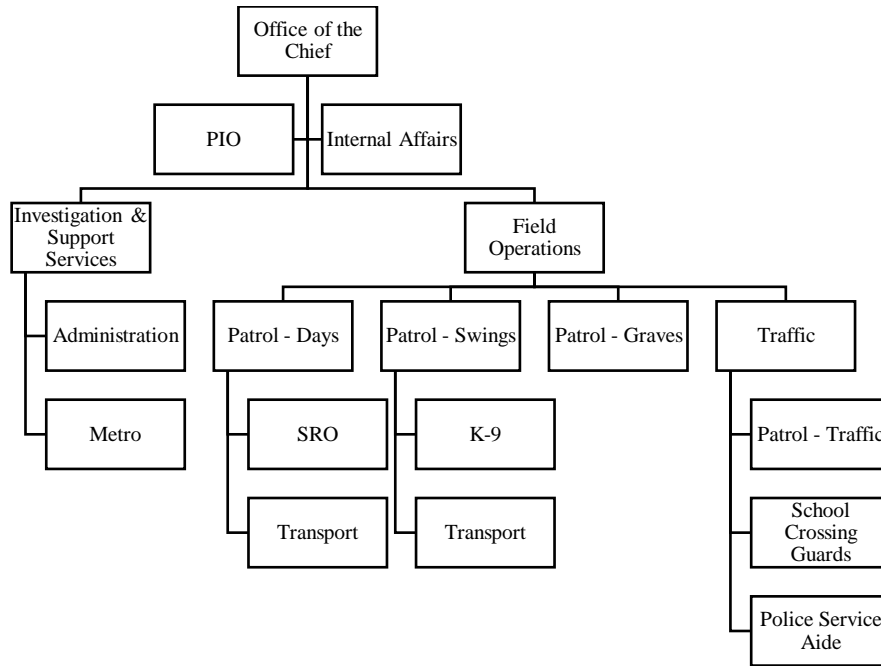
Figure 1 displays the organizational hierarchy of the Las Cruces Police Department (LCPD). The LCPD is led by one Chief of Police, with two Deputy Chiefs below him, assigned to Administration (Investigation and Support Services) and Operations (Field Operations) sections, respectively. Additionally, the Department's Public Information Officer (PIO) and Internal Affairs Division (including detectives and research and development officers), report directly to the Chief. Employees that report to the Deputy Chief of Administration include those assigned to Metro Narcotics, Criminal Investigations and Victims Assistance, Crime Analysis, Law Enforcement Academy Training, Animal Control and Codes Enforcement. Those who report to the Deputy Chief of Operations include employees assigned to the Critical Incident Response Team (i.e., SWAT), Days/Swings/Graves Patrol, School Resource Officers (SROs), K-9 Handlers, and Traffic Officers.

Las Cruces, New Mexico[11]

The city of Las Cruces, New Mexico is located near the United States-Mexico border, approximately 45 miles north of El Paso, Texas. With a population of 103,432 in 2019, the city of Las Cruces is the second most populous city in New Mexico, just behind Albuquerque. As of 2018, Las Cruces, New Mexico was listed as the second most impoverished city in the country,[12] with a poverty rate of 28.1%, and an unemployment rate of 6.9%. The median age of the city is 32.6 years old, its median household income is $40,551, and it is 51.2% female. Additionally, 87% of its residents have at least a high school diploma, and 32.6% have at least a bachelor's degree. Similar to the ethno-racial breakdown of the LCPD, the city of Las Cruces is 60.2% Hispanic/Latinx, 32.8% White/Non-Hispanic, 3% Black/African American, and 1.5% Asian/Pacific Islander.

Las Cruces, New Mexico is home to New Mexico State University (NMSU), the state's sole land-grant university and research institution. NMSU hosted approximately 24,041 undergraduate and graduate students[13] in the Fall 2019 semester across its main campus and four accompanying branch campuses. Large scale federal employers, such as the White Sands Test Facility and White Sands Missile Range, as well as Spaceport America, are all located within 60 miles of Las Cruces (LasCruces.org, 2020).

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[11] City of Las Cruces census data found from
https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF
[12] Sauter, M. (2018, September 19). Low income, high unemployment contribute to these US cities high poverty rates. *Las Cruces Sun News.* Retrieved from: https://www.lcsun-news.com/story/money/economy/2018/09/19/poverty-rates-america-cities-highest-levels/37799947/
[13] NMSU student population information found from: https://oia.nmsu.edu/files/2019/10/FA19-CENSUS-1.pdf

Access to the Research Setting

My ability to access the LCPD has been unique. I was born and raised in Las Cruces and had family members who worked in the department. Because of this, while I was growing up, I was afforded a substantial amount of time around the department, interacting with the officers who worked there, and becoming familiar with their working environments. This led to an internship in the Criminal Investigations Section (CIS) of the department (Fall 2013) as a requirement for my undergraduate criminal justice degree from NMSU (2014), although at that time it was known as the Criminal Investigations Division (CID). Having become a familiar face within the department as a whole, and in CIS specifically, it was natural that the LCPD became the research setting for my Master's thesis research.[14] Under the guidance of Dr. Michael White, in October of 2015, I spent a week administering surveys at each of the three shift briefings, in an attempt to understand sources of stress among sworn personnel in the department. This relationship was again utilized in December of 2016 when I conducted one-on-one interviews with members of the CIS, again focusing on stress. The rapport I developed with the officers and administrative staff at the LCPD made it possible for research to continue, even with the appointment of a new Police Chief in 2017.

Given the particularly sensitive topic of mental health— which is especially sensitive among the population under study —I had to forge new relationships with the

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[14] This study extends on my master's thesis by incorporating additional scales (the perceived stress scale and the procedural justice scale), additional psychosocial measures of stress, and the qualitative component. The extension here was initially related to a change in police chief from the 2015 survey, and a change in investigations lieutenant from the 2016 interviews. So, while not attempting to be a quasi-experiment, I wanted to be able to generally understand how stress/management/barriers look now, relative to the 2015 survey (and resulting Padilla, 2020 publication).

incoming Chief, as well as the new section leaders. This was done through one-on-one meetings with each individual, wherein I conveyed the work that had been done under their predecessors, as well as depicting the mutual advantage that would accompany the results of the revised surveys and interviews. I was also sure to provide each leader voice and input in the questions that I would be asking not only them, but also their subordinates.

Human Subjects Protection

This study was approved and granted exemption by the Arizona State University Institutional Review Board (IRB: STUDY00010063) in Spring 2019 to ensure the protection of all research participants. All participants who were approached to participate in the survey and interviews were provided both verbal and written informed consent.

Methods & Measures

Data Collection

In June 2019, I attended the Day, Swing, and Graveyard shift patrol briefings each day for seven days. Additionally, I attended separate briefings for school resource officers (SROs), officers assigned to criminal investigations (CIS), and individuals instructing at the Academy. An access badge was provided for the duration of data collection in order to ease the need for coordination for the 6:30am and 9:00pm briefings.

Prior to the administration of the surveys, I discussed the need for continued research on stress among law enforcement officers, particularly among members of all ranks and sections. I then went over an IRB approved informed consent (see Appendix A). Survey administration took between 12-30 minutes, averaging

approximately 15 minutes to complete. While the department employed approximately

190 sworn officers at the time of the study, due to officers being on leave, conducting

business off premises, or otherwise unavailable, 145 officers were asked to take the

survey, and 134 agreed, resulting in a 92.41% response rate. Due to missing data issues

on the primary variables of interest (overall severity of stress), the final sample size was

reduced to 109 respondents (81.34%; missing data will be discussed in Chapter 4). The

sample was predominately White, Hispanic men who were patrol officers with

approximately a decade of law enforcement experience. Full descriptive statistics are

presented in Table 1 and are discussed in the Measures sections below.

Table 1. Demographic Characteristics

Variable	Frequency	Percentage	Mean	Range
Gender			0.93	0-1
Male	97	93.27	—	—
Female	7	6.73	—	—
Race/Ethnicity			1.27	1-5
White	94	90.38	—	—
Black/African American	3	2.88	—	—
Native Hawaiian/Other Pacific Islander	1	0.96	—	—
Hispanic/Latinx	68	64.76	—	—
Rank			1.57	1-6
Patrol	62	59.05	—	—
Detective	14	13.33	—	—
Sergeant	15	14.29	—	—
Lieutenant	3	2.86	—	—
Commander	1	0.95	—	—
Other (Includes upper administration such as the Chief and Deputy Chiefs)	10	9.52	—	—
Shift Assignment			1.09	1-4
Days	42	39.62	—	—
Nights	27	25.47	—	—
Swings	21	19.87	—	—
Other	16	15.09	—	—
Shift Length			1.17	1-3
10-hour	91	91.00	—	—
12-hour	1	1.00	—	—
Other (Includes 8-hour shifts, additional duties)	8	8.00	—	—
Tenure in Law Enforcement (in years)			9.75	0.5-24
9 years or Less	49	47.57	—	—
10 years or more	54	52.43	—	—
Marital Status			0.56	0-1
Single (not married)	29	27.10	—	—
Married	60	56.07	—	—
Divorced	17	15.89	—	—
Widowed	1	0.93	—	—
Children				
Have Children (Yes)	82	75.23		
Number of Children	—	—	1.63	0-5
Have Children Under the Age of 18 (Yes)	81	74.31	—	—
Number of Children Under the Age of 18	—	—	1.13	0-4
Level of Education			3.15	1-6
High School Diploma or Equivalent	21	19.63	—	—
Some College, No Degree	34	31.78	—	—
Technical Diploma	1	0.93	—	—
Associate's Degree	13	12.15	—	—
Bachelor's Degree	35	32.71	—	—
Master's Degree	3	2.80	—	—

Research Questions and Survey Instrument

The current study sought to answer three questions: 1) What do police officers, particularly those in a department that is ethno-racially diverse and generally representative of the community in which they serve, find stressful about their department and their occupation? 2) How do officers in this department respond to stress, including both prosocial and maladaptive responses? and 3) What are some of the barriers to accessing mental health services among police officers?

To understand stress among this population, I utilized a modified version of Spielberger and colleagues (1981) Police Stress Survey (PSS; see Appendix B). The original instrument included 66 organizational and occupational situations that an officer might experience while on the job; respondents are then asked to provide the frequency with which each event occurred, as well as to provide an overall ranking of severity for each situation, on a scale from 0-100. Higher severity scores on this scale indicate that a particular situation is considered more severe by the respondent. The original instrument was condensed to 44 scenarios ($\alpha = 0.92$; see Padilla, 2020) to reduce redundancy, and additional occupational, organizational, and psychosocial sources of stress were included; the revised survey for the current project included 59 total scenarios. Additional items that focused on psychosocial sources of stress included *"fear of how my loved ones may be treated because of my job"* and *"lack of recognition for positive behavior by citizens or the media."*

In order to assess overall levels of stress, I also included Cohen's (1994) Perceived Stress Scale (PSS). The 10-item, 0-4 (*Never – Very Often*) Likert scale is designed to tap into an individual's perception of stress, based in large part on the

unpredictability and uncontrollability of situations that one might deem stressful (see Koolhaus et al., 2010). Higher scores on this scale indicate that respondents are experiencing higher levels of stress. Example items include *"In the last month, how often have you been upset because of something that happened unexpectedly?"* and *"In the last month, how often have you been able to control irritations in your life?"*

Additionally, I included Reisig and Mesko's (2009) scale designed to assess organizational procedural justice. The 6-item, 0-4 (*Strongly Disagree – Strongly Agree*) scale was initially used to assess procedural justice in prison facilities and was adapted for the police department environment. In this modified variant of the scale, higher scores indicate that officers perceive their organization has a higher level of procedural justice. Example items included *"The administration treats employees with respect,"* and *"The administration takes time to listen to employees."*

Finally, I included open-ended questions about personal methods of stress management, questions about the respondent's knowledge of departmentally provided mental health services and their likelihood of participating in such services. Importantly, I explicitly asked for reasons why an individual might choose to participate, with responses including *alcohol*, *marital issues*, or *anxiety*. Reasons why an individual might choose **not** to participate included *"fear of peers finding out," "fear of retaliation,"* or *"macho subculture – don't want to appear weak."* The survey concludes with questions about willingness to participate in voluntary annual mental health check-ups or classes designed to discuss the importance of maintaining good mental health.

Research Question #1. The first research question (RQ) in the present study seeks to identify the types and sources of stress experienced by law enforcement officers.

This will be done utilizing both the "Overall Stress" scale (Cohen's 1994 'Perceived Stress Scale'), and the "Stress Rating" portions of the modified Police Stress Survey (discussed in further detail above; see also Appendix B).

Analysis for RQ 1 will proceed in three stages. First, each item from the Police Stress Survey (PSS) will be mean scored across the entire sample and rank ordered to provide a hierarchy of potential stressors (see Spielberger et al., 1981; Violanti & Aron, 1994). Second, three composite measure additive indices will be created from the items presented as the modified Police Stress Survey (with responses ranging from 0-10 for each item), representing 'Organizational,' 'Occupational,' and 'Psychosocial' sources of stress, based on both the initial application of the PSS (Spielberger et al., 1981) and subsequent uses of the scale (Violanti & Aron, 1993; Padilla, 2020). Previous iterations of these scales in similar projects have demonstrated sufficient alpha levels ranging from 0.86 to 0.91 (*see* Padilla, 2020). The ten items from Cohen's (1994) Perceived Stress Scale, rated on a scale from 0-4, will be used as a composite measure representing Overall Stress (OS). Internal consistency will be assessed using Chronbach's alpha (Chronbach, 1951). Finally, these variables will then be used as the primary dependent variables for RQ 1 to identify potential variations in sources of stress based on demographics, including gender, race/ethnicity, rank, tenure, marital status, and level of education.

The full PSS is made up of 59 items, with possible responses each ranging from 0-10. As a result, the potential range of scores for the full PSS is 0-590. The Organizational Stress (PSS-Org) and Occupational Stress (PSS-Occ) subscales used in the current project are each made up of approximately 23 items. Possible responses to

each item range from 0 to 10. As a result, the potential range of scores for these scales is 0 to 230. The Psychosocial Stress (PSS-Psy) scale used in the current project is made up of approximately 13 items. Possible responses to each item range from 0 to 10. As a result, the potential range of scores in each of these scales ranges from 0 to 130. Additionally, the Overall Stress Scale (OSS) has 10-items, with possible responses to each item ranging from 0 to 4. This results in a potential scale range of 0 to 40. As such, the most appropriate method to assess the influence of predictor variables (such as race/ethnicity, gender, and rank) for each of these models is Ordinary Least Squares Regression (Suillivan & Artino, 2013). In each model, a given scale (e.g., PSS-Org, PSS-Occ) will be the dependent variable. This will allow for the determination as to which independent variables of interest (e.g., such as race/ethnicity, gender, and rank) are significant predictors of each type of stress, and to what degree they influence these forms of stress among officers. Due to a smaller sample size, a significance level of $p<0.10$ will be utilized in all analyses for Research Question 1.

Research Question #2. The second research question investigates the ways officers respond to stress, including both prosocial and maladaptive responses. This will be assessed by using respondents' answers to five questions. First, an open-ended question asked, *"What hobbies or extracurricular activities do you engage in as a way to relieve stress (e.g., working out, sports, family activities, etc.)?"* These responses will be analyzed for frequencies of responses, with a priori expectations including responses related to family and friends as a source of social support. Second, officers were asked about their level of agreement with the following statement *"Your agency provides services that help manage stress or mental health"* on a 5-point (*Strongly Agree –*

Strongly Disagree) Likert scale. Third, officers were asked *"How likely are you to participate in any type of services to manage your stress or mental health?"* and responded to a 4-point (*Very likely – Not likely at all)* Likert scale. Responses to these questions will be dichotomized into a *Yes/No* response (1 = yes; 0 = no), resulting in the use of logistic regression models to determine predictors or variations in demographics for perceptions of services provided by the department and likelihood of accessing those services.

Fourth, officers were asked *"If you know your agency provides services to manage stress or mental health, who performs these functions (select all that apply):"* and options for response included *"Employee Assistance Program," "City Psychologist/Counselor/Therapist,"* and *"Unsure."* Finally, officers were asked *"What are some reasons you might choose **to participate** in any type of mental health services (select all that apply)?"* Responses to this question included *"alcohol," "depression," "marital issues," "sleeplessness,"* and *"exhaustion."* Responses to these two questions will be examined for frequency of selection, to provide additional overall context. Supplemental logistic regression models will be utilized to ascertain if there are significant predictors for selections. Due to a smaller sample size, a significance level of *p*<0.10 will be utilized in all analyses for Research Question 2[15].

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[15] In OLS regressions R^2 demonstrates the variance in the outcome variable which a model explains. In logistic regression, R^2 is more a measure of a model's predictive power/ proportional reduction of error variance. Because psuedo R^2 is the statistical equivalent of the geometric mean square improvement (Smith & McKenna, 2013), it can possibly exceed 1.00 without corrective adjustments to the calculation formula (known as psuedo R^2s). Cragg and Uhler's (1970) psuedo R^2 is used in the current project for Research Questions 2 and 3, as it is widely recognized as the earliest iteration of a corrected R^2.

Research Question #3. The third research question in the present study seeks to identify potential barriers police officers encounter in accessing mental health care services designed to alleviate stress. Officers are asked *"What are some reasons you might choose to __not participate__ in any type of mental health services (select all that apply)?"* and responses include *"Fear of peers finding out," "Macho subculture – don't want to appear weak,"* and *"don't know the process to activate services."* Responses to these questions will be examined for frequency of selection, to provide additional overall context. Individual response selections (e.g., *Macho subculture – don't want to appear weak*) will also be used as a dependent variable to examine if there are any predictors or variations in demographics for electing not to access mental health care services. For these analyses, logistic regression models are the most appropriate, due to the binary nature of each response (1 = selected, 0 = not selected). Due to a smaller sample size, a significance level of *p*<0.10 will be utilized in all analyses for Research Question 3.

Measures

Five categories of variables will be used in these analyses: (1) stress variables, (2) willingness variables, (3) reasons to seek out services, (4) barriers to seeking out services, and (5) demographic variables. Each category will be described in detail below. To present a more detailed picture of the data set, more variables are included in this section than are presented in regression models. All variables relevant to the analyses can be found in Table 2[16] with dependent variables for each research question in bold.

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[16] It is important to note that multivariate correlations were conducted to check for multicollinearity. Specific attention was paid to reasons individuals might select either *to* participate in services or *not to* participate in services. With the exception of multicollinearity among the PSS and its resulting subscales (which is to be expected, given they are built from the same variables), there were no issues related to

Table 2. Variable Code Descriptions

Variable	Definition	RQ1 (Stress)	RQ2 (Willingness)	RQ2 (Reasons)	RQ3 (Barriers)
Stress Variables					
PSS	0-590; higher scores reflect higher overall levels of stress	**DV**	IV	IV	IV
PSS-Occ	0-230; higher scores reflect higher levels of occupational stress	**DV**	–	–	–
PSS-Org	0-230; higher scores reflect higher levels of organizational stress	**DV**	–	–	–
PSS-Psy	0-130; higher scores reflect higher levels of psychosocial stress	**DV**	–	–	–
OSS	0-40; higher scores reflect lower ability to cope with stress	**DV**	IV	IV	IV
Willingness to Seek Services Variables					
Willingness	1 = yes; 0 = no	IV	**DV**	IV	IV
Class	1 = yes; 0 = no	IV	**DV**	IV	IV
Check-Up	1 = yes; 0 = no	IV	**DV**	IV	IV
Reasons to Seek Services Variables					
Mental Health Reasons to Seek	1 = yes; 0 = no	IV	IV	**DV**	IV
Burnout Reasons to Seek	1 = yes; 0 = no	IV	IV	**DV**	IV
Home Life Reasons to Seek	1 = yes; 0 = no	IV	IV	**DV**	IV
Substance Reasons to Seek	1 = yes; 0 = no	IV	IV	**DV**	IV
Barriers to Seeking Services					
Fear Barriers	1 = yes; 0 = no	IV	IV	IV	**DV**
Resource Barriers	1 = yes; 0 = no	IV	IV	IV	**DV**
Officer-Level Variables					
Organizational Procedural Justice	0-24; higher scores reflect higher perceptions of organizational PJ	IV	IV	IV	IV
Race	1 = Nonwhite; 0 = White	IV	IV	IV	IV
Marital Status	1 = Married; 0 = Not married	IV	IV	IV	IV
Children	1 = Has children; 0 = Does not have children	IV	IV	IV	IV
Rank	1 = Supervisor; 0 = Patrol officer	IV	IV	IV	IV
Tenure	1 = At least 10 years; 0 = 9 years or less	IV	IV	IV	IV
Education	1 = Highschool/GED; 2 = Some college/trade/technical school; 3 = Bachelor's degree or greater	IV	IV	IV	IV

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multicollinearity among the dependent, independent, or demographic variables. Correlation matrix can be found in Appendix C.

Stress Variables. The full *Police Stress Survey (PSS)* includes 59 items, each ranging from 0-10, with a full index range of 0-590. The PSS had a mean score of 191.71 and a standard deviation of 113.03. The PSS was internally consistent, with Chronbach's alpha reaching 0.97. The *Occupational Stress Subscale (PSS-Occ)* included 23 items, each ranging from 0-10, for a full index range of 0-230. The PSS-Occ had a mean score of 73.44 and a standard deviation of 47.82. The PSS-Occ was internally consistent, with Chronbach's alpha reaching 0.95. The *Organizational Stress Subscale (PSS-Org)* included 23 items, each ranging from 0-10, for a full index range of 0-230. The PSS-Org had a mean score of 73.06 and a standard deviation of 43.33. The PSS-Org was internally consistent, with Chronbach's alpha reaching 0.92. The *Psychosocial Stress Subscale (PSS-Psy)* included 13 items, each ranging from 0-10, for a full index range of 0-130. The PSS-Psy had a mean score of 45.20 and a standard deviation of 29.75. The PSS-Psy was internally consistent, with Chronbach's alpha reaching 0.92. The *Overall Stress Scale (OSS)* included 10 items, each ranging from 0-4, for a full index range of 0-40. The OSS had a mean score of 21.08 and a standard deviation of 6.54. The OSS was internally consistent, with Chronbach's alpha reaching 0.74.

Willingness Variables. Respondents were asked three questions to assess their willingness to access mental health services. First, respondents were asked "*how likely are you to participate in any type of services to manage your stress or mental health?*" with responses on a Likert scale ranging from 1-4 (*Not likely at all - Very likely*). These responses were dichotomized into a "Yes/No" response option (1 = yes; 0 = no). Next, officers were asked (1) "*Would you consider taking part in a **voluntary annual mental health check-up**, similar to an annual physical check-up?*" and (2) "*Would you consider*

*taking part in an **annual or bi-annual class** on the importance of good mental- and emotional-health?*" with responses being dichotomous "Yes/No" options (1 = yes; 0 = no).

Reasons to Seek Out Services. To gauge reasons why officers might choose to participate in mental health services, respondents were asked: "*What are some reasons you might choose to participate in any type of mental health services?*" and instructed to select all that apply. Potential responses included *alcohol, depression, marital issues, duty-related, drugs, stress-related, financial issues, sleeplessness, anxiety, exhaustion, absenteeism,* and *other stress-related*. These responses were grouped into 4 dichotomous variables (1=yes; 0=no): (1) mental health-related reasons (depression; stress; anxiety; self-identity; 14.29% of responses); (2) burnout-related reasons (sleeplessness; exhaustion; absenteeism; duty-related; 35.06% of responses); (3) substance-related responses (alcohol use; drug use; 7.79% of responses), and (4) home-life-related reasons (marital issues; financial issues; 42.86% of responses).

Barriers to Seeking Out Services. To understand reasons why an officer might *not* participate in mental health services, officers were asked "*What are some reasons you might choose to not participate in any type of mental health services?*" and were instructed to select all that apply. Potential responses included *fear of peers finding out, fear of subordinates finding out, fear of supervisor(s) finding out, macho subculture – don't want to appear weak, don't know the process to activate services, don't believe in these types of services, fear of retaliation, don't have time/ process is too cumbersome,* and *other*. These responses were grouped into 2 dichotomous variables (1 = yes; 0 = no): (1) fear-related reasons (fear of peers/supervisors/subordinates finding out; fear of

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retaliation; don't want to appear weak; 44.95% of responses), and (2) resource-related (don't know the process to activate services, don't believe in these types of services, don't have time; 50.46% of responses).

Officer-Level Variables. Officer perceptions of organizational procedural justice was assessed using an adapted version of Reisig and Mesko's (2009) scale, which includes 6 items, each ranging from 0-4, with a full-scale range of 0-24. The organizational procedural justice scale had a mean score of 8.69 and a standard deviation of 6.53. The scale was internally consistent, with Chronbach's alpha reaching 0.95.

Gender was coded dichotomously (1 = Male, 0 = Female), and males accounted for 93.27% of the sample. Race is represented by four dummy variables which were not mutually exclusive, to include White, Black/African American, Native Hawaiian/Other Pacific Islander, and Other (1 = yes; 0 = no). Ethnicity is represented as a single dummy variable (1 = Hispanic/Latinx, 0 = Not Hispanic/Latinx). Approximately 90.38% of the sample indicated they were White. Approximately 64.76% reported their ethnicity as Hispanic/Latinx. Approximately 2.88% indicated they were Black/African American, 0.96% indicated they were Native Hawaiian/Other Pacific Islander, and 5.77% identified as a member of another racial/ethnic group. Race, as included in these analyses, is presented by a dichotomous (Non-White or Hispanic = 1, White, non-Hispanic = 0) designation, with 68.93% of respondents being non-white or Hispanic. Rank is represented by a dichotomous variable (1 = Supervisor, 0 = Patrol), where those who serve in a supervisory role include detectives, sergeants, lieutenants, commanders, and other employees (such as instructors, chief, or deputy chiefs). Fifty-six percent of the sample worked in a patrol role.

Shift assignment is represented as a dichotomous variable (Day = 1, Nights/Swings/Other = 0), with 39.62% of respondents working Day shift exclusively. Shift length is represented by a categorical variable (10-hour shift = 1, 12-hour shift = 2, other length shift = 3), with 91% of respondents working 10-hour shifts, in what is known as "4/10s," or, 4 days per week, 10 hours per day. Tenure, or years an individual has served in law enforcement (to include other policing agencies), was measured continuously ($\bar{x}$ = 9.75 years) and recoded to be a dichotomous measure (10 years or more = 1; 9 years or less = 0). Approximately 52.43% of respondents had at least 10 years of experience in law enforcement. Marital status is represented by a series of dummy variables to capture single, never married (27% of respondents), married (56.07% of respondents), divorced (15.89% of respondents), and widowed (0.93% of respondents). This variable was dichotomized for analyses to (Married = 1, Not Married = 0), with 56.07% of respondents reporting being married. Respondents were asked if they had children generally, as well as if they had children under the age of 18. Seventy-five percent of respondents had children, and 74% of respondents had children who were minors. The number of children respondents had ranged from 0-5 ($\bar{x}$ = 1.63). Level of education is represented by a categorical variable (High school or GED = 1, Some college or Trade/ Technical School = 2, Bachelor's Degree or Greater = 3). Nineteen percent of respondents had a high school diploma or GED, 44.86% of respondents had some college or trade/ technical school certification, and 35.51% of respondents had at least a bachelor's degree.

CHAPTER 4

RESULTS

Introduction

In this chapter, I discuss the quantitative analyses and results, separated by research question. For research question 1, I discuss (1) the mean-scored, rank-ordered potentially stressful scenarios that officers were presented with, (2) the additive indices created from the Police Stress Survey and Overall Stress Scale, and (3) the ordinary least square regression (OLS) analyses utilizing each index as a dependent variable. For research question 2, I discuss (1) officers' current methods of stress relief, (2) their knowledge of agency-provided services, and (3) multivariate logistic regression analyses utilizing officer willingness to participate in services and reasons for seeking out services as dependent variables. For research question 3, I discuss officers' identified barriers to seeking out services, utilizing both frequency of response and multivariate logistic regression models to examine predictors of barrier identification.

Research Question 1

The first research question was: What do officers in a predominately Hispanic/Latinx police department identify as stressful? To answer this question, a modified version of Spielberger and colleagues (1981) Police Stress Survey (PSS), as well as Cohen's (1994) Perceived Stress Scale (i.e., Overall Stress Scale; OSS) was administered.

Identifying Sources of Stress

Table 3 shows the results of the full PSS scenarios, rank-ordered from highest (e.g., most stressful) to lowest (e.g., least stressful). Missing data analysis was conducted.

Data were seemingly missing at random and no discernable patterns in missing data were detected; however, the sample size was insufficient to conduct Little's (1988) MCAR test in order to test the assumption that the data are missing at random. As a result, and due to substantial missing data on the severity scores for the PSS, 25 cases were dropped from the analyses, resulting in a final sample size of 109 officers. Means for the full PSS ranged from 0.88 to 5.52 (possible values of 0-10), with higher scores reflecting higher perceived levels of stress.

The five scenarios that were rated the highest (e.g., the most severe and stressful), included "*Political pressure from within the department*" ($\bar{x}$ = 5.52; Organizational); "*Ineffectiveness of the judicial system or correctional system*" ($\bar{x}$ = 5.49; Occupational); "*Insufficient manpower to adequately handle a job*" ($\bar{x}$ = 5.48; Organizational); "*Inadequate salary*" ($\bar{x}$ = 5.37; Organizational); and "*Excessive paperwork*" ($\bar{x}$ = 5.20; Organizational). This falls in line with previous research that indicates organizational sources of stress are more impactful in the lives of police officers, as compared to occupational sources of stress (Violanti & Aron, 1996; contra Padilla, 2020).

Table 3. Rank-Ordered Scenarios of Full Police Stress Survey

Scenario	Mean	SD	Source	% Complete
Political pressure from within the department	5.52	3.57	Organizational	93%
Ineffectiveness of the judicial system or correctional system	5.49	3.07	Occupational	96%
Insufficient manpower to adequately handle a job	5.48	2.94	Organizational	94%
Inadequate salary	5.37	3.48	Organizational	94%
Excessive paperwork	5.20	3.26	Organizational	94%
Job conflict (by-the-book vs. by-the-situation)	4.96	3.16	Organizational	94%

Disagreeable departmental policies or procedures	4.72	3.10	Organizational	95%
Feelings of paranoia about your family's safety	4.64	3.55	Occupational	94%
Demands made by family for more time	4.63	3.27	Organizational	94%
Feelings of inadequate rest	4.61	2.97	Psychosocial	95%
Making critical on-the-spot decisions	4.54	2.94	Occupational	96%
Inadequate support/respect by department	4.52	3.60	Psychosocial	94%
Trouble relaxing when I'm away from work	4.50	3.48	Psychosocial	94%
Difficulty following a healthy diet	4.44	3.19	Psychosocial	94%
Court appearances on day off or day following night shift	4.35	3.47	Occupational	92%
Difficulty finding time for self-improvement or self-development	4.35	3.03	Psychosocial	94%
Responding to high risk calls in progress (e.g., robbery, person with a gun)	4.17	3.25	Occupational	93%
Public criticism of police	4.05	3.04	Occupational	94%
Demands as a parent/caregiver	4.00	3.80	Psychosocial	92%
Lack of departmental emphasis on being well-rested	3.90	3.06	Psychosocial	94%
Situations requiring use of force	3.88	3.20	Occupational	93%
Experiencing negative attitudes toward police officers by citizens or media press	3.84	2.72	Occupational	95%
Excessive or inappropriate discipline	3.80	3.63	Organizational	93%
Difficulty finding time to work out	3.77	3.15	Psychosocial	94%
Feelings of paranoia about your safety	3.76	3.29	Occupational	92%
Exposure to death or injury of civilians	3.46	2.75	Occupational	94%
Inadequate support/respect by supervisor	3.45	3.25	Organizational	94%
Pressures to stay physically fit	3.45	2.96	Occupational	93%
The increasing possibility of police-citizen encounters surfacing online	3.43	2.91	Occupational	94%
Lack of recognition for good work	3.41	3.10	Organizational	94%
Fear of how my loved ones may be treated because of my job	3.40	3.45	Psychosocial	94%
Assignment to new or unfamiliar duties	3.31	3.02	Organizational	94%
Political pressure from outside the department	3.28	3.27	Organizational	91%

Performing non-law enforcement tasks (e.g., mental health transports, immediate medical aid)	3.28	2.75	Occupational	93%
Fellow officer killed in the line of duty	3.27	4.11	Occupational	87%
Killing someone in the line of duty	3.22	4.02	Occupational	90%
Difficulty getting along with supervisors	3.22	3.13	Organizational	93%
Demands for high moral standards	3.20	3.27	Organizational	94%
Assignment of incompatible/ineffective partner	3.20	3.00	Organizational	93%
Accident in a patrol car	3.08	3.46	Occupational	92%
Incapacitating physical injury on the job	2.98	3.17	Occupational	91%
Lack of work-peer support system	2.92	2.90	Psychosocial	93%
Inadequate or poor quality equipment	2.92	2.90	Organizational	92%
Confrontations with aggressive crowds	2.74	2.69	Occupational	92%
Competition for advancement	2.73	2.90	Organizational	92%
High speed chases	2.66	3.12	Occupational	90%
Lack of recognition for de-escalation or procedurally just behavior towards citizens	2.65	2.69	Psychosocial	95%
Lack of participation on policy-making decisions	2.61	2.75	Organizational	91%
Lack of recognition for positive behavior by citizens or the media	2.59	2.66	Psychosocial	94%
Lack of understanding from non-police friends about the nature of the job	2.51	2.93	Psychosocial	91%
Delivering a death notification	2.42	2.76	Occupational	91%
Perceived inability to work sufficient overtime hours	2.38	2.67	Organizational	91%
Conducting traffic stops or issuing traffic citations	2.38	2.69	Occupational	94%
Strained relations with non-police friends	2.16	2.71	Occupational	92%
Promotion or commendation	2.02	2.75	Organizational	90%
Changing between day-swing-night shift	1.83	2.76	Occupational	93%
Racial pressures or conflicts	1.13	2.24	Organizational	93%
Discrimination based on race/ethnicity	0.97	1.98	Organizational	93%
Discrimination based on gender	0.88	2.04	Organizational	90%

It is important to note that issues related to discrimination or pressure based on one's gender or racial/ethnic identity were all rated the lowest (e.g., the least severe and stressful). Further, the relatively small portion of women in this sample (*n*=7) is likely responsible for the low rating of the *"Discrimination based on gender"* scenario ($\bar{x} =$ 0.88) among the respondents. Indeed, while the percentage of female police officers nationwide has continued to grow (12.3%; Hyland & Davis, 2021), that is one area where this department is falling short.

Composite Measure Additive Indices for PSS

Individual subscales were created for the full Police Stress Survey (PSS) to focus on Organizational Sources (PSS-Org), Occupational Sources (PSS-Occ), and Psychosocial Sources (PSS-Psy) of stress. Additionally, an index was created for the Overall Stress Scale (OSS). These scales were developed using a priori designations of individual stressful scenarios that were presented to respondents in the survey administration. Indices were created using State 15 SE[17]. Descriptive information for each index, including the mean and standard deviation, is included in Table 4. Internal consistency was assessed to ensure that the scales and their reliability were based on standardized values.

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[17] Stata 15 SE (Standard Edition) is a statistical software package that is optimal for examining datasets with large quantities of variables and observations. All analyses in the current project were conducted utilizing Stata 15 SE.

Table 4. Descriptive Statistics of Composite Measure Additive Indices

Scale	# of Items	Individual Index Item Range	Full Index Range	Full Index Average Interitem Covariance	Full Index Alpha	Index Mean	Index Standard Deviation	Index Range
Full Police Stress Survey (PSS)	59	0-10	0-590	0.36	0.97	191.71	113.03	0-492
Occupational Stress Subscale (PSS-Occ)	23	0-10	0-230	0.43	0.95	73.44	47.82	0-200
Organizational Stress Subscale (PSS-Org)	23	0-10	0-230	0.33	0.92	73.06	43.33	0-183
Psychosocial Stress Subscale (PSS-Psy)	13	0-10	0-130	0.45	0.92	45.20	29.75	0-115
Overall Stress Scale (OSS)	10	0-4	0-40	0.23	0.74	21.08	6.54	0-33

Ordinary Least Square Regressions

Table 5 below includes the results of several ordinary least square (OLS) regression models. Recall that the indices created above were to be used as continuous dependent variables to examine predictors of stress severity. As noted in Table 2, the independent variables examined in these models include: willingness variables (respondent general willingness to access services, respondent willingness to participate in a mental health class or check-up), reasons to seek out services variables (burnout/mental health/home life/substances), barriers to seeking out services variables (fear/resource-related), and officer-level variables (perceptions of organizational procedural justice, race, marital status, children, rank, tenure, and education).

Table 5. OLS Regression Models for Scales

	Model 1 (Full PSS)		Model 2 (PSS-Occ)		Model 3 (PSS-Org)		Model 4 (PSS-Psy)		Model 5 (OSS)	
	β	SE	β	SE	β	SE	β	SE	β	SE
Willingness to Seek Services Variables										
Specific Willingness - Class	0.14	28.39	0.11	11.29	0.16	11.40	0.13	7.56	0.13	1.81
Specific Willingness - Check-Up	0.07	27.28	0.11	10.85	0.00	10.95	0.11	7.26	0.13	1.74
General Willingness	-0.10	22.69	-0.11	9.03	-0.11	9.11	-0.04	6.04	-0.03	1.45
Reasons to Seek Services Variables										
Mental Health Reasons	0.20*	26.39	0.16	10.50	0.20	10.59	0.21*	7.02	0.27*	1.69
Burnout Reasons	0.19*	24.42	0.24**	9.72	0.16	9.80	0.12	6.50	-0.08	1.56
Home Life Reasons	0.15	23.66	0.11	9.41	0.14	9.50	0.17*	6.30	0.17	1.51
Substance Reasons	-0.04	32.88	-0.04	13.08	-0.09	13.20	0.04	8.75	-0.12	2.10
Barriers to Seeking Services Variables										
Fear Based Barriers	0.09	23.89	0.12	9.51	0.05	9.59	0.07	6.36	0.10	1.53
Resource Based Barriers	0.03	21.91	0.01	8.72	0.06	8.80	0.03	5.83	0.02	1.40
Officer-Level Variables										
Perceptions of Organizational PJ	-0.28***	1.62	-0.14	0.65	-0.40***	0.65	-0.25**	0.43	-0.04	0.10
Non-White Officers	0.08	23.07	0.13	9.18	0.05	9.26	0.03	6.14	0.01	1.47
Married Officers	0.15	20.29	0.12	8.07	0.15	8.15	0.15	5.40	0.00	1.30
Having Children	0.16*	24.07	0.13	9.58	0.15	9.66	0.20**	6.41	-0.03	1.54
Supervisory Officers	-0.21*	26.00	-0.33***	10.34	-0.13	10.44	-0.06	6.92	0.02	1.66
Having at Least 10 Years Tenure	-0.09	25.27	-0.15	10.06	-0.02	10.15	-0.05	6.73	-0.10	1.61
Some College or Trade/ Technical School	-0.10	27.12	-0.15	10.79	-0.10	10.89	0.01	7.22	0.04	1.73
Bachelor's Degree or Greater	0.05	29.23	0.01	11.63	0.05	11.74	0.12	7.78	0.06	1.87
N	96		96		96		96		96	
R^2	0.32		0.40		0.24		0.31		0.08	

Model 1 shows predictors for the full Police Stress Survey ($R^2 = 0.32$). There were five factors that proved to be significant predictors of PSS scores. Officers who had children reported higher overall scores on the PSS ($\beta = 0.16$, $b = 40.76$, $SE = 24.07$, $p<0.10$). Officers who reported burnout-related reasons for seeking out mental healthcare services (e.g., sleeplessness, exhaustion, absenteeism) reported higher overall scores on the PSS ($\beta = 0.19$, $b = 44.20$, $SE = 24.42$, $p<0.10$). Additionally, officers who reported mental health related reasons for seeking out services (e.g., anxiety, depression, stress) also reported higher overall scores on the PSS ($\beta = 0.20$, $b = 45.53$, $SE = 26.39$, $p<0.10$). Officers serving in a supervisory role reported lower overall scores on the PSS ($\beta = -.21$, $b = -47.20$, $SE = 26.00$, $p<0.10$). Finally, officers with higher perceptions of organizational procedural justice reported lower overall scores on the PSS ($\beta = -0.28$, $b = -4.91$, $SE = 1.62$, $p<0.001$).

Model 2 shows predictors for the Occupational Subscale of the PSS ($R^2 = 0.40$). There were two factors that proved to be significant predictors of PSS-Occ scores. Officers who reported burnout-related reasons for seeking out mental healthcare services (e.g., sleeplessness, exhaustion, absenteeism) reported higher scores on the PSS-Occ ($\beta = 0.24$, $b = 23.06$, $SE = 9.72$, $p<0.05$). Conversely, officers who worked in a supervisory role reported lower scores on the PSS-Occ ($\beta = -0.33$, $b = -31.98$, $SE = 10.34$, $p<0.001$).

Model 3 shows predictors for the Organizational Subscale of the PSS ($R^2 = 0.24$). There was one factor that proved to be a significant predictor of PSS-Org scores. Officers with higher perceptions of organizational procedural justice reported lower levels of stress on the PSS-Org ($\beta = -0.40$, $b = -2.68$, $SE = 0.65$, $p<0.001$).

Model 4 shows predictors for the Psychosocial Subscale of the PSS ($R^2 = 0.31$).

There were four factors that proved to be significant predictors of PSS-Org scores.

Officers with children reported higher scores on the PSS-Psy ($\beta = 0.20$, $b = 13.43$, $SE =$

6.41, $p<0.05$). Officers who reported mental health reasons (e.g., stress, anxiety,

depression, self-identity) for seeking out services also reported higher scores on the PSS-

Psy ($\beta = 0.21$, $b = 12.77$, $SE = 7.02$, $p<0.10$). Officers who reported home life reasons

(e.g., marital issues, financial issues) for seeking out services reported higher scores on

the PSS-Psy ($\beta = 0.17$ $b = 11.06$, $SE = 6.30$, $p<0.10$). Finally, officers with higher

perceptions of organizational procedural justice reported lower scores on the PSS-Psy (β

$= -0.25$, $b = -1.18$, $SE = 0.43$, $p<0.05$).

Recall that the Overall Stress Scale (OSS) measures how well a respondent can

cope and adapt to stress (Cohen, 1994), so higher scores on this scale indicate that

respondents are experiencing higher levels of stress and a reduced capacity to cope. For

this model, one factor was a significant predictor of higher scores on the OSS ($R^2 = 0.08$).

Officers who reported mental health reasons (e.g., stress, anxiety, depression, self-

identity) for seeking out services also reported higher scores on the OSS ($\beta = 0.27$, $b =$

3.32, $SE = 1.69$, $p<0.10$).

Research Question 2

The second research question aimed to explore how police officers respond to

stress, including both positive, prosocial ways and more maladaptive ways. To do this, a

series of open-ended and Likert-style questions were asked.

Stress Relief

Respondents were asked the open-ended question "*What hobbies or extracurricular activities do you engage in as a way to relieve stress?*" Responses to this question were examined in Excel and coded for frequency and content. These responses were initially categorized into "positive" or "negative" methods of coping (e.g., family/friends or alcohol use), however, respondents' methods of coping varied beyond those two simple categories. Figure 2 presents an overview of the results. Officers provided methods of stress relief that could be grouped into one of six categories. The largest frequency of responses was related to working out/physical exercise ($n = 67$). Within this category were specifics such as running or lifting weights. The next largest grouping of responses focused on family ($n = 63$) and outdoor activities/sports ($n = 63$). Responses focused on family included "taking daughter to park," or "dedicating my weekends to my family." Regarding outdoor activities/sports, responses included skiing, biking, golfing, or shooting at the shooting range. The next largest category is related to hobbies ($n = 54$). Included in this category are extracurriculars such as woodworking, yard/housework, or videogames. The last two categories were both the smallest in related responses. First, what I have termed maladaptive responses ($n = 7$), were all focused on drinking, and simply included "drinking" or "whiskey." Last, what I term mindful responses ($n = 7$), included faith-based or meditative responses, such as "church," "my faith in God," or "meditation."
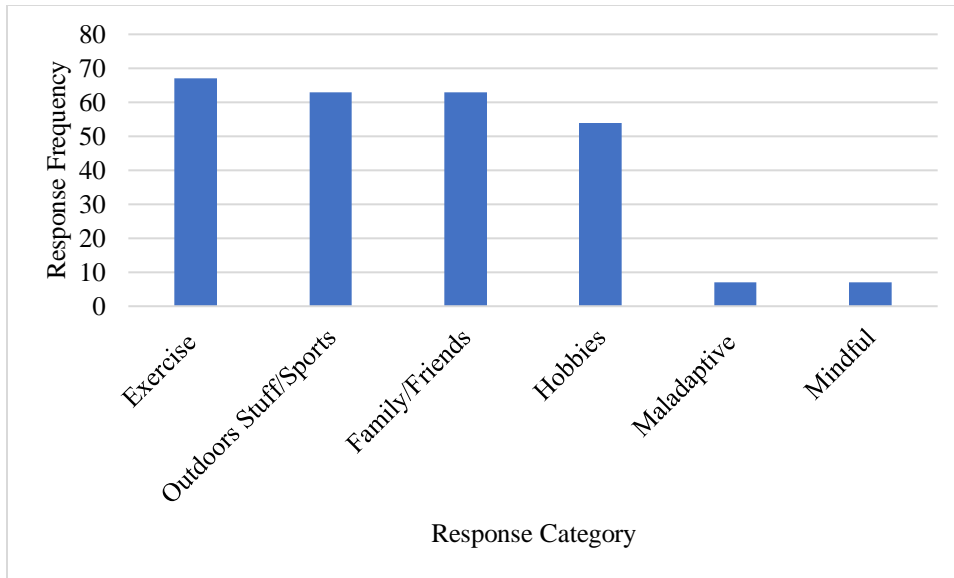
Figure 2. Reported Methods of Stress Relief

Agency Services

Although most responses were what could be described as positive, prosocial

methods of coping (e.g., working out, family time), it is important to note that not a

single officer indicated that they actively seek out mental healthcare services from a

community provider or the department-provided employee assistance program (EAP). To

better understand if this was a function of officer refusal to engage in services, or a lack

of knowledge of services, respondents were asked to rate their level of agreement with

the statement: "*Your agency provides services that help manage stress or mental health,*"

on a five-point Likert scale (*Strongly Disagree – Strongly Agree*). Due to extraordinarily

poor model fit (Adjusted $R^2 = 0.06$), only descriptive statistics for this question will be

examined. When dichotomized into a "Yes/No" response, only 28.70% ($n = 31$) of

respondents indicated that the department offered services designed to assist with mental

health concerns.

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Further, when asked *"if you know your agency provides services to manage stress or mental health, who performs these functions?"* Respondents were presented with six options (*EAP, City Psychologist, Departmental Psychologist, Private Psychologist, Unsure, Other*) and instructed to select all that apply. Table 6 provides the results. Approximately 24% of responses noted that the department provided an *EAP* (this department *does* indeed provide an EAP). It also is important to point out that respondents incorrectly reported that services were provided by a City Psychologist, a Departmental Psychologist, a Contract Psychologist, and a Private Psychologist. Twenty-three percent of respondents noted that the department provided a *City Psychologist*. Approximately 19% of responses noted that the department provided a *Departmental Psychologist*. Approximately 3% of responses noted that the department provided a *Contract Psychologist* or a *Private Psychologist*. Notably, approximately 26% of responses reported they were *unsure* of what the department provided. Finally, 1% noted that the department provided some *other* option, although in-text elaborations simply included "peers," or "I HAVE NO CLUE WHATS PROVIDED" (all caps included in respondent answer).

Table 6. Services Provided

Service	Frequency	Percentage
EAP	39	24.53%
City Psychologist	37	23.27%
Departmental Psychologist	30	18.87%
Contract Psychologist	5	3.14%
Private Psychologist	5	3.14%
Unsure	41	25.79%
Other	2	1.26%
Total	159	100%

While a large portion of respondents indicated they were "unsure," sizable portions (24.53% for *EAP*, 23% for *City Psychologist*) reported specific types of services

that their department offered. Although there may have been some firsthand knowledge of the existence of these services within this department (this department only offered an EAP at the time of data collection[18]), it is interesting to note that that many officers *thought* the department offered additional services, such as a *City Psychologist*. The question remains, however, would officers be willing to participate in services, should they be offered by their department?

Willingness to Participate in Services

To gauge respondent willingness to access mental health services, officers were asked three questions, one regarding general mental health services, and two regarding more specific types of mental health services. First, officers were asked "*how likely are you to participate in any type of services to manage your stress or mental health?*" with responses on a Likert scale ranging from 1-4 (*Not likely at all - Very likely*). Next, officers were asked (1) "*Would you consider taking part in a **voluntary annual mental health check-up**, similar to an annual physical check-up?*" and (2) "*Would you consider taking part in an **annual or bi-annual class** on the importance of good mental- and emotional-health?*" with responses being dichotomous "Yes/No" options. Frequencies for all three questions are provided in Table 7, and binary logistic regression models were ran to examine predictors for willingness to participate (Table 8). As indicated in Table 2, the independent variables examined in these models include: stress variables (PSS, OSS), reasons to seek out services variables (burnout/mental health/home life/substances), barriers to seeking out services variables (fear/resource-related), and officer-level

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[18] The department began offering an officer wellness app called Cordico Wellness App in January 2021 for officer use, but EAP remains the only in-house services offered.

variables (perceptions of organizational procedural justice, race, marital status, children, rank, tenure, and education).

Table 7. Willingness to Participate in Services

		Percentage (N)
General Willingness to Participate		
	Yes	40.37% (44)
	No	59.63% (65)
Mental Health (MH) Check-Up		
	Yes	61.11% (66)
	No	38.89% (42)
Mental Health (MH) Class		
	Yes	66.36% (71)
	No	33.64% (36)

General Willingness to Participate. Approximately 40.37% ($n = 44$) of officers indicated a willingness to participate in *any* type of mental health services. Table 8 includes the results of the binary logistic regression models for both the general and specific willingness questions. The area under the received operating characteristics (AUROC) for Model 1 was 0.78, indicating the model predicts the outcome variable relatively well (Narkhede, 2018). There were two significant predictors in Model 1 (Cragg & Uhler $R^2 = 0.29$). Officers who indicated mental health-related reasons for seeking out services (e.g., stress, anxiety, depression, self-identity) were more likely to also indicate a general willingness to access services ($b = 1.13$, $SE = 0.67$, $p<0.05$, $OR = 4.29$). Conversely, officers who have some college/ trade school/ technical school were less likely to indicate a general willingness to access services ($b = -1.23$, $SE = 0.68$, $p<0.10$; $OR = 0.29$).

Table 8. Logistic Regression Models for Willingness

	Model 1 (General Willingness)			Model 2 (Check-up)			Model 3 (Class)		
	b	*SE*	*OR*	*b*	*SE*	*OR*	*b*	*SE*	*OR*
Stress Variables									
Full PSS	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
OSS	0.03	0.05	1.03	0.07	0.05	1.07	0.06	0.05	1.06
Reasons to Seek Services Variables									
Mental Health Reasons	1.46**	0.67	4.29	0.03	0.63	0.97	0.47	0.66	1.60
Burnout Reasons	0.90	0.65	2.45	0.66	0.60	1.93	0.88	0.66	2.41
Home Life Reasons	0.51	0.58	1.67	0.26	0.61	1.30	0.25	0.64	1.28
Substance Reasons	-1.09	0.78	0.34	0.62	0.80	0.54	-0.80	0.84	0.45
Barriers to Seeking Services Variables									
Fear Based Barriers	-0.26	0.59	0.77	0.52	0.60	1.68	0.28	0.68	1.32
Resource Based Barriers	0.27	0.55	1.30	0.19	0.54	1.21	-0.65	0.60	0.52
Officer-Level Variables									
Perceptions of Organizational PJ	0.00	0.04	1.00	0.02	0.04	1.02	0.02	0.05	1.02
Non-White Officers	0.03	0.59	1.03	-0.42	0.58	0.66	-0.62	0.64	0.54
Married Officers	-0.02	0.51	0.98	0.22	0.52	0.80	-0.50	0.55	0.61
Having Children	-0.07	0.60	0.93	0.54	0.60	1.71	-0.23	0.64	0.80
Supervisory Officers	-0.51	0.67	0.60	0.11	0.62	0.90	1.01	0.70	2.73
Having at Least 10 Years Tenure	0.03	0.66	1.03	0.53	0.63	0.59	-0.31	0.66	0.73
Some College or Trade/ Technical School	-1.23*	0.68	0.29	0.02	0.66	1.02	-0.17	0.71	0.84
Bachelor's Degree or Greater	-0.21	0.72	0.81	0.29	0.72	1.34	-0.37	0.79	0.69
N		96			96				96
Cragg & Uhler's R^2		0.29			0.24				0.27
AUROC		0.78			0.73				0.75

Specific Willingness to Participate.

Mental Health Check-Up. The area under the received operating characteristics (AUROC) for Model 2 was 0.73, indicating the model predicted the outcome variable relatively well (Narkhede, 2018). While Cragg and Uhler's R^2 was 0.23, there were no individual variables that significantly predicted respondent willingness to participate in a mental health check-up. This will be discussed more in the next chapter.

Mental Health Class. The area under the received operating characteristics (AUROC) for Model 3 was 0.75, indicating the model predicted the outcome variable relatively well (Narkhede, 2018). However, similar to Model 2, there were no individual variables that significantly predicted respondent willingness to participate in a mental health class, although Cragg and Uhler's R^2 was 0.27. This will be discussed more in the next chapter.

Reasons to Participate in Mental Health Services

To better ascertain reasons why officers might choose to participate in mental health services, respondents were asked: "*What are some reasons you might choose to participate in any type of mental health services?*" and instructed to select all that apply. Potential responses included *alcohol, depression, marital issues, duty-related, drugs, stress-related, financial issues, sleeplessness, anxiety, exhaustion, absenteeism,* and *other stress-related*. These responses were examined for frequency of occurrence (Figure 3 below). Officers' top reasons for seeking out mental health services included stress-related reasons ($n = 52$), sleeplessness ($n = 43$), anxiety ($n = 32$), and exhaustion ($n = 31$). Notably, of the officers who indicated *other* reasons ($n = 12$) for seeking out services,

write-in responses included "IT'S LIFE DEAL WITH IT AND MOVE ON" (caps

included in original response), and several instances of "Won't."
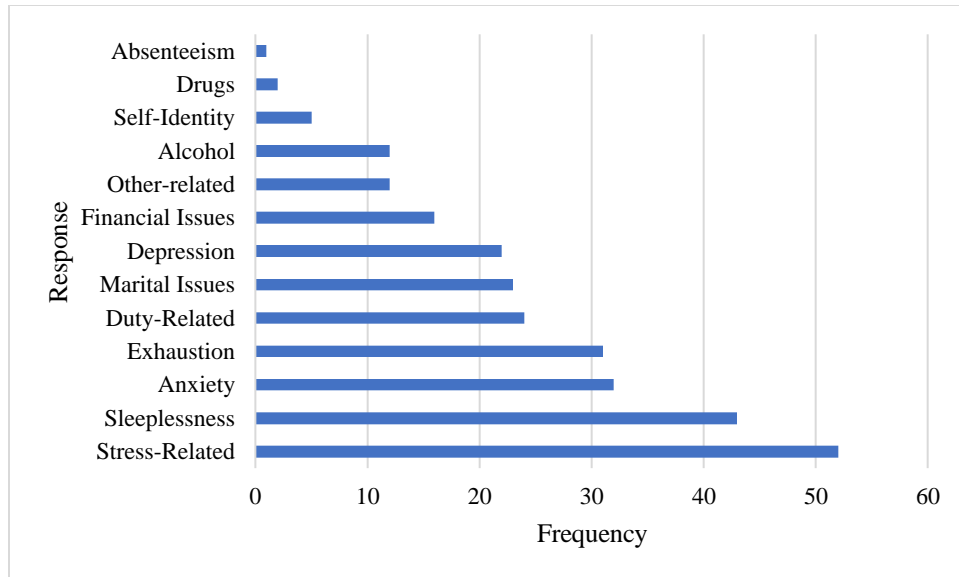
Figure 3. Reasons to Seek Out Services

In order to understand if there were any factors that predicted particular reasons

for seeking out mental health assistance, a series of binary logistic regression models

were utilized to examine predictors of (1) mental health-related reasons (depression;

stress; anxiety self-identity; 14.29% of responses); (2) burnout-related (sleeplessness;

exhaustion; absenteeism; 35.06% of responses); (3) substance-related (alcohol use; drug

use; 7.79% of responses); and (4) home-life-related (marital issues; financial issues;

42.86% of responses). Table 9 includes the results of the binary logistic regression

models for reasons for accessing services. As indicated in Table 2, the independent

variables examined in these models include: stress variables (PSS, OSS), willingness

variables (respondent general willingness to access services, respondent willingness to

participate in a mental health class or check-up), barriers to seeking out services variables

(fear/resource-related), and officer-level variables (perceptions of organizational procedural justice, race, marital status, children, rank, tenure, and education).

It is important to note that barriers to seeking out services (e.g., fear- or resource-related) are included in these models to better understand the relationship between these two concepts. That is, one might expect an individual who reports resource-related barriers (e.g., time commitment, knowledge of service activation), to also report homelife-related reasons for seeking services (e.g., marital issues, financial issues) initially. Additionally, individuals who report a fear-based barrier (e.g., colleagues finding out, retaliation) may be more likely to also report a mental health- or burnout-related reason for seeking services, and vice versa.

Table 9. Logistic Regression Models for Reasons

	Model 1 (Mental Health)			Model 2 (Burnout)			Model 3 (Substance)			Model 4 (Home Life)		
	b	*SE*	*OR*	*b*	*SE*	*OR*	*b*	*SE*	*OR*	*b*	*SE*	*OR*
Stress Variables												
Full PSS	0.01*	0.00	1.01	0.01***	0.00	1.01	0.00	0.01	1.00	0.00	0.00	1.00
OSS	0.06	0.06	1.07	-0.07	0.05	0.94	0.03	0.09	1.03	0.05	0.05	1.05
Willingness Variables												
Specific Willingness - Class	0.88	0.84	2.42	0.55	0.76	1.73	-0.18	1.05	0.83	0.40	0.75	1.49
Specific Willingness - Check-Up	-0.76	0.82	0.47	0.04	0.70	1.04	-0.22	1.01	0.81	-0.14	0.71	0.87
General Willingness	1.80**	0.67	6.03	1.10*	0.61	2.99	-0.40	0.87	0.67	0.62	0.58	1.86
Barriers to Seeking Services Variables												
Fear Based Barrier	2.66***	0.77	14.33	-0.19	0.60	0.83	0.37	0.85	1.45	0.47	0.61	1.60
Resource Based Barrier	0.51	0.63	1.67	1.60**	0.57	4.93	1.10	0.85	3.01	0.94	0.57	2.57
Officer-Level Variables												
Perceptions of Organizational PJ	0.01	0.05	1.01	0.09*	0.05	1.09	-0.15*	0.08	0.86	0.06	0.05	1.06
Non-White Officers	-0.24	0.73	0.79	-1.08	0.67	0.34	-1.05	0.83	0.35	-0.28	0.66	0.75
Married Officers	-0.45	0.61	0.63	-0.24	0.57	0.79	-0.24	0.82	0.79	-0.02	0.55	0.98
Having Children	0.07	0.70	1.08	-0.64	0.66	0.53	0.72	0.98	2.06	1.26*	0.72	3.54
Supervisory Officers	0.35	0.81	1.42	-0.27	0.70	0.76	0.52	1.20	1.69	-0.99	0.83	0.37
Having at Least 10 Years Tenure	-0.79	0.79	0.46	-0.24	0.67	0.78	-1.93	1.32	0.14	0.77	0.75	2.17
Some College or Trade/ Technical School	1.25	0.79	3.50	1.22	0.75	3.40	0.03	0.79	1.03	0.19	0.74	1.21
Bachelors Degree or Greater	1.82**	0.89	6.19	0.27	0.77	1.31	—	—	—	0.42	0.78	1.53
N		96			96			76			96	
Cragg & Uhler's R^2		0.55			0.47			0.24			0.33	
AUROC		0.89			0.85			0.79			0.80	

**Note for Model 3: HS/GED predicted failure perfectly and was dropped; Bachelor's degree or greater omitted due to multicollinearity;
*p<0.10; **p<0.05; ***p<0.001

Cragg and Uhler's R^2 for Table 9 ranged from 0.24 (Model 3, Substance Reasons) to 0.55 (Model 1, Mental Health Reasons), indicating adequate fit for the models. In Model 1 (Cragg & Uhler's $R^2 = 0.55$), Mental health reasons (e.g., stress, anxiety, depression, self-identity) were significantly predicted by four variables. Officers who reported higher levels on the PSS were more likely to indicate mental health related reasons to seek services ($b = 0.01$, $SE = 0.00$, $p<0.10$, $OR = 1.01$). Officers who indicated a general willingness to access services were more likely to indicate mental health reasons for seeking out services ($b = 1.80$, $SE = 0.67$, $p<0.05$, $OR = 6.03$). Officers who indicated a fear-related barrier (e.g., peers/ supervisors/ subordinates finding out, revenge) to accessing services were more likely to indicate mental health reasons for seeking out services ($b = 2.66$, $SE = 0.77$, $p<0.001$, $OR = 14.33$). Finally, officers who had at least a bachelor's degree were more likely to indicate mental health reasons for seeking out services ($b = 1.82$, $SE = 0.89$, $p<0.05$, $OR = 6.19$).

In Model 2 (Cragg & Uhler's $R^2 = 0.47$), Burnout Reasons (e.g., sleeplessness, exhaustion, absenteeism) were significantly predicted by four variables. Officers who reported higher levels on the PSS were more likely to indicate mental health related reasons to seek services ($b = 0.01$, $SE = 0.00$, $p<0.001$, $OR = 1.01$). Officers who indicated a general willingness to access services were also more likely to indicate burnout-related reasons for seeking out services ($b = 1.10$, $SE = 0.61$, $p<0.10$, $OR = 2.99$). Officers who indicated a resource-related barrier (e.g., lack of knowledge, time commitment) to accessing services were more likely to indicate burnout-related reasons for seeking out services ($b = 1.60$, $SE = 0.57$, $p<0.05$, $OR = 4.93$). Finally, officers who

had higher levels of organizational procedural justice were more likely to indicate

burnout-related reasons for seeking out services ($b = 0.09$, $SE = 0.05$, $p<0.10$, $OR = 1.09$).

In Model 3 (Cragg & Uhler's $R^2 = 0.24$), Substance Reasons (e.g., drug or alcohol

use) were predicted by just one variable. Officers who had higher perceptions of

organizational procedural justice were less likely to indicate substance-related reasons for

seeking out services ($b = -0.15$, $SE = 0.08$, $p<0.10$, $OR = 0.86$).

Finally, in Model 4 (Cragg & Uhler's $R^2 = 0.33$), Home Life Reasons (e.g.,

marital issues, financial issues) were significantly predicted by one variable. Not

surprisingly, officers who had children were more likely to report home life-related

reasons for seeking out services ($b = 1.26$, $SE = 0.72$, $p<0.10$, $OR = 3.54$).

Research Question 3

To understand reasons why an officer might *not* participate in mental health

services, officers were asked "*What are some reasons you might choose to not participate*

in any type of mental health services?" and were instructed to select all that apply.

Potential responses included *fear of peers finding out, fear of subordinates finding out,*

fear of supervisor(s) finding out, macho subculture – don't want to appear weak, don't

know the process to activate services, don't believe in these types of services, fear of

retaliation, don't have time/ process is too cumbersome, and *other*. These responses were

examined for frequency of occurrence (Figure 4 below). Officers' top reasons for *not*

seeking out mental health services included not having time ($n = 41$), fear of peers

finding out ($n = 26$), and fear of supervisors finding out ($n = 24$). Notably, of the officers

that indicated *other* barriers to seeking out services ($n = 17$), write-in responses included

specific examples such as "[I was] denied job due to mandatory counseling for my officer involved shooting," "[I was] disappointed in previous experience," or "loss of job at the opinion of a mental health person who I don't trust." There were also several variants of "I just wouldn't."
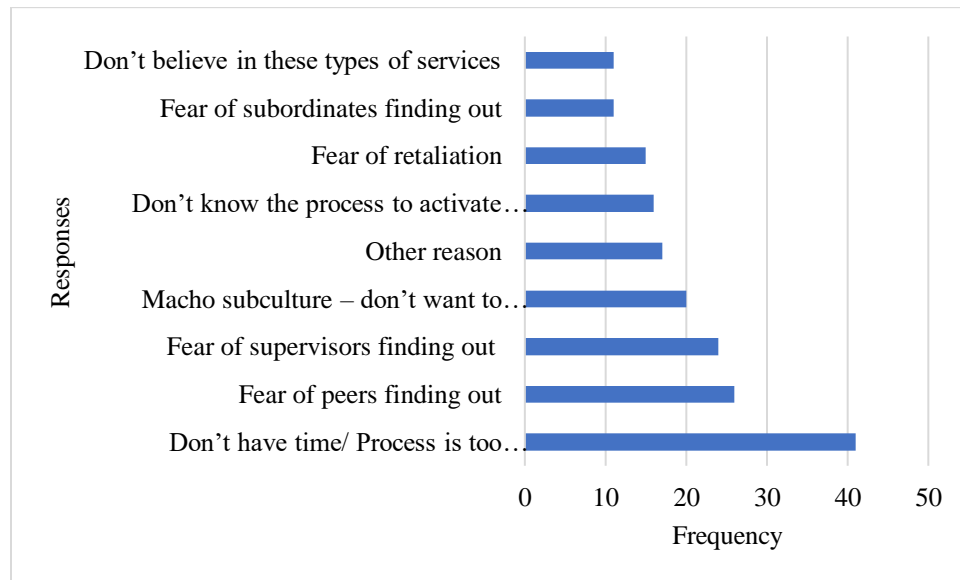
Figure 4. Barriers to Seeking Out Services

In order to understand if there were any factors that predicted particular barriers to seeking out mental health assistance, a series of binary logistic regression models were utilized to examine predictors of (1) fear-related reasons (fear of peers/supervisors/ subordinates finding out; fear of retaliation; don't want to appear weak; 44.95% of responses); and (2) resource-related (don't know process to activate; don't believe in those services, don't have time; 50.46% of responses). Table 10 includes the results of the binary logistic regression models for barriers to accessing services.

As noted in Table 2, the independent variables examined in these models include: stress variables (PSS, OSS), willingness variables (respondent general willingness to

access services, respondent willingness to participate in a mental health class or check-up), reasons to seek out services variables (burnout/mental health/home life/substances), and officer-level variables (perceptions of organizational procedural justice, race, marital status, children, rank, tenure, and education). As noted in Research Question 2, reasons for seeking out services are included in the models related to barriers to account for the relationship between these concepts.

Table 10. Logistic Regression Models for Barriers

	Model 1 (Fear-Based)			Model 2 (Resource-Based)		
	b	*SE*	*OR*	*b*	*SE*	*OR*
Stress Variables						
Full PSS	0.00	0.00	1.00	0.00	0.00	1.00
OSS	0.04	0.06	1.04	0.00	0.05	1.00
Willingness Variables						
Specific Willingness - Class	0.40	0.80	1.49	-1.09	0.72	0.34
Specific Willingness - Check-Up	0.48	0.78	1.61	0.59	0.68	1.81
General Willingness to Access Services	-0.65	0.64	0.52	0.40	0.55	1.49
Reasons to Seek Services Variables						
Mental Health Reasons to Seek Services	2.74***	0.78	15.56	-0.81	0.63	0.45
Burnout Reasons to Seek Services	-1.42*	0.72	0.24	1.76***	0.59	5.82
Home Life Reasons to Seek Services	0.16	0.63	1.17	0.75	0.58	2.13
Substance Reasons to Seek Services	-0.54	0.82	0.58	0.54	0.83	1.71
Officer-Level Variables						
Perceptions of Organizational PJ	-0.05	0.05	0.95	0.01	0.04	1.01
Non-White Officers	-1.07*	0.62	0.34	0.13	0.55	1.14
Married Officers	0.56	0.59	1.76	-0.27	0.50	0.76
Having Children	-0.17	0.69	0.85	-0.24	0.58	0.78
Supervisory Officers	-0.54	0.78	0.58	0.12	0.63	1.12
Having at Least 10 Years Tenure	0.30	0.74	1.34	-0.09	0.61	0.91
Some College or Trade/ Technical School	-0.36	0.80	0.70	0.06	0.67	1.06
Bachelors Degree or Greater	-1.16	0.84	0.31	0.15	0.69	1.17
N			96			96
Cragg & Uhler's R^2			0.40			0.27
AUROC			0.83			0.77

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

In Model 1 (Cragg & Uhler's $R^2 = 0.40$), there were three significant predictors of fear-related barriers (e.g., peers/ supervisors/ subordinates finding out, revenge) to participation. Officers who indicated mental health-related reasons to seek services (e.g., depression, anxiety, stress) were significantly more likely to indicate a fear-related barrier ($b = 2.74$, $SE = 0.78$, $p<0.001$, $OR = 15.56$). Conversely, officers who indicated a burnout-related reason for seeking services (e.g., exhaustion, absenteeism) were less likely to indicate a fear-related barrier ($b = -1.42$, $SE = 0.72$, $p<0.10$, $OR = 0.24$). Finally, non-white officers were less likely to indicate a fear-related barrier ($b = -1.07$, $SE = 0.62$, $p<0.10$, $OR = 0.34$).

In Model 2 (Cragg & Uhler's $R^2 = 0.40$), resource-related barriers (e.g., lack of knowledge, time commitment) were significantly predicted by just one variable. Officers who reported burnout-related reasons for seeking services (e.g., sleeplessness, exhaustion, absenteeism) were more likely to indicate a resource-related barrier to seeking out services ($b = 1.76$, $SE = 0.59$, $p<0.001$, $OR = 5.82$).

CHAPTER 5

DISCUSSION

Introduction

In this chapter, I summarize the current project's key findings, organized by

research question (presented as a visual summary in Table 11). I then discuss how these

findings contribute to police research, theory, and practice. Following this discussion,

limitations and suggestions for future research are offered. The discussion chapter should

be used to guide and inform future research on this highly relevant and understudied

topic.

Key Findings

Research Question 1

Recall that research question 1 sought to understand the sources of stress in this

department, as well as identify any factors that may predict those assessments. The first

stage of analyses for this question was to mean-score the potential scenarios and rank-

order them, from most to least stressful (Table 3). Broadly, the scenarios that were rated

highest (i.e., most stressful) by officers were those that generally stemmed from an

organizational source. Except for "*Ineffectiveness of the judicial system or correctional*

system," the other scenarios rated in the top five ("*Political pressure from within the*

department;" "*Insufficient manpower to adequately handle a job;*" "*Inadequate salary;*"

and "*Excessive paperwork*"), were all scenarios that could be present in other

occupations, rather than being unique to the field of policing. This is consistent with

previous literature (Violanti & Aron, 1996), but counter to the previous study that

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surveyed this same department (Padilla, 2020). Officers from this department were

surveyed in 2015, and a short 4 years later, the results have seemingly shifted. That is, in

2015, these officers generally reported that scenarios that were inherent to *being* a police

officer were more stressful than those related to simply belonging to an organization. The

2019 data suggest that this has shifted back toward officers reporting that organizational

factors are more impactful than occupational ones, in line with previous research

(Violanti & Aron, 1993). Whether this is due to changes within the individual officers (if

they also participated in 2015), changes in the department (as they are under new

leadership), or changes in nationwide perceptions of law enforcement is unknown, but

future research will examine these trends over a longer period of time.

Additionally, due to low representation of females in this department, gender

effects could not be assessed. Further, race/ethnicity proved to be a non-significant factor

in terms of assessed sources of stress. Kanter's (1977) tokenism theory hypothesized that

individuals belonging to a minority group (approximating 15% or less of the total

population) are at greater risk for high levels of stress due to their minority status. Indeed,

the racial/ethnic breakdown of this department is undoubtedly playing a role in the

perceived lack of racial or ethnic tensions, and the resultant stress that may bring. As

ethno-racial minority officers are relatively representative of the communities they serve

and make up the majority of both the department and city of Las Cruces, it then makes

sense that "*racial pressures or conflicts*," as well as "*discrimination based on

race/ethnicity*" would rank near the bottom of these scenarios ($\bar{x} = 1.12$, $SD = 2.24$; $\bar{x} =$

0.97, $SD = 1.98$, respectively). Further, while there simply were too few female officers in

this sample to conduct meaningful analyses, it remains unknown whether increased representation of female officers would render gender effects, like racial/ethnic effects, null in this sample.

Interestingly, "*job conflict (by-the-book vs. by-the-situation)*" and "*disagreeable departmental policies or procedures*" rated near the top of the list ($\bar{x}$ = 4.96, *SD* =3.16; $\bar{x}$ = 4.72, *SD* =3.10, respectively). While these data were collected in June of 2019, prior to the death of George Floyd in Minnesota, officers living in a "post-Ferguson" era may be engaging in a certain level of introspection related to what they are *told* to do, versus what they *believe* they should do. This is a finding to keep in mind as policing research continues in the future.

Table 11. Findings Summary Table[a]

Scales[b]					
Variable	Full PSS	PSS-Occ	PSS-Org	PSS-Psy	OSS
Mental Health Reasons	↑	•	•	↑	↑
Burnout Reasons	↑	↑	•	•	•
Homelife Reasons	•	•	•	↑	•
Organizational PJ	↓	•	↓	↓	•
Having Children	↑	•	•	↑	•
Supervisors	↓	↓	•	•	•

Willingness to Engage in Services[c]			
Variable	General Willingness	Check-Up	Class
Mental Health Reasons	↑	•	•
Some College/ Technical school	↓	•	•

Reasons to Seek Out Services[d]				
Variable	Mental Health Reasons	Burnout Reasons	Substance Reasons	Homelife Reasons
Full PSS	↑	↑	•	•
Gen Willingness	↑	↑	•	•
Fear Barrier	↑	•	•	•
Resource Barrier	•	↑	•	•
Organizational PJ	•	↑	↓	•
Having Children	•	•	•	↑
Bachelor's Degree	↑	•	•	•

Barriers to Seeking Out Services[e]		
Variable	Fear-Based Barriers	Resource-Based Barriers
MH Reasons	↑	•
Burnout Reasons	↓	↓
Non-White officers	↓	•

↑ = significantly more likely; ↓ = significantly less likely; • = not significant
[a] Only variables that reached significance for each model are included
[b] In-Text Table 5; [c] In-Text Table 8; [d] In-Text Table 9; [e] In-Text Table 10

The second stage of analyses for this question involved ordinary least squares regression models utilizing indices created from the Police Stress Survey and Overall Stress Scale (Table 5). There were four factors that were significant predictors of higher

scores on at least one of the indices: (1) mental health reasons to seek services, (2) burnout reasons to seek services, (3) home-life reasons to seek services, and (4) having children. Indicating mental health reasons for seeking services (e.g., depression, anxiety, stress) was correlated with higher scores on the Full PSS, the PSS-Psy, and the OSS. That is, these officers are experiencing higher levels of self-reported mental health issues, resulting in higher scores on both the full scale and the psychosocial subscale, and are coping with that stress more poorly.

Officers who indicated burnout reasons for seeking services (e.g., exhaustion, absenteeism) had higher scores on the Full PSS and the PSS-Occ. While the initial connection between burnout and the Full PSS are understandable, the connection to higher scores on the PSS-Occ are more intuitive, as burnout is uniquely identified as an "occupational phenomenon" by both the World Health Organization (2019) and as an "occupational disease" among European scholars (Lastovkova et al., 2018).

Indicating home-life reasons for seeking services (e.g., marital issues, financial issues) was correlated with higher scores on the PSS-Psy. Finally, having children was correlated with higher scores on both the Full PSS and the PSS-Psy. These findings can be considered in conjunction with one another, reflecting the unique psychosocial demands that home-life and having children can have on officers. Indeed, poor mental health outcomes have been found among individuals who experience combined work and home-life stress, suggesting a reciprocal relationship between the two (Melchoir et al., 2007). In a sample where approximately 75% of the respondents had children, it then

becomes crucial to develop interventions and services that can better assist this population to deal with various types of stress.

Conversely, there were two factors that were significant predictors for *lower* scores on at least one of the indices: (1) serving in a supervisory role, and (2) higher perceptions of organizational procedural justice. Officers serving in a supervisory role reported lower scores on the Full PSS and the PSS-Occ, which is understandable when one considers the shift in duties that accompanies becoming a supervisor. Where the patrol officer deals predominately with scenarios that are inherently police-related, the supervisor (e.g., detective, lieutenant, chief) deals with more administrative work. Finally, officers who reported higher levels (i.e., more positive perceptions) of organizational procedural justice reported lower scores on the Full PSS, the PSS-Org, and the PSS-Psy. While this will be discussed further in the section detailing the practical contributions of the resaerch, it is important to reiterate that increased perceptions of organizational procedural justice are correlated with lower levels of stress across multiple indices.

Research Question 2

The second research question sought to examine police officers' responses to stress, including (1) personal methods of coping, (2) their knowledge of departmentally offered services, (3) their willingness to engage in such services, and (4) their reasons for engagement. First, I examine officer personal methods of coping with stress (Figure 2). Overwhelmingly, officers indicated that they engaged in physical fitness activities, family activities, and outdoor activities/sports to cope with stress. While these are usually

prosocial in nature, no respondents outright indicated that they utilized departmental services to manage their stress or mental health. Further, although this might indicate that officers have developed methods for coping with stress on their own, the mean score for the OSS was 21.08, on a scale of 0-40, indicating that they *could* be doing a better job at coping with stress, perhaps through the utilization of departmental services.

Second, 71.30% of officers indicated that their department did not offer services to assist with stress or mental health concerns. This general uncertainty of mental health services was further exemplified by over 25% of respondents indicating they were "unsure" of what services might be offered, and others incorrectly identifying services that their department offers (an EAP was the sole service offered at the time of data collection; see Table 6). This leads to a conclusion that rather than a general *un*willingness to participate in services, officers may simply lack the knowledge of what is offered, and how to access those services.

Third, when asked whether they would participate in *any* mental health services, approximately 40% of respondents said yes (Table 7). However, when officers were asked about specific types of services, such as a *mental health check-up* or *mental health classes*, the percentage of those willing to engage increased to 61% and 66%, respectively. In this case, offering respondents more specific choices – choices that they might not have envisioned when thinking about generic "mental health services" – increased their willingness to access services. Importantly, there were only two significant predictors for these models (Table 8). Individuals who indicated mental health reasons to seek out services were more likely to indicate a general willingness to access

services, and individuals with some college or trade/technical school experience were less likely to indicate a general willingness to access services. There were no factors that significantly predicted whether an individual would partake in specific mental health services, such as a mental health class or check-up. This indicates that advertising and framing mental health services as an educational, proactive 'tool for their belt,' rather than as a reactive, mandatory, potentially punitive process, might increase the number of officers who voluntarily participate.

Fourth, issues related to both mental health (anxiety, stress) and burnout (sleeplessness, exhaustion) were the most selected reasons for officers to participate in mental health services (Figure 3). Further, there were seven factors that significantly predicted respondent selection of reasons to seek out services (Table 9). Respondents: (1) with higher scores on the Full PSS, (2) who reported a general willingness to access services, (3) who reported a fear-based barrier, and (4) who held at least a bachelor's degree were also more likely to indicate mental health reasons for seeking out services. The correlation between fear-based barriers and mental health reasons to seek out services is consistent with a priori hypotheses. Respondents with higher scores on the Full PSS, who reported a general willingness to access services, who reported a resource-based barrier, and who had higher perceptions of organizational procedural justice were more likely to indicate burnout reasons for seeking out services. The correlation between resource-based barriers and burnout are understandable, as the exhaustion and sleeplessness associated with burnout (see WHO, 2019) are likely to leave an individual needing additional assistance with the process of finding services.

Finally, respondents with children were more likely to report homelife reasons for seeking out services. This finding again reflects the potential need for additional focus on officers who are caretakers. Further, as caretakers in the United States are predominately female (60%; National Alliance for Caregiving and AARP Public Policy Institute, 2015), this may serve as an additional barrier for female entrance or retention in the field of policing more generally. Conversely, respondents who reported higher levels of organizational procedural justice were less likely to indicate substance reasons for seeking out services. This provides evidence that officers in this department are in need of services, and, when taken in conjunction with earlier findings, that departments should be better advertising their services to ensure that officers *know* about services and participate in those services.

Research Question 3

This study's third research question sought to examine barriers that officers indicate related to seeking out mental health services. A key finding is that somewhat more officers indicated a barrier related to resources (50.46%; lack of knowledge, time commitment), rather than barriers related to fear (44.95%; fear of peers/subordinates/superiors finding out, fear of revenge, fear of appearing weak; see Figure 3). This may be indicative of a shift in the stigma that is often associated with mental health issues and seeking out mental health services among police officers. Whether that shift is due to more general societal acceptance of mental health treatment or is due to a magnified need for services based on the current climate surrounding law

enforcement, remains unknown, although one could posit that it is due, in part, to both phenomena.

Although there were few predictors of barrier identification among officers (see Table 10), those who reported mental health-related reasons for seeking out services were significantly more likely to indicate a fear-based barrier. This is consistent with the findings in Table 9. This finding is particularly interesting, and while consistent with expectations, further exemplifies the need to reduce those fear-based barriers, as those who are more likely to report this type of barrier may be especially in need of mental health services.

Additionally, officers who reported burnout reasons for seeking out services were more likely to report a resource-based barrier, and less likely to report a fear-based barrier. Again, this may be somewhat intuitive, as those who are distancing themselves from their jobs (absenteeism) due to sleeplessness or exhaustion, may need particularly simple routes to access mental health services. Changes to accommodate such officers should be focused on streamlining the process to access services (either within the department or outside of the department).

The analysis also revealed that non-white officers were significantly less likely to report a fear-based barrier. This finding is interesting for several reasons. Namely, in a department that is predominately Hispanic/Latinx, this was the *only* time that race/ethnicity emerged as a significant predictor. Where *machismo* and *marianismo* are particularly prevalent within the Hispanic culture (Nuñez et al., 2017), one would have presumed that "*fear of appearing weak*" would have also been prevalent among this

population. It is possible that in a department and community that is majority-minority, this becomes less of a factor, where admitting to having mental health issues and seeking out mental health services are concerned. What is more, this provides a particularly easy fix for departments seeking to increase the number of officers engaging in services. While fear-based barriers may be more difficult to dismantle, departments could focus their attention on breaking down the resource-based barriers such as streamlining the process to access services.

Implications

The current study has several implications that will impact police research, theory, and practice. These implications are discussed below.

Research Implications

First, this study makes four important contributions to research on police stress: (1) I was able to quantify the reasons that officers gave for accessing services, as well as their reported barriers to accessing services; (2) I built upon and expanded Spielberger and colleagues' (1981) Police Stress Survey, as well as applied Reisig and Mesko's (2009) procedural justice scale to a secondary context and population; (3) I was able to gain access to and encourage participation in research among police officers during a "legitimacy crisis" (Todak, 2017); and (4) I found that race and ethnicity are virtually non-factors when it comes to stress in policing – at least, in this department.

Quantifying Reasons to Access Services and Barriers to Accessing Services. The present study was able to empirically assess and quantify reasons why an officer would decide to participate in mental health services. Importantly, this question was

asked with specific categories provided, rather than simply as an open-ended question.

This was explicitly utilized to provide officers with the opportunity to disclose issues that

they might not otherwise feel comfortable self-identifying as a response. The potential

reasons included *alcohol, depression, marital issues, duty-related, drugs, stress-related,*

financial issues, sleeplessness, anxiety, exhaustion, and *absenteeism* and were grouped

into 4 categories, including mental health-related reasons (depression, stress, anxiety,

self-identity), burnout-related reasons (sleeplessness, exhaustion, absenteeism, duty-

related), substance-related reasons (alcohol use, drug use), and home-life-related issues

(marital issues, financial issues). Although this list certainly is not exhaustive, it provides

additional context for scholars aiming to determine the reasons why officers may elect to

participate in mental health services.

Additionally, this dissertation contributes to the growing literature on barriers to

accessing services. Similar to the question inquiring about reasons to seek out services,

this was proffered as a list of options, rather than simply as an open-ended question. The

potential barriers included *fear of peers finding out, fear of subordinates finding out, fear*

of supervisor(s) finding out, macho subculture – don't want to appear weak, don't know

the process to activate services, don't believe in these types of services, fear of

retaliation, and *don't have time/ process is too cumbersome,* and these were grouped into

two categories (1) fear-based (fear of peers/subordinates/supervisors finding out, fear of

retaliation, macho subculture) and (2) resource-based (don't know the process to activate

services, don't believe in these types of services, don't have time). Beyond the self- and

peer-stigma of mental health services and general fears of job termination found in other

studies (Fox et al., 2012, Karaffa & Koch, 2016), respondents identified additional resource-based barriers. Critically, this provides additional context for researchers aiming to further this line of research.

Scale Design & Expansion. Relatedly, the current dissertation was able to expand and further validate the scales utilized. The Police Stress Survey (discussed in this dissertation as the Police Stress Scale; PSS), first employed by Spielberger and colleagues (1981), was updated to be more user-friendly, reduce redundancy, and include more modernized scenarios such as "the increasing possibility of police-citizen encounters surfacing online." The original utilization of this scale was internally consistent ($\alpha > 0.90$; Spielberger et al., 1981), as was this modified version of the Police Stress Scale ($\alpha = 0.97$). Further, the three subscales of the full PSS, including organizational, occupational, and psychosocial (also a novel modification to the PSS), were also internally consistent ($\alpha = 0.92$, 0.95, and 0.92, respectively). This indicates that this version of the PSS can be used in future studies on the topic, particularly within this department.

Additionally, this dissertation applied Reisig and Mesko's (2009) procedural justice scale, originally used to examine prisoner perceptions of procedural justice among guards, to sworn officers' perceptions of procedural justice among their administration. In the Reisig and Mesko (2009) study, the scale was internally consistent ($\alpha = 0.83$). Similarly, this scale was internally consistent ($\alpha = 0.95$) in the current study. This scale being internally consistent across two vastly different populations indicates that it is a strong tool to measure procedural justice. Future research using this particular scale

might use structural equation modeling to further examine the impact of organizational procedural justice as a mediating variable for the relationship between stress and willingness to participate in mental health services.

Officer Participation in Research During a Legitimacy Crisis. A third contribution this dissertation makes is related to officer participation in research during what some have termed, a "legitimacy crisis" (Todak, 2017). It is important to reiterate that these data were collected in 2019, prior to the death of George Floyd that resulted in a nationwide push for police reform (and abolishment in some cities). Although these data might very well look different if they were collected in 2021, compared to 2019 (although this is an empirical question), they still are exemplary of the general climate surrounding law enforcement. Understanding how police officers manage (or fail to manage) their mental health, particularly at a contentious period in history, is crucial. Indeed, these officers were – for the most part – not reluctant to share their thoughts on mental health, whether it be in favor of or against accessing services. Anecdotally, officers and their superiors appeared to welcome the interest in research surrounding this topic, as a way to share their side of the story and let their voices be heard. It is my intention to continue utilizing my relationship with this department to gather longitudinal data on this and similar topics.

Impact of Race/Ethnicity on Stress. Finally, this dissertation was able to put a focus on the impact of race and ethnicity on stress in policing. Drawing from Kanter's (1977) tokenism theory, it was expected that race and ethnicity would have a significant and positive impact on higher levels of stress within this department. However, this

department was quite ethno-racially diverse, with 68.93% of officers being non-White, predominately made up of Hispanic/Latinx individuals (64.76%). This is also reflective of the communities in which they serve (60.2% Hispanic/Latinx at time of data collection). Although not conclusive, this project lends credence to the idea that representation matters, not just for the community, but for the police force. That is, while representation is important when it comes to outcomes such as use of force or arrests (Headley & Wright, 2020), it also appears to be important for the police officers to feel represented within, and 'see themselves' in, the community, particularly as a way to reduce some of the stress associated with being a police officer. What is more, as race/ethnicity was not a significant predictor of the perceptions examined in this study, it appears that how race/ethnicity is utilized in research may require more elaboration and context. For example, future research would benefit from examining the impact of racial-identity, ethnic-identity, and perceptions of how their identity actually shapes their lived experiences.

Theoretical Implications

This dissertation provides two key theoretical implications: (1) I present evidence for the necessity of a holistic approach to examining stress; and (2) evidence is presented suggesting the importance of organizational procedural justice in the lives of police officers, particularly as it relates to officer wellness.

Holistic Approach to Stress. There are several approaches to examining stress and policing which fall into three key areas. First, there are studies that explicitly examine psychological outcomes (e.g., depression, anxiety; Chopko et al., 2015; Santa

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Maria et al., 2018). Second, there are those that solely focus on physiological outcomes (e.g., high blood pressure, back problems; DOJ, 2015; Wirth et al., 2017; Zimmerman, 2012). Last, there are those that focus on behavioral outcomes of stress (e.g., criminal activity, substance use; Agnew, 1992; Baron, 2019). While these are all worthwhile endeavors, it has become apparent that stress needs to be examined from a holistic lens, encompassing all three dimensions. That is, there needs to be an understanding that each of these areas (psychological, physiological, behavioral) impact one another, oftentimes acting in a feedback loop to reinforce each other. For example, an individual dealing with the psychological outcome of anxiety due to their work environment, may resort to alcohol use (behavioral), which may then negatively impact their physical health (physiological), creating more anxiety for them (psychological).

Even further, one could argue for the necessity of an ecological systems approach to examining stress in policing. Originally utilized to examine child development, Bronfenbrenner (1974) argues that a person's immediate *and* larger environments need to be taken into consideration when aiming to understand behavior. That is, an officers' microsystem (immediate environment), mesosystem (interactions between actors in immediate environment), exosystem (outside formal/informal structures), macrosystem (cultural components), and chronosystem (historical and environmental changes), all individually and interactively are likely to impact their levels of stress and how they cope with that stress. This is an approach that I intend to further parse out and examine in future research.

Importance of Organizational Procedural Justice. While initially not a primary focus of this dissertation, the impact of organizational procedural justice cannot be understated. As discussed in the "Scale Design and Expansion" section above, Reisig and Mesko's (2009) procedural justice scale performed incredibly well in this population ($\alpha = 0.95$). Further, it significantly – and negatively – predicted levels of stress on the Full Police Stress Scale (PSS), as well as its Organizational (PSS-Org) and Psychosocial (PSS-Psy) subscales. That is, respondents who reported higher levels (i.e., more positive perceptions) of organizational procedural justice reported lower levels of stress on these scales.

This finding is somewhat intuitive, based on procedural justice research. That is, in police-citizen encounters, when an officer treats the citizen with respect, appears to be trustworthy and neutral, and gives the citizen voice, citizens are more likely to have favorable views of the police, and thereby are more likely to comply (Nagin & Telep, 2017; Tyler, 2017). The same could be said for administration-police encounters. Indeed, when an employee (i.e., an officer), perceives greater levels of organizational justice (i.e., transparency, voice, fairness), they are more likely to display stronger commitment to the organization (Wolfe et al., 2020). One step further here, is that feeling like your superiors treat you in a just manner effectively reduces stress. This indicates that organizational procedural justice (or organizational justice) needs to be accounted for when examining stress.

Practical Implications

This dissertation provides two key contributions to police practice: (1) that knowledge disbursement, wording, and types of services are all crucial to officer willingness to engage in mental health services, and (2) organizational procedural justice may be one easy way to improve the mental health and wellbeing of officers within a department.

Departmental Services. This dissertation presented rather interesting findings regarding departmental services. Chief among these is that officers generally appeared to be unaware of the types of services that were offered by the department. This could be due to the fact that departments inadequately disbursed information related to services and/or to the fact that officers intentionally ignored the information presented about services. Related to the first point, there is evidence to suggest that this department is not adequately informing officers about the types of services offered. Indeed, only 28.70% of respondents indicated that the department offered some type of mental health services, and 25.79% of responses indicated they were "unsure" of what services were offered. Further, while this department only offered an EAP at the time of data collection, officers incorrectly identified other types of services offered by the department. This confusion and lack of clarity could be alleviated by the department more explicitly informing the officers of what is available, whether that be via pamphlet with all related services, or simple word of mouth during briefings.

Related to the second point, that officers may intentionally be ignoring information about services, this project provided evidence that wording matters

tremendously when it comes to officer willingness to participate in services. When asked about participating in *any* type of services, generally, only 40.37% indicated they would participate. That number rose drastically when officers were asked about specific types of mental health services, such as an annual mental health check-up (61.11% said yes) or an annual/bi-annual class on mental health (66.36% said yes). This could be reflective of the tone perceived with each of these services and indicates that when services are advertised to be proactive, educational, and simply another 'tool on the belt' for the officers, rather than a reactive and potentially punitive process, officers may be more likely to engage. Indeed, one respondent noted that they feared the "loss of a job at the opinion of a mental health person who I don't trust," as a major barrier to accessing services. Perhaps if services were presented in a different manner, individuals' perceptions of services might shift.

Organizational Procedural Justice. As noted in both the "Scale Design" and "Theoretical Implications" sections, organizational procedural justice matters as it relates to police officer stress. This presents a rather easy 'fix' for departments to reduce stress among their employees. Having superiors and administration invoke aspects of procedural justice – treating employees with respect, being courteous, fair, and transparent – may be one way to reduce stress. Indeed, the mean score of the organizational procedural justice scale was 8.69, ranging from 0-24. This indicates that perceptions of the administration in this department are relatively low and increasing these perceptions might go a long way toward improving the working environment for the officers.

Limitations and Future Research Directions

Although this dissertation provides a thorough examination of police officer stress and mental health services, there are several limitations that one must be acknowledged. This section presents these limitations, paired with future research directions to address said limitations.

First, this study utilizes a cross-sectional survey design and, as such, cannot determine causality. A cross-sectional survey for a sensitive and complex topic such as police officer mental health may not be ideal, given the relatively secretive nature of policing and the "us-versus-them" mentality that often permeates this culture, but it is an important first step in understanding this topic. Future research would benefit from taking a longitudinal approach to examine these topics, or by examining scenario-based responses. Indeed, I intend to examine the 2015 survey more thoroughly, as it relates to the 2019 survey to do just this. While there is no information linking surveys from one participant to the next, rendering within-person effects impossible to examine, I will be able to look at departmental trends over time. Additionally, as a new police chief has been appointed to this department, I intend to meet with and hopefully gain support to administer this survey (with minor modifications) to the department again, resulting in a 3-wave (under 3 different police chiefs) longitudinal dataset on police stress in this department.

Second, the sample utilized in this study included 109 officers, with 96 observations used in most models. Although that 145 officers were approached and asked to take the survey (with 134 agreeing to participate), missing data on the primary

variables of interest (overall stress severity) resulted in the exclusion of 25 cases. This is a relatively small sample size, but it represents a sizable portion of the original sample (75%), with similar demographics represented in the two samples. Although a larger sample size would result in more statistical power (and thus a greater likelihood of detecting smaller effect sizes), the sample size utilized in this study is similar to other departments, in terms of number of employees. Indeed, in 2016, personnel size ranged from 0 to just over 36,000, with an average of 155 full time sworn officers (LEMAS, 2021). Therefore, this sample size is reflective of the size of the sample that one could obtain by studying a 'typical' police department.

Third, while the size of this department is relatively generalizable to other, mid-sized departments, the ethno-racial composition of the department presents some generalizability concerns. Recall that this department is majority-minority (68.93% Hispanic/Latinx), in a majority-minority city (60.20% Hispanic/Latinx). This is unlike the general ethno-racial composition of police officers nationwide, with 71.50% being White, non-Hispanic officers, 11.40% being Black/African American, non-Hispanic officers, and only 7.80% being Hispanic/Latinx. Indeed, research in police departments has historically focused on Black and White officers, effectively neglecting those belonging to the fastest growing non-White population group in the country – Hispanic/Latinx (Noe-Bustamante et al., 2020). Although more research on this understudied population of police officers clearly is needed, there also is a need for future research examining departments with different ethno-racial compositions. Race/ethnicity was not related to stress and service utilization in this department, but this this may differ

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in departments where minority officers are within the 15% or less representation that Kanter (1977) hypothesized.

Finally, the veracity and candor of respondents in this study should be considered when interpreting results. Although this has not been identified as a serious concern in similar studies on sensitive topics such as this (Evans & Coman, 1993), it is still plausible that officers were impacted by social desirability bias when responding to this survey. This is plausible due to taking the survey in the company of their peers and superiors/subordinates (i.e., during briefings), survey fatigue, or a general reluctance to divulge truthful information related to their well-being. Additional protections could be taken to increase willingness to discuss this information, including using one-on-one interviews, a survey taken on their own electronic device at their leisure (e.g., in their office or department vehicle), and continued emphasis on anonymity of responses. Indeed, during the collection of these data, I conducted one-on-one interviews with a subsection of the police department, where candor appeared to be less of a concern. Future work includes examining these interviews to more thoroughly assess these topics.

Conclusion

This dissertation adds to the limited body of knowledge regarding police officer stress and access to mental health services. Utilizing simple rank-ordering, ordinary least squares regression, and logistic regression models, I was able to shed light on sources of stress, knowledge of and willingness to participate in departmental services, and barriers to accessing such services among an ethno-racially diverse police department. My results were mixed, with some results supporting prior research – such as organizational sources

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of stress ranking higher than occupational sources – and others conflicting with a priori expectations – such as officers' relative willingness to access mental health services. Additional notable findings relate to the surprising significance of organizational procedural justice as it relates to reduced levels of stress among officers.

Overall, this dissertation was able to provide practical policy implications for police departments working to ensure the mental health and well-being of their officers. Particularly in a post-2020 world, one that was characterized by the death of George Floyd, the COVID-19 virus, and political upheaval resulting in an insurrection attempt at the capital, understanding how police officers are doing mentally is crucially important to maintaining the safety of the officers and the communities they serve. If addressed appropriately, and with the unique culture of policing in mind, police-community relationships can begin to mend and police officer deaths by suicide can start to take a downward trend.

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APPENDIX A

IRB APPROVED INFORMED CONSENT

This research is being conducted by Arizona State University to examine the role between the job, methods of coping, and police officer stress. The information collected in this survey will be used for a Doctoral Dissertation. Your participation in this study is anonymous, and while it has some personal demographic questions, information such as your name and badge number will not be recorded. You must be at least 18 years of age to participate in this study. Your survey has been assigned a number, and that will be the only identifying information involved with the file. Individual responses will not be seen by superiors or other employees within the department, nor will they be seen by individuals outside of the department. This survey should take approximately 12-15 minutes to complete. By continuing on with the survey, you are providing consent. You are free to stop at any time or decline to answer any question that makes you uncomfortable.

This survey involves events that you may or may not have encountered while on the job, that you are asked to rank on a scale of 0-10 based on how stressful you perceive them to be, as well as the frequency of those events in your career. The survey will finish with several questions regarding overall stress, stress management, departmental services, and recommendations for improvements in those areas.

There are no foreseeable risks or discomforts to your participation. This survey is not designed to analyze your performance as a police officer or the performance of the department as an agency. Rather, the research seeks to study the particular stress that officers experience, with the goal of helping to reduce that stress and promote officer wellness. If you agree to participate in this study, turn in the survey.

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788. Please let me know if you wish to be part of the study.

If you have any other questions or concerns, please contact Kathleen Padilla (Kathleen.Padilla@asu.edu) or Dr. Edward Maguire (edmaguire@asu.edu).

Thank you again for your participation,

Kathleen Padilla

APPENDIX B

MODIFIED POLICE STRESS SURVEY

Section One: Potential Stressors

The following are events you may have encountered on the job. For each scenario, indicate how often, during the last six months, you have experienced this. Then, indicate how stressful each experience was to you, on a scale of 0-10, with 0 being not stressful at all and 10 being extremely stressful.

0 = Never   1 = Almost Never   2= Sometimes   3 = Fairly Often   4 = Very Often

Potential Stressors	Frequency of Event	Stress Rating (from 0-10)
Changing between day-swing-night shift	0 1 2 3 4	
Assignment to new or unfamiliar duties	0 1 2 3 4	
Political pressure from within the department	0 1 2 3 4	
Public criticism of police	0 1 2 3 4	
The increasing possibility of police-citizen encounters surfacing online	0 1 2 3 4	
Incapacitating physical injury on the job	0 1 2 3 4	
Perceived inability to work sufficient overtime hours	0 1 2 3 4	
Strained relations with non-police friends	0 1 2 3 4	
Exposure to death or injury of civilians	0 1 2 3 4	
Lack of departmental emphasis on being well-rested	0 1 2 3 4	
Inadequate support/respect by supervisor	0 1 2 3 4	
Court appearances on day off or following night shift	0 1 2 3 4	
Assignment of incompatible/ineffective partner	0 1 2 3 4	
Delivering a death notification	0 1 2 3 4	
High speed chases	0 1 2 3 4	
Difficulty getting along with supervisors	0 1 2 3 4	
Political pressure from outside the department	0 1 2 3 4	
Responding to high risk calls in progress (e.g., robbery, person with a gun)	0 1 2 3 4	
Experiencing negative attitudes toward police officers by citizens or media	0 1 2 3 4	
Feelings of inadequate rest	0 1 2 3 4	
Disagreeable departmental policies or procedures	0 1 2 3 4	
Conducting traffic stops or issuing traffic citations	0 1 2 3 4	
Confrontations with aggressive crowds	0 1 2 3 4	
Fellow officer killed in the line of duty	0 1 2 3 4	
Making critical on-the-spot decisions	0 1 2 3 4	
Ineffectiveness of the judicial system or correctional system	0 1 2 3 4	

Insufficient manpower to adequately handle a job	0 1 2 3 4	
Lack of recognition for good work	0 1 2 3 4	
Lack of recognition for de-escalation or procedurally just behavior towards citizens	0 1 2 3 4	
Lack of recognition for positive behavior by citizens or the media	0 1 2 3 4	
Excessive or inappropriate discipline	0 1 2 3 4	
Performing non-law enforcement tasks (e.g., mental health transports, immediate medical aid)	0 1 2 3 4	
Demands made by family for more time	0 1 2 3 4	
Promotion or commendation	0 1 2 3 4	
Inadequate or poor quality equipment	0 1 2 3 4	
Discrimination based on gender	0 1 2 3 4	
Racial pressures or conflicts	0 1 2 3 4	
Lack of participation on policy-making decisions	0 1 2 3 4	
Inadequate salary	0 1 2 3 4	
Accident in a patrol car	0 1 2 3 4	
Feelings of paranoia about your safety	0 1 2 3 4	
Demands for high moral standards	0 1 2 3 4	
Feelings of paranoia about your family's safety	0 1 2 3 4	
Situations requiring use of force	0 1 2 3 4	
Job conflict (by-the-book vs. by-the-situation)	0 1 2 3 4	
Killing someone in the line of duty	0 1 2 3 4	
Discrimination based on race/ethnicity	0 1 2 3 4	
Competition for advancement	0 1 2 3 4	
Excessive paperwork	0 1 2 3 4	
Pressures to stay physically fit	0 1 2 3 4	
Trouble relaxing while I'm away from work	0 1 2 3 4	
Difficulty finding time for self-improvement or self-development	0 1 2 3 4	
Lack of work-peer support system	0 1 2 3 4	
Demands as a parent/caregiver	0 1 2 3 4	
Lack of understanding from non-police friends about the nature of the job	0 1 2 3 4	
Difficulty following a healthy diet	0 1 2 3 4	
Difficulty finding time to work out	0 1 2 3 4	
Fear of how my loved ones may be treated because of my job	0 1 2 3 4	
Inadequate support/respect by department	0 1 2 3 4	

Section Two: Overall Stress and Procedural Justice

The questions in this scale ask you about your feelings and thoughts <u>during the last month</u>. In each case, you will be asked to indicate by circling *how often* you felt or thought a certain way.

0 = Never   1 = Almost Never   2= Sometimes   3 = Fairly Often   4 = Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly?	0 1 2 3 4
2. In the last month, how often have you felt that you were unable to control the important things in your life?	0 1 2 3 4
3. In the last month, how often have you felt nervous and "stressed"?	0 1 2 3 4
4. In the last month, how often have you felt confident about your ability to handle your problems?	0 1 2 3 4
5. In the last month, how often have you felt that things were going your way?	0 1 2 3 4
6. In the last month, how often have you found that you could not cope with all the things you had to do?	0 1 2 3 4
7. In the last month, how often have you been able to control irritations in your life?	0 1 2 3 4
8. In the last month, how often have you felt that you were on top of things?	0 1 2 3 4
9. In the last month, how often have you been angered because of things that were outside of your control?	0 1 2 3 4
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0 1 2 3 4

The questions in this scale ask you about your thoughts <u>during the last month</u>. In each case, you will be asked to indicate by circling *your level of agreement* with each statement.

The administration treats employees with respect.	0 1 2 3 4
The administration treats employees fairly.	0 1 2 3 4
The administration is courteous to employees.	0 1 2 3 4
The administration explains their decisions to the employees.	0 1 2 3 4
The administration makes decisions to handle problems involving employees fairly.	0 1 2 3 4
Administration takes time to listen to employees.	0 1 2 3 4

Section Three: Stress Management

The following are questions regarding stress management. <u>Refrain from using your own name or other identifying information when possible.</u>

1. What hobbies or extracurricular activities do you engage in as a way to relieve stress (e.g., working out, sports, family activities, etc.)?
   _____
   _____

2. How often have you had to take time off from work due to work-related instances (e.g., the use of your firearm on duty, car accidents, witnessing a fellow officer get injured, witnessing death, etc.)?
   _____
   _____

3. Please rate your level of agreement to the following statement: Your agency provides services that help manage stress or mental health.
   a. Strongly agree
   b. Agree
   c. Neither agree nor disagree
   d. Disagree
   e. Strongly disagree

4. If you know your agency provides services to manage stress or mental health, who performs these functions (select all that apply):
   a. Employee Assistance Program
   b. City Psychologist/ Counselor/ Therapist
   c. Departmental Psychologists/ Counselors/ Therapists
   d. Contract Psychologists/ Counselors/ Therapists
   e. Private Psychologists/ Counselors/ Therapists
   f. Unsure
   g. Other (specify): _____

5. How likely are you to participate in any type of services to manage your stress or mental health?
   a. Very likely
   b. Somewhat likely
   c. Somewhat unlikely
   d. Not likely at all

6. What are some reasons you might choose <u>to participate </u>in any type of mental health services (select all that apply)?
   a. Alcohol
   b. Depression
   c. Marital Issues
   d. Duty-Related Incidents
   e. Drugs
   f. Stress
   g. Financial Issues
   h. Sleeplessness
   i. Self-Identity
   j. Anxiety
   k. Exhaustion
   l. Absenteeism
   m. Other (specify):

7. What are some reasons you might choose to <u>not participate</u> in any type of mental health services (select all that apply)?
    a. Fear of peers finding out
    b. Fear of subordinates finding out
    c. Fear of supervisor(s) finding out
    d. Macho subculture – Don't want to appear weak
    e. Don't know the process to activate services
    f. Don't believe in these types of services
    g. Fear of retaliation
    h. Don't have time/ process is too cumbersome
    i. Other (specify): _____

8. Would you consider taking part in a voluntary annual mental health check-up, similar to an annual physical check-up?
    a. Yes
    b. No

9. Would you consider taking part in an annual or bi-annual class on the importance of good mental- and emotional-health?
    a. Yes
    b. No

10. What else would you like to see offered as a way to manage your stress levels and promote good mental health?
    _____
    _____

Section Four: Officer Characteristics

1. Gender:
    a. Male
    b. Female
    c. Other (specify) _____

2. Race:
    a. White
    b. Black or African American
    c. Native Hawaiian or Other Pacific Islander
    d. American Indian or Alaska Native
    e. Other (specify) _____

3. Ethnicity:
    a. Hispanic/Latino
    b. Not Hispanic/Latino

4. Rank:
    a. Patrol
    b. Detective
    c. Sergeant
    d. Lieutenant
    e. Commander
    f. Other (specify)
        _____

5. Shift Assignment:
    a. Days
    b. Nights
    c. Swings
    d. Other (specify)
        _____

6. Shift Length:
    a. 10-hour shift
    b. 12-hour shift
    c. Other (specify)
        _____

7. Tenure
    a. Time in law enforcement: _____ years, _____ months

    b. Time in current department: _____ years, _____ months

    c. Time in current assignment: _____ years, _____ months

8. Marital Status:
    a. Single (not married)
    b. Married
            i. How long? _____
    c. Divorced
            i. How long? _____
    d. Widowed

9. Children:
    a. Number of children _____

    b. Number of children under the age of 18 _____

10. Level of Education:
    a. High school diploma or equivalent
    b. Some college, no degree
    c. Technical diploma
    d. Associate's degree
    e. Bachelor's degree
    f. Master's degree
    g. Doctoral or professional degree
    h. Other (specify): _____

11. Is there anything else you feel I haven't covered that you would like to discuss or include?
    _____
    _____

Thank you for your time.

APPENDIX C

VARIABLE CORRELATION MATRIX

APPENDIX C. Correlation Matrix (Part 1)

	Full PSS	PSS-Org	PSS-Occ	PSS-Psy	OSS	Race	Marital Status	Children	Rank	Tenure	Education
Full PSS	1.00										
PSS-Org	0.94	1.00									
PSS-Occ	0.93	0.78	1.00								
PSS-Psy	0.93	0.87	0.78	1.00							
OSS	0.50	0.47	0.42	0.53	1.00						
Race	0.06	0.00	0.17	-0.04	-0.05	1.00					
Marital Status	0.16	0.18	0.09	0.20	-0.01	-0.02	1.00				
Children	0.15	0.15	0.09	0.24	0.00	0.11	0.25	1.00			
Rank	-0.25	-0.10	-0.45	-0.09	-0.07	-0.29	0.14	0.14	1.00		
Tenure	-0.18	-0.03	-0.35	-0.08	-0.13	-0.13	0.14	0.23	0.58	1.00	
Education	0.12	0.10	0.08	0.19	0.11	-0.22	0.13	-0.05	0.00	-0.15	1.00
Org PJ	-0.21	-0.35	-0.04	-0.21	-0.02	0.08	-0.06	0.06	-0.14	-0.18	0.03
MH Reason	0.42	0.34	0.40	0.45	0.37	-0.10	-0.01	0.02	-0.10	-0.15	0.21
Burnout Reason	0.29	0.20	0.36	0.25	0.11	-0.10	-0.08	-0.08	-0.20	-0.22	0.08
Homelife Reason	0.31	0.24	0.30	0.35	0.25	-0.02	0.05	0.22	-0.15	-0.03	0.07
Substance Reason	0.17	0.12	0.13	0.25	0.03	-0.14	0.04	0.03	-0.06	-0.14	0.15
Fear Barrier	0.24	0.21	0.22	0.25	0.25	-0.16	0.08	0.05	0.02	0.05	-0.04
Resource Barrier	0.09	0.07	0.11	0.08	0.02	0.01	-0.07	-0.04	-0.14	-0.13	0.05
Class	0.24	0.20	0.23	0.27	0.30	-0.14	-0.07	-0.04	0.07	-0.04	0.03
Check-Up	0.29	0.18	0.33	0.32	0.30	-0.06	-0.02	0.06	-0.12	-0.16	0.10
Willingness	0.14	0.07	0.17	0.16	0.16	0.01	-0.05	-0.06	-0.15	-0.12	0.07

APPENDIX C. Correlation Matrix (Part 2)

	Org PJ	MH Reason	Burnout Reason	Homelife Reason	Substance Reason	Fear Barrier	Resource Barrier	Class	Check-Up	Willingness
Org PJ	1.00									
MH Reason	-0.06	1.00								
Burnout Reason	0.15	0.38	1.00							
Homelife Reason	0.12	0.31	0.22	1.00						
Substance Reason	-0.17	0.33	0.18	0.22	1.00					
Fear Barrier	-0.16	0.41	-0.03	0.13	0.10	1.00				
Resource Barrier	0.11	0.06	0.37	0.20	0.11	-0.25	1.00			
Class	0.01	0.26	0.22	0.13	-0.01	0.17	-0.04	1.00		
Check-Up	0.06	0.22	0.23	0.18	0.02	0.14	0.10	0.63	1.00	
Willingness	0.09	0.31	0.26	0.19	-0.05	0.03	0.14	0.29	0.30	1.00

APPENDIX D

OLS REGRESSION MODELS FOR SCALES (IN-TEXT TABLE 5

APPENDIX D. OLS Regression Models for Scales (In-Text Table 5)

	Model 1 (Full PSS)				Model 2 (PSS-Occ)				Model 3 (PSS-Org)			
	b	SE	t	Beta	b	SE	t	Beta	b	SE	t	Beta
Willingness to Seek Services Variables												
Specific Willingness - Class	34.13	28.39	1.20	0.14	11.55	11.29	1.02	0.11	14.57	11.40	1.28	0.16
Specific Willingness - Check-Up	17.45	27.28	0.64	0.07	10.86	10.85	1.00	0.11	-0.24	10.95	-0.02	0.00
General Willingness to Access Services	-22.60	22.69	-1.00	-0.10	-10.55	9.03	-1.17	-0.11	-9.87	9.11	-1.08	-0.11
Reasons to Seek Services Variables												
Mental Health Reasons to Seek Services	45.53*	26.39	1.73	0.20	15.88	10.50	1.51	0.16	16.88	10.59	1.59	0.20
Burnout Reasons to Seek Services	44.20	24.42	1.81	0.19	23.06	9.72**	2.37	0.24	13.96	9.80	1.42	0.16
Home Life Reasons to Seek Services	35.11	23.66	1.48	0.15	10.94	9.41	1.16	0.11	13.12	9.50	1.38	0.14
Substance Reasons to Seek Services	-14.90	32.88	-0.45	-0.04	-6.48	13.08	-0.50	-0.04	-11.77	13.20	-0.89	-0.09
Barriers to Seeking Services Variables												
Fear Based Barriers	20.44	23.89	0.86	0.09	12.25	9.51	1.29	0.12	4.14	9.59	0.43	0.05
Resource Based Barriers	7.17	21.91	0.33	0.03	0.73	8.72	0.08	0.01	4.80	8.80	0.55	0.06
Officer-Level Variables												
Perceptions of Organizational PJ	-4.91***	1.62	-3.03	-0.28	-1.06	0.65	-1.64	-0.14	-2.68	0.65***	-4.11	-0.40
Non-White Officers	20.04	23.07	0.87	0.08	13.61	9.18	1.48	0.13	4.30	9.26	0.46	0.05
Married Officers	32.86	20.29	0.11	0.15	11.32	8.07	1.40	0.12	12.71	8.15	1.56	0.15
Having Children	40.76*	24.07	1.69	0.16	13.53	9.58	1.41	0.13	13.80	9.66	1.43	0.15
Supervisory Officers	-47.20*	26.00	-1.82	-0.21	-31.98	10.34***	-3.09	-0.33	-11.38	10.44	-1.09	-0.13
Having at Least 10 Years Tenure	-19.15	25.27	-0.76	-0.09	-14.24	10.06	-1.42	-0.15	-1.67	10.15	-0.16	-0.02
Some College or Trade/ Technical School	-21.52	27.12	-0.79	-0.10	-14.03	10.79	-1.30	-0.15	-8.28	10.89	-0.76	-0.10
Bachelors Degree or Greater	13.03	29.23	0.45	0.05	0.65	11.63	0.06	0.01	4.53	11.74	0.39	0.05
N				96				96				96
R2				0.32				0.40				0.24

*$p<0.10$; **$p<0.05$; ***$p<0.001$

APPENDIX E

LOGISTIC REGRESSION MODELS FOR WILLINGNESS (IN-TEXT TABLE 8)

APPENDIX E. Logistic Regression Models for Willingness (In-Text Table 8)

	Model 1 (General Willingness)				Model 2 (Checkup)				Model 3 (Class)			
	b	SE	z	OR	b	SE	z	OR	b	SE	z	OR
Stress Variables												
Full PSS	0.00	0.00	-0.75	1.00	0.00	0.00	0.81	1.00	0.00	0.00	1.17	1.00
OSS	0.03	0.05	0.62	1.03	0.07	0.05	1.39	1.07	0.06	0.05	1.23	1.06
Reasons to Seek Services Variables												
Mental Health Reasons to Seek Services	1.46**	0.67	2.17	4.29	0.03	0.63	-0.05	0.97	0.47	0.66	0.72	1.60
Burnout Reasons to Seek Services	0.90	0.65	1.39	2.45	0.66	0.60	1.10	1.93	0.88	0.66	1.34	2.41
Home Life Reasons to Seek Services	0.51	0.58	0.88	1.67	0.26	0.61	0.43	1.30	0.25	0.64	0.39	1.28
Substance Reasons to Seek Services	-1.09	0.78	-1.40	0.34	0.62	0.80	-0.77	0.54	-0.80	0.84	-0.95	0.45
Barriers to Seeking Services Variables												
Fear Based Barriers	-0.26	0.59	-0.44	0.77	0.52	0.60	0.87	1.68	0.28	0.68	0.41	1.32
Resource Based Barriers	0.27	0.55	0.48	1.30	0.19	0.54	0.36	1.21	-0.65	0.60	-1.09	0.52
Officer-Level Variables												
Perceptions of Organizational PJ	0.00	0.04	0.08	1.00	0.02	0.04	0.48	1.02	0.02	0.05	0.49	1.02
Non-White Officers	0.03	0.59	0.05	1.03	-0.42	0.58	-0.73	0.66	-0.62	0.64	0.97	0.54
Married Officers	-0.02	0.51	-0.05	0.98	0.22	0.52	-0.43	0.80	-0.50	0.55	-0.91	0.61
Having Children	-0.07	0.60	-0.12	0.93	0.54	0.60	0.90	1.71	-0.23	0.64	-0.35	0.80
Supervisory Officers	-0.51	0.67	-0.76	0.60	0.11	0.62	-0.18	0.90	1.01	0.70	1.44	2.73
Having at Least 10 Years Tenure	0.03	0.66	0.04	1.03	0.53	0.63	-0.84	0.59	-0.31	0.66	-0.47	0.73
Some College or Trade/ Technical School	-1.23*	0.68	-1.82	0.29	0.02	0.66	0.03	1.02	-0.17	0.71	-0.25	0.84
Bachelors Degree or Greater	-0.21	0.72	-0.29	0.81	0.29	0.72	0.41	1.34	-0.37	0.79	-0.46	0.69
N				96.00				96.00				96.00
Cragg & Uhler's R2				0.29				0.24				0.27
AUROC				0.78				0.73				0.75

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

APPENDIX F

LOGISTIC REGRESSION MODELS FOR REASONS (IN-TEXT TABLE 9)

APPENDIX F. Logistic Regression Models for Reasons (In-Text Table 9)

	Model 1 (MH)				Model 2 (Burnout)			
	b	SE	z	OR	b	SE	z	OR
Stress Variables								
Full PSS	0.01*	0.00	1.88	1.01	0.01***	0.00	2.85	1.01
OSS	0.06	0.06	1.14	1.07	-0.07	0.05	-1.30	0.94
Willingness Variables								
Specific Willingness - Class	0.88	0.84	1.05	2.42	0.55	0.76	0.72	1.73
Specific Willingness - Check-Up	-0.76	0.82	-0.92	0.47	0.04	0.70	0.06	1.04
General Willingness to Access Services	1.80**	0.67	2.67	6.03	1.10*	0.61	1.80	2.99
Barriers to Seeking Services Variables								
Fear Based Barrier	2.66***	0.77	3.45	14.33	-0.19	0.60	-0.31	0.83
Resource Based Barrier	0.51	0.63	0.82	1.67	1.60**	0.57	2.81	4.93
Officer-Level Variables								
Perceptions of Organizational PJ	0.01	0.05	0.11	1.01	0.09*	0.05	1.83	1.09
Non-White Officers	-0.24	0.73	-0.33	0.79	-1.08	0.67	-1.61	0.34
Married Officers	-0.45	0.61	-0.74	0.63	-0.24	0.57	-0.42	0.79
Having Children	0.07	0.70	0.10	1.08	-0.64	0.66	-0.96	0.53
Supervisory Officers	0.35	0.81	0.43	1.42	-0.27	0.70	-0.39	0.76
Having at Least 10 Years Tenure	-0.79	0.79	-1.00	0.46	-0.24	0.67	-0.36	0.78
Some College or Trade/ Technical School	1.25	0.79	1.59	3.50	1.22	0.75	1.63	3.40
Bachelor's Degree or Greater	1.82**	0.89	2.05	6.19	0.27	0.77	0.35	1.31
N				96.00				96.00
Cragg & Uhler's R2				0.55				0.47
AUROC				0.89				0.85

APPENDIX F. Logistic Regression Models for Reasons (In-Text Table 9)

	Model 3 (Substance)				Model 4 (Home Life)			
	b	SE	z	OR	b	SE	z	OR
Stress Variables								
Full PSS	0.00	0.01	0.73	1.00	0.00	0.00	1.27	1.00
OSS	0.03	0.09	0.35	1.03	0.05	0.05	0.94	1.05
Willingness Variables								
Specific Willingness - Class	-0.18	1.05	-0.17	0.83	0.40	0.75	0.53	1.49
Specific Willingness - Check-Up	-0.22	1.01	-0.21	0.81	-0.14	0.71	-0.20	0.87
General Willingness to Access Services	-0.40	0.87	-0.46	0.67	0.62	0.58	1.08	1.86
Barriers to Seeking Services Variables								
Fear Based Barrier	0.37	0.85	0.43	1.45	0.47	0.61	0.78	1.60
Resource Based Barrier	1.10	0.85	1.30	3.01	0.94	0.57	1.65	2.57
Officer-Level Variables								
Perceptions of Organizational PJ	-0.15*	0.08	-1.77	0.86	0.06	0.05	1.31	1.06
Non-White Officers	-1.05	0.83	-1.25	0.35	-0.28	0.66	-0.43	0.75
Married Officers	-0.24	0.82	-0.29	0.79	-0.02	0.55	-0.04	0.98
Having Children	0.72	0.98	0.74	2.06	1.26*	0.72	1.76	3.54
Supervisory Officers	0.52	1.20	0.44	1.69	-0.99	0.83	-1.20	0.37
Having at Least 10 Years Tenure	-1.93	1.32	-1.46	0.14	0.77	0.75	1.04	2.17
Some College or Trade/ Technical School	0.03	0.79	0.04	1.03	0.19	0.74	0.26	1.21
Bachelor's Degree or Greater	—	—	—	—	0.42	0.78	0.54	1.53
N				76.00				96.00
Cragg & Uhler's R2				0.24				0.33
AUROC				0.79				0.80

**Note for model 3: HS/GED predicted failure perfectly and was dropped; Bachelor's degree or greater omitted due to multicollinearity

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

APPENDIX G

LOGISTIC REGRESSION MODELS FOR BARRIERS (IN-TEXT TABLE 10)

APPENDIX G. Logistic Regression Models for Barriers (In-Text Table 10)

	Model 1 (Fear)				Model 2 (Resource)			
	b	SE	z	Odds Ratio	b	SE	z	Odds Ratio
Stress Variables								
Full PSS	0.00	0.00	0.45	1.00	0.00	0.00	0.15	1.00
OSS	0.04	0.06	0.60	1.04	0.00	0.05	-0.06	1.00
Willingness Variables								
Specific Willingness - Class	0.40	0.80	0.49	1.49	-1.09	0.72	-1.50	0.34
Specific Willingness - Check-Up	0.48	0.78	0.61	1.61	0.59	0.68	0.87	1.81
General Willingness to Access Services	-0.65	0.64	-1.01	0.52	0.40	0.55	0.74	1.49
Reasons to Seek Services Variables								
Mental Health Reasons to Seek Services	2.74***	0.78	3.50	15.56	-0.81	0.63	-1.28	0.45
Burnout Reasons to Seek Services	-1.42*	0.72	-1.98	0.24	1.76***	0.59	2.98	5.82
Home Life Reasons to Seek Services	0.16	0.63	0.25	1.17	0.75	0.58	1.31	2.13
Substance Reasons to Seek Services	-0.54	0.82	-0.66	0.58	0.54	0.83	0.65	1.71
Officer-Level Variables								
Perceptions of Organiational Procedural Justice	-0.05	0.05	-1.03	0.95	0.01	0.04	0.29	1.01
Non-White Officers	-1.07*	0.62	-1.73	0.34	0.13	0.55	0.24	1.14
Married Officers	0.56	0.59	0.96	1.76	-0.27	0.50	-0.54	0.76
Having Children	-0.17	0.69	-0.24	0.85	-0.24	0.58	-0.42	0.78
Supervisory Officers	-0.54	0.78	-0.69	0.58	0.12	0.63	0.18	1.12
Having at Least 10 Years Tenure	0.30	0.74	0.40	1.34	-0.09	0.61	-0.15	0.91
Some College or Trade/ Technical School	-0.36	0.80	-0.45	0.70	0.06	0.67	0.09	1.06
Bachelor's degree or Greater	-1.16	0.84	-1.37	0.31	0.15	0.69	0.22	1.17
N				96.00				96.00
Cragg & Uhler's R2				0.40				0.27
AUROC				0.83				0.77

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