ABSTRACT

Title of Thesis:	RACE AND GENDER'S EFFECT ON POLICE OFFICER STRESS AND BURNOUT: A CASE STUDY OF THE BALTIMORE POLICE DEPARTMENT
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Law enforcement is an inherently stressful profession because officers deal with unique strains. Experiencing extensive and consistent amounts of stress ultimately leads to burnout, ineffective, and inefficient officers. Guided by several theoretical frameworks, the current study will examine the gender and racial differences in police officers' stress and burnout in the Baltimore Police Department (N = 878). Specifically, I use several OLS regressions to understand the scaled responses of the officers' psychological stress, physical stress, and burnout levels. I found female officers are more likely and black officers are less likely to experience both manifestations of stress. Further, I found no sign of increased burnout levels for either group. When analyzing a potential moderation between these demographics, I also found no difference between minority groups. While only a case study, the conclusions drawn can help identify which officers are most vulnerable to high stress and burnout levels.

RACE AND GENDER'S EFFECT ON POLICE OFFICER STRESS AND BURNOUT: A CASE STUDY OF THE BALTIMORE POLICE DEPARTMENT

by

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Chapter 1: Introduction

It is no surprise that law enforcement is ranked as one of the most stressful occupations (Goodman, 1990; Loo, 1994). Occupational stress in policing has become a prevalent issue due to its ramifications on officers' mental and physical health, police organizations, and the criminal justice system (Morash et al., 2006). With the addition of extensive and consistent amounts of stress, these mental burdens may lead to burnout, leading to ineffective and inefficient law enforcement officers. Burnout has been defined by the World Health Organization (WHO) (2019) as "a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed" (para. 4). Three dimensions comprise occupational burnout: reduced professional worth, feelings of negativity toward one's job or mental distance in one's career, and feelings of fatigue and decreased energy (Loo, 2004; WHO, 2019). It is essential to curb these potential outcomes so officers can fulfill their promise to their communities: to protect and serve. These obligations become harder to fulfill once officers begin to lose motivation and passion for their work. Burnout has been documented extensively within all rankings of law enforcement who experience these extended periods of stress (Loo, 1994; Martinussen et al., 2007; Morash et al., 2006; Padyab et al., 2016).

After recognizing the severity of this issue, scholars from across the globe began to research what contributed to and what the subsequent ramifications of police officers' occupational stress are. Previous research has found that there are personal and professional contributors of stress, which, if felt for prolonged periods, have been associated with occupational burnout (Backteman-Erlanson et al., 2013; Bolanle &

Ibukun, 2016; Martinussen et al., 2007; Padyab et al., 2016; Vuorensyrjä & Mälkiä, 2011). In addition, this research has demonstrated that the officer's race is a significant indicator of higher stress levels. For instance, Bishopp et al. (2020) found that anger distinctively affects officers of a racial minority, causing them to act out against the public; the same result was not found for white officers. Further, this type of research found differences in stress levels and burnout rates between male and female officers (Backteman-Erlanson et al., 2013; Bolanle & Ibukun, 2016; Hawkins, 2001). Studies have also revealed that stress and burnout levels tend to increase without proper social support from their professional and personal lives (Morash et al., 2006). Additionally, research has found an interaction effect between contributors of stress. For example, Kurtz (2008) concluded that black female officers have higher job stress levels than white female officers.

Knowing that these differences are present, stress that contributes to burnout of law enforcement officers should be a cause for significant concern for law enforcement administrators, community leaders, and government officials. It is essential to understand how to help officers alleviate as much stress as possible to ensure that the most qualified and efficient individuals are on the streets enforcing laws and interacting with the public. The present study recognizes that previous studies have gaps in determining the effect that the gender and race of an officer have on their reported stress levels. It seeks to fill these gaps by examining the significance of demographic characteristics on stress manifestations and burnout levels through a combination of theoretical lenses: Job Demands-Control Model, strain theories, and psychological and physical implications of stress.

Karasek's (1979) Job Demands-Control Model categorizes jobs based on the amount of strain employees feel depending on the interaction between job demands and control (i.e., discretion). Moon and Jonson (2012) argue that strain theory and its developments are appropriate for examining negative emotions and reactions to strain that lead to burnout. Further, the current study separates the differing manifestations of stress, specifically psychological and physical, because it has been shown that individuals experience these manifestations differentially (University of Buffalo, 2008). These paradigms must be analyzed in tandem because they all have a unique effect on stress that can be applied to police officers of all creeds and genders (University of Buffalo, 2008; Sigfusdottir et al., 2017).

The current literature demonstrates that police officers' stressors affect male, female, and racial minority officers differently and suggests that more information is needed to deduce how these differences affect stress and burnout levels (Backteman-Erlanson et al., 2013; Bishopp et al., 2020). The current study is a case study of one of America's most dangerous cities, Baltimore, Maryland. As of 2018, Baltimore's violent crime rate was nearly five times higher than the national average, ranking the city in the top five most dangerous cities in the United States (Fieldstadt, 2020). Using this case study, a combination of theoretical perspectives, and separating stress manifestations, the current research aims to deduce the stress and burnout levels of officers employed by the Baltimore Police Department in the late 1990s. The results of this study have the potential to inform future research to ensure administrators, police departments, and law enforcement officers are aware of which officers are the most vulnerable to high levels of stress and how to help these officers before burnout can occur.

Chapter 2: Theoretical Framework

Karasek's (1979) Job Demands-Control Model of Work Design

Karasek (1979) developed one of the most widely studied occupational stress models, the Job Demands-Control Model. This model postulates that job stress or strain is caused by an interaction between work and environment (Kain & Jex, 2010). Karasek (1979), and the current study, use strain and stress interchangeably because they are directly related (Bishopp, 2020). The Job Demands-Control Model theory is based on both physical and psychosocial characteristics of work that contribute to the amount of strain an employee may feel (Dewe et al., 2012). Scholars have proposed:

> Although excessive job demands or pressures (both physical and psychosocial) can have an impact on stress levels (especially psychological strain), by themselves these demands are not the most important contributors to strain experiences. Rather, the amount of strain people experience in their work will be determined by whether or not they have any control over the demands they have to deal with. (Dewe et al., 2012, p. 32)

Karasek (1979) further highlights that the interactive relationship between job demands and job control directly impacts employees' stress levels. The interaction between job demands and job control can be described as follows: if while on the job, the employee has control, what Karasek (1979) uses as a synonym for discretion, it will act as a buffer for the demands that cause the strain (Dewe et al., 2012; Karasek, 1979).

This theoretical model further assumes that the dimensions of the work environment create four archetypical jobs seen in Figure 1 (see below): passive jobs, low-strain jobs, high-strain jobs, and active jobs (Dewe et al., 2012; Karasek, 1979; Taris et

al., 2010). The cell that indicates a passive job (low control/low demands) describes professions where employees experience the least strain (Dewe et al., 2012; Karasek, 1979; Taris et al., 2010). These low strain levels can be attributed to a lack of room for professional development and exerting control in their work. Some examples of passive jobs include clerical workers, transport operatives, and janitors (Dewe et al., 2012; ILO, 2011; Karasek, 1979; Taris et al., 2010). A low-strain job, the lower-left corner of Figure 1, refers to professions that expect low levels of stress because employees can meet the demands of their job with ease (Taris et al., 2010). For instance, some professions in this category are repairmen, foresters, and salesclerks (ILO, 2011).

The right-half of Figure 1 includes occupations with high demands for their employees and, when paired with the level of controls, create either high-strain or active jobs (Dewe et al., 2012; Karasek, 1979; Taris et al., 2010). High-strain jobs require high demands of employees while offering little control, causing elevated levels of stress (e.g., waitress) (Dewe et al., 2012; ILO, 2011; Karasek, 1979; Taris et al., 2010). According to the ILO Encyclopedia of Occupational Stress and Safety (ILO) (2011), active jobs refer to high-prestige jobs that call for increased feelings of mastery and increased ability to cope with their inevitable stressors (e.g., lawyers and physicians). Active professions have high demands but curb some strain by allowing the individual to have complete control over how they deal with the stress they face (Dewe et al., 2012; Karasek, 1979; Taris et al., 2010). Given that the current study focuses on law enforcement, the interaction between job demands and control falls between a high-strain and an active job. Law enforcement falls under the umbrella of active jobs because there is a need for mastery in law enforcement and it allows officers to experiment with coping mechanisms

to deal with their strain. However, it could also be categorized as a high-strain job because they cannot control what laws they are supposed to enforce.

Figure 1. The Job Demands-Job Control Model

	Low Job Demands	**High Job Demands**
Low Control	Passive Job	High-Strain Job
High Control	Low-Strain Job	Active Job

Source: Dewe et al., 2012, p. 33

Karasek (1979) poses two main hypotheses of interest: the job strain hypothesis and the social support hypothesis. The job strain hypothesis assumes that the worst reactions to occupational strain are fatigue, anxiety, depression, and physical illness. These adverse effects occur when the individual's job is psychologically, emotionally, and physically demanding and are only exacerbated when the employee lacks control or cannot appropriately deal with their strain (Dewe et al., 2012; Karasek, 1979; Taris et al., 2010). This relates directly to the strain of police officers because their work comes with immense pressure from local governments, their superiors, their coworkers, the public, and, primarily, themselves to fulfill their duty to protect and serve (Backteman-Erlanson et al., 2013; Bolanle, & Ibukun, 2016; Martinussen et al., 2007; Padyab et al., 2016; Vuorensyrjä & Mälkiä, 2011). Further, as mentioned above, the demand for effectiveness and efficiency while under great scrutiny is a unique hardship of law enforcement officers (University of Buffalo, 2008). As the current study will explore, and future chapters will discuss, this scrutiny can be felt tenfold by officers in the racial and gender minorities of a police department (Haarr & Morash, 1999; Stroshine & Brandl, 2011).

The second hypothesis proposed by Karasek (1979) is the social support hypothesis. He warns that this theory should be developed further by adding another dimension that will help understand how social support could curb feelings of strain. This development would require analyzing the social relationships between an employee and their family, friends, colleagues, and supervisors and how these relationships may uniquely affect their stress levels. This is also applicable to police departments, in which the level of camaraderie between officers and their superiors may contribute to more effective police work (Taris et al., 2010). Additionally, these relationships will enable the officers to feel welcome and motivated to do their job well, which has been a problem for minority officers (McCarty, 2013; Haarr & Morash, 1999; Stroshine & Brandl, 2011). Further, stressors at home have contributed to overall job stress (Bolanle & Ibukun, 2016). Although this type of analysis would further the current study's research, the social support hypothesis is beyond the scope of the present study based on the measures contained in the current dataset.

As alluded to earlier, law enforcement is a mix of a high-strain and an active job that allows many officers to use discretion in their job and preferred coping mechanisms while also dealing with immense scrutiny and lack of control (Brooks & Piquero, 1998; Crank & Caldero, 1991; Taris et al., 2010). Police officers have no control over the laws they enforce but must act to implement them, or their careers will be in jeopardy. Their obligations and motivations are subject to change based on several factors, such as family obligations, politics, and change in leadership (Anderson et al., 2002; Bishopp et al., 2020; Duran et al., 2019). This continuous fluctuation in these critical aspects of their work-life balance makes it increasingly difficult for officers to deal with their strain and

performing their job well, resulting in them suffering from negative consequences (Anderson et al., 2002; Duran et al., 2019; Bishopp et al., 2020). These negative consequences include sleep problems, depression, anxiety, depletion of satisfaction with their work, and ultimately quitting altogether (Duran et al., 2019). It has been found that there is an apparent disconnect between the officers' workload and their ability to achieve it (Duran et al., 2019). Duran et al. (2019) deemed their obligations unrealistic, directly related to the demands and control interaction explained by Karasek (1979).

Strain has also been explored in criminological contexts but has primarily focused on how strain can lead to deviance. That type of reaction to strain is not within the scope of the current study, but strain can manifest in several ways that criminologists have also examined in studies discussed later. The strain theories of Merton (1938), Agnew (1992), and Broidy and Agnew (1997) will be explained thoroughly and connected to both Karasek's (1979) work and policing research. As we will see later in this chapter, these theories and their developments have been used in empirical research to explain police officer stress and burnout.

Merton's (1938) Strain Theory

In criminological literature, stress has also been referred to as strain, which has fueled several theories in the discipline (Agnew, 1992; Broidy & Agnew, 1997; Merton, 1938; Moon & Jonson, 2012). Using a sociological perspective, Merton (1938) sought to understand the pressures put upon certain people in society compared to others and how this strain can lead to deviance. There is the basic assumption that man is generally a moral creature but can react unfavorably to strain in this perspective. Strain is not felt equally between different groups, leading to differing crime levels in specific

communities. Merton (1938) pays close attention to the American Dream and how that is directly related to an American's feelings of success, particularly monetary success. The issue lies in the stratification of American society by socioeconomic status, which directly affects who has access to this dream and, therefore, who can achieve their monetary goals. This is expressed explicitly by Merton's (1938) conclusion, which finds a significant difference between minority groups and their white counterparts when trying to fulfill monetary goals through socially acceptable means. Specifically, individuals in these minority groups are more likely to experience strain because the disjoint between their access to socially acceptable means of success and succeeding is more apparent.

Once an individual experiences strain, Merton (1938) argues that the individual can react in one of five ways. First, the individual could choose the path of conformity, where they realize a disjoint between their goal and the means to obtain it; however, they believe in the culturally set boundaries to achieve that goal. There is an understanding that the individual may fail in their attempt to reach their goals, but will try, nonetheless. The second way to react to strain is innovation, where the individual accepts society's goals while rejecting the accepted means of achieving that goal. Since the standards are rejected, the newly innovated means may be criminal. The third reaction involves the individual rejecting both the socially acceptable goal and the means to achieve that goal, known as rebellion. Due to their strain experience, they adopt a new set of goals based on their values and views. Ritualism, the fourth reaction to strain, occurs when the individual abides by the socially appropriate means while not achieving the goal. Within this reaction to strain, the goal is recognized as beyond one's reach, but conformity to the norms persists because they are socially acceptable. Lastly, retreatism is a reaction to

strain that aligns closely with rebellion. It rejects both the acceptable goal and means to obtain it while actively trying to escape both by not adopting a new goal or means to obtain it.

Merton's (1938) strain theory and developments (Agnew, 1992; Broidy & Agnew, 1997), which will be discussed below, have traditionally focused on how strain leads to crime and delinquency. However, in more recent research, scholars have shifted their focus on strain causing crime to strain causing other adverse outcomes and behaviors (Bishopp et al., 2018; Bishopp et al., 2020; Moon & Jonson, 2012; Shim et al., 2015). With this shift in research focus, Merton's theoretical framework can be utilized to study strain in law enforcement officers because they deal with many stressors that may be experienced differentially based on their means to achieve their professional goals. This interaction is directly related to the theoretical framework of Karasek (1979).

Agnew's (1992) General Strain Theory (GST)

Agnew (1992) suggested that Merton's (1938) theory was too vague since it did not outline the different sources of strain that an individual can experience that lead to the five reaction paths. Agnew (1992) explicitly disagreed that strain was only linked to monetary goals and argued strain could be derived from negative experiences, resulting in the creation of his own General Strain Theory (GST). This approach is much broader and contains four parts that focus less on finances being the only strain in an individual's life. The first part of this theory establishes the three sources of strain: (1) loss of a positively valued stimulus (e.g., losing their job), (2) presentation of a negative stimulus (e.g., disagreement with commanding officer or partner), and (3) failure to meet your goals (e.g., not being able to solve a case). This speaks to Karasek's theory (1979),

demonstrating that these sources of strain (i.e., lack of control) would directly relate to an employee's strain and how that strain could affect their ability to meet their job demands. Duran et al. (2019) further substantiated this point, highlighting that these disconnects are felt by law enforcement officers frequently and affect their perception of their ability to achieve their goals to protect and serve.

Agnew (1992) recognized that these three sources might be too broad and developed his theory further to explain which of these stimuli will have the most significant impact on the individual. This development outlined when and under what circumstances an individual would assign different degrees of impact on the sources of strain. Agnew (1992) outlines the four primary measures to consider when determining the effects of strain. The first measure requires the individual to determine whether the strain is unjust or unfair; if deemed imbalanced, there will be a more significant impact. Greater impact signifies whether the person experiencing strain will even consider reacting to the stimulus because it may not have been perceived as a source of strain (Agnew, 1992). The second measure, strain high in magnitude, is a perceptual measure in which one considers if what they are experiencing could worsen. For example, if someone is upset that they did not receive a Christmas bonus, they could see the bright side and be grateful that they are still employed. This speaks to the reality that two people who experience the same strain may perceive and react to it differently (Agnew, 1992).

The third measure examines if the strain affects social controls; if the strain harms social controls, it may become problematic and cause adverse outcomes in behavior (e.g., crime, drug use, alcohol abuse, or stress). Finally, the strain may create pressure for criminal coping, and this occurs when the individual feels that their last resort is to turn to

crime. Agnew (1992) stresses that these measures are perceptual and personal; therefore, the impact or the degree of influence is different from person to person because the reaction to strain differs. These differences in response can be seen within police departments and can vary based on the race and gender of the officer (Backteman-Erlanson et al., 2013; Bolanle & Ibukun, 2016). For example, Bolanle and Ibukun (2016) found that gender is a significant moderator in the relationship between occupational stress and burnout. Further, Backteman-Erlanson et al. (2013) find that female officers experience more emotional exhaustion, a strong indicator of burnout, than male colleagues.

The third part of Agnew's (1992) GST depicts whether an emotional reaction has negative affect. This argument emphasizes that everyone can respond differently to the same stimuli, but some people react in negative ways. For example, if people respond with anger, that is the most significant indicator of responding with criminality (Agnew, 1992). Issues with responding to strain with anger have been documented in police departments, where officers have reacted to strain by mistreating the public (Bishopp et al., 2020). The final part of GST claims that strain can be direct and vicarious, suggesting that when people you care about experience strain or you live in a particularly violent area, you will experience strain. Again, this can be seen in a policing context because officers are frequently exposed to danger and violence (Anderson et al., 2002).

Some scholars have come to recognize the unique insight Agnew's (1992) theoretical framework provided for investigating police officers' occupational stress and subsequent burnout (Bishopp et al., 2020; Moon & Jonson, 2012). Agnew (1992) posits that strain in high magnitudes may cause adverse behaviors. This premise has been

employed to understand occupational stress and damaging behaviors caused by that same stress, specifically in policing (Bishopp et al., 2018; Bishopp et al., 2020; Moon & Jonson, 2012; Shim et al., 2015). GST is the only prominent criminological theory that pays specific attention to an individuals' antagonistic relationships with their social and physical environments (Moon & Jonson, 2012). Given that policing is considered one of the most stressful occupations, it would be appropriate to use GST to examine the negative emotions and reactions, such as burnout, caused by the job's constant stress (Moon & Jonson, 2012).

Broidy and Agnew's (1997) Gendered Strain Theory

Empirical work has found significant gaps in the research of both Merton (1938) and Agnew's (1992) theories, finding that most of the studies and assumptions were geared toward male strain and criminality. This deficit in research created a push to understand how these phenomena affect women. With this push, Broidy and Agnew (1997) argue that GST can be used to understand and explain the differences in offending between males and females. Although this theory focuses on criminality, it has been used to explain other consequences of strain (Backteman-Erlanson et al., 2013; Bishopp et al., 2020; Moon & Jonson, 2012). For instance, as mentioned above, female law enforcement officers are more likely to experience emotional exhaustion than male colleagues (Backteman-Erlanson et al., 2013). Within gendered strain theory, there are three main hypotheses postulated by Broidy and Agnew (1997): "(1) males are subject to different strains than their female counterparts… (2) males have different emotional responses to strain…and (3) males are more likely to respond to anger or strain with crime" (Piquero & Sealock, 2004, p. 128).

Testing the first hypothesis has found mixed results and suggests that the genders view strains differently based on placing differing magnitudes on the strain. Specifically, evidence has revealed that females are less likely to allow their strain to lead to deviant outcomes while, generally, experiencing more strain than their male counterparts (Broidy & Agnew, 1997; Piquero & Sealock, 2004). Tests of the second hypothesis have shown that women are more likely to internalize their strain than their male counterparts (Hickman & Piquero, 2001, as cited in Piquero & Sealock, 2004). Men are more likely to respond to strain with anger, while females are more likely to react by becoming depressed (Piquero & Sealock, 2004). Broidy and Agnew (1997) present this finding with some caution, recognizing that these responses are not necessarily associated with only one gender. For instance, Mirowsky and Ross (1995) found that females report feelings of anger more frequently than males; this finding led Broidy and Agnew (1997) to conclude that the genders' anger is fundamentally unique from one another. This difference arises because men and women assign blame for the anger they experience differently (Broidy & Agnew, 1997; Mirowsky & Ross, 1995). Men tend to blame others while women blame themselves (Broidy & Agnew, 1997). Further, Agnew's (1992) findings suggest the genders place differing values on the relationships that this anger will impact. Men are less concerned with maintaining relationships and hurting others, while women fear that their anger will affect these valued relationships or harm people they care for (Broidy & Agnew, 1997). Further, women tend to think that their anger is a failure to maintain self-control, while men view acting angrily as an affirmation of masculinity (Broidy & Agnew, 1997).

Lastly, testing the third hypothesis suggests that women have more outlets for coping with their strain than men, leading men to have a higher rate of criminality (Broidy & Agnew, 1997). Additionally, Broidy and Agnew (1997) posit that males and females have different social skills, coping skills, and social interactions, where males' interactions do not offer alternatives to delinquency. The researchers outline five explanations to assess these coping and social differences that cause males to respond to strain through crime (Piquero & Sealock, 2004). First, women are more likely to respond to strain in a noncriminal self-destructive way since men tend to have lower levels of self-esteem and mastery (Piquero & Sealock, 2004). This difference makes it more likely for men to have an outward response to strain since they do not see most of the fault within themselves but rather outside forces.

Second, females have more social support outlets, reducing their strain more effectively and valuing ties that criminality may affect. Third, and associated with a lack of social support, males have more opportunities to engage in criminal behavior since they do not experience the same social controls presented to their female counterparts (Broidy & Agnew, 1997; Piquero & Sealock, 2004). The fourth and fifth explanations are closely related, signifying that both genders' socialization process and association with peers are distinctive. Finally, established gender roles and stereotypes suggest that specific responses from one gender may not be acceptable for another. For instance, anger may not be an appropriate response from females, but males do not experience the same scrutiny for feeling that emotion (Broidy & Agnew, 1997; Piquero & Sealock, 2004).

Applying General Strain Theory to Police Occupational Stress

Knowing these theoretical frameworks, their assumptions, and implications can propel the current criminological literature examining police occupational stress (Bishopp et al., 2018; Bishopp et al., 2020; Moon & Jonson, 2012; Shim et al., 2015). As stated previously, strain theory is an appropriate framework for examining negative emotions and reactions to strain, especially for law enforcement officers (Moon & Jonson, 2012). Scholars took note of these theories and saw their merit in helping to understand how these demographic factors can affect an officers' strain and consequent burnout levels. The following section outlines several studies that have utilized this framework to understand the stress and burnout of law enforcement officers. These studies present valuable insight into understanding how these phenomena harm police officers and policing in general.

As stated previously, scholars have recognized the unique insight Agnew's (1992) theoretical framework provided for investigating police officers' occupational stress and subsequent burnout (Bishopp et al., 2020; Moon & Jonson, 2012). Even with this fact, surprisingly, few studies utilize GST to understand the sources of police stress, irrespective of the fact that police officers' struggle with occupational stress is well documented (Bishopp et al., 2018). Scholars who recognized this lack of perspective in the literature conducted a study on urban police departments in Texas, revealing that police strain led to anger, depression, and burnout (Bishopp et al., 2018). Unfortunately, Bishopp et al.'s (2018) study was limited; the results must be regarded with caution because of a low response rate that directly affected their generalizability to smaller departments. The current study uses the same theoretical framework while analyzing a

different urban department in the United States with a more empirically sound response rate.

Much like Bishopp et al. (2018), scholars have also applied Agnew's (1992) GST in an organizational setting (Moon & Jonson, 2012; Shim et al., 2015). For example, Moon and Jonson (2012) utilize GST to understand officers' organizational commitment and its mediating effects of negative affect by focusing on a small sample of officers from Northern Kentucky. The scholars deemed GST an appropriate theoretical framework for their research interests. Moon and Jonson (2012) found that the failure to achieve goals considered to be valuable by the officers, and the removal of positive stimuli were the most common strains that caused the most significant negative affect. Negative affect can refer to a plethora of emotions (e.g., frustration, anger, depression, anxiety, irritability), but Moon and Jonson (2012) focused on anger since that is the primary focus on the second part of GST (Agnew, 1992). However, their study is limited because it does not have enough information to consider the officers' race or sex. The current study intends to fill these gaps and focus on how stress and burnout levels differ among racial and gender groups.

Shim et al. (2015) also understood the merit of applying Agnew's (1992) GST when attempting to understand and explain the effect of negative affect on police organizations. These researchers used GST to understand turnover and the mediating effects of negative emotions of South Korean police officers. Their results conveyed that turnover, caused by stress and burnout, was directly associated with frustration and depression and not feelings of anxiety (Shim et al., 2015). However, the authors recognized that their study is limited because it could not account for group differences

such as race and gender. Shim et al. (2015) note that GST and its variations postulate differences in strain among race and gender, which should be explored thoroughly in future research. The current study intends to further this research by correcting this limitation while shifting focus to the prevalence of stress and burnout rather than turnover.

Bishopp et al. (2020) make up for the limitations of Shim et al. (2015) by abiding by the GST and gendered GST postulates surrounding differences in strain based on demographic characteristics of the individual experiencing strain. GST was applied in this study to understand how the officer's race may affect their stress levels in large cities in Texas (Bishopp et al., 2020). Their study concluded a significant difference in anger's role on stress and misconduct among white and minority officers. Their research finds that minority officers are more likely to react to anger with misconduct than their white counterparts (Bishopp et al., 2020). Bishopp et al. (2020) note that their study is limited in that it examines a single negative emotion, anger, and further research would benefit from considering other emotions. The current study will examine stress as a negative emotion and assess if the varying results between different demographics remain consistent in a separate metropolitan area in the United States.

Psychological and Physical Stress Implications

Stress has been investigated and discussed in three separate disciplines: mental health, physiology, and criminology, through strain theory (Sigfusdottir et al., 2017). It is increasingly beneficial not to take such a narrow approach to evaluate these phenomena that have been documented to cause serious, severe, and unwanted adverse reactions (Bishopp et al., 2018; Moon & Jonson, 2012; Shim et al., 2015; Sigfusdottir et al., 2017).

Over several decades, these three paradigms (i.e., mental health, physiology, and strain theory) have been advanced and used to evaluate stress's effects on health and behavior (Sigfusdottir et al., 2017). These paradigms all have a unique impact on police officers of all creeds and genders because they have a high-stress job (University of Buffalo, 2008). The current study will evaluate these paradigms in tandem to deduce how strain can manifest in Baltimorean police officers in the late 1990s.

Psychological research has shown variation in exposure to stress based on individual life conditions and social circumstances (Sigfusdottir et al., 2017). The University of Buffalo (2008) understood this assumption and wanted to apply it to law enforcement officers because this line of work is a "psychologically stressful work environment filled with danger, high demands, ambiguity in work encounters, human misery and exposure to death" (University of Buffalo, 2008, para. 7). Researchers at the university are:

> …now are carrying out one of the first large-scale investigations on how the stress of police work affects an officer's physical and mental health, funded by a $1.75 million grant from the National Institute of Occupational Safety and Health (NIOSH). (University of Buffalo, 2008, para. 2)

Their preliminary evaluations have shown that 115 randomly selected officers out of 400 involved in the study suffered from suicidal thoughts (University of Buffalo, 2008; Violanti et al., 2013). Further, the findings indicate differences between male and female officers regarding their feelings of stress and frequency of suicidal thoughts (University of Buffalo, 2008; Violanti et al., 2013). The data indicated that 23% of male and 25% of female officers reported more suicidal thoughts than the general population (13.5%). The

researchers postulate that women can feel more stress on the job because law enforcement has been coined a "male occupation" (University of Buffalo, 2008, para. 18). Racial differences have also been found within police departments, whereas black male officers were less psychologically stressed than white officers (Kurtz, 2008). Further, Kurtz (2008) displayed that both black and white female officers had increased psychological stress compared to their male colleagues of either race.

Psychological and physical stress are distinct manifestations of overall stress, but they are still directly related (Robinson, 2020; University of Buffalo, 2008). Dr. John Violanti, a head researcher on the University of Buffalo (2008) project, and his colleagues measured cortisol levels, known as the stress hormone in psychological research, to understand if the stress was related to physiological risk factors. When there is an imbalance of cortisol levels caused by chronic stress, individuals are more susceptible to diseases, a compromised immune system, and an imbalanced body (University of Buffalo, 2008). Since policing is a high-stress job, officers have chronically high cortisol levels, which has severe consequences on their physical health, especially heart issues (Gershon et al., 2009).

Much like the psychological complications associated with stress, physical complications differ among the genders (Gershon et al., 2009; Robinson, 2020; University of Buffalo, 2008). Research has shown that female officers wake up with high cortisol levels that remain high all day (usually, these levels would decrease throughout the day), which increases their risk of suffering from cardiovascular disease. Kurtz (2008) highlighted black female officers experienced a higher likelihood of suffering from physical stress than white female officers and male officers of both races. Interestingly, it

was found that black male officers experienced less stress than their white male colleagues (Kurtz, 2008). Investigations conducted by the University of Buffalo (2008) show that male officers, uniquely, have higher levels of cholesterol and cortisol, causing higher-than-average pulse rates and blood pressure.

By pairing strain theories and what is known about the complications of psychological and physical stress, the current study seeks to create a comprehensive picture of the manifestations of police stress and burnout. These three paradigms are directly related and are crucial when understanding the causes, signs, and outcomes of occupational stress. Policing is an appropriate lens to evaluate these phenomena because of the stressful and dangerous nature of the job (Moon & Johnson, 2012; University of Buffalo, 2008). The current study will use these paradigms to evaluate a case study of officers in the Baltimore Police Department in the late 1990s. As discussed later, Baltimore, Maryland, has an above-average crime rate, which only exacerbates stress levels of police officers who are already predisposed to stress and unfavorable reactions to it, such as burnout (Anderson, 2018).

Chapter 3: Policing Stress and Strain

Policing, Stress, and Burnout

Prior research has documented the stressful nature of policing and the unique stressors that officers face (Bishopp et al., 2020). Some of these stressors can include erratic work shifts, exposure to violence and trauma, policies, laws, constantly changing leadership, public scrutiny, and the unpredictability of their job (Bishopp et al., 2020; Kurtz, 2008). Taking these hardships into account, police stress researchers have come to a consensus on four primary sources of strain: "police work itself, the police organization, the criminal justice system, and the public" (Bishopp et al., 2020, p. 1814). These concepts are deeply intertwined and may be challenging to separate because of their compound effects. Further, researchers have concluded that dealing with these stressors leads to various issues for the officers, their department or agency, and the law enforcement profession overall (Anderson et al., 2002). The following section will explore these sources of stress and how they can lead to burnout.

The nature of police work can cause extreme and excessive stress on law enforcement officers. The most prominent stressor is being exposed to violence or knowing the increased likelihood of being exposed. For instance, police officers regularly encounter hostile citizens that could pose a threat of violence (Kurtz, 2008). Being on constant alert has had detrimental consequences on law enforcement officers' mental health and has presented as suicidal ideation (Anderson et al., 2002; Bishopp et al., 2020; University of Buffalo, 2008; Violanti et al., 2013). These psychological ailments are directly related to the physiological toll these stressors present. Some adverse health outcomes include increased heart rate and blood pressure, fatigue, and muscle tension

(Anderson et al., 2002; University of Buffalo, 2008; Violanti et al., 2013). The degree to which these stress presentations are felt varies based on the officer's perception of the situational demands and their ability to fulfill them (Anderson et al., 2002). This speaks directly to the intersectional relationship Karasek (1979) studied to understand which occupational circumstances caused the most strain on employees. Moreover, officers' psychological and physical toll is only amplified by their requirement to make split-second decisions that may negatively affect all people involved (Crank & Caldero, 1991).

Organizational stress is the most frequent stressor that law enforcement officers must deal with (Aaron, 2000). Paperwork, bureaucracy, and lack of input in policies, laws, and the general decision-making process can cause stress (Brooks & Piquero, 1998; Crank & Caldero, 1991). Again, this speaks to the disconnect between job demands and control that can create a high strain job (Duran et al., 2019; Karasek, 1979). These organizational stressors can be caused by promotional practices, supervision, disciplinary actions, and general departmental processes (Bishopp et al., 2020; Crank & Caldero, 1991). Promotional practices and supervision have specifically been an issue for female and racial minority officers, causing additional stress, which will be explored later in this chapter (Archbold & Schulz, 2008; Haarr & Morash, 1999; Stroshine & Brandl, 2011). Further, police officers are expected to, even off-duty, maintain higher personal and moral standards than members of the public, potentially making them experience occupational stress when off the clock (Storch & Panzarella, 1996).

The criminal justice system has been identified as an additional source of stress for law enforcement officers (Bishopp et al., 2020). Research has found that law enforcement officers find participating in court proceedings particularly stressful (Kroes

et al., 1974; Sigler et al., 1991). The most stressful interaction police officers have with the court system is taking the stand and giving testimony (Sigler et al., 1991). The correctional system has also become a source of stress for police officers because some officers perceive that incarceration will not effectively rehabilitate offenders (Bishopp et al., 2020). There is a common perception that these recidivistic offenders will be released into society and become the officer's problem again (Bishopp et al., 2020). Kroes et al. (1974) find police officers also perceived parole officers to be particularly lenient, letting parolees commit multiple violations before they are re-incarcerated. These frustrations with the entirety of the criminal justice system further speaks to the lack of control police officers feel, contributing to their stress (Bishopp et al., 2020; Karsek, 1979; Kroes et al., 1974; Sigler et al., 1991).

Another key source of stress in policing is the interactions officers have with the public. Crank and Caldero (1991) interviewed an officer who said, "Anytime you deal with the public they have certain images, stereotypes, and expectations of you.…Most people aren't happy to see the police, as it is usually some sort of negative contact" (p. 345). This negative connotation of police contact can be stressful for officers because they can never put their guard down, which is associated with psychological and physical complications (University of Buffalo, 2008; Violanti et al., 2013). Kroes et al.'s (1974) research suggests that the negative image of police officers contributes further to police officer stress. Additionally, Kroes et al. (1974) find that a significant number of officers are bothered by the lack of support from the public. This, paired with a perception of lack of support by superiors, can cause increased stress levels (Brooks & Piquero, 1998; McCarty et al., 2011).

A consequence of constant stress from various sources has led to something that has been considered more sinister, burnout (Kurtz, 2008; Loo, 2004; Robinson, 2020). Some studies find that levels of burnout for police officers are similar to that of other criminal justice occupations, while others find their experience with burnout has been particularly negative (Kurtz, 2008; Loo, 2004). Specifically, burnout has been associated with a negative assessment of an officer's job performance and satisfaction (Kohan, 2002; Liberman et al., 2002). Prior research on police stress manifestations (e.g., psychological and physiological) and burnout has treated these phenomena as universally affecting police officers the same way. However, rarely have studies examined these paradigms simultaneously. The goal of the current research attempts to do just that.

Policing Urban Areas, Associated Challenges, and Strain

Another factor that affects the strain and burnout of officers is what type of community they serve. This section describes the history of policing urban areas, the struggle of police officers who work in these areas, and a brief description of stress differences between rural and urban areas. Officers deal with different stress types and levels of stress based on the area they patrol (Powell, 1990, as cited in Morash et al., 2006). As mentioned earlier, the current study is a case study of Baltimore, Maryland, classified as one of America's most dangerous urban areas (Anderson, 2018). A more thorough description of the Baltimore Police Department is provided in the next chapter.

What we know as modern-day uniformed policing emerged in the late nineteenth century in response to disdain for rioting and disorder (Monkkonen, 1992; Sharp, 2006). The number of police officers grew per capita from the 1860s until 1908, becoming a permanent fixture of the government whose new duty was to prevent crime in their

respective cities (Monkkonen, 1992). As police power expanded and professionalism increased, several consequences with the community arose, such as alienation and tensions in the workplace (Hahn, 1971; Monkkonen, 1992). The separation and constant *us vs. them* mentality between police and their communities stems from the prevalence of secrecy between them (Hahn, 1971; Monkkonen, 1992). Secrecy has been vital in protecting the officers from public scrutiny but has backfired, causing public disapproval and distrust, which only adds to the strain of officers (Hahn, 1971). This relationship with the public has only further widened the gap between police and their communities, causing police to become defensive and suspicious (Goodman, 1990; Hahn, 1971; Loo, 1994).

As discussed above, police came to power in urban areas because of riots, usually sparked by racial tensions. Legislation from Congress, discussed in the next section, changed the dynamics of policing while attempting to make officers look like the communities they serve (McCarty, 2013; Monkkonen, 1992; Sharp, 2006; Sklansky, 2006). But, again, the ramifications of this expansion of power led to alienation and tensions with the community (Hahn, 1971; Monkkonen, 1992). It has been argued that these feelings of isolation and tension were felt tenfold by minority and female officers because they are highly visible and more likely to be under scrutiny by supervisors and the public (Gächter et al., 2011). For instance, officers belonging to a racial minority have been subject to having their loyalty monitored by their superiors (Peterson & Uhnoo, 2012).

The focus of the current study is an urban area in the United States. Still, it should be noted that rural and urban police departments experience different strains (Powell,

1990, as cited in Morash et al., 2006). To say that all police departments in the U.S. feel and experience the same types of stress would be ill-informed and irresponsible. Research from the National Institute of Justice (NIJ) shows that crime rates are lower in rural areas than in urban areas, but rural areas experience the effects of exported crime from urban regions (Weisheit et al., 1994). For example, a significant increase in drug use and gang development in rural areas is directly linked to urban drug trafficking. This increase in crime in rural areas causes immense stress on officers who do not have the luxury of big budgets, ample staff and equipment, and clear written policies of their obligations like their urban counterparts (Weisheit et al., 1994).

Surprisingly, rural police departments appear to have better clearance rates and a better relationship with the public, even with a lack of resources, because they are more likely to be respected (Weisheit et al., 1994). Brooks and Piquero (1998) found that department size plays a significant role in police officer stress. For example, officers in larger departments have reported higher levels of stress because there is more bureaucracy when compared to smaller departments. Officers in smaller departments reported higher levels of physical stress, but the difference was not significant in this study (McCarty et al., 2011). McCarty et al. (2011) find that officers in smaller agencies report higher levels of burnout than officers in larger departments. Research regarding the amount of support felt by superiors is mixed. Brooks and Piquero (1998) find that officers in larger departments may feel unsupported because of the perception of an impersonal department, while McCarty et al. (2011) conclude that officers in smaller departments felt less support from superiors when compared to larger departments.

The current study is a case study of the Baltimore Police Department (BPD). This department should experience the distinct strain found in metropolitan areas (Kurtz, 2008). Since 2012, the violence rate in Baltimore, Maryland, has steadily increased until 2018 (Anderson, 2018). In 2018, violent crime slightly decreased, but the overall rate is much higher than the averages around the country (Anderson, 2018). These violent crime rates have contributed to a turnover problem within the BPD (Anderson, 2018). For example, in 2018, the BPD faced an unprecedented leadership turnover (Anderson, 2018). How these stress and burnout levels affected minority groups differentially in Baltimore will be explored in this thesis.

Diversifying Police Departments in the United States

Merton's (1938) strain theory, Karasek's (1979) Job Demands-Control Model, Agnew's general strain theory (GST) (1992), and Broidy and Agnew's gendered GST (1997) are valuable frameworks to evoke when trying to understand the diversification of American police departments. However, diversity in this field has been slow-moving and has both positive and negative effects on officers who have promised to protect and serve their communities. This section describes the history of diversifying police departments across the United States and the unforeseen consequences.

In the 1950s and 1960s, most police departments were virtually all-white and all-male (Sklansky, 2006). Within the last 30 years, through a push to diversify, there has been a significant shift in the public's perception of what a police officer looks like (Hur, 2013; Sklansky, 2006). After the Civil Rights Movement and intervention from Congress, the Equal Employment Opportunity Act (EEOA) was passed in 1972 (McCarty, 2013; Sklansky, 2006). The EEOA called for state and local governments to increase their

diversity by hiring women and racial and ethnic minorities, specifically regarding patrol officers. The implementation of the EEOA has allowed police departments across the United States to become increasingly more racially diverse compared to previous decades (Sklansky, 2006).

By the end of the 1970s, African Americans represented about 6% of officers in the U.S.'s largest departments (Sklansky, 2006). In the 1990s, specifically in urban areas, blacks and Latinos made up approximately 18% and 9%, respectively, of the police force. These figures increased to 20% and 14%, respectively, in the early 2000s (Sklansky, 2006). In some cities (e.g., Phoenix) across the U.S., white officers are still the majority. Nevertheless, in others (e.g., Detroit and Washington D.C.), white officers have become the minority (Sklansky, 2006).

Since the 1980s, the increase of female officers in American police departments has closely mirrored the increases in racial minorities (McCarty, 2013; Sklansky, 2006). The patterns differ in that racial minority percentages in the police force exceed that of their patrol areas. In contrast, the percentage of female officers seems to be stagnant at a quarter of the entire policing population (Sklansky, 2006). Before the EEOA, female officers only represented about 2% of all sworn personnel in the United States (Martin & Jurik, 2007, as cited in McCarty, 2013). As of 2009, female officers comprised approximately 12% of urban officers, but this increase has also stagnated in recent years (U.S. Department of Justice, 2010, as cited in McCarty, 2013).

With the passing and implementation of the EEOA, departments nationwide have begun to look more like the communities they patrol (McCarty, 2013; Sklansky, 2006). Although this is a significant breakthrough for policing and community relations, these

demographic changes do not come without organizational and cultural consequences (Carol & Dorothy, 2008; Haarr & Morash, 1999; Hur, 2013; McCarty, 2013; Stroshine & Brandl, 2011). Scholars have warned that as police agencies become more diverse, they experience some surprising consequences (as cited in Hur, 2013). For example, increasing diversity of police departments has been linked to increased resignation rates and turnover rates as well as decreased clearance rates (Hur, 2013).

These organizational, cultural, and policing dynamics changes have become increasingly evident through research observing differing experiences for minority officers (Haarr & Morash, 1999; Stroshine & Brandl, 2011). For instance, people of different racial backgrounds and genders perceive, internalize, and react to strain sources in distinct ways (Agnew, 1992; Broidy & Agnew, 1997; Merton, 1938). Differential experiences for female and male officers of all creeds have been made abundantly clear when examining stress and burnout rates. Extensive research has demonstrated that these demographic characteristics are nonnegligible factors to consider when investigating the stress and burnout of police officers (Hawkins, 2001; Loo, 1994; Sklansky, 2006).

Relationship Between Strain and Race in Policing

It is abundantly clear that the hardships of police officers who are from different demographics vary. As stated previously, diversifying policing has been slow-moving and has affected minority groups significantly (Sklansky, 2006). The following section outlines the struggles that officers of a racial minority face in their profession. Merton (1938) found that racial minorities in the United States were more likely to experience strain than their white counterparts when trying to attain monetary success. Linking this finding to policing, Haarr and Morash (1999) emphasize that in historically gendered and

segregated organizations, employees experience strain differently from one another due to the power dynamics and occupational opportunities afforded disproportionately to minority groups.

Research has shown that policing organizations' structural and cultural features have created specific problems and pressures for officers in a racial minority (Alex, 1969, as cited in Haarr & Morash, 1999). For example, racial minorities deal with "race discrimination, prejudice, lack of role models and mentors, denial of alliances with, and protection by, supervisors and colleagues, feelings of isolation, and the burden of being the 'token minority'" (Alex, 1969, as cited in Haarr & Morash, 1999, p. 307). Experiencing these situations has been directly linked to an increase of 'token' officers' occupational stress levels (Stroshine & Brandl, 2011). Token theory argues that there is more emotional pressure and stress experienced by the tokenized community because they are highly visible and, in turn, more likely to be under scrutiny (Kanter, 1977, as cited in Gächter et al., 2011). Empirical work has shown that police officers are not exempt from the effects of tokenism. According to Stroshine and Brandl (2011), minority officers, specifically African American officers, experience more significant tokenism levels than other racial groups. Racial and ethnic minorities in the police force have reported feeling like outsiders and have found it extremely difficult to find acceptance in their workplace (Haarr & Morash, 1999; Stroshine & Brandl, 2011).

Officers of racial minorities and their majority counterparts experience their external environments differently and react differently to their internal struggles. For example, white and minority officers have allowed their anger to differentially affect their likelihood of engaging in misconduct (Bishopp et al., 2020). Specifically, Bishopp

et al. (2020) found that minority officers were more likely to verbally abuse the public than white officers because they were more likely to react to their stress with anger. Kaufman et al. (2008) emphasize that African American individuals experience unique strains compared to their Caucasian counterparts, leading to more negative emotions and adverse reactions. African Americans experience specific social conditions compared to whites, such as feeling a greater sense of overall alienation in the workplace (Kaufman et al., 2008). There is also a difference in what is taught to be the standard and acceptable way to deal with strain (Kaufman et al., 2008). This difference stems from African American communities not being afforded the resources to develop conventional coping mechanisms to deal with their strain (Kaufman et al., 2008).

Relationship Between Strain and Gender in Policing

Much like their racial minority counterparts, female officers have similar and unique struggles in their profession. As discussed earlier, female officers' employment has stagnated at a quarter of the policing population while the racial minority population has increased steadily (Sklansky, 2006). The following section outlines female officers' hardships that have affected their work, promotions, and mental and physical health. As discussed in Chapter 2, research has found distinct differences in psychological and physiological stress of police officers (University of Buffalo, 2008). This finding could propel the work of Broidy and Agnew (1997) when examining their results of gendered strain in a law enforcement setting, in which it is not traditionally applied.

As stated previously, policing is a historically gendered and segregated organization where employees of different backgrounds, races, and genders experience strain differently from one another because of the power dynamics and occupational

opportunities afforded disproportionately to minority groups (Haarr & Morash, 1999). Occupational opportunities, specifically promotions, have been stifled for those considered token populations in the police force (Archbold & Schulz, 2008; Haarr & Morash, 1999; Stroshine & Brandl, 2011). For example, because women are considered a token population within law enforcement, they were encouraged to participate in the promotion process by their male supervisors (Archbold & Schulz, 2008). This backfired because female officers wanted to avoid greater visibility in the workplace, which caused some female officers to avoid applying for a higher position (Archbold & Schulz, 2008). Archbold and Schulz (2008) warn that this reaction to encouragement to climb the organization's ranks suggests that the organization's culture is the issue and not merely a lack of minorities in the field.

Like officers in the racial minority, female law enforcement officers experience external environments and internal struggles differently from their male counterparts. Johnson's (1991) findings indicate that men and women experience and express feelings of strain in differing ways. For example, empirical work evaluating burnout among municipal sergeants has revealed that female sergeants were more likely to treat other people as people. In contrast, male sergeants tend to make interactions much less personal (Johnson, 1991; McCarty, 2013). In addition, Johnson (1991) found that male officers experiencing strain are more likely to act out against citizens while their female counterparts internalize their stress and criticize themselves rather than others. Further, McCarty's (2013) evaluation has found that female sergeants reported higher emotional exhaustion levels than their male counterparts, a clear sign of potential burnout (Loo, 1994; Maslach & Jackson, 2001).

Relationship Between Strain and Interactions of Gender and Race in Policing

Throughout this chapter, we have seen the many contributors of stress and burnout: the nature of police work, the police organization itself, diversifying the organization, the location of the police organization, the criminal justice system, and the public. Research has shown that an officer's race can profoundly affect their stress (Haarr & Morash, 1999; Stroshine & Brandl, 2011). Similar results have been found for female law enforcement officers (Maslach & Jackson, 2001; McCarty, 2013; Loo, 1994). However, not many studies have examined the moderation effect these two demographic characteristics have on the stress and burnout of police officers (Bishopp et al., 2020). This section outlines how race and gender of an officer can affect their work, stress, and feelings of camaraderie.

Research has shown that the intersectionality of a police officers' race and gender are crucial to understanding officer adversities (Martin, 1994). Starheim (2019) argues that race and gender are inextricable characteristics when attempting to understand contributing factors of discrimination or disadvantage. Some groups, especially racial minorities, and women are disproportionately impacted by the challenges policing presents, such as stress and burnout (Starheim, 2019). Female African American police officers have a tough time in the workplace because they are portrayed negatively by the media (Starheim, 2019). For instance, one police chief expressed that she felt that the press portrayed her as a "bad, angry, black woman" (Starheim, 2019, p. 12). Continuous negative media attention for law enforcement has been shown to increase stress levels and shows signs of getting worse (Bishopp et al., 2020). Further, black female police

officers are twice as likely to feel trapped in their work, a clear sign of stress and differential treatment in the workplace (Kurtz, 2008).

White female officers also experience unique hardships in the workplace. They have felt a lack of camaraderie with black female officers because their colleagues do not believe they suffer (Martin, 1994). One officer expressed that she wished her colleagues would see how white men treat them (Martin, 1994). Specifically, white female officers were more likely to report that gender-related jokes are common in the workplace (Kurtz, 2008). Black female officers feel that some white females have used their ties with white men to get promotions that are not as available to them (Martin, 1994). This is particularly stressful for the two groups of women because promotions are difficult to obtain, and their efforts have been stifled (Archbold & Schulz, 2008; Haarr & Morash, 1999; Stroshine & Brandl, 2011). In addition, the disconnect between these token communities in policing causes increased stress levels since there is hostility and misunderstandings between them (Martin, 1994; Starheim, 2019).

Male law enforcement officers, regardless of race, do not share the same struggles as their female colleagues (Kurtz, 2008; Stepler, 2017). Previous research has found a third of male officers feel that female officers are treated better than them (Stepler, 2017). Kurtz (2008) finds that white male officers believe female officers are given more leniency to stay on the force since they are not evaluated on their ability. Their black male colleagues have also expressed that they feel police departments are more lenient toward women. This belief has increased the stress of white male officers because they think they are under more scrutiny, specifically their ability and conduct (Kurtz, 2008). Male African American police officers are perceived to not accurately recognize or deal

with their psychological stressors causing them to report higher levels of burnout (Bishopp et al., 2020; Kurtz, 2008). As previously stated, race and gender are impossible characteristics to separate, especially when analyzing the stress and burnout of law enforcement officers. Given this, the current study will fill the gaps of previous literature by thoroughly examining this intersectional relationship.

Chapter 4: The Current Study

Overview

Previous research has done invaluable work to understand and unveil the stressors that police officers face and the consequences they have on police agencies and policing (Anderson et al., 2002; Brooks & Piquero, 1998; Crank & Caldero, 1991; University of Buffalo, 2008; Violanti et al., 2013). However, significant limitations in the existing literature should be addressed when attempting to understand police officers' stress and burnout levels. The first limitation of this research is that there is not enough attention given to how patrolling an urban area can affect stress and burnout levels of officers. As explored in the previous chapter, diversified and urban police departments expose officers to unique stressors and consequences (Haarr & Morash, 1999; Hur, 2013; Sklansky, 2006). These consequences include tokenism, an unfair power dynamic, stifling of promotions, and differences in work and emotional pressures. The second limitation of current research is a lack of emphasis on just how important race and gender are when understanding police officer stress and burnout (Bishopp et al., 2020; He et al., 2015). Further, prior research does not account for the different manifestations of stress (psychological and physical) that affect officers of different races and genders distinctively (Kurtz, 2008; Robinson, 2020; University of Buffalo, 2008). Unfortunately, previous studies have either have not effectively captured these variables to successfully deduce the effect and prevalence of stress and burnout of police officers in an urban setting (Bolanle & Ibukun, 2016; Hawkins, 2001; Loo, 1994).

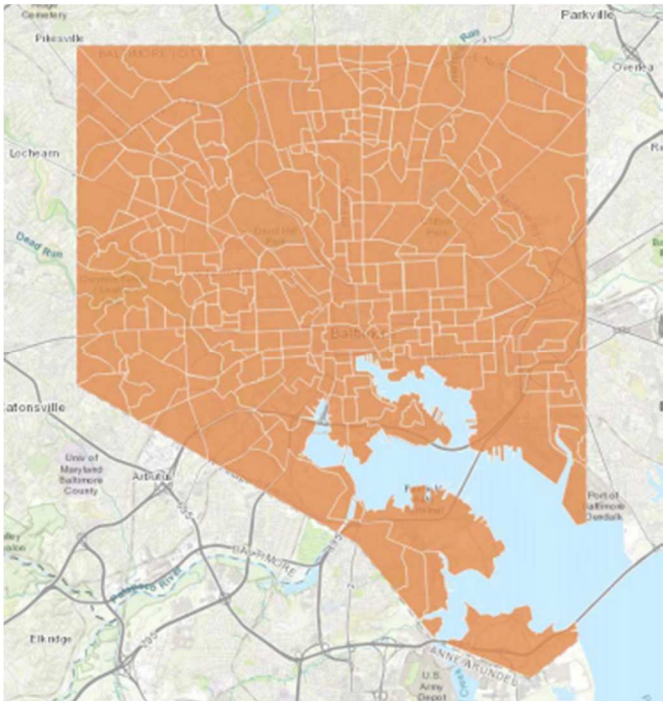
The current study will consider these limitations by paying particular attention to the gender and racial differences in two stress manifestations (i.e., psychological and physical) and burnout among officers in Baltimore, Maryland. Through a combination of various strain theories (e.g., Merton's (1938) strain theory, general strain theory (GST), and gendered GST), the Job Demands-Control Model (Karasek, 1979), and psychological and physical complications of stress, this study will provide a more comprehensive picture of officer stress expressions and burnout. The city of Baltimore, its police department, and its officers provide an incredibly informative site for research on police stress and burnout. The department's large patrol area, discussed below, and urban setting allows for the analysis of many theoretical concepts linked to stress and burnout. Further, such a large police force is suitable for researching stress and burnout because various situations related to these phenomena are rife in metropolitan areas.

A Look Inside Baltimore Policing

The city of Baltimore is the largest in the state (about 80 square miles in size), is located in north-central Maryland, and comprises over 280 distinct residential neighborhoods. The layout of the city can be seen in Figure 2, it should be noted that Baltimore City is not included in Baltimore County. Baltimore is home to approximately 593,490 people of varying races and ethnicities (U.S. Census Bureau, 2019). According to the U.S. Census Bureau (2019), 62.4% of the population is black and 30.5% is white. The Baltimore Police Department (BPD) has been serving and protecting the city since 1784 and is now one of the top ten largest municipal police departments in the country (BPD, 2018). The department employs approximately 3,100 sworn officers with a patrolling jurisdiction that includes about 88 square miles of land and waterways (BPD,

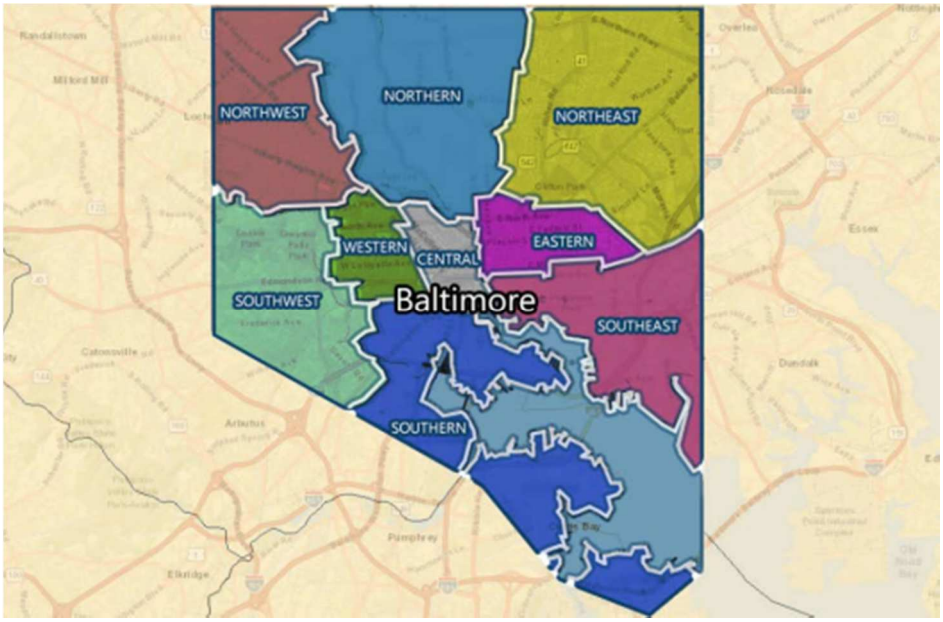
2018). The BPD includes eight patrol districts, an administrative unit (i.e., headquarters), a public housing unit, and a marine unit (BPD, 2018). Strategically, the BPD has divided the city into three geographical areas to effectively and efficiently patrol: Area 1 (Central, Northern, and Northwestern), Area 2 (Eastern, Northeastern, Southeastern), and Area 3 (Southern, Southwestern, Western) (BPD, 2018). A map of these districts can be seen in Figure 3.

Figure 2. City of Baltimore Neighborhood Boundaries



Source: Baltimore Police Department. (2018). Baltimore police department staffing study.

Figure 3. Baltimore Police Department Districts



Source: Baltimore Police Department. (2018). Baltimore police department staffing study.

Policing Baltimore has become an increasingly difficult job after a significant crime increase in 2015 (BPD, 2018). The city struggles with one of the highest crime rates in the country, specifically violent crime rates, such as homicide, rape, robbery, and aggravated assault (BPD, 2018). For instance, 2017 was the third year where the city tallied in over 300 homicides. This chilling statistic gave the city the highest per capita homicide rate among the 50 largest cities in the U.S. (Anderson, 2018; BPD, 2018). With these crime rates in mind, approximately 1.2 million calls for service were made between July 2016 to June 2017 (BPD, 2018). The high volume of calls and crime rates have called for a more prominent police presence to stop crime in its tracks or deter crime altogether. Although there is a need for more police, the city has faced budgetary struggles to get its officers out on the streets (Anderson, 2018; BPD, 2018). Lack of resources and above-average crime rates have created a perfect storm for Baltimorean

police officers to become stressed and, ultimately, potential burnout victims (Anderson, 2018).

Although there is a need for more police, the city has faced budgetary struggles to get its officers out on the streets (BPD, 2018). In addition to budget, BDP struggles with low salaries of officers, which makes it increasingly difficult to consistently recruit and retain quality police officers (BPD, 2018). More recently, the city of Baltimore has increased their funding to the highest per-capita spending per resident among the 72 biggest cities across the U.S. (Learish, 2021; Vera Institute, 2021). The BPD had a total budget of approximately $549 million in the year 2020 spending $840 per resident (Learish, 2021; Vera Institute, 2021). To give a better context, the percent of the city funds spent on policing is about 26 (Vera Institute, 2021). Even with the increase in budget a major issue within the BPD is the proportion between police department employees and residents (BPD, 2018; Vera Institute, 2021). The BPD officers are outnumbered 1 to 185, making it increasingly difficult to police the city and hopefully this increase in budget will alleviate some of the stressors of officers.

BPD received national attention in April of 2015 with the death of Freddie Gray after a police encounter and arrest. Gray died tragically and mysteriously in the back of a police wagon after not being seat belted in, sustaining a fatal neck and spinal injury in a manner that is largely unknown (DOJ, 2017). The suspicious nature of Gray's death and because he was in police custody sparked riots across the city (BPD, 2018). Some of the riots became violent and stoked deep distrust in the police department. This scrutiny was felt on both the local and national level, putting all eyes on the BPD officers, resulting in increased stress. As discussed in the previous chapter, increased media attention, public

scrutiny, and distrust has had negative effects on police officers (Crank & Caldero; 1991; Kroes et al., 1974; Starheim, 2019). Further, Gray's death had a significant impact on the recruitment of officers. The BPD's "academy had the fewest number of graduating trainees in 2015, the same year as the riots following Freddie Gray's death, with 94 graduates over three classes" (BPD, 2018, p. 91). But since then, enrollment has increased.

Hypotheses

The proposed study will be testing several different hypotheses while utilizing a combination of strain theories, the Job Demands-Control Model, and psychological and physical complications of stress. The first hypothesis is based on Merton's (1938) strain theory and the idea that there is a significant difference between minority groups and their white counterparts in feelings of achieving their goals. This difference has suggested that minority groups are more likely to have adverse outcomes when dealing with strain because the disjoint between their goal and achieving it is more apparent (Merton, 1938). Usually, this theory is utilized to examine deviance, but the current study and studies like it use it to understand the different effects of stress and consequent burnout on law enforcement. Moreover, in Karasek's (1979) Job Demands-Control Model, the disconnect in achieving one's goals can be evident in one's occupation. Law enforcement can be categorized as a mix of high-strain and active jobs; these jobs can cause both physical and psychosocial strain, both of which officers are subjected (University of Buffalo, 2008). With these theories in mind, the first hypothesis is as follows:

(1) African American officers employed by the Baltimore Police Department may experience more psychological and physical stress and subsequent burnout than their white colleagues.

The second hypothesis addresses gender, which has been empirically supported to impact stress and burnout levels of law enforcement officers (Hawkins, 2001; Bolanle & Ibukun, 2016). Broidy and Agnew (1997) understood that gender should be seriously considered when studying strain. This is a shortcoming of Merton's (1938) and Agnew's (1992) strain theories. Broidy and Agnew (1997) found that differing occurrences and reactions to stress may lead to adverse outcomes. In the context of policing, this negative reaction would classify as burnout. The University of Buffalo (2008) also found a gender difference in officers' psychological and physical stress levels. For example, there was a difference in the frequency of suicidal ideation and cardiac issues between men and women (University of Buffalo, 2008; Violanti et al., 2013). With these findings in mind, the second hypothesis is below:

(2) Female officers employed by the Baltimore Police Department may experience more psychological and physical stress and subsequent burnout than their male colleagues.

The third hypothesis focuses on how the interaction between the race and gender of officers within the BPD can affect their psychological stress, physical stress, and burnout. Race and gender, separately, can have a unique effect on the outcome variables of the current study. The interaction between these demographics has not been adequately explored by previous police stress and burnout research (Bishopp et al., 2020; Gershon et al., 2009; He et al., 2002; He et al., 2015). Previous research has looked at the interaction

effects of other demographic variables. For example, Bolanle and Ibukun (2016) find that female officers who are married and are mothers tend to have higher levels of job stress and burnout because of their additional responsibilities. In addition, Karasek's (1979) Job Demands-Control Model examines the interaction between the demand and control afforded to employees and how that contributes to employees' strain. The third hypothesis applies this model and combines it with gendered GST and manifestations of stress to understand how the intersectionality of officers could uniquely affect their stress and burnout levels.

(3) Female African American officers employed by the Baltimore Police Department may experience more psychological and physical stress and subsequent burnout than their white female colleagues.

In the data analysis, for all three hypotheses, the manifestations of stress and burnout will be inspected separately. This is done because, empirically, although all related, they provide unique information to law enforcement officers' levels of occupational stress and burnout (Pines & Keinan, 2005). Robinson (2020) describes stress as an emotional state that causes afflicted individuals to struggle to cope with pressures. According to studies from the University of Buffalo (2008), an increase in emotional distress and increase in cortisol (i.e., stress hormone) levels can increase the risk of physical ailments such as cardiovascular disease and high blood pressure. On the other hand, burnout, which is considered much more sinister, results from prolonged periods of stress that cause an individual to have a deep sense of hopelessness, lack of motivation, emotional detachment, and feel that their efforts are being made in vain (Robinson, 2020).

Chapter 5: Data and Methods

Data Source

The current study seeks to examine how levels of stress and burnout are affected by the sex and race of officers in the Baltimore Police Department (BPD). The data used to analyze factors contributing to these outcomes is a cross-sectional study entitled *Police Stress and Domestic Violence in Police Families in Baltimore, Maryland, 1997-1999* (PSDVBM) (Gershon, 2000). Several scholars have used this data to identify and understand the causes, prevalence, and consequences of occupational stress for Baltimorean officers (Gershon et al., 2009; He et al., 2015; Repasky et al., 2020; Zavala, 2017; Zavala & Kurtz, 2017). This work was conducted in response to the Violent Crime Control and Law Enforcement Act of 1994, which encouraged and funded research that addressed police work-related stress and evaluated programs implemented to alleviate that stress (Gershon, 2000; Gershon et al., 2009; He et al., 2015; Repasky et al., 2020; Zavala, 2017; Zavala & Kurtz, 2017).

The data was collected through a collaboration between Baltimore City's Fraternal Order of Police, the BPD, and Johns Hopkins School of Public Health researchers. Professionals in all sectors agreed it is crucial to understand and curb police officers' stress levels. Prolonged high levels of stress can cause police to be ineffective and, in turn, endanger themselves, their coworkers, family, friends, and the public. Therefore, this collaboration addressed literature gaps that pertain to police officers' work-related stress by documenting how prevalent stress was in the BPD and if this stress manifested negative behaviors (Gershon, 2000; Gershon et al., 2009).

In the current study, the population of interest is police officers of the BPD between 1997 and 1999, and they are analyzed at the individual level. Of the 1,150 surveys distributed to the BPD officers by Gershon (2000), 1,104 completed it; because of missing data in the key variables of interest, the final sample size of the current study is 878. The implications of these missing data will be discussed below and in future chapters. Baltimore City is an appropriate case study because it has been consistently ranked as one of the most dangerous cities in the United States, alongside Detroit, Michigan, and St. Louis, Missouri (Fieldstadt, 2020). As stated previously, it is essential to understand and identify what contributes to police officers' stress levels, particularly in dangerous cities. In cities like Baltimore, St. Louis, and Detroit, officers will be more stressed and deal with different stress types than officers in less dangerous areas and more rural departments (Powell, 1990, as cited in Morash et al., 2006). Therefore, focusing on the officers who could potentially have the highest stress levels would be beneficial to assessing everyday stress and burnout indicators.

Even though the present dataset provides abundant knowledge, it is not without flaws. First, it must be recognized that due to this data's cross-sectional nature, this study will not attest to causation; it can only speak in terms of correlation. Second, it is also worth noting that the officers who volunteered for this study may have utilized social desirability bias. According to Grimm (2010), research subjects are prone to choosing a response that does not truly reflect their feelings when asked about sensitive information. Since the questionnaire includes inquiries involving the officers' stress and burnout levels, officers likely applied this technique while completing the survey. Another reason officers may employ social desirability bias is to appease the department and their

superiors (Gershon et al., 2009). Unfortunately, that cannot be deduced from the current data, which should raise caution when evaluating the results of this study. Gershon (2000) deliberately made the questionnaire anonymous and built a rapport with the officers at the beginning of the study to combat this type of bias.

Sampling Strategy

Recruitment of the BPD officers was an extensive process carried out by the study's collaborators (Gershon, 2000). First, they obtained the number of sworn officers in each precinct on each shift within the BPD and other associated department locations. Second, they managed to collect a convenient sample by attending one or two roll calls at the department's nine districts and three other divisions (e.g., headquarters). According to Gershon (2000), of the 1,150 officers present at roll calls, 1,104 completed and returned questionnaires. However, it should be noted that these figures do not account for all the sworn officers at the time of the study (Gershon et al., 2009). According to the Law Enforcement Management and Administrative Statistics (LEMAS) survey conducted by the Bureau of Justice Statistics (BJS) in 1997, the number of sworn officers in the BPD in 1996 was about 3,082, exceeding the number of sworn officers in my study sample (N = 878).

The table below (Table 1) succinctly compares the LEMAS and the PSDVBM datasets. Of the officers represented in the 1997 LEMAS data, 1,896 were white (62%) and 1,074 were black (35%); this closely resembles the current study's data with 602 white officers (69%) and 276 black officers (31%). In terms of gender, LEMAS results indicate 2,650 full-time sworn male officers (86%) and 432 full-time sworn female officers (14%). Again, these figures closely match the current data, indicating 758 full-

time sworn male officers (86%) and 120 full-time sworn female officers (14%). The discrepancy of the figures between the two datasets can be attributed to officers not being present at their respective roll call for unspecified reasons, on vacation, attending court, on sick leave, or on assignment (Gershon, 2000; Gershon et al., 2009). Overall, these figures reinforce the validity of the current dataset and demonstrate that even with missing data, both datasets report similar race and gender frequencies.

Table 1. Comparing LEMAS Data to the Current Data

	LEMAS Data	PSDVBM Data
White Officers	1,896 (62%)	602 (69%)
Black Officers	1,074 (35%)	276 (31%)
Male Officers	2,650 (86%)	758 (86%)
Female Officers	432 (14%)	120 (14%)

As stated previously, the sampling procedure used to garner participation from the officers called for a convenient sample. This sampling method leads to problems regarding selection bias. The purpose of this research is to represent the BPD between 1997 and 1999 accurately; this may not be feasible because of the voluntary nature of Gershon's (2000) work. However, comparing the 1997 LEMAS and PSDVBM datasets above should curb some concerns of selection bias, given that the distributions of key samples are similar. Issues with the generalizability of this study may become apparent since this is a case study of only the BPD. In addition, the results of this study do not speak to the stress and burnout levels of officers in more suburban and rural police stations. Nevertheless, conducting a case study of Baltimore provides invaluable information for the future of this research area. As explained in Chapter 3, other researchers have found officers in suburban and rural jurisdictions have differing experiences with stress and burnout compared to urban jurisdictions (Powell, 1990, as

cited in Morash et al., 2006). Lastly, according to Gershon (2000), there was a response rate of 68 percent[1]. Empirically, a response rate of approximately 60 percent is a researchers' goal and should allow more trust in the study's results (Fincham, 2008).

Measures

Dependent Variables

In the current study, the dependent variables of interest capture the officers' psychological and physical stress levels and burnout levels. The questionnaire distributed by the PSDVBM research team captured these concepts within several questions using Likert scales (Gershon, 2000). Stress can manifest in several fashions, most notably physical and psychological (Robinson, 2020). Given this, the current study will evaluate these types of stress separately. The first dependent variable of interest captures the officers' psychological stress levels, using several questions within the PSDVBM questionnaire (Gershon, 2000).

A psychological stress scale was created to understand the experience of psychological strain put on the officers employed by the BPD. This scale was designed to address a potential reliability issue when using only one variable. Therefore, it was constructed using five questions. Two of the five questions indicating feelings of psychological stress asked officers to report, "In the past 6 months, how often did you have…" (1) feelings of being trapped or caught, and (2) feeling no interest in things. The last three psychological stress measures ask officer's "How often are the following statements true?": (3) I am moody, irritable, or impatient over small problems, (4) I want

[1] Gershon (2000) does not expand on how this number was calculated.

to withdraw from the constant demands on my time and energy from work, and (5) I feel negative, futile, or depressed about work. All five questions used a Likert Scale with four possible responses: never, sometimes, frequently, and always.

These measures were selected because they are clear psychological indicators of stress (Robinson, 2020; University of Buffalo, 2008; Violanti et al., 2013). For each of the five questions, the highest level of stress was given a numerical value of four, while the lowest level of stress was given a numerical value of one. These values were combined, which gave us a psychological stress scale that ranges between five and 17 with a Cronbach's alpha of 0.82. The construction of the psychological scale described above can be found in the appendices[2].

As mentioned previously, psychological stress is not the only measure of strain being evaluated. The second manifestation analyzed in the current study is physical stress. Therefore, a physical stress scale was created to illustrate the experience of physical strain put on the officers employed by the BPD. The scale was constructed using five questions that focus on physiological stress indicators, where the first three questions asked officers to report, "In the past 6 months, how often did you have…" (1) pains or pounding in your heart or chest, (2) headaches or pressure in your head, (3) a lump in your throat. The last two physical stress measures ask officer's "How often are the following statements true?": (4) I feel tired at work even with adequate sleep, and (5) nausea, upset stomach, and/or stomach pains. All five questions used a Likert Scale with four possible responses: never, sometimes, frequently, and always. These measures were

[2] The appendices also include the correlations between the psychological stress measures included in the analyses.

selected because they are clear physical reactions to stress (Robinson, 2020; University of Buffalo, 2008; Violanti et al., 2013).

These five variables will be analyzed as a scale to capture the officers' stress employed by the BPD between 1997 and 1999. The construction of this scale is justified since using one variable may cause concern in the reliability. Much like the psychological scale, for each of the five physical stress measures, the highest stress level was given a numerical value of four, while the lowest stress level was given a numerical value of one. These values were combined, resulting in a physical stress scale between five and 19 with a Cronbach's alpha of 0.69. The construction of this scale described above can be found in the appendices[3].

Burnout, a common manifestation of prolonged stress in such a high strain profession, is the third dependent variable in this study (Backteman-Erlanson et al., 2013; Bolanle & Ibukun, 2016; Martinussen et al., 2007; Padyab et al., 2016; Vuorensyrjä & Mälkiä, 2011). The PSDVBM questionnaire captures burnout levels within several questions (Gershon, 2000). Much like the stress variables, the four burnout measures will be analyzed as a scale to map the burnout levels of Baltimorean officers between 1997 and 1999. The four burnout measures utilize two separate Likert scales used in the PSDVBM questionnaire. Three burnout measures employ a Likert scale with five possible responses: strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree. The officers were asked to rate the following statements using the Likert scale described above: "I feel burnt out from my job"; "I feel like I am at the end

[3] The appendices also include the correlations between the physical stress measures included in the analyses.

of my rope"; and "I feel like I am on automatic pilot most of the time." The fourth burnout measure asks officers how often they feel "physically, emotionally and spiritually depleted." This question presents different Likert scale responses: never, sometimes, frequently, and always. These variables are appropriate when capturing burnout since they explicitly ask about their feelings of burnout in their occupation (Gershon, 2000).

This burnout index was created by combining the four burnout variables after assigning each response a value. The first three measures were reverse coded, where strongly agree was given the highest numerical value of five and strongly disagree was given a numerical value of one; this was originally the opposite in the data. In the fourth burnout measure, the responses 'never' and 'always' were assigned the numerical values of one and four, respectively. After combining the responses, the final burnout scale ranges between six and 18, with a Cronbach's alpha of 0.74. The construction of the burnout scale described above can be found in the appendices[4].

The scales[5] described above closely mirror the Maslach Burnout Inventory, specifically the Maslach Burnout Inventory: Human Services Survey (Loera et al., 2014; Loo, 1994). The Maslach Burnout Inventory has been utilized in empirical research for more than 35 years (Maslach & Jackson, 2001). These scales are used to measure the magnitude and intensity across four burnout dimensions: emotional exhaustion, depersonalization, personal achievement, and involvement with clients (Loo, 1994; Maslach & Jackson, 2001). Maslach and Jackson (2001) emphasize that the Maslach

[4] The appendices also include the correlations between the burnout measures included in the analyses.
[5] The correlations between these scales can be found in the appendices.

Burnout Inventory: Human Services Survey is the most appropriate scale for occupations and "fields focused on helping people live better lives by offering guidance, preventing harm, and ameliorating physical, emotional or cognitive problems" (para. 2). Goodman (1990) emphasizes that prolonged stress and subsequent burnout have become prevalent among law enforcement personnel because they experience negative psychological, physical, social, and emotional stress on the job that then follows them home.

Independent Variables

The proposed study will utilize two key independent variables to deduce what contributes to an officer's stress and burnout levels. Empirical research has shown convincing evidence that an officer's race affects their stress levels and, eventually, burnout levels (Loo 1994; Hawkins 2001). The current research findings are mixed some find black officers experience more strain while others find white officers do (Bishopp et al., 2020; Kurtz, 2008). The PSDVBM questionnaire contains four possible racial categories: African American, Caucasian, Hispanic, and other (Gershon, 2000). Officers who indicated that they are in the Hispanic and other racial categories will not be included in this study's analyses due to the lack of representation in the participant pool. The remaining racial categories, African American and Caucasian, are coded dichotomously (black=1 and white=0) to deduce the fundamental differences between officers of different racial backgrounds.

As stated previously, Shim et al. (2015) argued that gender is an important aspect to consider when explaining what produces strain. Further, genders experience strain differently from one another due to the power dynamics of police organizations and disproportionate affording of occupational opportunities (Broidy & Agnew, 1997; Haarr

& Morash, 1999). Previous research has concluded male and female officers present differing stress and burnout levels, specifically that females report higher levels of these outcomes (Backteman-Erlanson et al., 2013; Bolanle & Ibukun, 2016; Hawkins, 2001). With these findings in mind, the second demographic of the participating BPD officers this study will examine is the officers' gender. Therefore, this variable is also coded dichotomously (female=1 and male=0) to compare the male and female officers included in the final sample of the current study.

It should be noted that a moderation analysis investigates if the interaction between the independent variables can predict and impact the dependent variable (Nima et al., 2013). Empirical research has shown significant interactions between several aspects of an officer's life, affecting their reported stress levels (Bishopp et al., 2020; Kurtz, 2008). As mentioned in previous chapters, race and gender are inextricable from one another when understanding contributing factors of disadvantage, which can be directly related to strain (Martin, 1994; Starheim, 2019). The current study is interested in examining how the key independent variables (i.e., race and gender) interact with one another and how this interaction may change the stress and burnout levels of the current sample. To understand if there is a moderation effect, the race and gender of the officers will be analyzed separately, and then the coefficients of the separate models will be compared.

Control Variables

To enhance the internal validity and reduce the influence of confounding variables, the current study's analyses include several control variables: officer education, rank, trust in work partner, experiencing potentially stressful work events, perceived

differential treatment from the department, age, marital status, and whether the officer has children. These variables all have differing effects on an officer's stress and burnout levels; therefore, their effects must be held constant across analyses. As mentioned previously, because stress and consequent burnout are considered compounded problems, it can be challenging to account for other contributors to these outcomes. Still, the present research is focused on parceling out the differences between officers of different genders and racial backgrounds. The following section will describe how these variables have a unique confounding effect on an officer's psychological and physiological stress and burnout levels.

The control variables included capture both professional and organizational aspects of an officer's life. These aspects could have positive or negative consequences on the officer's reported stress and burnout (Kurtz, 2008; He et al., 2015). One of the professional control variables captured by the PSDVBM questionnaire is the rank of the officer. There are several department rankings in the current sample: officer trainee, officer, agent[6], detective, sergeant, and lieutenant and above. The first ranking, officer trainee, accounts for the time the future officers are in the academy, and once they graduate, they are promoted to an officer (Baltimore County Government, 2020; BPD, n.d.). After the officer has served in the patrol division for two years, there is an opportunity to apply for specialized unit assignments, making them a detective (e.g., SWAT, K-9, Special Victims, Homicide, etc.) (Baltimore County Government, 2020; BPD, n.d.). After serving with the BPD for three years, detectives can take the sergeant's

[6] There is no current information on the Baltimore Police Department website that accounts for this ranking.

examination. Once a sergeant has held that position for two years, they are now eligible to take the lieutenant's exam, allowing for further promotion with additional years of service, including captain, major, and lieutenant colonel (Baltimore County Government, 2020; BPD, n.d.). Each of these rankings is coded dichotomously to control each rank of the officer, which comes with different responsibilities and stressors (McCarty, 2013).

The second professional control variable that the current study is interested in controlling the confounding effects is the trust an officer feels in their work partner. There was a push to increase the number of officers working in pairs to improve officer safety (Sterbenz, 2016). However, studies have shown conflicting evidence on how working with another police officer affects professional and personal outcomes (Sterbenz, 2016). As discussed earlier, having a partner can lead to a complicated relationship that could reduce or exacerbate officers' reported stress and burnout levels (Bolanle & Ibukun, 2016). In an NIJ study, McCarty et al. (2011) suggested that in large departments, a significant number of officers reported a distrust in their coworkers. This distrust was associated with a positive correlation between burnout and physical stress as well as a negative correlation with overall health (McCarty et al., 2011). The PSDVBM questionnaire captures this information using a Likert scale with answers ranging between strongly agree and strongly disagree. Again, however, it is coded dichotomously (1=strongly agree and agree, and 0= neutral, disagree, and strongly disagree).

Some variables speak to the organizational aspects that describe police work within the BPD included in the analyses. These variables may not be directly related to the scales constructed above but may address the sources of stress and burnout of BPD officers. These variables are invaluable because they can contextualize all officers' stress

and burnout while highlighting the additional factors influencing these outcomes in the minority groups of interest. The first of these variables addresses potentially stressful work events; this variable includes multiple events that have emotionally affected police officers who experienced them. The PSDVBM questionnaire assesses how experiencing these events has affected the officers emotionally with several possible responses: not at all, a little, very much, or not applicable. The events include making a violent arrest, shooting someone, being the subject of an IID investigation, responding to a call related to a chemical spill, responding to a bloody crime scene, personally knowing the victim, being involved in a hostage situation, attending a police funeral, and experiencing a needle stick injury or the other exposure to blood and body fluids. This variable is coded dichotomously (1 = a little or very much, 0 = not at all or N/A) to compare officers who were not affected or never experienced them to those who were and have.

The second organizational aspect that contextualizes police officer stress and burnout the PSDVBM dataset captures is the perceived discrimination in the workplace. As alluded to earlier, women and racial minorities have fallen victim to tokenism in the workplace, especially in law enforcement (Archbold & Schulz, 2008; Haarr & Morash, 1999; Stroshine & Brandl, 2011). Empirical work has found that African American officers experience more significant tokenism levels than other racial groups, and women have stifled promotional opportunities (Archbold & Schulz, 2008; Haarr & Morash, 1999; Martin, 1994; Stroshine & Brandl, 2011). This is relevant to the current study because we do not have enough information to evaluate the culture of the BPD. To assess the perceived discrimination in the workplace of the officers of the BPD, a scale was

created with several questions using a Likert scale with the following responses: strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree.

The questionnaire asks officers to rank how much they agree with the following statements: (1) compared to my peers (same rank), I find that I am likely to be more criticized for my mistakes, (2) I feel that I am less likely to get chosen for certain assignments because of "who I am" (e.g., race, gender, sexual orientation, physical characteristics), (3) within the department, gender related jokes are often made in my presence, (4) when I am assertive or question the way things are done, I am considered militant, (5) promotions in this department are tied to ability and merit, (6) the department tends to be more lenient in enforcing rules and regulations for female officers, and (7) female officers are held to a higher standard than male officers. These measures were reverse coded, where strongly agree was assigned a numerical value of five and strongly disagree was assigned a numerical of one; this was originally the opposite in the data. After combining the responses, the final perceived discrimination scale ranged between 23 to 35 with a Cronbach's alpha of 0.56. The construction of this scale described above can be found in the appendices.

The remaining control variables are personal factors that may have positive or negative consequences on the officer's reported levels of stress and burnout. Previous empirical research has shown that age is a significant indicator of increased emotional exhaustion and depersonalization, which are symptoms and causes of stress and burnout (Hawkins, 2011; Robinson, 2020). The BPD's age requirement to begin the academy is 22 years and six months old (Baltimore County Government, 2020; BPD, n.d.). As

mentioned previously, the PSDVBM captures the officer's age; this variable is coded numerically, ranging from 23 to 67.

Further, Hawkins (2001) stressed that the educational level of a law enforcement officer impacts their stress and burnout levels. Specifically, the higher the academic achievement, the less stress, and the lower the educational attainment, the more stress. According to the minimum qualifications of the BPD, applicants must have a high school diploma or GED (Baltimore County Government, 2020; BPD, n.d.). The PSDVBM questionnaire has four officer education categories: high school, some college, college, and graduate school. Each of these variables is coded dichotomously to control the educational level of the officers that can have a unique impact on their reported stress and burnout levels.

This study's analyses also include control variables that speak more to an officer's home life that have a confounding impact on the different stress manifestations and consequent burnout. Marital status and having children have been empirically linked to officers' stress and burnout (Hawkins, 2001; Bolanle & Ibukun, 2016). For example, female officers who are married and have children tend to have higher levels of job stress, leading to higher levels of burnout (Bolanle & Ibukun, 2016). Marriage has been shown to have implications in reported job stress and may indicate that the officer may have children, leading to more strain because of additional responsibilities (Hawkins, 2001; Bolanle & Ibukun, 2016). The PSDVBM questionnaire has five possible answers to obtain the officer's marital status: single, live-in partner, married, divorced/separated, and widowed. Each of these marital statuses is coded dichotomously to control for these statuses that have a unique influence on an officer's reported stress and burnout levels.

The additional pressure of children on an officer's reported stress levels has not been extensively explored in research on its own (Hawkins, 2001). The PSDVBM questionnaire gleaned this information from its respondents numerically (0-7). This variable is coded dichotomously (1=children, 0=no children or N/A) to compare officers who have children from those who do not adequately.

Analytical Strategy

Given the nature of the research question and variables in the dataset (Gershon, 2000), an Ordinary Least Squares (OLS) regression will accurately estimate the relationship between psychological stress, physical stress, burnout, race, and gender. This strategy is invoked because the stress and burnout variables were transformed into scales. OLS regressions have been deemed the most appropriate method for dealing with scaled variables while controlling for so many variables. Further, to understand if a moderation effect exists between the key independent variables, the race and gender of the officers will be analyzed in separate OLS regressions. The coefficients of these models will then be compared using the formula listed below. Equation 1 was deemed, by Paternoster et al. (1998), to be the correct way to compare beta coefficients in different regressions. This is the most appropriate model to account for the various coding methods described above and determine what causes or reduces police officers' stress and burnout levels employed by the BPD. The use of this analytical strategy is justified because of the nature of the variables in this analysis. All regression analyses will be performed in Stata 16.

$$z = \frac{b_1 - b_2}{\sqrt{SEb_1^2 + SEb_2^2}} \quad (1)$$

Chapter 6: Results

Descriptive Statistics

Table 2, seen below, presents the descriptive statistics[7] of all included variables in the current study; all unknowns in these variables will be treated as missing data. As mentioned in the previous chapter, the final sample size of the present study is 878 officers of the Baltimore Police Department (BPD). This number does not reflect the number of sworn officers reported by the Law Enforcement Management and Administrative Statistics (LEMAS) in 1997. The discrepancy can be attributed to attrition during Gershon and colleagues' (2000) sampling process and missing data in the final dataset. Table 2 demonstrates that black officers make up approximately 31% of the sample, and female officers roughly 14%. When these figures are compared in Table 1 (see table in the previous chapter), we can deduce that the sample is still representative, given that the LEMAS and PSDVBM datasets report similar race and gender frequencies.

It is essential to note that the psychological, physical, and burnout scale averages demonstrate a unique story. The psychological stress scale mean (8.222) and standard deviation (2.478) indicate that most officers fall somewhere in the middle of the stress scale with some variation. Similarly, the physical stress scale mean (7.946) and standard deviation (2.026) follows the same pattern for these officers. These preliminary findings strengthen previous research demonstrating that law enforcement officers report high-stress levels, and it is not a negligible issue (Gershon et al., 2009; He et al., 2015; Repasky et al., 2020; Zavala, 2017; Zavala & Kurtz, 2017). As we know, burnout is caused by prolonged stress that leads to a deep sense of hopelessness, lack of motivation,

[7] The appendices include the descriptive statistics separated by race and gender.

emotional detachment, and feelings of their efforts being done in vain, all of which can go undetected by those experiencing this phenomenon (Kurtz, 2008; Loo, 2004; Robinson, 2020). Further, the burnout scale mean (11.636) and standard deviation (2.305) offer a more sinister reality. These statistics demonstrate that the officers of the BPD were more likely to show signs of burnout than signs of the two types of stress evaluated.

It is also noteworthy to discuss the findings of the descriptive statistics regarding the control variables. The perceived differential treatment scale gives us a glimpse into the culture of the BPD that may not have been clear upon a first glance of the data. The mean of this scale (23.151) is relatively high, implying that a significant number of officers felt there was at least some type of discrimination within the department. These findings support the experience of tokenism in prior research, indicating that there may be something ominous occurring in police departments (Archbold & Schulz, 2008; Haarr & Morash, 1999; Stroshine & Brandl, 2011). Even though this finding is not the focus of the current study, it should be noticed.

Another control variable that should be examined further is the officer's age. The average age of the officers employed by the BPD is roughly 37.5 years old, closely following the national average (Violanti et al., 2013). It is noteworthy that the age of an officer was included over the years the officer has been a part of the BPD because the two were so highly correlated ($r = 0.80$). Age was included instead of years in the department because it allowed more information to be gleaned from the officers since we cannot know when they transferred and could skew some results.

The statistics shown in Table 2 demonstrate that officers have relatively high levels of trust in their work partners, with a mean of 0.743. There are no other measures

within the PSDVBM questionnaire surrounding the partner relationship that could aid in understanding why this is the case. Previous research has found the opposite relationship between officers and their work partners (Bolanle & Ibukun, 2016; McCarty et al., 2011; Sterbenz, 2016). Additionally, the descriptive statistics indicate that more than half of the sample are ranked as officers, 63% are married, and 64% have children.

We begin our analyses by estimating three regression models, including all independent and control variables but only one of the three dependent variables; these regression results can be found in Table 3. The moderation analysis can be found in table 4; all variables are present, in which the officer's race is separated to be compared. The interaction between race and gender is expected to change the levels of stress and burnout among the officers in Baltimore City. This setup follows traditional literature that evaluates police stress and burnout (Kurtz, 2008). Within this approach, these models[8] describe the relationship between the independent variables (i.e., race and gender) and the outcome (i.e., psychological, physical, and burnout scales) variables while controlling for other potential sources of stress and subsequent burnout.

[8] Evaluation the multicollinearity of these models can be found in the appendices.

Table 2. Descriptive Statistics for Study Variables

Variables	Mean	Std. Dev	Min	Max
Dependent Variables				
Psychological Stress Scale	8.222	2.478	5	17
Physical Stress Scale	7.946	2.026	5	19
Burnout Scale	11.636	2.305	6	18
Independent Variables				
Female Officers	0.137		0	1
Black Officers	0.314		0	1
Control Variables				
Professional Characteristics				
Differential Treatment Scale	23.151	3.735	12	35
Experienced Potentially Stressful Work Events	0.359		0	1
Officer Trainee	0.017		0	1
Officer	0.583		0	1
Agent	0.058		0	1
Detective	0.142		0	1
Sergeant	0.145		0	1
Lieutenant and above	0.055		0	1
Trust in Work Partner	0.743		0	1
Personal Characteristics				
Age	37.457	8.958	23	67
High School	0.145		0	1
Some College	0.555		0	1
College	0.259		0	1
Grad School	0.042		0	1
Single	0.171		0	1
Married	0.626		0	1
Live-in Partner	0.073		0	1
Divorced/Separated	0.124		0	1
Widowed	0.006		0	1
Having Children	0.640		0	1
N of respondents	878			

NOTES: The standard deviation is only reported for continuous variables.
ABBREVIATIONS: SD = standard deviation

Table 3. OLS Regressions Models of Physical Stress, Psychological Stress, and Burnout Scales (N=878)

	Model 1 Psychological Stress Scale		Model 2 Physical Stress Scale		Model 3 Burnout Stress Scale	
Variables	**β**	**(SE)**	**β**	**(SE)**	**β**	**(SE)**
Female Officers	0.437*	(0.230)	1.030***	(0.205)	-0.255	(0.226)
Black Officers	-0.874***	(0.186)	-0.738***	(0.153)	-0.174	(0.168)
Control Variables						
Professional Characteristics						
Differential Treatment Scale	0.127***	(0.022)	0.089***	(0.018)	0.185***	(0.020)
Experienced Potentially Stressful Work Events	0.491**	(0.170)	0.351**	(0.139)	0.117	(0.153)
Officer	1.169*	(0.625)	0.546	(0.513)	0.862	(0.564)
Agent	1.164	(0.715)	0.284	(0.587)	0.710	(0.645)
Detective	1.109*	(0.655)	0.450	(0.538)	0.524	(0.591)
Sergeant	1.211*	(0.660)	0.620	(0.542)	0.492	(0.595)
Lieutenant and above	1.114	(0.738)	0.235	(0.605)	-0.317	(0.665)
Trust in Work Partner	-1.614***	(0.328)	-0.765**	(0.269)	-1.699***	(0.296)
Personal Characteristics						
Age	-0.010	(0.012)	-0.007	(0.009)	0.002	(0.010)
Some College	0.263	(0.238)	-0.212	(0.195)	-0.111	(0.214)
College	-0.238	(0.215)	-0.174	(0.176)	-0.232	(0.257)
Grad School	0.073	(0.449)	0.164	(0.368)	-0.495	(0.441)
Married	-0.002	(0.260)	0.010	(0.213)	0.114	(0.234)
Live-in Partner	-0.195	(0.362)	0.267	(0.297)	-0.329	(0.327)
Divorced/Separated	0.687*	(0.316)	0.623**	(0.259)	0.319	(0.285)
Widowed	-0.213	(1.095)	0.152	(0.898)	0.026	(0.987)
Having Children	0.009	(0.191)	0.032	(0.156)	-0.021	(0.172)
Constant	11.944***	(0.915)	10.346***	(0.751)	16.589***	(0.844)

NOTES: ***p<=0.001, **p<=0.01, *p<=0.05
ABBREVIATIONS: SE = standard error

Psychological Stress Scale

Model 1 presents the psychological stress felt by officers in the BPD. This model indicates a significant increased likelihood of high psychological stress levels for female officers ($\beta = 0.437$; $p < 0.05$). This result parallels the findings of previous studies, that female officers report higher levels of psychological occupational stress than their male counterparts (McCarty, 2013; Johnson, 1991). Overall, this finding provides support for hypothesis 2 of the current study. Further, model 1 shows that African American officers

are less likely to experience psychological stress than their Caucasian counterparts ($\beta = -0.874$; $p < 0.001$). This negative relationship is interesting, considering that some prior literature has found the opposite while others find the same results (Gershon et al., 2009; He et al., 2015; Kaufman et al., 2008; Kurtz, 2008). There are several reasons that this statistic was found that will be discussed in the next chapter. Moreover, this finding provides no support for hypothesis 1; it shows the opposite of the expected effect.

Although the focus of the current study is not the control variables, some significant values are of interest. For example, there is a significant relationship between the perception of differential treatment and the psychological stress felt by the officers of the BPD. Previous research has also seen this finding (Archbold & Schulz, 2008; Gächter et al., 2011; Haarr & Morash, 1999; Stroshine & Brandl, 2011). Additionally, there is a significance in the relationship between experiencing potentially stressful work events and the psychological stress index of the included officers. Finally, it is important to note that some psychological stress is alleviated if the officer trusts their work partners. These outcomes allow us to see more into the police culture of the Baltimore Police Department in the late 1990s that could affect these adverse outcomes (Repasky et al., 2020).

Physical Stress Scale

In model 2, the coefficient of the physical stress levels of women has the expected outcome. The relationship is statistically significant with higher reports of physical stress for female police officers than male officers in Baltimore city ($\beta = 1.030$; $p < 0.001$). This finding was anticipated given that prior literature has demonstrated clear evidence suggesting that female officers are more likely to internalize their stress leading to more physical ailments compared to male officers (Backteman-Erlanson et al., 2013; Broidy &

Agnew, 1997; Piquero & Sealock, 2004). This finding provides support for hypothesis 2. However, this model also presents an unexpected result, a significant relationship for African American officers but shows a negative relationship ($\beta = -0.738$; $p < 0.001$). The analysis illustrates a decrease in the likelihood of physical stress for African American officers employed by the BPD, showing no support for hypothesis 1. This result is unexpected since preceding research suggests African American officers present more physical stress symptoms than white colleagues (Bishopp et al., 2020). There could be numerous explanations for this finding that will be discussed in the next chapter. It should also be noted that the same control variables that have shown significance in model 1 found the same significance in model 2, giving more insight into the department culture's effect on the physical stress of officers.

Burnout

In terms of the burnout index, model 3, no significance is found for either minority group in the BPD. It is important to note that the coefficients for both African American ($\beta = -0.255$; $p > 0.05$) and female officers ($\beta = -0.174$; $p > 0.05$) are negative and may become significant if this study's limitations are corrected; these will be discussed in the next chapter. Moreover, these findings show no support for hypotheses 1 and 2. This finding contradicts previous research, which finds that people in these minority groups report higher levels of burnout than their colleagues (Bolanle & Ibukun, 2016; Hawkins, 2001; Loo, 1994; Robinson, 2020). The discrepancy between the current and previous studies will be explored further in the following chapter. The only variables in this model that found significance were the control variables. More specifically, there was significance in the relationship between burnout, perceived differential treatment,

and trust in their work partner. This model displays a finding not found in the previous two models; there is no significance if an officer has experienced a potentially stressful work event. These findings may be seen because experiencing these events may harm the officers in the short term, but they may be better at coping with this stress in the long term (Robinson, 2020).

Moderation Effect Between Race, Gender, and Dependent Scales

As specified previously, analysis of the potential moderation effect between race, gender, psychological stress, physical stress, and burnout will be addressed. Officers were separated by race to test this effect, while gender remains an independent variable, and all control variables were still included. The results are presented in Table 4 (see below); in separate analyses (not shown), the officers were separated by gender. The same results were found in terms of the interaction found between the variables. This process is performed three times to account for all three scales listed above. As stated in the previous chapter, Equation 1 was used to test if the beta coefficients in each regression were statistically different. If significant, an interaction between the two independent variables would be present (Paternoster et al., 1998).

When analyzed separately both white female ($\beta = 0.098$; $p > 0.05$) and black female officers ($\beta = 0.761$; $p < 0.01$) report an increased likelihood of experiencing psychological stress. Upon first glance, it appears black female officers have a higher likelihood of experiencing this manifestation of stress, but a different story emerges after implementing Paternoster et al.'s (1998) equation. In tests not shown, we find no statistical difference between the two beta coefficients for the racial groups ($z = 1.298$, $p > 0.05$), finding no support for hypothesis 3. This finding indicates there is no interaction

between race and gender on their psychological stress. This outcome is unexpected, given that previous research finds that this interaction exists (Kurtz, 2008). The possible reasons for this discrepancy will be explored further in the following chapter.

In terms of the physical stress scale, the same results were found, no interaction. Table 4 indicates that, again, both white female ($\beta = 0.725$; $p < 0.01$) and black female officers ($\beta = 1.309$; $p < 0.001$) report an increased likelihood of experiencing physical stress. In tests not shown, we find no statistical difference between the two beta coefficients for the racial groups ($z = 1.381$, $p > 0.05$), showing no support for hypothesis 3. Traditionally, female police officers of both races have commonly reported that they experience higher rates of physical stress than their white male counterparts (Gershon et al., 2009; He et al., 2002; He et al., 2015). The possible reasons for this discrepancy will be explored further in the following chapter. A noteworthy finding of the results displayed in Table 4 is that rank is found significant for both stress scales for black female officers. This finding is explained by Archbold and Schulz's (2008) conclusions, which found that female officers avoid applying for promotions because of the encouragement from male superiors; this is only exacerbated by tokenism felt by officers in minority groups (Haarr & Morash, 1999; Stroshine & Brandl, 2011).

Lastly, and again, there are no interactions found for these minority groups within the BPD when examining burnout levels. Table 4 indicates that both white female ($\beta = -0.566$; $p < 0.05$) and black female officers ($\beta = -0.049$; $p > 0.05$) report a decreased likelihood of experiencing burnout. Traditionally, these findings contradict prior research that conclude female officers, regardless of race, are more likely to experience burnout than male counterparts (Gershon et al., 2009; Kurtz, 2008). When the beta coefficients

are tested through Equation 1, there is no statistical difference between the two; therefore, there is no interaction between the independent and outcome variables ($z = 1.116$, $p > 0.05$)—again, showing no support for hypothesis 3. The discrepancies between these results and previous studies will be explored further in the following chapter.

Table 4. OLS Regressions Analysis of Officer Psychological Stress, Physical Stress, and Burnout Scales by Race

	Psychological Stress Scale			
	White Officers		Black Officers	
Variables	**β**	**(SE)**	**β**	**(SE)**
Female Officers	0.098	(0.373)	0.761**	(0.349)
Control Variables				
Professional Characteristics				
Differential Treatment Scale	0.116***	(0.027)	0.137***	(0.039)
Exp. Potentially Stressful Work Events	0.593**	(0.208)	0.287	(0.304)
Officer	0.872	(0.861)	1.522*	(0.936)
Agent	0.616	(0.949)	2.498*	(1.205)
Detective	0.825	(0.898)	1.483	(0.984)
Sergeant	0.881	(0.896)	1.770*	(1.024)
Lieutenant and above	0.924	(0.964)	0.107	(1.612)
Trust in Work Partner	-1.851***	(0.431)	-1.377**	(0.491)
Personal Characteristics				
Age	-0.009	(0.009)	-0.016	(0.022)
Some College	0.143	(0.299)	0.415*	(0.402)
College	0.006	(0.349)	-0.136	(0.525)
Grad School	0.168	(0.553)	1.196	(1.205)
Married	-0.037	(0.344)	0.104	(0.408)
Live-in Partner	-0.082	(0.438)	-0.649	(0.694)
Divorced/Separated	0.704*	(0.433)	0.632	(0.470)
Widowed	-0.258	(1.423)	-0.176	(1.756)
Having Children	-0.003	(0.230)	-0.083	(0.356)
Constant	12.024	(1.210)	10.620***	(1.488)
	N = 602		**N = 276**	

Continued

Table 4. Continued

	Physical Stress Scale			
	White Officers		Black Officers	
Variables	**β**	**(SE)**	**β**	**(SE)**
Female Officers	0.725**	(0.293)	1.309***	(0.305)
Control Variables				
Professional Characteristics				
Differential Treatment Scale	0.083***	(0.021)	0.098**	(0.034)
Exp. Potentially Stressful Work Events	0.568***	(0.163)	0.011	(0.266)
Officer	-0.662	(0.678)	1.815*	(0.822)
Agent	-1.157	(0.747)	2.239*	(1.079)
Detective	-0.805	(0.706)	1.854*	(0.864)
Sergeant	-0.589	(0.705)	1.912*	(0.899)
Lieutenant and above	-1.012	(0.759)	1.109	(1.367)
Trust in Work Partner	-1.048***	(0.343)	-0.406	(0.431)
Personal Characteristics				
Age	-0.005	(0.010)	-0.024	(0.019)
Some College	0.179	(0.235)	0.116	(0.350)
College	0.083	(0.275)	-0.122	(0.460)
Grad School	0.317	(0.435)	1.108	(1.036)
Married	0.480*	(0.270)	-0.125	(0.356)
Live-in Partner	0.638*	(0.345)	-0.284	(0.610)
Divorced/Separated	1.001***	(0.340)	0.307	(0.412)
Widowed	0.307	(1.120)	-0.005	(1.543)
Having Children	-0.154	(0.181)	0.256	(0.311)
Constant	11.141***	(0.956)	8.791***	(1.307)
	N = 602		**N = 276**	

Continued

Table 4. Continued

	Burnout Scale			
	White Officers		**Black Officers**	
Variables	**β**	**(SE)**	**β**	**(SE)**
Female Officers	-0.566*	(0.333)	-0.049	(0.322)
Control Variables				
Professional Characteristics				
Differential Treatment Scale	0.215***	(0.215)	0.115**	(0.036)
Exp. Potentially Stressful Work Events	0.146	(0.184)	0.116	(0.281)
Officer	1.044	(0.768)	0.680	(0.869)
Agent	0.821	(0.846)	1.220	(1.118)
Detective	0.628	(0.800)	0.615	(0.914)
Sergeant	0.719	(0.799)	0.187	(0.950)
Lieutenant and above	-0.129	(0.859)	-0.509	(1.444)
Trust in Work Partner	-1.457***	(0.384)	-1.742***	(0.465)
Personal Characteristics				
Age	0.002	(0.011)	-0.009	(0.020)
Some College	-0.271	(0.266)	0.088	(0.370)
College	-0.378	(0.311)	-0.152	(0.487)
Grad School	-0.509	(0.493)	-0.707	(1.095)
Married	0.145	(0.307)	0.071	(0.381)
Live-in Partner	-0.122	(0.390)	-0.964	(0.646)
Divorced/Separated	0.325	(0.384)	0.190	(0.439)
Widowed	0.392	(1.268)	-0.890	(1.636)
Having Children	0.005	(0.205)	-0.021	(0.331)
Constant	16.965	(1.078)	15.289***	(1.385)
	N = 602		**N = 276**	

NOTES: ***p<=0.001, **p<=0.01, *p<=0.05
ABBREVIATIONS: SE = standard error

Chapter 7: Discussion and Conclusion

It is hard to argue the value that evidence-based practices have had on the criminological and criminal justice fields. Specifically, empirical work surrounding police officer stress and burnout is essential to society because experiencing extensive and consistent amounts of stress ultimately leads to burnout, ineffective, and inefficient officers. However, it is challenging to research because of the subject's sensitive nature (Gershon, 2000; Gershon et al., 2009; He et al., 2015; Repasky et al., 2020; Zavala, 2017; Zavala & Kurtz, 2017). These individuals are already under a great deal of scrutiny from the public, local leadership, and their superiors, so asking about their vulnerability to mental and physical issues is a delicate and complicated task (Gershon, 2000; Gershon et al., 2017). It is essential to obtain, evaluate, and understand police officers' stress manifestations and burnout levels because their job is critical for society. Many studies have examined how race and gender of police officers affect their stress and burnout levels, few have also examined the moderation effect between the two minority groups while separating stress into different manifestations (Backteman-Erlanson et al., 2013; Bolanle & Ibukun, 2016; Martinussen et al., 2007; Padyab et al., 2016; Vuorensyrjä & Mälkiä, 2011). The purpose of the current study is to address this literature gap by examining the stress and burnout levels of Baltimorean police officers in the late 1990s using several theoretical frameworks.

The research findings of the current study are encouraging as well as puzzling. The results may have been influenced by different biases discussed in the limitations and future directions section below. The first hypothesis of the current study predicted that African American police officers employed by the Baltimore Police Department (BPD)

would experience more stress, both psychological and physical, than their white colleagues. In terms of the physical and psychological stress scales, there is a significant relationship found between race and these stress manifestations but in a direction that is not conventional: negative.

Previous research highlights that African American law enforcement officers experience more strain compared to their Caucasian counterparts, leading to more stress overall (Haarr & Morash, 1999; Kaufman et al., 2008). The differences found, although unexpected, speaks to Merton's (1938) and Karasek's (1979) assertions of racial disparities in experiencing strain in the workforce. A possible reason for this unconventional relationship can be attributed to a blind spot of the current study. This blind spot refers to a lack of ability to observe the culture of the BPD that may be unique compared to other departments. Their culture may decrease the stress of their African American officers, but that cannot be analyzed with the current data set. Additionally, this discrepancy may be present due to the utilization of social desirability bias, which may be employed to appease the officer's superiors and department (Gershon et al., 2009; Grimm, 2010). African American officers may utilize this technique more frequently because they experience tokenism and find it hard to be accepted in their profession (Haarr & Morash, 1999; Stroshine & Brandl, 2011).

The first hypothesis also posits that African American police officers employed by the BPD would experience more burnout than white colleagues. However, the burnout of African American police officers of the BPD presents another surprising result: no significance. This finding does not coincide with previous literature, which suggests that black officers are more likely, or just as likely, to be burnt out when compared to white

officers (Backteman-Erlanson et al., 2013; Bishopp et al., 2020; Bolanle & Ibukun, 2016; Padyab et al., 2016). According to Duran et al. (2019), this effect is prominent because some of the officers' obligations have been deemed unrealistic, directly related to the job demands and control interaction model (Karasek, 1979). Additionally, Merton (1938) and Agnew (1992) add the racial element to this phenomenon, postulating that racial minorities feel this disconnect more profoundly. Further, the discrepancy suggests that burnout may need to be examined longitudinally as a long-term consequence of prolonged stress (Bolanle & Ibukun, 2016; Hawkins, 2001; Loo, 1994; Robinson, 2020). This limitation is discussed further in the next section of this chapter.

The second hypothesis of the present study predicts female police officers employed by the BPD will experience more stress than their male colleagues. Regarding the physical and psychological stress scales, we find female officers have significantly higher levels of both stress categories when compared to male officers. This relationship corroborates the results of previous literature (Backteman-Erlanson et al., 2013; Bolanle & Ibukun, 2016; Hawkins, 2001). The current study expands and improves upon prior work by separating the psychological and physical stress indexes. We see that each type of stress has a nonnegligible impact on the stress of female Baltimorean officers.

This finding is supported by the work of Broidy and Agnew (1997), who emphasize that females internalize their strain leading to higher reported levels of it (Backteman-Erlanson et al., 2013; Kurtz, 2008; Piquero & Sealock, 2004). Gendered GST (Broidy & Agnew, 1997) can explain this relationship because men tend to blame others for their hardships while women blame themselves, leading to higher stress levels. Further, this finding can be explained because female officers do not feel they can fulfill

duties due to the higher levels of scrutiny they face, when compared to the scrutiny faced by their male coworkers (Haarr & Morash, 1999; Stepler, 2017; Stroshine & Brandl, 2011). The work of Karasek (1979) highlights this disconnect, because it causes strain by not allowing employees to fulfill their job demands due to their lack of control or discretion.

Regarding the burnout of female officers, the current study's findings are not expected. The analyses described in the previous chapter report that there is no significant relationship between burnout and the gender of the police officer. This finding rejects the second hypothesis of the current study that postulates Baltimorean female police officers may experience more burnout than their male colleagues. This lack of significance is in direct contrast with prior research that demonstrates female officers report higher rates of burnout compared to their counterparts (Backteman-Erlanson et al., 2013; Bolanle & Ibukun, 2016; Kurtz, 2008; Martinussen et al., 2007; Padyab et al., 2016; Vuorensyrjä & Mälkiä, 2011). The most likely cause of the discrepancy is the cross-sectional nature of the study. This limitation demonstrates the need for additional longitudinal research to find the contributors to prolonged stress and subsequent burnout. This surprising outcome can be attributed to the several biases that are discussed in the next section.

The final analysis conducted in the current study to further understand the stress and burnout of police officers in Baltimore is the moderation analysis. This analysis aims to understand if there is an interaction between race and gender on an officers' stress and burnout levels. The third hypothesis of this study postulates that female African American police officers employed by the Baltimore Police Department may experience more stress and burnout than their white female counterparts. When examining if these

demographics interact to uniquely affect the manifestations of stress, we find none, showing no support for hypothesis three.

Contrarily, prior research finds that this interaction should exist. For example, female police officers, independent of race, have reported higher psychological and physical stress rates than their male counterparts of any race (Gershon et al., 2009; He et al., 2002). Kurtz (2008) finds that black female officers report higher psychological and physical stress levels than their colleagues. Further, Haarr and Morash (1999) and Stroshine and Brandl (2011) explain that this may be the case because black female officers experience the most tokenism in workplaces (e.g., policing) that are predominately white and male. Similarly, their white female colleagues display significantly higher physical stress levels than their white male counterparts. This is corroborated through Kurtz's (2008) work, indicating that white female officers have a unique experience with physical stress.

The difference between the current and prior research may be due to several pitfalls of the current study. First, the sample size of women in the study is small, 120 of 878, with 46 white female officers and 74 black female officers. Increasing this sample size would allow for more reliable results and may alter the outcomes; this would become difficult since law enforcement is a predominately male field and has been for decades (McCarty, 2013; Sklansky, 2006). Second, social desirability bias may have also been utilized to maintain relationships, more frequently found with women than men, according to Broidy and Agnew (1997). This should be recognized in future research but may be hard to remedy because policing is a gendered institution (Haarr & Morash, 1999; McCarty, 2013; Sklansky, 2006; Stroshine & Brandl, 2011).

Further, the moderation analysis results of burnout of Baltimorean officers contradict previous research. There is no support found for the third hypothesis of the current study when examining if there is an interaction between race and gender and their subsequent levels of burnout. Traditionally, research finds that female officers are more likely to report higher levels of burnout than their male colleagues in both racial categories (Gershon et al., 2009; Kurtz, 2008). Kurtz (2008) concludes that black female officers usually report higher burnout levels than their white female colleagues, while both express higher levels than their male counterparts of either race. But, again, there are only 46 white female officers and 74 black female officers out of the 878 officers in the study's final sample. These figures represent a small sample, but that does not mean there is no critical information to add to a comprehensive picture of stress and burnout of officers in Baltimore in the late 1990s (Fincham, 2008).

As stated previously, increasing this sample size would be beneficial but may not be feasible because law enforcement is a predominately male field (McCarty, 2013; Sklansky, 2006). Further, the results may become more reliable if the study was longitudinal since causation could be better attested (Loo, 1994; Maslach & Jackson, 2001; Robinson, 2020). This limitation and future directions of the current study will be discussed further in the next section of this chapter.

Limitations and Future Directions

It is crucial to be aware of the boundaries of the current study since no study is without limitations. First, the study is cross-sectional, and given this, the present study's results cannot speak to causation but only to correlations between stress, burnout, race, and gender (Gershon et al., 2009). Since this study found no significance when studying

burnout of Baltimorean officers of racial and gender minorities, it is crucial to amend this issue. Future research should conduct longitudinal studies to understand police officers' stress and burnout further. As emphasized earlier, Robinson (2020) describes burnout as a sinister outcome of stress leading to a deep sense of hopelessness, lack of motivation, emotional detachment, and feelings of their efforts being done in vain (Loo, 1994; Maslach & Jackson, 2001). We know that there are racial and gender differences between the manifestations and levels of burnout, which must be evaluated over a more extended period.

A longitudinal study would allow for more information from each officer regarding their stress levels at different times, how that contributed to their overall feelings of burnout, and how, or when, racial and gender differences would be seen. Additionally, data could be collected about other adverse outcomes that could manifest at differing points in time based on the officers' feelings of stress and burnout. This should be of interest because other research has shown that African American officers are more likely to misdirect their anger, caused by strain, toward the public compared to white colleagues (Bishopp et al., 2020). Similarly, Johnson (1991) concluded that male officers who experience stress are more likely to act out while female officers internalize their frustrations. Further, a longitudinal study would allow researchers to get closer to establishing a causal relationship between any of the concepts of interest.

Another notable limitation is the generalizability of this study's results caused by several of its shortcomings. First, generalizability becomes a concern since the data was only collected from the personnel of one police department in the United States. To say that all police departments in the U.S. feel and experience the same types of stress would

be ill-informed and has been highlighted in previous research (Brooks & Piquero, 1998; McCarty et al., 2011; Weisheit et al., 1994). Nevertheless, these results could help address stress and burnout in departments of a similar size and with similar crime rates as the city of Baltimore (Fieldstadt, 2020). Future work should attempt to examine police departments in various jurisdictions (urban, suburban, and rural) since they have unique effects on stress and burnout of law enforcement officers (Brooks & Piquero, 1998; McCarty et al., 2011; Morash et al., 2006; Weisheit et al., 1994). Based on Karasek's (1979) assumptions, location may be vital in determining discrepancies in stress and burnout because of resources afforded to one jurisdiction over another (Weisheit et al., 1994). These resources could directly affect the officers' ability to fulfill their duties (Weisheit et al., 1994).

Second, generalizability may be of some concern because of the convenient sampling method. Convenient sampling may result in biased results because we cannot deduce why officers chose to participate or not to participate in the study. In addition, this sampling method can lead to selection bias because there was no way to achieve proper randomization of the sworn officers of the BPD. Again, this brings into question if the population is representative. Fortunately, concerns with not having a representative sample should be somewhat curbed since Table 1 (see Chapter 5) shows that the Law Enforcement Management and Administrative Statistics and PSDVBM datasets reported similar percentages of the included groups.

Along the lines of being representative, another major limitation is the lack of other racial minority groups. These officers were excluded from the present study because they were so few in numbers in the PSDVBM dataset. Previous research that

experiences the same limitation expresses future studies should account for this flaw (Bishopp et al., 2018; Moon & Jonson, 2012; Shim et al., 2015). We have seen officers of different racial groups, specifically black and white, express and react to stress in varying ways (Bishopp et al., 2020; Johnson, 1991). We know very little about how other racial minorities, such as Hispanics, and Asians, report and react to their occupational stress (Shim et al., 2015). Future research should include more racial minority groups in their analyses.

Shim et al.'s (2015) study was also extremely limited in that it did not have enough information to consider the officers' race. It warned that future research should be conscientious of this. The same can be said with the current study, given that the number of Hispanic officers in the sample was 17. Officers who fell in the "other" racial minority group only accounted for four officers in Gershon's (2000) final sample. As stated in chapter 5, these officers were excluded from the present study because no reliable information could be concluded from their results. Moreover, we have seen that minority groups experience and respond to strain and burnout differently; therefore, every racial minority group could have a remarkable and unique contribution to the current literature (Bishopp et al., 2018; Moon & Jonson, 2012; Shim et al., 2015).

An additional limitation of the current study was the lack of investigation on the behavioral adverse effects of the stress and burnout of Baltimorean officers. This type of investigation was outside the scope of the present study but could be investigated with the current dataset. Future research should seek to explore the adverse effects caused by stress and burnout felt by police officers at the BPD. Gershon's (2000) study provides a plethora of information on officers' health outcomes, home life, and adverse behaviors

(e.g., drinking, gambling, and domestic abuse). These adverse effects could speak more to Agnew's (1992) GST's multidimensionality and the types of behavior strain can manifest. These adverse effects may differ racially and across genders. As stated previously, we see that women are more likely to respond to stress in a noncriminal self-destructive way since men have fewer outlets to develop coping mechanisms (Piquero & Sealock, 2004). Merton (1938) explicitly expressed a significant difference in acquiring "success" between minority groups and their white counterparts. Further, he posited that this discrepancy, whether real or perceived, when felt, illustrated a tendency to become deviant. This relates to the current study in which future research would evaluate the adverse outcome of prolonged stress and subsequent burnout.

The burnout measures may be another limitation in the current study. This may be the case because stress and burnout are so closely related (Robinson, 2020). Since the present study utilizes strain to explain burnout, they may be capturing the same concepts. Although the current research has followed previous research's measures of burnout, parceling out the two phenomena entirely is difficult (Kurtz, 2008; Robinson, 2020). For instance, one of the burnout measures included is the officers feeling they were at the end of their rope. This can be interpreted as an officer experiencing depression or becoming dangerously close to suicidal ideation (Violanti et al., 2013). Future research should refine these measures to ensure the variables are measuring the intended concepts. In addition, burnout should be evaluated further to understand how these issues follow them to their homes. It has been seen that the violence officers experience in their job follows them home and causes further harm to them and their families (Goodman, 1990; Sigler et al., 1991).

An additional limitation with the measures of the current study is converting ordinal variables into scales. All measures for the three dependent variables included in the analyses utilized Likert-Scales that categorize responses ordinally. Previous research has shown that ordinal-level survey measurement of concepts can be converted to interval or ratio levels but can produce errors (Granberg-Rademacker, 2010). These errors occur because respondents are asked to truncate their responses to fit the given scale, creating bias (Granberg-Rademacker, 2010). Further bias could arise since the values are summated to combine several of these ordinal scales (Johnson & Creech, 1983). Future research should invoke the Markov chain Monte Carlo modeling technique when attempting to replicate the variable construction of the present study (Granberg-Rademacker, 2010). This technique can decrease bias, increase confidence in outcomes, and has been deemed more accurate than Ordinary Least Squares models while converting ordinal measurements to interval or ratio (Granberg-Rademacker, 2010).

Finally, the questionnaire given to the officers that participated in the study has limitations. The survey contained 132 items and took approximately 30 minutes to complete; this may cause the responses not to be as thoughtful (Gershon, 2000; Gershon et al., 2009). In addition, the content of the questionnaire may also cause officers to employ social desirability bias because of the sensitive and personal nature of the questions (Gershon et al., 2009; Grimm, 2010). Another motivation for utilizing this technique is to appease the department and their superiors because they may not want to speak ill for fear of retaliation (Gershon et al., 2009). This technique may be used disproportionately by racial minority and female officers because of their experiences with tokenism (Gächter et al., 2011). Officers in these minority groups feel a heightened

sense of scrutiny and will work harder to appease superiors because their loyalty has been questioned in the past (Haarr & Morash, 1999; Stroshine & Brandl, 2011). Unfortunately, the current data cannot deduce if social desirability was used by the officers, which should raise caution when analyzing the study's results. However, there is hope for concern mitigation because Gershon (2000) made the questionnaire anonymous and built a rapport with the officers before beginning the study. Future research should further curb this anxiety when filling out surveys with sensitive information for these vulnerable groups.

Conclusion

The health and wellness of police officers have been negatively affected by stress and burnout. A law enforcement officer's safety and wellness are critical and affect their fellow officers, police agencies, and public safety. With this realization, these mental and physical hardships have received increased attention from the scientific community. Although some results are contrary to prior research, the current study offers a unique theoretical framework that incorporates two separate manifestations of stress (i.e., psychological and physical) and evaluates a potential moderation effect between race and gender. Stress and burnout have been shown to affect officers in racial and gender minorities differentially. The intersectionality of these two demographics cannot be understated but are neglected in prior research and should be considered in additional studies (Bishopp et al., 2020).

There have been efforts to curb the stress and burnout levels of officers because of their dangerous outcomes. As cited in Bishopp et al. (2020), the President's Taskforce on 21st Century Policing promoted research in this area to understand, navigate, and alleviate

unnecessary strain and promote more emotionally intelligent responses to an officer's strain. However, before a policy can be written and implemented, we must know how prevalent the problem is, tangible stress and burnout levels, and who is most vulnerable. Moreover, it is critical to identify these occupational health concerns early for appropriate aid to be rendered, so officers do not find themselves in a dangerous situation (e.g., suicidal ideations). The best approach may be to incorporate trainings in mental strength, emotional intelligence, resilience, and recognizing poor mental health in others. This may be difficult because of budgetary restraints but is something to consider when trying to help those who play a critical role in our society.

As seen in the current study and prior research, race and gender can uniquely affect an officer's psychological and physical stress and consequent burnout. That is not to say that their race and gender cause them to suffer from these experiences; they just have a higher propensity to experience them. Truly addressing these issues within policing will require communication, willingness, and cooperation from officers, administrators, and local governments. The current study can help start a dialogue to increase awareness of police officers' strain and hopefully encourage officers to seek help if they suffer from stress and burnout. Studies focusing on police stress and burnout must be continued to highlight who is the most vulnerable, how jurisdiction plays a role in these levels, and actions to take to help these officers and, by proxy, their families, agencies, and the recipients of police services.

Appendices

Appendix A. Variable Construction

Psychological Stress Index (Cronbach alpha = 0.82):

In the past 6 months: how often did you have:

(1) Feelings of being trapped or caught
(2) Feeling no interest in things
(3) I am moody, irritable, or impatient over small problems
(4) I want to withdraw from the constant demands on my time and energy from work
(5) I feel negative, futile, or depressed about work

Utilizing a Likert Scale, possible responses include never, sometimes, frequently, always

Physical Stress Index (Cronbach alpha = 0.66):

In the past 6 months: how often did you have:

(1) Pains or pounding in your heart or chest
(2) Headaches or pressure in your head
(3) A lump in your throat
(4) I feel tired at work even with adequate sleep
(5) Nausea, upset stomach, and/or stomach pains

Utilizing a Likert Scale, possible responses include never, sometimes, frequently, always

Burnout Index (Cronbach alpha = 0.74):

Please check the box that best describes how much you agree with the following statements:

(1) I feel like I am on autopilot most of the time
(2) I feel burned out from my job
(3) I feel like I am at the end of my rope

Utilizing a Likert Scale, possible responses include strongly agree, agree, neither agree or disagree, disagree, strongly agree

In the past 6 months: how often did you have:

(4) I feel physically, emotionally, and spiritually depleted

Utilizing a Likert Scale, possible responses include never, sometimes, frequently, always

Perceived Discrimination Index (Cronbach alpha = 0.56):

Please check the box that best describes how much you agree with the following statements:

(1) compared to my peers (same rank), I find that I am likely to be more criticized for my mistakes
(2) I feel that I am less likely to get chosen for certain assignments because of "who I am" (e.g., race, gender, sexual orientation, physical characteristics)
(3) within the department, gender related jokes are often made in my presence
(4) when I am assertive or question the way things are done, I am considered militant
(5) promotions in this department are tied to ability and merit
(6) the department tends to be more lenient in enforcing rules and regulations for female officers
(7) female officers are held to a higher standard than male officers.

Utilizing a Likert Scale, possible responses include strongly agree, agree, neither agree or disagree, disagree, strongly agree

Appendix B. Correlations Between Psychological Stress Variables

Variables	Psych. Stress 1	Psych. Stress 2	Psych. Stress 3	Psych. Stress 4	Psych. Stress 5
Psychological Stress 1	1.000				
Psychological Stress 2	0.482	1.000			
Psychological Stress 3	0.424	0.492	1.000		
Psychological Stress 4	0.516	0.627	0.437	1.000	
Psychological Stress 5	0.373	0.408	0.447	0.392	1.000

Appendix C. Correlations Between Physical Stress Variables

Variables	Physical Stress 1	Physical Stress 2	Physical Stress 3	Physical Stress 4	Physical Stress 5
Physical Stress 1	1.000				
Physical Stress 2	0.327	1.000			
Physical Stress 3	0.232	0.338	1.000		
Physical Stress 4	0.273	0.443	0.327	1.000	
Physical Stress 5	0.183	0.280	0.275	0.361	1.000

Appendix D. Correlations Between Burnout Variables

Variables	Burnout 1	Burnout 2	Burnout 3	Burnout 4
Burnout 1	1.000			
Burnout 2	0.597	1.000		
Burnout 3	0.431	0.363	1.000	
Burnout 4	0.445	0.423	0.284	1.000

Appendix E. Correlations Between Dependent Variables

Variables	Psychological Stress Scale	Physical Stress Scale	Burnout Scale
Psychological Stress Scale	1.000		
Physical Stress Scale	0.673	1.000	
Burnout Scale	0.349	0.463	1.000

Appendix F. Descriptive Statistics for Study Variables Separated by Race

Variables	Mean	Std. Dev	Min	Max
Dependent Variables				
Psychological Stress Scale	7.689	2.438	5	17
Physical Stress Scale	7.625	2.132	5	19
Burnout Scale	11.290	2.330	6	17
Independent Variables				
Female Officers	0.287		0	1
Control Variables				
Professional Characteristics				
Differential Treatment Scale	19.206	3.884	8	29
Experienced Potentially Stressful Work Events	0.378		0	1
Officer Trainee	0.113		0	1
Officer	0.603		0	1
Agent	0.040		0	1
Detective	0.139		0	1
Sergeant	0.085		0	1
Lieutenant and above	0.020		0	1
Trust in Work Partner	0.901		0	1
Personal Characteristics				
Age	34.624	0.893	23	61
High School	0.175		0	1
Some College	0.576		0	1
College	0.226		0	1
Grad School	0.023		0	1
Single	0.262		0	1
Married	0.496		0	1
Live-in Partner	0.070		0	1
Divorced/Separated	0.166		0	1
Widowed	0.006		0	1
Having Children	0.688		0	1
N of respondents	276			

NOTES: The standard deviation is only reported for continuous variables.
ABBREVIATIONS: SD = standard deviation

Appendix G. Descriptive Statistics for Study Variables

Variables	Mean	Std. Dev	Min	Max
Dependent Variables				
Psychological Stress Scale	8.270	2.661	5	17
Physical Stress Scale	8.574	2.433	5	19
Burnout Scale	11.113	2.305	6	17
Independent Variables				
Black Officers	0.667		0	1
Control Variables				
Professional Characteristics				
Differential Treatment Scale	18.846	4.043	12	28
Experienced Potentially Stressful Work Events	0.500		0	1
Officer Trainee	0.085		0	1
Officer	0.510		0	1
Agent	0.059		0	1
Detective	0.235		0	1
Sergeant	0.085		0	1
Lieutenant and above	0.026		0	1
Trust in Work Partner	0.885		0	1
Personal Characteristics				
Age	35.146	6.838	23	53
High School	0.137		0	1
Some College	0.556		0	1
College	0.281		0	1
Grad School	0.026		0	1
Single	0.276		0	1
Married	0.368		0	1
Live-in Partner	0.132		0	1
Divorced/Separated	0.217		0	1
Widowed	0.007		0	1
Having Children	0.700		0	1
N of respondents	120			

NOTES: The standard deviation is only reported for continuous variables.
ABBREVIATIONS: SD = standard deviation

Appendix H. Multicollinearity of Models

Model	Mean IVF	Condition Number
Psychological Stress Model	1.88	23.06
Physical Stress Model	1.87	19.91
Burnout Model	1.88	26.19

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