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Effects of Occupational Stress on Decision-Making Style in Law Enforcement Officers

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Walden University

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2018

Abstract

Effects of Occupational Stress on Decision-Making Style in Law Enforcement Officers

by

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MS, Walden University, 2009

BS, Iowa State University, 1990

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Health Psychology

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Abstract

Police officers deal with a variety of stresses from different sources. Organizational stresses have the most effect on police officers, often more than stressful critical incidents. Previous research has indicated that over time, the mundane organizational and operational stresses of the job can result in a variety of effects from psychological to physiological, and this stress can impact police performance and public safety. However, there remains an important gap in the current literature regarding the impact of stress on the decision-making style of police officers. Police officers often make split-second decisions that can affect their life, the public, and other police officers. Therefore, this quantitative study utilized the General Decision-Making Styles, Operational Police Stress Questionnaire, and Organizational Police Stress Questionnaire to measure the amount of stress police officers are experiencing and if organizational stress influenced their decision-making style. Data were collected from 150 police officers employed in Iowa, and standard multiple regression analysis was used to test the hypotheses. Findings indicated that there is a relationship between operational and organizational stresses and decision-making style. The results of this study support positive social change by identifying which stressors impact a police officer's decision-making style. Early identification of police officers who are struggling with organizational stress can help reduce burnout, turnover, citizen complaints, and use of force investigations, which might help strengthen the public's trust in their police officers and police departments.

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Chapter 1: Introduction to the Study

Introduction

There is little doubt that everyone experiences stress on a daily basis (Ellison, 2004; Selye, 1956). Law enforcement work has long been considered a highly stressful, dangerous, and demanding occupation (Burke, Richardsen, & Martinussen, 2006; Kroes, 1985; Manzoni & Eisner, 2006). Police officers face a variety of situations daily where the decisions they make will be reviewed and scrutinized, often facing a lack of support from the police organization and supervisors (Anshel, 2000; Finn, 1997). Police actions involving the use of force against the public are in the news and front pages from Ferguson, Missouri to New York City, Cleveland, and Baltimore (Police Scrutiny, 2015). Police officers face the public filming them with cell phones and pressure by the public for use of body-worn cameras, adding to the scrutiny (Clay, 2015).

Police work has two distinct types of stresses: the day-to-day operational stresses and the organizational stresses (Stinchcomb, 2004). Advance preparation is undertaken to train for the day-to-day highly stressful situations that police officers may experience. This preparation includes hands-on, scenario-based training where practice may provide police officers with better use of force decisions, problem-solving, and action skills that can de-escalate a situation and facilitate more effective coping with the pressure of performing different tasks under stressful situations (Oudejans, 2008; Vuorensyrja & Malkia, 2011).

Police administrators are aware that there could be stress from an officer-involved shooting or witnessing a violent death, and often offer programs such as peer support,

counseling services, and employee assistance programs (Coulbeck, 2009; Finn & Tomz, 1998). Police officer candidates are subject to a thorough background investigation and are carefully screened psychologically and physically before being offered a position (Beutler, Nussbaum, & Meredith, 1988; Decicco, 2000; Hostetter, 2007). Because of the stresses police officers face on the job, recommendations have been made to select well-adjusted candidates who have good coping skills, can adapt to the different demands of police work, can do unsupervised work, can tolerate exposure to danger, and manage contradictory roles (Dantzker, 2011).

The stressors that cause the most distress for police officers are the organizational stresses (Lieberman et al., 2002; Vuorensyrja & Malkia, 2009). The lack of support from their coworkers, supervisors, or the department is frequently cited as the most harmful stressors (Anshel, 2000). Other stresses can include the law enforcement agency itself and the organizational structure with orders coming from the top down which can be overly bureaucratic (Stinchcomb, 2004; Vuorensyrja & Malkia, 2011).

Over time, these stresses may contribute to physical and psychological damage such as cardiovascular disease, gastrointestinal disorders, and depression (Franke, Ramey, & Shelley, 2002; Garner, 2008; Gershon, Barocas, Canton, Li, & Vlahov, 2009). The organizational stresses have been found to have the most psychological distress for police officers, with the cumulative exposure being worse than the effects from critical incidents, which can include exposure to death, violence, and the risk of serious injury or death to the police officer (Lieberman et al., 2002). Some other consequences of prolonged stress include burnout, cynicism, decreased job performance, and job dissatisfaction

(Burke & Mikkelsen, 2005; Schaible & Gecas, 2010). These consequences can eventually cause problems with relations between the police officer and the community, their family, and personal lives (Lipp, 2009).

Police officers are frequently forced to quickly assess situations (Flin, Pender, Wujec, Grant, & Stewart, 2006). These situations can be rapidly evolving, highly stressful, loud, involve life or death decision-making, and unclear goals, where a police officer is not even sure what is going to resolve a situation (Finn et al., 2006; Phillips, 2008). The public is dependent on, and their well-being is directly related to, a police officer's ability to make correct and efficient decisions (Sallo & Allwood, 2011).

Decision-making is a complex process with several different explanatory models. The model that best explains how decisions are made in the field or real-world situations is the naturalistic decision-making model (NDM; Klein & Klinger, 1991). The NDM allows for individual knowledge and experience while assessing the level of uncertainty, changes in time constraints, and high stakes (Bond & Cooper, 2005). Scott and Bruce (1995) identified several different decision-making styles, creating a self-report inventory, the General Decision-Making Style Inventory (GDMS), that identifies the five different decision-making styles: rational, intuitive, dependent, avoidant, and spontaneous. Individuals may use one style primarily, but often will have a secondary style, and decision-making is a habit based on the situation (Thunholm, 2004).

Researchers have only focused on specific areas of police decision-making, acute incidents, and officer discretion, and there is a shortage of empirical studies focusing on all aspects of decision-making (Schulenberg, 2007). Decision-making under stressful

combat situations or decision-making based on police officer discretion are areas that have been researched (Akinola & Mendes, 2011; Server, 2008; Sharps, 2010). While decision-making for police officers is influenced by training and the police organization itself, the individual the police officer is dealing with can also influence the outcome (Coates, Kautt, & Mueller-Johnson, 2009). A broad approach to the study of police decision-making has been recommended (Schulenberg, 2007). I will review previous research into occupational stress and decision-making in Chapter 2.

The results of this study will add to the body of research on chronic occupational stresses and its potential impact on the decision-making style of police officers. Police officers frequently have little time to act and make decisions while they are working, and they may face the public who distrusts or fears the police because of the risk of going to jail (Lennings, 1997; Sharps, 2010). In this chapter, I will further outline the purpose of this study, the research questions, the theoretical framework, assumptions and limitations of this study of occupational stress, and decision-making styles.

Statement of Problem

Researchers have found the organizational stressors of police work are as stressful as critical incidents (Lieberman et al., 2002). The bureaucracy, management style, and often the very nature of the law enforcement agency can create organizational stresses for police officers (McCreary & Thompson, 2006). Highly stressed police officers can create a problem and be a threat to their respective departments, the public, coworkers, and themselves (Anshel, 2000). A police officer who has been affected by long-term stressors can experience *burnout* where the police officer's ability to cope has been compromised,

creating physical and emotional exhaustion, cynicism, and professional inefficacy (Vuorensyrja & Malkia, 2011).

Police officers can adapt their use of law and authority according to each situation, their perception of that situation, and context (Schulenberg, 2010). It is the ability to act accordingly for each situation that grants police officers discretion in their duties (Flin et al., 2006). Most of the interaction between a police officer and the public is conducted without a lot of supervision at the time but may later come under scrutiny (Alpert, McDonald, & Dunham, 2005). Police officers have a short period where they are forming opinions and assessing situations where conditions can change instantly, forcing the police officer to make a quick decision based on his or her training and experience (Sharps, 2010).

The law enforcement organization may be able to make changes to their organizational style to allow police officers to feel more engaged in changes to their work environment, feel that they have better work relationships with coworkers, and feel they are supported by the administration (Brunetto & Farr-Wharton, 2003; Sharps, 2010). The law enforcement organization has time and money invested in their police officers. By identifying which decision-making style is an indicator of organizational stress, departments can take a proactive approach to counter burnout, sick leave abuse, and turnover as well as other health and psychological distress (Salo & Allwood, 2009).

Nature of Study

In this quantitative, correlational study, I used Likert-scale surveys, administered through SurveyMonkey.com, a web-based survey tool accessed through the Internet. The

surveys measured the level of operational stresses, organizational stresses, and decision-making styles of police officers from agencies of 100 or fewer police officers in Iowa. Police officers completed a short series of questions about their departments, work information, and lifestyle choices.

I contacted the police officers using a mass e-mailing to police chiefs and other departments in surrounding states. The sample size of certified police officers was 150. The participants took the survey on the Internet, and their responses remained anonymous. Any information participants provided were not be sent back to their departments. The participants completed the GDMS, Operational Police Stress Questionnaire (PSQ-OP), and Organizational Police Stress Questionnaire (PSQ-ORG). They also answered questions about other demographic information regarding their law enforcement agency.

Research Questions and Hypotheses

In this quantitative study, I considered the extent to which organizational stress is associated with police officers' decision-making styles. To address this topic, I developed the following research questions and related hypotheses:

1. What is the correlation between reported operational stress levels and a greater use of dependent style decision-making in police officers?

H_01 : Higher levels of operational stress among police officers will not be correlated with greater use of a dependent style of decision-making.

H_{11} : Higher levels of operational stress among police officers will be correlated with greater use of a dependent style of decision-making.

2. What is the correlation between reported operational stress levels and a greater use of avoidant style decision-making in police officers?

H_{02} : Higher levels of operational stress will not be correlated with greater use of an avoidant style of decision-making.

H_{12} : Higher levels of operational stress will be correlated with greater use of an avoidant style of decision-making.

3. What is the correlation between reported organizational stress levels and a greater use of avoidant style decision-making in police officers?

H_{03} : Higher levels of organizational stress will not be correlated with greater use of an avoidant style of decision-making.

H_{13} : Higher levels of organizational stress will be correlated with greater use of an avoidant style of decision-making.

4. What is the correlation between reported organizational stress levels and a greater use of dependent style decision-making in police officers?

H_{04} : Higher levels of organizational stress will not be correlated with greater use of a dependent style of decision-making.

H_{14} : Higher levels of organizational stress will be correlated with greater use of a dependent style of decision-making.

5. What is the relationship between reported operational and organization stress levels and the avoidant style of decision-making in police officers?

H₀₅: Higher levels of operational and organizational stress among police officers will not be associated with a greater use of an avoidant style of decision-making.

H₁₅: Higher levels of operational and organizational stress among police officers will be associated with a greater use of an avoidant style of decision-making.

6. What is the relationship between reported operational and organizational stress levels and the dependent style of decision-making in police officers?

H₀₆: Higher levels of operational and organizational stress among police officers will not be associated with a greater use of a dependent style of decision-making.

H₁₆: Higher levels of operational and organizational stress among police officers will be associated with a greater use of a dependent style of decision-making.

7. What is the relationship between reported operational and organizational stress levels and the spontaneous style of decision-making in police officers?

H₀₇: Lower levels of operational and organizational stress among police officers will not be associated with a greater use of a spontaneous style of decision-making.

H₁₇: Lower levels of operational and organizational stress among police officers will be associated with a greater use of a spontaneous style of decision-making.

Significance of Study

The results of this study are significant because they add to the extant literature on whether organizational stress levels are predictive of decision-making style among police officers. There have been many studies on occupational stress effects on police officers, and there is no denying there are significant health and psychological risks when there is chronic stress (Anshel, 2000; Franke et al., 2002; Garner, 2008). However, limited research attention has been directed toward the potential impact of work-related stress experienced by police officers and its potential influence on how decisions are made (Salo & Allwood, 2009; Schulenberg, 2007).

The health risks of long-term chronic stress have been researched extensively. Sleep problems, cardiovascular disease, gastrointestinal disease, substance abuse, burnout, and depression are some of the effects of chronic stress (Franke et al., 2002; Liberman et al., 2002). Stress can affect the quality of work of a police officer (Salo & Allwood, 2009). Police officers depend on sound decision-making to safeguard their well-being and the well-being of other police officers and the public (Fitch, 2008; Salo & Allwood, 2009). By understanding organizational stress and the types of decision-making styles that could be more susceptible to stress, law enforcement agencies can monitor stress levels and try to reduce the organizational stressors (Kohan & Mazmanian, 2003; Salo & Allwood, 2009; Stinchcomb, 2004).

Theoretical Framework

In this study, I focused on the organizational stresses and decision-making styles of police officers. The relationship between the workplace and the police officer is a

complex one and often other factors, such as home or family life, may have some influence (Sharps, 2010). Researchers have found long-term stress for police officers creates negative health and psychological effects (Manzoni & Eisner, 2006).

Hans Selye (1956) developed the idea of a stress syndrome and the changes and response in the body, calling it the general adaptation syndrome (GAS). There are three stages of GAS: the alarm reaction, the stage of resistance, and the stage of exhaustion (Selye, 1956). The human body goes through each of these stages in response to stress. The initial phase is the direct effect of the stress leading to the internal response that can be the direct attack, a stressor, or a release of hormones and energy to prepare the body for attack, and finally the internal response (Selye, 1956).

After Selye identified this syndrome, further research began finding the biochemistry behind some of the stress responses. All mammals produce glucocorticoids and these hormones are what provide the energy in a crisis (Sapolsky, 1988). Long-term exposure to glucocorticoids can cause a loss of energy reserves; fatigue and muscle wastage; and the chronic shunting of energy away from the digestive, immune, and reproductive systems can result in greater vulnerability to diseases (Sapolsky, 1988).

Police officers are frequently in high-stress situations (Flin et al., 2006; Sharps, 2010). Even routine activities can produce a stress response, such as when police officers are awakened in the night to respond to an incident or when routine patrol can suddenly experience a highly stressful moment (Moore, 2006). The NDM addresses the constraints of work done with limited time, high stress, and incomplete knowledge that mimics how real-world decision-making is accomplished (Bryant, 2002). Police work can be

frustrating and often there is less control over situations while the outcome of the situation and output of efforts by police officers can create more stress (Stinchcomb, 2004). In response to stress, police officers will release higher amounts of glucocorticoids, and Akinola and Mendes (2011) have suggested that cortisol may negatively influence decision-making.

Developing the job demands-resources (JD-R) model, researchers stated that an employee's well-being is related to the work environment, job demands, and job resources (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). Over time, high job demands can exhaust an employee's resources and lead to energy depletion and health problems (Xanthopoulou et al., 2007). Police work can be high in the job demand category, which can lead to exhaustion, while the lack of resources available can compound the stress police officers may experience (Martinussen, Richardsen, & Burke, 2007). As job demands increase and job resources become scarce, police officers may find their engagement with their job lessening and this can lead to burnout and cynicism (Martinussen et al., 2007). Police officers frequently face conflict in job roles where they are expected to be nice but tough during the same situation, and these opposing roles can wear on job resources (Schaible & Grecas, 2010).

Police officers frequently work on their own and are given plenty of discretion in making decisions, yet this discretion is constrained by the extensive rules and policies of police organizations (McCarty, Zhao, & Garland, 2007). While these rules and policies guide police officers, there are also other job demands to be considered. The police officer's community and socio-economic status of that community can create competing

job demands (Grawitch, Barber, & Kruger, 2010). While the JD-R model can identify the stressors officers are experiencing, it can also identify resources to counter the negative effects of demand: supervisor support, coworker support, and creating job opportunities (Grawitch et al., 2010). Identifying and reducing the chronic stresses of a police officer may in turn increase the police officer's safety and that of the community being served (Anshel, 2000).

Definitions of Terms

I have provided the following definitions to clarify terms used in the study:

Acute stress: This stress, also referred to as operational stress and critical incident stress, is related to day-to-day police work stresses (McCreary & Thompson, 2006; Stinchcomb, 2004).

Burnout: Stress that has continued over time and has exhausted the individual to the point where there is physical and emotional exhaustion, cynicism, and job performance has been affected (Vuorensyrja & Malkia, 2011).

Operational stress: Stressors unique to occupations and the nature of the work (McCreary & Thompson, 2006). Operational stress can also be referred to as acute stress.

Organizational stress: Stress caused by the day-to-day routine of police work, the culture, management, and the organization (Stinchcomb, 2004).

Police officer: A sworn police officer who has taken a pledge to uphold the law (Bureau of Justice Statistics, 2017). The term police officer may also refer to law enforcement officer.

Summary

The purpose of this quantitative study was to further research police organizational stress and its relationship to decision-making styles. Police officers find three main types of organizational stress that can cause the most distress: lack of supervisor and coworker support, shift work, and the police organization itself. The NDM is a framework to show how decision-making occurs in the real world, under pressure from time and stress like situations in which police officers will be making decisions (Bryant, 2002). The GAS theory shows how the body will respond to stress, while, the JD-R theory finds that when employees have exhausted their resources due to overwhelming job demands, employees will be exhausted, not able to engage in their job, and have impaired well-being (Xanthopoulou et al., 2007). Police officers who experience chronic organizational stress are more likely to become exhausted and experience symptoms of burnout as well as other health and psychological consequences (Lieberman et al., 2002).

In Chapter 2, I will provide a review of the literature to create a further understanding of occupational stress and decision-making style in police officers. This review helped me to develop the rationale for this study where I examined the extent to which occupational stress is associated with different styles of decision-making and why occupational stress may impair police officers' overall effectiveness, affect their safety as well as their coworkers', and the safety of the public they are sworn to protect.

Chapter 2: Literature Review

Introduction

In this chapter, I will review the empirical literature regarding the relationship between stress and decision-making. This literature review will include an overview of stress, stress in policing, the organizational stress of police work, an overview of decision-making of police officers, and a review of decision-making in related fields. Police work encompasses many unique types of stress that can affect the police officer (Grawitch et al., 2010; Stinchcomb, 2004). Police work is recognized as being a highly stressful, demanding occupation where there are no certainties in what will occur during a work day (Anshel, 2000; Manzoni & Eisner, 2006).

The stress in police work can cause negative changes in police officers' attitudes and behaviors. Police officers may start their career emotionally well-adjusted and have passed the psychological tests to be hired, but over time, the stressors of the work may be more than they can cope with on their own (Beutler et al., 1988; Sanders, 2008). Besides the wear on a police officer's mental well-being, there can be a considerable negative effect on the police officer's physical health (Franke et al., 2002; Norvell & Belles, 1993). Over time, these stressors can lead to burnout and cynicism, which can negatively affect how a police officer may perform job duties and interact with the public the police officer is sworn to protect (Bakker & Heuven, 2006; Hickman, 2008).

I compiled this literature review from both traditional and electronic sources. Most of the databases used were contained in EBSCO Host, with articles obtained from Academic Search Complete, Military & Government Collection, Political Science

Complete, PsycARTICLES, PsycEXTRA, PsycINFO, and SocINDEX with Full Text.

Other articles were obtained from databases in ProQuest. These database sources were accessed through Walden University Library Services. The keywords I used to search the databases were *law enforcement, police officer, police, firefighter, stress, decision-making, occupational stress, naturalistic decision-making, organizational stress, operational stress, burnout, cynicism, hiring standard, job demands-resources, Operational and Organizational Police Stress Questionnaire, and deadly force triangle.*

Stress Overview

A review of early research is important to show how the definition of stress has evolved over time. Hans Selye's work helped shape the definition that is widely used today. Selye (1956) believed that physiological responses to stress are represented by a nonspecific response to any demand. Selye also studied three stages of coping, referring to them as the GAS; these include the alarm reaction, stage of resistance, and the stage of exhaustion. Later, researchers found that the hypothalamic-pituitary-adrenocortical axis is activated during stress, yet many researchers still accept the single stress response theory (Goldstein & Kopin, 2007).

Another researcher who contributed greatly to stress research was Walter Cannon. Cannon found that exposure to different stressors causes a reaction in the adrenal medulla and the sympathetic nervous system in an attempt to return the body to homeostasis (Goldstein & Kopin, 2007). Cannon also came up with the notion of *flight or fight*; as the stressor becomes more and more urgent, glucocorticoids are released providing the body with a means to fight or get away, but over time, the same glucocorticoids which are

helping in the flight or fight response will begin to break down the body (Akinola & Mendes, 2011; Sapolsky, 1988). Stress can negatively affect the body over time, contributing to psychological and physical illness (Norvell, Hills, & Murrin, 1993; Waters & Ussery, 2007).

Stress in Policing

Police work is viewed as a high stress and dangerous occupation (Violanti & Aron, 1995). Police officers are thought to work in highly stressful and dangerous situations that contribute to the police officer often ignoring or denying any personal problems, and even adopting maladaptive or ineffective coping skills (Beutler et al., 1988; Lanterman, Boyle, Pascarella, & Furrer, 2010; Norvell et al., 1993). Police administrators have validated and accepted the idea that police work is dangerous (Kroes, 1985; Lindsey & Kelly, 2004).

Police officers report two major sources of stress in police work (Lieberman et al., 2002). The first source of stress is the very nature of the police work, the highly stressful, critical or acute incidents, while the second source of stress is the chronic occupational stresses, often the police organization itself (McCreary & Thompson, 2006; Stinchcomb, 2009; Violanti & Aron, 1995). Police work may not be the most dangerous profession, but these two types of stressors make it unique (Stinchcomb, 2004). The incidents police officers experience are associated with psychological distress (Richardsen, Burke, & Martinussen, 2006). When the police officer experiences any type of acute stress, he or she may already be experiencing long-term chronic stress (Sharps, 2010).

It is also a common belief that prolonged stress will contribute to police officers choosing maladaptive behaviors to cope with stressors. Alcohol consumption and alcoholism have been shown to have higher rates among police officers than the general population (Cross & Ashley, 2004; Kohan & O'Connor, 2002). Research from a study done in Australia found that 48% of the male police officers and 40% of the female police officers self-reported an excessive amount of alcohol consumption (Richmond, Wodak, Kehoe, & Heather, 1998). Prolonged stress can impact a police officer's performance, family, and the public the police officer is serving (Hickman, Fricas, Strom, & Pope, 2011).

Early studies on police stress looked at the organizational and inherent stresses. There had been some argument that there is not enough comparison between police work and other occupations, but researchers agreed police officers have stress-related problems inherent in their work (Violanti & Aron, 1995). Violanti and Aron studied the factors in police work that cause stress among individuals of different ranks, the length of service, age, and race. Police officers completed the Police Stress Survey, which had two major stressors: organizational or administrative and inherent police work factors.

Violanti and Aron found that the sources of police stress are perceived differently by each police officer. The most challenging stresses they found involved line of duty deaths including killing someone or a fellow officer being killed. Violanti and Aron found shift work is also a major stress in police work. They found the third stress was the lack of support by supervisors. Violanti and Aron found middle management supervisors rated organizational factors as a major stressor. Police officers with 6 to 10 years of

service had higher mean stressors scores than those with fewer years of service. This may be due to younger police officers still enjoying the challenge of police work while the older police officers understand that police work is stressful and frustrating. Their final recommendations for future research included having a larger sampling of minorities and women.

Liberman et al. (2002) studied the relationship between routine work stress and psychological distress in police officers, focusing specifically on the stressors of management and administration, supervisors, pay, shift work, public attitude, equipment, training, boredom, role conflict, and peers. They used a separate scale to assess critical incidents, such as the death of a fellow officer, encountering dead bodies, being shot at, being threatened by aggressive animals, and making a mistake that endangers the public. The researchers found that police officers exposed to routine occupational stressors had more psychological distress than when they are exposed to critical incidents. The researchers also reported that police officers who are already in distress over routine work stress will report more stress symptoms in response to traumatic critical incidents. The researchers stated that results might not generalize to smaller departments.

Routine stressors can have a significant impact on police officers' mental functioning; decision-making; can heighten anxiety and depression; and contribute to a loss of self-esteem, confidence, and self-control (Anshel, 2000). These routine stressors that can be lessened from a department standpoint will be one less chronic stressor for a police officer to deal with (Sharps, 2010). Departments cannot control the type of calls the police officers respond to but they can control the organizational issues.

Psychological Impact of Stress

Police officers are strenuously tested both physically and psychologically before employment (Dantzker, 2011; Sanders, 2008). The selection of police officers often includes a written and physical exam, medical exam, interview board, background check, polygraph test, drug test, and psychological testing (Sanders, 2008). In the United States, approximately half of the states require a police officer to undergo preemployment screening, including psychological testing (Dantzker, 2011). The overall process to get a certified police officer out on the road is time-consuming and costly (Lindsey & Kelly, 2004; Sanders, 2008).

A critical step in selecting a police officer is finding an individual who is psychologically healthy and has coping skills that can help him or her manage the stresses of the job (Beutler et al., 1988; Dantzker, 2011). Finding a qualified police officer who passes all of the tests and the background checks does not necessarily mean he or she will never have or experience negative behaviors as a result of stress. Some police officers who are relatively well adjusted may have had a prior experience from childhood that they have not resolved, and this may be an area where they may not have developed adequate coping skills (Beutler et al., 1988). This unresolved issue can make them more vulnerable when responding to similar situations (Gershon et al., 2009).

The impact of highly stressful incidents on police officers is commonly thought to be the most psychologically damaging (Kureczka, 1996). There are those police officers who, after experiencing situations involving injury or death, may develop posttraumatic stress disorder (Lieberman et al., 2002). Many police departments are aware of the impact

of these situations and have counseling services available following high-stress events (Dick, 2000; Finn, 1997; Kureczka, 1996).

Studies have found that, on average, a police officer may respond to incidents involving as many as 25 recently deceased individuals, 14 decaying corpses, 10 calls for service related to sexual assaults of a minor, coworkers who have been injured or killed, and a chance of being shot or seriously injured more than once during their career (Lieberman et al., 2002). Individual reactions to higher stress situations, a police officer's past and coping skills are part of what determines if an officer may develop any symptoms of posttraumatic stress disorder, while the departments should provide education and training to reduce the impact of these events before these situations occur (Kureczka, 1996; Lieberman et al., 2002; Waters & Ussery, 2007).

Stress, in combination with negative emotional states, creates strong arousal states that increase risk-seeking (Heereman & Walla, 2011). Police officers need to be aware how stress can influence the decisions they make in the field (Sharps, 2010). Coates et al. (2009) found that police officers are influenced by the level of aggression and verbal abuse directed at them when deciding to arrest. Stress can also create problems, such as hyper-aggression and violent behavior in police officers, and when combined with the behaviors of individuals the police officer is dealing with can lead to maladaptive responses that can escalate a situation (Garner, 2008; Gershon et al., 2009).

Organizational Stress in Police

For most police officers, highly stressful acute incidents involve situations that the police officer has trained and prepared for with preincident stress education (Kureczka,

1996). Preparation for such moments should be considered during training or even before the person takes the first steps towards becoming a police officer (Oudejans, 2008).

These situations are not the main cause of police stress; instead, routine organizational stresses have been most strongly associated with perceived stress for police officers (Gershon et al., 2009).

The typical organizational stressors may seem innocuous in the moment, but long-term stress can cause psychological and physical damage (Anshel, 2000; Kohan & Mazmanian, 2003). Some organizational stressors that affect police officers are lack of support by their agency or peers, shift work, complaints and scrutiny from the public and supervisors, the communication style of supervisors, the structure of police organizations, and variability of the work (Garner, 2008; Gershon et al., 2009; Waters & Ussery, 2007). Other organizational stressors include the judicial system, lack of equipment, lack of promotional advancement, and workplace discrimination or harassment (Dick, 2000; Gershon et al., 2009; Liberman et al., 2002).

Police officers will ignore or deny the effects of stress by adopting maladaptive or ineffective coping strategies (Lantermann et al., 2010). The lack of coping skills can be due to police officers having to project an image of strength, control, and courage, which inhibits the police officer from asking for assistance (Lantermann et al., 2010). Over time, the stress effects can build up to the point where the police officer will exhibit negative behaviors that can adversely affect the police officer's career and life (Manzoni & Eisner, 2006). Police officers, much like other professions that provide service to others, can be

affected by long-term chronic stress that can lead to burnout and cynicism (Martinussen et al., 2007; Maslach, Schaufeli, & Leiter, 2001).

Burnout can have many different causes but is linked to chronic work stressors (Maslach et al., 2001; Schaible & Gecas, 2010). There are three components of burnout: emotional exhaustion, depersonalization, and a loss of professional efficacy (Burke & Mikkelsen, 2005; Maslach et al., 2001). For many police officers, the most common problem may be fatigue, the one component that can lead to burnout the fastest (Carlton, 2009).

Police officers face unique work situations where the highly stressful events are only a small part of the day (Hickman et al., 2011). Police officers frequently deal with the public who may not trust them and even fear the police (Sharps, 2010). Police officers also may not trust the public he or she is policing (Paoline, 2004). Police officers can become emotionally exhausted and overextended by constantly diffusing situations and attempting to bring back calm and civility to every call the police officer goes to (Bakker & Heuven, 2006).

The gender of a police officer does not appear to make a difference in the level of burnout experienced. Both male and female officers have reported similar levels of burnout though it is experienced in different areas (Burke et al., 2006; McCarty et al., 2007). Female police officers may experience stress and burnout that is different from male police officers, depending on the type of encounter (McCarty et al., 2007). Encounters that become physical or the chance of being involved in a shooting can be stressful for women due to their perception of a lack of backup and their abilities being

questioned, while there is a greater chance that men will become more cynical in response to the stress (Bakker & Heuven, 2006; McCarty et al., 2007).

An early work which studied police cynicism was done by Niederhoffer in the 1960s. Niederhoffer's (1967) research found that police officers are impacted over the years of their career by different events so that new officers will have less cynicism than veteran officers. Niederhoffer theorized there were two types of police cynicism: one is directed against life, the world, and people while the other is directed against the police organization. There is an increase of cynicism found during the first ten years and subsequent years there is a decrease in cynicism, but the attitude never returns to the original level of a new police officer (Hickman, Piquero, & Piquero, 2004).

Cynicism is one sign of burnout and is an attitudinal trait, emotional condition, and can be related to job satisfaction and job performance (Graves, 1996; Hickman, 2008). Cynical attitudes and behaviors can negatively affect how police officers interact with the public, their coworkers, and supervisors (Hickman 2008; Niederhoffer, 1967). There is still some stigma about police work. Public opinion views police work as a low prestige occupation and public opinion maintains a low opinion of police officers encouraging the "us against them" mentality (Hickman, 2008).

The police officer who is burned out or cynical may respond to their coworkers and the public in a negative way (Graves, 1996; Hickman, 2008). The association between positive personality traits and positive decision-making styles and negative personality traits and negative decision-making styles supports that the style will mirror the individual's personality (Riaz, Riaz, & Batool, 2012). The way a police administrator

or supervisor acts may also influence a police officer's attitude. A police chief who is cynical towards others or the public will be a negative influence on his or her police officers (Regoli, Crank, & Culbertson, 1989).

Workplace situations may create more cynical police officers, problem behaviors, and police officers who have lower work performance (Hickman, 2008). Realistic expectations, strong leadership, and continuing training may be some of the ways police departments can fight the effects of cynicism (Graves, 1996). Police officers have to find a way to stay motivated while the risk of disappointment and frustration is high (Bjork, 2008).

Decision-Making Research

Decision-making has multiple theories and models that can be found in research. There are three broad areas that decision-making models can be separated into rational and normative, descriptive, and naturalistic decision-making (Kleespies, 2014). Kleespies (2014) further broke down each model by summarizing the decision-making models: rational decision-making should occur in an ideal world, normative decision-making is based on probabilities, descriptive decision-making is what actually occurred, and naturalistic decision-making is quickly evolving in the natural environment.

Much of the decision-making research focuses on one area of a single occupation and a decision to be made. Depending on the occupation there may be competing stress from changing conditions or adding additional demands on an individual. In a controlled environment of a study, stressful situations can be added to determine what effect it may have on the decision-making. Emotions associated with stress are not always negative

and individuals may effectively process information faster by eliminating the unneeded portions (Heereman & Walla, 2011).

Police work occurs in a quickly evolving environment forcing police officers to make decisions under pressure (Flin et al., 2006). Police officers are frequently presented with a variety of evidence to help them make an informed decision, but not all of the evidence may be relevant or useful, as well as having to make judgments on the evidence present and if it is reliable (Bennell, 2005). Most decision-making research centers on difficult decisions and how the individual sorts through information to choose a likely outcome, much like how police officers process decisions (Bennell, 2005).

Decision-Making in Law Enforcement

Research on decision-making in law enforcement has focused on two areas: critical incidents, where performance is based on decision-making and ethical organizational decision-making. The critical incident or performance-based decision-making is important because police officers' actions can impact the safety of their communities, fellow officers, and themselves (Fitch, 2008). The decision-making, which is organizational or ethical-based, allows police officers to make decisions based on their discretion and the organizational culture as a situation dictates (Phillips, 2008; Sever, 2008; Snyman, 2012).

Police officers are frequently forced to make decisions under pressure, and situations that were once calm can change instantaneously forcing a police officer to take action (Sharps, 2010). Police officers who are having problems coping with stress will be at risk as they are more likely to have slower, less accurate decision-making skills,

placing others at risk (Anshel, 2000). Preparation for police officers to make quick decisions under pressure should mandate intensive realistic training so that the police officer can understand what they may experience (Broome, 2011; Pinizzotto, Davis, & Miller, 2004). Police officers may have to decide to use deadly force and preparation for these encounters is an important part of reducing liability for police departments (Olson, 1998).

Police officers' decision-making is influenced by the organizations' goals and ethics. Police organizations provide a culture that can influence and shape a police officers' decision-making (Paoline, 2004). Developing core ethical values will guide decision-making by testing the decision against the values of an organization and the mission statement, which most law enforcement agencies have established (Fitch, 2008). Police officers' understanding of the agencies' values while making decisions, can eliminate the creation of useless policies, reduce lawsuits, and strengthen public trust (Fitch, 2008).

Decision-Making of Police Officers

Police officers are frequently faced with having to make quick decisions (Flin et al., 2006). Deciding on whether or not to stop a vehicle, the level of force to use in a situation, whether or not to pull their gun or fire the gun, are all decisions that have to be made and often without much time to prepare. The decision is made under time constraints and with a lot of pressure (Flin et al., 2006). Training can only replicate stressful situations; it is not a true measure of how a police officer will respond in an

actual situation where their decision may mean losing their job, going to jail, or taking someone's life (Barton, Vrij, & Bull, 1998).

Another factor that can influence a police officer's discretion is the influence of the police organizations' culture and subculture (Alpert et al., 2005; Sever, 2008). There is a difference between the two cultures: culture is formal and created by high-level administration using policy and mission statements or goals to guide behaviors and actions while the subculture represents a perception of the more formal culture and the subsequent behaviors and actions of the members (Sever, 2008). The culture of a police department can shape new police officers and provide a baseline for behavior and discretion (Boke & Nalla, 2009; Phillips, 2008).

Police officers have a unique ability to decide the course of action when they respond to a situation, and there is little supervision in the application of the law (Alpert et al., 2005). There is no set of laws that can dictate or provide a set guideline for every possible situation, so the police officer must interpret laws and act in any number of different options (Snyman, 2012). Discretion allows a police officer to decide the course of action he/she will take in any given situation from the least intrusive to the most intrusive (Schulenberg, 2010). The discretion a police officer uses can be influenced by any number of situations, people, and past experiences.

Most situations begin with the police officers by themselves with little supervision allowing the police officer to have greater discretion in his or her decision-making process (Alpert et al., 2005). Police officers can begin to form decisions based on preconceived ideas of what they may find (Flin et al., 2007; Hickman et al., 2011). Those

police officers who are the first to respond to a call may experience stress differently than those police officers who may have a desk assignment or a supervisor who arrives after the situation has calmed down (Flin et al., 2007; Salo & Allwood, 2009).

Decision-making may also be impaired by the police officer's overall satisfaction and organizational commitment to their police department due to a diminished work performance or productivity (Brunetto & Farr-Wharton, 2003; Lipp, 2009). Research has found that acute long-term stress punctuated with sudden critical incidents have detrimental effects on police officers by exacerbating the chronic and acute stresses (Sharps, 2010). The police officer may overreact at inappropriate times.

One study conducted in Sweden attempted to show the relationship between decision-making style, gender, and psycho-social health of police officers (Salo & Allwood, 2011). The researchers' use of GDMS determined that the avoidant and dependent styles of decision-making styles are related to symptoms of burnout and stress (Salo & Allwood, 2011). Allwood and Salo (2012) found that the relationship between stress and decision-making style has not been well researched.

Decision-Making Style of Other Occupations

Other occupations experience stress and decision-making similar to police officers: military, firefighters, and medical professionals (Elstein, 2001; Lambert, 2010). Medical doctors have to act quickly, under high levels of uncertainty, and competing goals to treat patients or to save lives (Elstein, 2001). Firefighters and military also work in situations that are constantly changing and under high levels of stress (Lambert, 2010). Medical doctors receive knowledge and intensive training where the feedback from

practice is immediate and eventually matching treatment to the situation as a form of naturalistic decision-making (Elstein, 2001).

Police officers and firefighters use a similar style of decision-making in the field. Naturalistic decision-making is how an individual makes a decision in actual real world situations (Klein & Klinger, 1991). The naturalistic decision-making model is informal, and it is based on the information and arguments the decision-maker uses (Bond & Cooper, 2004). The goals of the decision being made will shift with time and other factors. The decision-maker will have a single course of action, be able to recognize the situation, assess their options, and recognize the process as being intuitive (Bond & Cooper, 2004).

A review of literature for other occupations with similar stress and decision-making styles found that the military has used GDMA test with members of the military. Thunholm had two different studies using the military and GDMS. The first study used GDMS to research mental abilities related to decision-making and the second study used GDMS and negative stress to predict certain decision-making styles.

The first study of Thunholm (2004) used 233 participants from the Swedish military, who were in the Staff Officers Program at the Swedish National Defense College. The average age was 33 years, and all were attending to program to be eligible for promotion from captains to majors. The 206 participants completed six different tests: GDMS test, Basic Self-Esteem Scale, the Earning Self-Esteem Scale, the Action Control Scales, the Advanced Progressive Matrices, and a shortened version of the Marlowe-Crown Social Desirability Scale on two separate occasions.

Thunholm (2004) identified general mental abilities for military battlefield decision-making situations and found these similar characteristics: uncertainty, time pressure, and a high degree of complexity. Uncertainty and time pressure on the battlefield require the ability to analyze complex patterns and make conclusions rapidly and efficiently (Thunholm, 2004). The need for the officers need to be able to act decisively and carry out decisions also depended on self-esteem. Low self-esteem could be associated with fear of failure and poor coping strategies, impairing the ability to act rapidly and efficiently (Thunholm, 2004).

The five decision-making styles of the GDMS were dependent variables and the variables: self-esteem, action control, deductive ability and social desirability, were independent variables. Five multiple regressions were performed using each decision-making style against the independent variables. A negative correlation was found between the rational and avoidant styles of the GDMS, while a strong correlation was found between the intuitive and spontaneous styles of GDMS (Thunholm, 2004). The multiple regression analysis demonstrated a positive relationship between decision-making style and action control and self-esteem, but not deductive ability.

Thunholm (2004) concluded that the situation should determine decision-making style and individual differences create a response pattern for different tasks and situations. Decision-making style can be a habit, as well as being controlled by cognitive abilities (Thunholm, 2008). Thunholm also concluded that the whole individual must be considered to determine individual differences. Thunholm found future research on

decision-making styles should investigate the relationship between GDMS and decision-making tasks.

Thunholm (2008) used GDMS and the Swedish military to determine which styles are related to negative stress: dependent and avoidant decision-making styles. The participants were 23 male army majors attending the Higher Command Program that is required for promotion from major to lieutenant colonel at the Swedish Defense College. Each participant worked individually during two periods to create key parts of an operational division order, which included making decisions about how to use different sub-units of the division. The plans were designed to be demanding, realistic, and were tested on instructors at the college.

Each participant had saliva collected at the end of each period to measure saliva cortisol release. Before the testing periods, each participant collected saliva samples at two times that were similar to each of the test periods. Participants completed the GDMS, and their decision-making style was assessed. Partial correlation analysis was used in the examination of the relationship between the cortisol levels and decision-making styles (Thunholm, 2008).

Thunholm (2008) concluded decision-makers who avoided decisions due to finding it too stressful and the avoidant style is strongly related to stress. The results support what Thunholm found in his earlier study that individuals using the avoidant style may avoid taking an initiative in making decisions and have lower self-esteem. The spontaneous decision-maker can make decisions with stress. Thunholm reported the study weaknesses included participant numbers being low, having to collect repeatedly salivary cortisol,

and participants being only military, so the results may only apply to the military.

Thunholm reported that the military trains individuals and selects subjects for the ability and willingness to make difficult decisions. Thunholm recommended further study in the relationship between stress and decision-making style, and the quality of decisions based on decision-making style.

Theoretical Constructs

The occupation of police officer is a stressful job that has been well documented. There are many different factors that can cause stress for police officers, from the everyday routine to family and personal conflicts, department politics, and the organization itself, challenges to personal routine, and lifestyle choices (Grawitch et al., 2010). All of these stressors cause even more stress for police officers and can overwhelm their coping skills. Negative health effects can result from the additional stress, and the most detrimental stress can be from police officers giving up healthy lifestyle choices, such as eating healthy, exercising regularly, and getting enough sleep (Franke et al., 2002; Gerber, Kellmann, Hartmann, & Puhse, 2010).

The theoretical framework that can be used to explain the stress and eventual exhaustion police officers experience from different sources is the JD-R model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). The first part of JD-R is the job demands that can overwhelm police officers' coping skills. Job demands can include any of the sustained physical or mental activities which require effort that will eventually cause exhaustion, while the second component is job resources, which include the physical, psychological, social, and organizational factors of the job which can either

reduce job demands, stimulate personal growth and development, or help the individual reach job goals (Demerouti et al., 2001; Ellis & Pearsall, 2011; Xanthopoulou et al., 2007). Over time, the depletion of a police officer's resources will eventually lead to lower energy levels and health problems (Xanthopoulou et al., 2007).

JD-R model does suggest there are various resources that police officers can rely on to relieve stress and help prevent exhaustion. Support from other police officers, supervisors, and having advancement opportunities can help police officers relieve some stress from the job, but police officers need to have a set of coping skills to rely on (Grawitch et al., 2010). Police officers should monitor the stresses from the job. Stress and emotional exhaustion can cause problems on a personal level and affect his or her home life (Hall, Dollard, Tuckey, Winefield, & Thompson, 2010).

Gaps in Literature

One area that has not been studied as well is decision-making by police officers. Decision-making is a complex process and for police officers can be stress inducing as well. Other peoples' lives depend on the police officer, their co-workers, supervisors, and citizens. The discretion a police officer uses on the job can also be related to decision-making; deciding on whether or not to arrest a person is a decision not to be taken lightly. Even a police officer's physical fitness level can affect how he or she responds to individuals (Gerber et al., 2010).

There is a lack of research on decision-making styles with police officers in the United States (Schulenberg, 2007). Salo and Allwood (2009) studied how gender and stress can cause differences in decision-making style in Swedish police. The researchers

used a series of different tests to gain information on decision-making, work satisfaction, perceived stress, self-esteem, sleep, and work conditions, as well as background information of the police officers. The researchers found work styles of police departments might be a better fit for men, which could explain gender differences. They found that police organizations are more male dominated and adapted to accommodate a male lifestyle. They concluded that more research should be done on decision-making styles that are vulnerable to stress. A limitation is the data was collected in Sweden, and it may not be generalizable to the United States.

Flin et al. (2006) studied how police officers assessed situations when they arrived to a call for service. The researchers studied Scottish police officers. The researchers theorized that police officers are similar to pilots because pilots have limited time to make decisions, assess situations quickly, and judge the level of risk of their decision. The police officers were given one of two scenarios and a set of cards with the situation detailed on each card. They had to sort the cards into groups based on how they would respond to the situation. The second part of the study separated police officers by experience. The same scenarios were used as before but this time, five questions were asked that were based on the police officers' personal experience. The study found police officers try to find similarity in situations based on experience and use time and risk to balance out how they decide to approach each situation. The researchers recommended further study on how time can pressure decision-making and the cues or information police officers assess to help their response. This study also recognized there is a lack of

research into police decision-making, and more research should be done on how police officers respond to time pressure.

Each of these studies reviewed various factors that are part of the decision-making process. Each study recognized that organizational stress is the most detrimental to police officers. If police officers have perceived stress from the organization, then the question may be how that affects their decision-making skills when there are time pressures and risk. These studies discussed the possibilities for future research in decision-making. These studies were conducted in other countries and cultural differences may make it harder to generalize to police officers in the United States, and there is a lack of similar studies done with police in the United States.

Summary

A thorough literature search was completed for police stress and decision-making. There was ample material on the subject of police stress, which includes acute incidents and chronic, occupational stress. There was a lack of literature on the effects of stress on decision-making style of police officers. There is a lot of interest in decision-making in law enforcement and what literature does exist, reviews discretion and use of force in decision-making. This literature search shows the lack of literature that exists for occupational stress on decision-making style. In Chapter 3, I will detail the research design.

Chapter 3: Research Method

Overview

In this study, I examined the effects of organizational stress on the decision-making styles of police officers. The police officer participants rated their levels of organizational and occupational stress levels and made a determination of which decision-making style they use. The results of this study further identified police officers' decision-making styles and whether there is a decision-making style that can be associated with high occupational stress levels.

Research Design

This study was a quantitative, correlational study of the effects of organizational stressors on police officers and their decision-making styles. To determine how organizational stressors affected police officers, I collected data on their perceived stress, occupational, and organizational stresses. The decision-making styles of police officers reporting higher levels of organizational stress were compared against the decision-making styles of those who reported lower organizational stress.

Research Questions and Variables

In this quantitative study, I examined the extent to which organizational stress is associated with police officers' decision-making styles. The following research questions and related hypotheses were created based on the research design of the study:

1. What is the correlation between reported operational stress levels and a greater use of dependent style decision-making in police officers?

*H*₀₁: Higher levels of operational stress among police officers will not be correlated with greater use of a dependent style of decision-making.

*H*₁₁: Higher levels of operational stress among police officers will be correlated with greater use of a dependent style of decision-making.

2. What is the correlation between reported operational stress levels and a greater use of avoidant style decision-making in police officers?

*H*₀₂: Higher levels of operational stress will not be correlated with greater use of an avoidant style of decision-making.

*H*₁₂: Higher levels of operational stress will be correlated with greater use of an avoidant style of decision-making.

3. What is the correlation between reported organizational stress levels and a greater use of adaptive style decision-making in police officers?

*H*₀₃: Higher levels of organizational stress will not be correlated with greater use of an adaptive style of decision-making.

*H*₁₃: Higher levels of organizational stress will be correlated with greater use of an adaptive style of decision-making.

4. What is the correlation between reported organizational stress levels and a greater use of dependent style decision-making in police officers?

*H*₀₄: Higher levels of organizational stress will not be correlated with greater use of a dependent style of decision-making.

*H*₁₄: Higher levels of organizational stress will be correlated with greater use of a dependent style of decision-making.

5. What is the relationship between reported operational and organization stress levels and the avoidant style of decision-making in police officers?

H₀₅: Higher levels of operational and organizational stress among police officers will not be associated with a greater use of an avoidant style of decision-making.

H₁₅: Higher levels of operational and organizational stress among police officers will be associated with a greater use of an avoidant style of decision-making.

6. What is the relationship between high levels of operational and organizational stress and the dependent style of decision-making in police officers?

H₀₆: Higher levels of operational and organizational stress among police officers will not be associated with a greater use of a dependent style of decision-making.

H₁₆: Higher levels of operational and organizational stress among police officers will be associated with a greater use of a dependent style of decision-making.

7. What is the relationship between reported operational and organizational stress levels and the spontaneous style of decision-making in police officers?

H₀₇: Lower levels of operational and organizational stress among police officers will not be associated with a greater use of a spontaneous style of decision-making.

H₁₇: Lower levels of operational and organizational stress among police officers will be associated with a greater use of a spontaneous style of decision-making.

In this study, I explored the dependent variable of the decision-making styles. The independent variables were the reported level of organizational and operational stress. The variables gender, rank, and years of service were covariates.

Target Population and Sample

I collected data for this study using several validated, self-report instruments and research developed questionnaires as well as demographic information. Other researchers have recommended using more than a single city law enforcement agency to study, and by extending the population group to include more police officers from various agencies, there was a larger population sample for this study (see Boke & Nalla, 2009). The surveys used a Likert scale that scores the responses on a range of possible answers (McCreary & Thompson, 2006). The participants accessed the survey online using an Internet survey service, SurveyMonkey.com. My use of the Internet allowed for greater flexibility for the participants to complete the survey, allowing for their schedule and available time.

The police officers had to be currently employed as a sworn officer for a municipality, city, or university police department to participate in this study. I sent a cover letter and packet of information to the chiefs of police departments explaining the purpose of the study after gaining the Institutional Review Board (IRB) approval (see Appendix A). The departments I contacted included those whose police chiefs are

members of the state Police Chiefs Association. With the cover letter, I included a letter for the police officers with a condensed explanation of the study. The letter had instructions on how to access and complete the survey online. A follow-up letter was sent by e-mail 2 weeks after I sent the initial letter as a reminder asking for participation in the study. To determine the sample size of participants when using a multiple regression analysis, it is recommended to begin with a minimum sample size of 150 (Precision Consulting, 2016). Based on a population size of 5,830, with a confidence level of 95%, and a margin of error of 8%, a minimum of 147 participants were recommended (see Reeves, 2011).

Instrumentation

I included the PSQ-OP and the PSQ-ORG in the first section of the survey. Both the PSQ-OP and PSQ-ORG were developed for use with police officers and the unique stressors in police work (McCreary & Thompson, 2006). The PSQ-OP and PSQ-ORG were developed as reliable and valid measures of police stress, which are quantitative, shorter in length to be used together or separately, and look at the interaction between work and family (McCreary & Thompson, 2006). PSQ-OP assesses police officers' perception of the operational stresses that include those stressors in doing actual police work, while PSQ-ORG measures the stresses based on the actual organization and culture within a police department (McCreary & Thompson, 2006).

McCreary and Thompson (2006) created both PSQ-OP and PSQ-ORG by conducting a focus group of 55 active police officers from Ontario Provincial Police to discuss stressors of policing and the work-family relationship. McCreary and Thompson

demonstrated a Cronbach alpha of .92 for both the PSQ-OP and PSQ-ORG. They stated that the reliability of each measure was found to have acceptable internal consistency and could be used with confidence. Each questionnaire has 20 questions using a 7-point Likert scale ranging from *not at all stressful* to *very stressful*. The response to each question is placed on a separate scale score with higher scores indicating greater perceived stress (McCreary & Thompson, 2006). The PSQ-OP and PSQ-ORG were developed to be given together or separate, and the developers found that the 20 questions on each survey did not create a burden on officers taking both tests together due to the combined tests still being shorter than other policing specific tests (McCreary & Thompson, 2006). The researchers did not specify if they gave the tests with pen and paper.

The GDMS scale is a measure of decision-making style that separates decision-making into five different styles: rational, intuitive, dependent, avoidant, and spontaneous (Scott & Bruce, 1995). The GDMS was created to address a need to measure an individual's decision-making style (Scott & Bruce, 1995). To create and test the measures of the GDMS, the researchers assessed and administered the survey to four different groups: military officers, Master of Business Administration students, upper-level graduate students, and engineers and technicians from the research and development facility of an industrial firm (Scott & Bruce, 1995). For the four groups, researchers had a Cronbach's alpha estimates from .77 to .85 for each group and the section of the measures. The GDMS has been the most encompassing of decision style scales and

among the best researched of scales that can be used for the police group (Salo & Allwood, 2009).

The GDMS is a 24-item measure of decision-making style, focusing on the following decision-making dimensions: rational, completes through information search; intuitive, attends to details and relies on premonitions and feelings; dependent, relies on advice from others before making a decision; avoidant, tries to avoid making decision; and spontaneous, will make decision quickly as possible (Salo & Allwood, 2009; Scott & Bruce, 1995). For each item, the statement was scored according to the respondents' actual decision-making style on a 5-point Likert scale from *strongly disagree* to *strongly agree*. I scored the GDMS for each participant to determine their primary decision-making style. I will calculate the scores for the corresponding decision-making style in the analysis for each research question. The research questions addressed the dependent, avoidant, and spontaneous decision-making styles.

Methodology

I did not need to obtain permission to use the three instruments because the instruments were in public domain for educational research. I first sent out a letter to the police chiefs to ask for their permission to survey their officers. The three instruments and the demographic questions were combined into a single survey. Police officers accessed and completed the survey via the Internet. After the data were collected, I calculated the total number of police officers completing all of the surveys. The data were collected and assessed for completeness and accuracy. Surveys that were incomplete, or the participant exited out of the survey without completing it, were eliminated.

In the survey, I collected data on participants' sex, rank, and years of service. For purposes of analysis, years of service was separated into four groups: < 1 to 5 years, 6 to 10 years, 11 to 15 years, and 16 years or more. Rank was separated into two groups: supervisor and nonsupervisor. The data collected from each survey were divided by gender, rank, and time on the job and the results were entered into a file for analysis using SPSS, Windows 23. Scores for each of the instruments, GDMS, PSQ-OP, and PSQ-ORG were calculated and entered into SPSS. I obtained scores for each of the five decision-making styles on the GDMS. The GDMS has 24 questions, with five subscales representing each decision-making style (Scott & Bruce, 1995). Participants receive scores on each subscale and the measure also identifies their primary decision-making style (McCreary & Thompson, 2006). The PSQ-OP and PSQ-ORG each contain 20 questions and total scores are calculated by summing all items (McCreary & Thompson, 2006).

I ran descriptive statistics to screen data for accuracy, missing cases, and outliers. Pearson correlation coefficients were used to examine the correlation between all variables. Should any of the three demographic variables (sex, rank, years of service) have been correlated ($p = .10$) with the dependent variable of decision-making styles (rational, intuitive, dependent, avoidant, and spontaneous), those variables were included in the multiple regression analysis and included as covariates.

I ran a multiple regression analysis for each research question using the stated decision-making style as the dependent variable. For each of the regressions, the independent (predictor) variables were measures of organizational and operational stress

(the PSQ-ORG and PSQ-OP). As I previously noted, any of the demographic variables demonstrating significant correlations with the dependent variables were included as covariates in the analysis.

Threats to Validity

Using a self-report style survey can create a threat to the validity of the sampling. Individuals completing the survey could answer falsely to try and minimize the amount of stress they are experiencing. They could also try to answer the way they think they should answer, not the way they may feel. It is possible that police officers who have had a longer time on the job may answer more truthfully because they may feel they have less to prove than younger police officers or those police officers still on probation. Research has found that GDMS is not susceptible to faking (Loo, 2000). Police officers will need to be assured that their answers will remain anonymous and secure. Anonymity will allow the police officers to answer truthfully and they will not feel a need to falsify their responses. Each participant received a consent form that will reassure participants that no individual or departments will be identifiable in the final paper.

Ethical Considerations

This study was conducted following Walden University's IRB requirements, recommendation, and review. I fulfilled all requirements of Walden University's IRB committee. The IRB approval number given was 03-18-17-0102285. All law enforcement agencies and participants were invited to join the study by letter. The letter was sent to the law enforcement agencies did explain the study, I gave my contact information, contact information for the dissertation chair, and Walden University's IRB. All

participation was voluntary, and responses will be kept confidential. At any point, a police officer could have stopped answering questions, he/she could have simply exited out of the survey, and an incomplete survey was not included in the final numbers. Each participant remains anonymous by an assigned number. Records will be maintained in a secure location that cannot be accessed by anyone but myself. Each participant was provided access to the survey through the Internet. Surveymonkey.com uses encryption to protect data between the user's computer and their servers. Surveymonkey.com disables the IP addresses of the user so the user can remain anonymous.

Summary

In Chapter 3, I will outline the research design, instrumentation, and methodology to be used with the threats to validity and ethical considerations. Data were collected from sworn police officers about their perceived levels of organizational and operational stresses, and decision-making style. The data were collected and analyzed using multiple regression analysis. The analysis and conclusions are summarized in Chapters 4 and 5.

Chapter 4: Results

Introduction

The purpose of this study was to examine the effects of organizational stress on the decision-making styles of police officers. The participants rated their levels of organizational and occupational stress levels in a survey, and then answered questions to determine the decision-making styles they use. In this chapter, I will present the data generated from this study and my analysis based on each research question.

This study was based on the following seven research questions and related hypotheses:

1. What is the correlation between reported operational stress levels and a greater use of dependent style decision-making in police officers?

H_01 : Higher levels of operational stress among police officers will not be correlated with greater use of a dependent style of decision-making.

H_11 : Higher levels of operational stress among police officers will be correlated with greater use of a dependent style of decision-making.

2. What is the correlation between reported operational stress levels and a greater use of avoidant style decision-making in police officers?

H_02 : Higher levels of operational stress will not be correlated with greater use of an avoidant style of decision-making.

H_12 : Higher levels of operational stress will be correlated with greater use of an avoidant style of decision-making.

3. What is the correlation between reported organizational stress levels and a greater use of avoidant style decision-making in police officers?

H₀₃: Higher levels of organizational stress will not be correlated with greater use of an avoidant style of decision-making.

H₁₃: Higher levels of organizational stress will be correlated with greater use of an avoidant style of decision-making.

4. What is the correlation between reported organizational stress levels and a greater use of dependent style decision-making in police officers?

H₀₄: Higher levels of organizational stress will not be correlated with greater use of a dependent style of decision-making.

H₁₄: Higher levels of organizational stress will be correlated with greater use of a dependent style of decision-making.

5. What is the relationship between reported operational and organization stress levels and the avoidant style of decision-making in police officers?

H₀₅: Higher levels of operational and organizational stress among police officers will not be associated with a greater use of an avoidant style of decision-making.

H₁₅: Higher levels of operational and organizational stress among police officers will be associated with a greater use of an avoidant style of decision-making.

6. What is the relationship between reported operational and organizational stress levels and the dependent style of decision-making in police officers?

H_{06} : Higher levels of operational and organizational stress among police officers will not be associated with a greater use of a dependent style of decision-making.

H_{16} : Higher levels of operational and organizational stress among police officers will be associated with a greater use of a dependent style of decision-making.

7. What is the relationship between reported operational and organizational stress levels and the spontaneous style of decision-making in police officers?

H_{07} : Lower levels of operational and organizational stress among police officers will not be associated with a greater use of a spontaneous style of decision-making.

H_{17} : Lower levels of operational and organizational stress among police officers will be associated with a greater use of a spontaneous style of decision-making.

Sample Demographics

Among the 150 study participants, 126 (84.0%) were male and 24 (16.0%) were female. The ethnic distribution was 148 (98.7%) White, three (2.0%) Hispanic, one (0.7%) Asian, two (1.3%) other. Three participants selected two ethnic backgrounds: White and other/Chinese, White and Hispanic, and White and other. The education distribution was nine (6.0%) graduated high school; one (0.7%) had 1 year of college, 17 (11.3%) had 2 years of college, 11 (7.3%) had 3 years of college, 85 (56.7%) graduated college, 15 (10%) had some graduate school, and 12 (8%) completed graduate school.

The age distribution was seven (4.7%) were 18 to 24 years old, 37 (24.7%) were 25 to 34 years old, 62 (41.3%) were 35 to 44 years old, 35 (23.3%) were 45 to 54 years old, eight (5.3%) were 45 to 54 years old, and one (0.7%) was 65 or older. Previous studies conducted with police officers by Schaible and Gecas (2010), McCarty et al. (2007), and Grawitch et al. (2010) displayed similar representativeness in their samples.

Among the 150 study participants 65 (43.3%) were supervisors. A total of 143 (95.3%) participants worked for municipalities, while the remaining seven (4.7%) participants worked for a state university. All 150 study participants worked at departments employing less than 100 police officers. In terms of the total years participants had worked at their current department, 54 (18.7%) had worked there for less than 1 to 5 years, 33 (22.0%) for 6 to 10 years, 38 (25.3%) for 11 to 15 years and 51 (34.0%) for 16 or more years. In the last 12 months, 99 participants (66.0%) called in sick 0 to 2 days, 39 (26%) called in sick 3 to 5 days, and 12 (8%) called in sick 5 or more days. Ten participants (6.7%) reported that they received discipline in the last 12 months.

Descriptive Statistics

I ran descriptive statistics to screen data for accuracy, missing cases, and outliers. The data were reviewed for accuracy as they were transferred from the surveys into the SPSS, Windows 23. A total of 198 participants took part in the survey, with eight surveys left incomplete that I eliminated. Forty of the surveys had study participants who were employed by an agency that had more than 100 police officers employed, so these were also eliminated. A total of 150 study participants completed the GDMS, PSQ-OP, and PSQ-ORG. Scores were calculated for each of the questionnaires and the GDMS.

The GDMS consisted of 24 questions on a Likert scale from 1–5. I conducted Cronbach’s alpha tests of reliability and internal consistency and found the GDMS had an acceptable level of internal consistency with a Cronbach’s alpha of .747. The range of scores and standard deviation for each decision-making style are listed in Table 1. The rational decision-making style had only four questions, while the other decision-making styles had five questions, so each question was weighted with an extra .25.

Table 1

GDMS Decision-Making Style Scores

Decision-making style	Number	Minimum	Maximum	<i>M</i>	<i>SD</i>
GDMS Avoidant	150	5	18	9.15	2.23
GDMS Dependent	150	8	22	14.75	2.74
GDMS Intuitive	150	10	24	17.53	2.57
GDMS Rational	150	12.5	25.50	19.58	2.78
GDMS Spontaneous	150	5	21	12.19	2.75
Total	150				

After adding the scores for each of the five decision-making styles, I determined the primary decision-making style by calculating which style had the largest score. A total of 114 (76.0%) study participants endorsed a rational decision-making style. A total of 35 (23.3%) study participants endorsed an intuitive decision-making style, while there was only a single study participant who endorsed a dependent decision-making style. There were several participants who had multiple high scores for several decision-making styles. There were nine participants who had a second decision-making style, and of those nine participants, eight endorsed an intuitive decision-making style and one endorsed a dependent decision-making style as their second style. The single study participant with a third decision-making style endorsed a spontaneous decision-making

style. Finding more than one primary decision-making style has been noted by other researchers (Thunholm, 2008). No study participants endorsed the avoidant decision-making style.

The PSQ-OP and PSQ-ORG instruments consisted of 20 questions on a Likert scale ranging from 1–7. I conducted Cronbach’s alpha tests of reliability and internal consistency for each instrument. The PSQ-OP had a high level of internal consistency, with a Cronbach’s alpha of .924. The PSQ-ORG also had a high level of internal consistency, with a Cronbach’s alpha of .933. The range of scores and standard deviation for both PSQ-OP and PSQ-ORG are listed in Table 2.

Table 2

PSQ-OP and PSQ-ORG Scores

	Number	Minimum	Maximum	<i>M</i>	<i>SD</i>
PSQ-OP	150	22	132	63.53	21.83
PSQ-ORG	150	22	123	61.28	23.60
Total	150				

The range of possible scores for both the PSQ-OP and PSQ-ORG: low stress levels are 20–48, moderate stress levels 49–119, and high stress levels 120–140. The average score for the PSQ-OP was 63.53, and the average score for PSQ-ORG was 61.28. The average score for each of the two instruments fell into the moderate stress level (McCreary & Thompson, 2006). Two study participants scored in the high stress range of the PSQ-OP, while one study participant scored in the high stress range of the PSQ-ORG.

Correlations

I conducted a Pearson's product-moment correlation to assess the relationship between the main study variables: GDMS dependent, GDMS avoidant, GDMS

spontaneous, PSQ-OP, PSQ-ORG, rank, gender, and years of service. The three decision-making styles were the styles that the research questions focused on. My preliminary analyses showed the relationship to be linear, but not all variables were normally distributed according to Shapiro-Wilk's test ($p < .05$) and there were no outliers.

There were several of the independent (predictor) variables with correlations. There was a strong positive correlation between PSQ-OP and PSQ-ORG with $r(98) = .371, p < .0005$. There was a moderate positive correlation between rank and years of service, $r(98) = .402$. There was a small negative correlation between PSQ-ORG and rank, $r(98) = -.274$. There was also a correlation for two of the dependent variables. There was a moderate positive correlation between GDMS dependent and avoidant, $r(98) = .307$. The main study variables correlations are provided in Table 3. Avoidant decision-making style is included as a study variable to answer the research questions, even though no study participant endorsed it as a primary decision-making style. I used the avoidant decision-making style scores in the analysis.

Table 3

Pearson Correlations for Main Study Variables

	PSQ-OP	PSQ-ORG	Rank	Years of service	Gender
GDMS Dependent	.165*	-.037	-.060	-.093	-.026
GDMS Avoidant	.174*	.030	-.121	-.069	.031
GDMS Spontaneous	.080	.129	-.211*	-.024	.083

Note: * = statistically significant at $p < .05$

Statistical Analysis

The following sections represent the statistical findings for each research question. The research questions and the corresponding hypotheses were presented respective to the methodology used. As was outlined in Chapter 3, a standard multiple regression analysis was used with the decision-making style as the dependent variable to answer each research question. For each regression, the independent (predictor) variables are the measures of stress.

Research Question 1

RQ1: What is the correlation between reported operational stress levels and a greater use of dependent style decision-making in police officers?

The null hypothesis for Research Question 1 was tested by using a standard multiple regression analysis. The dependent variable was the GDMS dependent style. The independent variables were entered into the model selection: PSQ-OP score, gender, rank, and years of service. As noted in Chapter 3, all the police officers who scored in the high stress range of PSQ-OP would be analyzed but of the 150 police officers tested, only one police officer scored in the high stress range of the PSQ-OP. Because of this finding, all 150 police officers' scores were analyzed.

A multiple regression was run to predict dependent style decision-making from PSQ-OP, gender, rank, and years of service. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 2.174. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals

versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no studentized deleted residuals greater than ± 3 standard deviations, no leverage values greater than 0.2, and values for Cook's distance above 1. The assumption of normality was met, as assessed by a Q-Q Plot. The multiple regression model was not statistically significant in predicting the dependent decision-making style, $F(4, 145) = 1.324, p = .264$. R^2 for the overall model was 3.5% with an adjusted R^2 of 0.9%, a small effect size according to Cohen (1988). The variable PSQ-OP was found to be statistically significant in the regression, $p = .051$.

Regression coefficients and standard errors can be found in Table 4.

Table 4

Summary of Multiple Regression Analysis for Research Question 1

Variable	<i>B</i>	Std. Error	Beta
Intercept	14.162	1.390	
PSQ-OP	.019	.010	.163*
Rank	-.025	.497	-.005
Years of service	-.213	.220	-.087
Gender	-.007	.617	-.001

Note: * $p < .05$

Research Question 2

RQ2: What is the correlation between reported operational stress levels and a greater use of avoidant style decision-making in police officers?

The null hypothesis for Research Question 2 was tested using standard multiple regression analysis. The dependent variable was the GDMS avoidant style. The independent variables were entered into the model selection: PSQ-OP score, gender,

rank, and years of service. In Chapter 3, all the police officers who scored in the high stress range of PSQ-OP would be analyzed however, of the 150 police officers tested, only one police officer scored in the high stress range of the PSQ-OP. In this analysis, all 150 police officers' scores were analyzed.

A multiple regression was run to predict avoidant style decision-making from PSQ-OP, gender, rank, and years of service. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 2.054. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There was one studentized deleted residuals greater than ± 3 standard deviations and after review it was not a mistake, so it was not removed from the data set. There were no leverage values greater than 0.2 and values for Cook's distance above 1. The assumption of normality was met, as assessed by a Q-Q Plot. The multiple regression model was not statistically significant in predicting the avoidant decision-making style, $F(4, 145) = 1.686, p = .156$. R^2 for the overall model was 4.4% with an adjusted R^2 of 1.8%, a small effect size according to Cohen (1988). The variable PSQ-OP was found to be statistically significant in the regression, $p = .044$. Regression coefficients and standard errors can be found in Table 5.

Table 5

Summary of Multiple Regression Analysis for Research Question 2

Variable	<i>B</i>	Std. Error	Beta
Intercept	7.555	1.405	
PSQ-OP	.020	.010	.166*
Rank	-.513	.502	-.091
Years of service	-.093	.222	-.037
Gender	.449	.624	.059

Note: * $p < .05$

Research Question 3

RQ3: What is the correlation between reported organizational stress levels and a greater use of avoidant style decision-making in police officers?

The null hypothesis for Research Question 3 was tested using standard multiple regression analysis. The dependent variable was the GDMS avoidant style. The independent variables were entered into the model selection: PSQ-ORG score, gender, rank, and years of service. In Chapter 3, all the police officers who scored in the high stress range of PSQ-ORG were to be analyzed, but of the 150 police officers tested, only two police officers scored in the high stress range of the PSQ-ORG. Because there was such a low number, all 150 police officers' scores were analyzed.

A multiple regression was run to predict avoidant style decision-making from PSQ-ORG, gender, rank, and years of service. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.678. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals

versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There was three studentized deleted residuals greater than ± 3 standard deviations, after checking the scores, it was not a data entry mistake. The predicted values were higher than the residual values, having larger influence, and were not removed from the data set. There were no leverage values greater than 0.2 and values for Cook's distance above 1. The assumption of normality was met, as assessed by a Q-Q Plot. The multiple regression model was not statistically significant in predicting the avoidant decision-making style, $F(4, 145) = .641, p = .634$. R^2 for the overall model was 1.7% with an adjusted R^2 of 1.0%, a small effect size according to Cohen (1988). Regression coefficients and standard errors can be found in Table 6.

Table 6

Summary of Multiple Regression Analysis for Research Question 3

Variable	<i>B</i>	Std. Error	Beta
Intercept	8.930	1.446	
PSQ-ORG	.000	.011	.003
Rank	-.634	.529	-.113
Years of service	-.077	.227	-.031
Gender	.370	.633	.049

Research Question 4

RQ4: What is the correlation between reported organizational stress levels and a greater use of dependent style decision-making in police officers?

The null hypothesis for Research Question 4 was tested using standard multiple regression analysis. The dependent variable was the GDMS dependent style. The

independent variables were entered into the model selection: PSQ-ORG score, gender, rank, and years of service. In Chapter 3, all the police officers who scored in the high stress range of PSQ-ORG were to be analyzed but of the 150 police officers tested, only two police officers scored in the high stress range of the PSQ-ORG. Due to this outcome, all 150 police officers' scores were analyzed.

A multiple regression was run to predict dependent style decision-making from PSQ-ORG, gender, rank, and years of service. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 2.230. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no studentized deleted residuals greater than ± 3 standard deviations, no leverage values greater than 0.2, and values for Cook's distance above 1. The assumption of normality was met, as assessed by a Q-Q Plot. The multiple regression model was not statistically significant in predicting the dependent decision-making style, $F(4, 145) = .425, p = .790$. R^2 for the overall model was 1.2% with an adjusted R^2 of 1.6%, a small effect size according to Cohen (1988). Regression coefficients and standard errors can be found in Table 7.

Table 7

Summary of Multiple Regression Analysis for Research Question 4

Variable	<i>B</i>	Std. Error	Beta
Intercept	15.930	1.428	
PSQ-ORG	-.006	.011	-.050
Rank	-.235	.522	-.043
Years of service	-.180	.224	-.074
Gender	-.109	.625	-.015

Research Question 5

RQ5: What is the correlation between reported operational and organizational stress levels and a greater use of avoidant style decision-making in police officers?

The null hypothesis for Research Question 5 was tested using standard multiple regression analysis. The dependent variable was the GDMS avoidant style. The independent variables were entered into the model selection: PSQ-OP score, PSQ-ORG, gender, rank, and years of service. In Chapter 3, all the police officers who scored in the high stress range of PSQ-OP and PSQ-ORG were to be analyzed but of the 150 police officers tested, only two police officers scored in the high stress range of the PSQ-ORG and one police officer in the high range of PS-OP. Because of this result, all 150 police officers' scores were analyzed.

A multiple regression was run to predict avoidant style decision-making from PSQ-ORG, PSQ-OP, gender, rank, and years of service. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.570. There was homoscedasticity, as assessed by visual inspection of a plot of studentized

residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There was one studentized deleted residuals greater than ± 3 standard deviations, after checking the score, it was not a data entry mistake. The predicted value was higher than the residual value, having larger influence, and was not removed from the data set. There were no leverage values greater than 0.2 and values for Cook's distance above 1. The assumption of normality was met, as assessed by a Q-Q Plot. The multiple regression model was not statistically significant in predicting the avoidant decision-making style, $F(5, 144) = 1.997, p = .083$. R^2 for the overall model was 6.5% with an adjusted R^2 of 3.2%, a small effect size according to Cohen (1988). The variable PSQ-OP was found to be statistically significant in the regression, $p = .008$. Regression coefficients and standard errors can be found in Table 8.

Table 8

Summary of Multiple Regression Analysis for Research Question 5

Variable	<i>B</i>	Std. Error	Beta
Intercept	8.197	1.441	
PSQ-ORG	-.026	.014	-.201
PSQ-OP	.035	.013	.295*
Rank	-.777	.521	-.138
Years of service	-.037	.223	-.015
Gender	.407	.620	.054

Note: * $p < .05$

Research Question 6

RQ6: What is the correlation between reported operational and organizational stress levels and a greater use of dependent style decision-making in police officers?

The null hypothesis for Research Question 6 was tested using standard multiple regression analysis. The independent variables were entered into the model selection: PSQ-OP, PSQ-ORG, gender, rank, and years of service. In Chapter 3, it was stated that all the police officers who scored in the high stress range of PSQ-OP and PSQ-ORG would be analyzed but of the 150 police officers tested, only two police officers scored in the high stress range of the PSQ-ORG and one police officer in the high range of PS-OP. In this current study, all 150 police officers' scores were analyzed.

A multiple regression was run to predict dependent style decision-making from PSQ-ORG, PSQ-OP, gender, rank, and years of service. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.864. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no studentized deleted residuals greater than ± 3 standard deviations, no leverage values greater than 0.2, and values for Cook's distance above 1. The assumption of normality was met, as assessed by a Q-Q Plot. The multiple regression model was statistically significant in predicting the dependent decision-making style, $F(5, 144) = 2.438, p = .037$. R^2 for the overall model was 7.8% with an adjusted R^2 of 4.6%, a small effect size according to Cohen (1988). Two variables, PSQ-ORG and PSQ-OP, were found to be statistically significant in the regression, $p = .011$ and $p = .002$. Regression coefficients and standard errors can be found in Table 9.

Table 9

Summary of Multiple Regression Analysis for Research Question 6

Variable	<i>B</i>	Std. Error	Beta
Intercept	15.079	1.409	
PSQ-ORG	-.037	.014	-.291*
PSQ-OP	.041	.013	.349*
Rank	-.401	.509	-.073
Years of service	-.134	.218	-.055
Gender	-.066	.606	-.009

Note: * $p < .05$

Research Question 7

RQ7: What is the correlation between reported occupational and organizational stress levels and a greater use of spontaneous style decision-making in police officers?

The null hypothesis for Research Question 7 was tested using a standard multiple regression analysis. The independent variables were entered into the model selection: PSQ-OP, PSQ-ORG, gender, rank, and years of service. In Chapter 3, it was stated that all the police officers who scored in the high stress range of PSQ-OP and PSQ-ORG would be analyzed, but of the 150 police officers tested, only two police officers scored in the high stress range of the PSQ-ORG and one police officer in the high range of PSQ-OP. In this study, all 150 police officers' scores were analyzed.

A multiple regression was run to predict spontaneous style decision-making from PSQ-ORG, PSQ-OP, gender, rank, and years of service. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.864. There was homoscedasticity, as assessed by visual inspection of a plot of studentized

residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There was two studentized deleted residuals greater than ± 3 standard deviations, after checking the scores, it was not a data entry mistake. The predicted values were higher than the residual values, having larger influence, and were not removed from the data set. There were no leverage values greater than 0.2 and values for Cook's distance above 1. The assumption of normality was met, as assessed by a Q-Q Plot. The multiple regression model was not statistically significant in predicting the spontaneous decision-making style, $F(5, 144) = 1.998, p = .082$. R^2 for the overall model was 6.5% with an adjusted R^2 of 3.2%, a small effect size according to Cohen (1988). The variable, rank, was found to be statistically significant in the regression, $p = .017$. Regression coefficients and standard errors can be found in Table 10.

Table 10

Summary of Multiple Regression Analysis for Research Question 7

Variable	<i>B</i>	Std. Error	Beta
Intercept	10.241	1.426	
PSQ-ORG	.008	.014	.067
PSQ-OP	.002	.013	.016
Rank	-1.243	.515	-.224*
Years of service	.125	.220	.051
Gender	.815	.613	.109

Note: * $p < .05$

Additional Analysis

Further analysis of the data was done using one-way ANOVA to determine if there were any statistically significant differences between any of the variables. The two

analyses were not statistically significant. A one-way between-subjects ANOVA was conducted to compare the effects of organizational stress and years on the job. The analysis did not provide evidence of statistically significant differences among study participants by years on the job (Table 11). There was not a significant effect for different time study participants had worked as police officers [$F(3, 146) = .338, p = .798$]. Study participants with 6-to-10 years and 11-to-15 years on the job have higher scores on the PSQ-ORG than the other two groups (Figure 1).

Table 11

Summary of ANOVA Findings for Time on the Job and PSQ-ORG

	Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
Between groups	571.682	3	190.561	.338	.798
Within group	82358.711	146	564.286		
Total	82957.393	149			

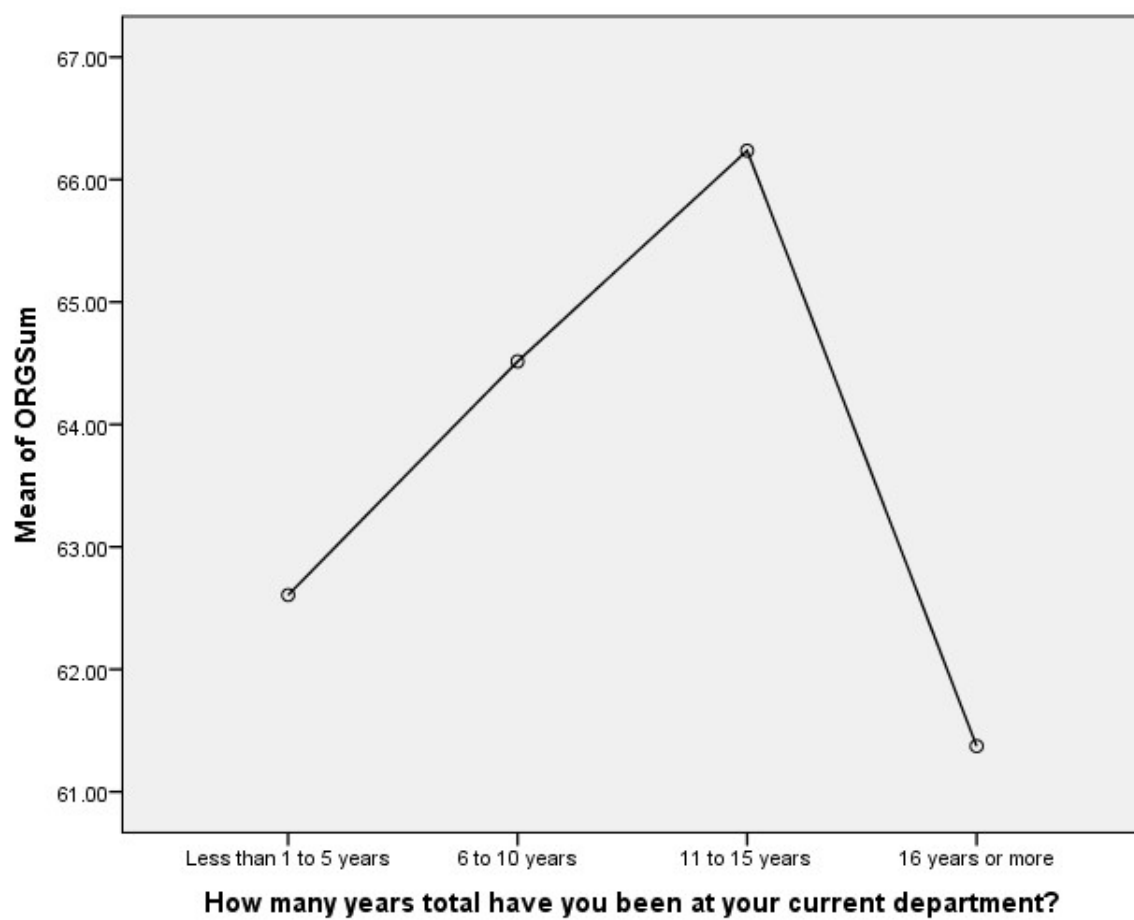


Figure 1. PSQ-ORG means and years of service.

A one-way between-subjects ANOVA was conducted to compare the effects of operational stress and years on the job. The analysis did not provide evidence of statistically significant differences among study participants by years on the job (Table 12). There was not a significant effect for different time study participants had worked as police officers job [$F(3, 146) = .566, p = .639$]. Study participants with 6-to-10 years and 11-to-15 years on the job have higher scores on the PSQ-OP than the other two groups (Figure 2).

Table 12

Summary of ANOVA Findings for Time on the Job and PSQ-OP

	Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
Between groups	815.7996	3	271.932	.566	.639
Within group	70188.444	146	480.743		
Total	71004.240	149			

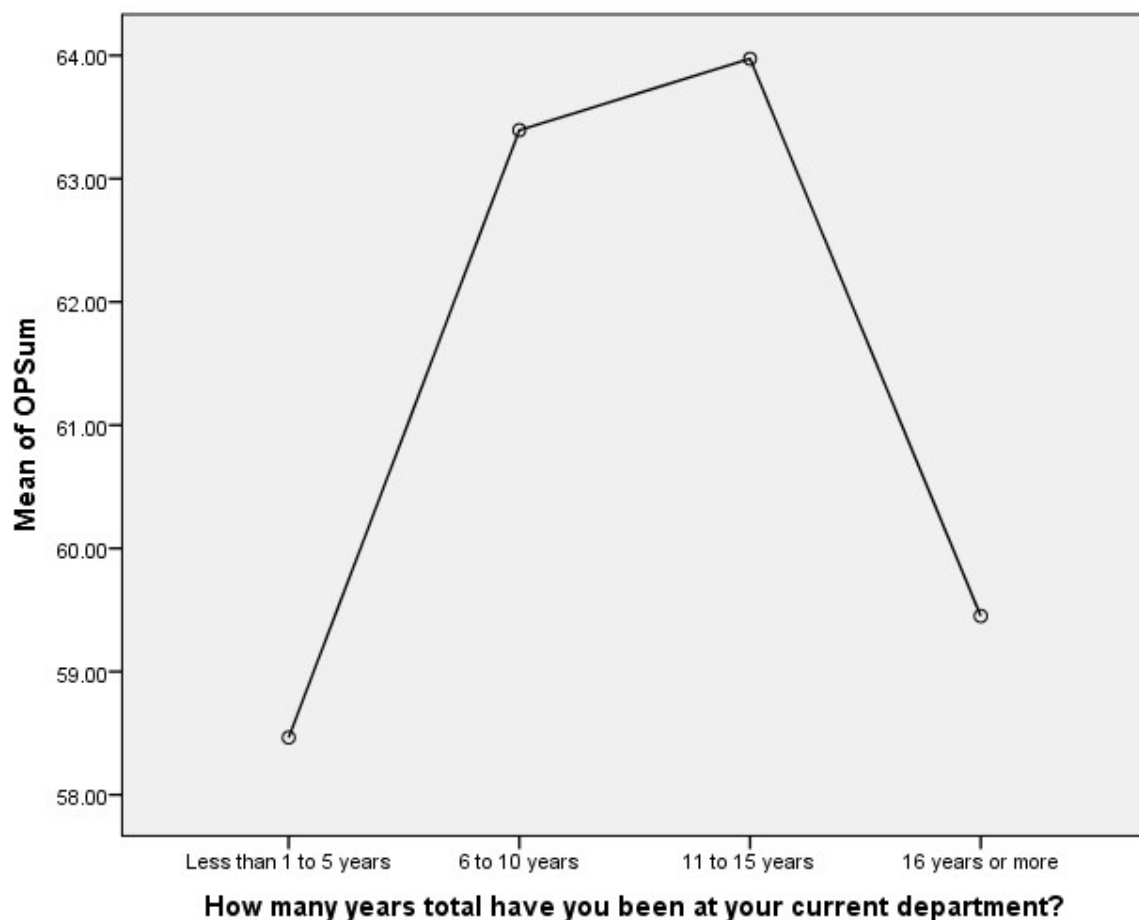


Figure 2. PSQ-OP means and years of service.

Summary

The results indicate that collectively, rank, gender, years of service, occupational and organizational stress levels do account for variations in the model for dependent, avoidant, and spontaneous decision-making styles. The dependent and avoidant decision-making styles are the two styles most associated with high stress levels (Salo & Allwood, 2011). The reported levels of stress on the PSQ-OP and PSQ-ORG instruments were in the moderate range for the study participants. The two decision-making styles, rational and intuitive, were the styles the study participants endorsed.

In Chapter 5, I will provide an interpretation of the findings. The study's limitations, validity, and reliability are described. Recommendations for future research in the area of police stress and decision-making style are given and are followed by implications for social change.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this quantitative study was to examine the effects of occupational stress on the decision-making styles of police officers. There is a lack of research on decision-making styles of police officers in the United States (Schulenberg, 2007). The results of this study add to the literature about police officers' decision-making style and whether any one decision-making style can be associated with high occupational stress levels.

Interpretation of the Findings

In this study, I used standard multiple regression analysis to determine whether occupational stress can affect a police officer's decision-making style. Other researchers using the GDMS instrument used multiple regression analysis to analyze the data (Thunholm, 2004). I developed the following seven research questions to guide this study:

1. What is the correlation between reported occupational stress levels and a greater use of dependent style decision-making in police officers?
2. What is the correlation between reported occupational stress levels and a greater use of adaptive style decision-making in police officers?
3. What is the correlation between reported organizational stress levels and a greater use of adaptive style decision-making in police officers?
4. What is the correlation between reported organizational stress levels and a greater use of dependent style decision-making in police officers?

5. What is the relationship between reported occupational and organizational stress levels and the avoidant style decision-making in police officers?
6. What is the relationship between reported occupational and organizational stress levels and the dependent style of decision-making in police officers?
7. What is the relationship between reported occupational and organizational stress levels and the spontaneous style of decision-making in police officers?

The results for this study found participants were more likely to use the rational and intuitive decision-making styles. While some studies found that the dependent and avoidant decision-making styles were found to be associated with stress and burnout, I found similar results in this study (see Salo & Allwood, 2009). Thunholm (2008) found that a decision-making style can be a habit, influenced by cognitive ability. The participants' GDMS results in this study could be attributed to habit as Thunholm suggested.

Thunholm (2008) also found that the spontaneous decision-maker can make decisions under stress. In this study, participants who reported high levels of stress did not have spontaneous decision-making as their primary style. The majority of the study participants had rational decision-making style (74.7%) as their primary decision-making style, while no participants had spontaneous decision-making style as their primary or secondary style.

In this study, I used police officers in Iowa as the participants, and the police departments who received the invitation to participate had sent their police officers to receive their training at the Iowa Law Enforcement Academy. The training at the Iowa

Law Enforcement Academy would have been standardized for all the study participants, which may have contributed to their similar decision-making styles. While Thunholm (2008) suggested decision-making can be attributed by habit, the results of this study could be a combination of habit and training. Police officers are trained to apply the law to any incident they may respond to, from traffic accidents to domestic abuse situations (Flin et al., 2006). They investigate the crime, apply the elements of the law to each situation, and are limited in some of the decisions they can make under the law. They have the discretion in whether to take any enforcement of the law. Thunholm studied military police officers specifically, and those military police officers may have had more options available in their decision-making process than nonmilitary police officers.

The majority of study participants' scores for both the PSQ-OP and PSQ-ORG were in the moderate stress levels. An older study by Violanti and Aron (1995), using the Police Stress Survey to measure the perception of police stressors had similar results, finding that officers with 6-to-10 years of service had higher mean stressors scores than those with 1-to-5 years. My analysis of study participants' mean scores from both the PSQ-OP and PSQ-ORG found similar results. The study participants who had worked 11–15 years had the highest mean scores on both PSQ-OP and PSQ-ORG. The next highest mean scores were for the group of participants that had worked 6–10 years. Police officers just beginning their career have different expectations than those police officers with more time on the job (Violanti & Aron, 1995).

My review of the correlations of the study variables revealed several statistically significant relationships. Rank was negatively correlated with several of the variables,

including being negatively correlated with both stress measures. Only one of the correlations between rank, PSQ-OP, and PSQ-ORG was statistically significant, but it was worth noting that as the rank increased for study participants, the stress levels decreased. The correlation for the variables of rank and the scores for GDMS spontaneous decision-making style also had a small negative correlation, as rank increases it is not as likely to use spontaneous style. This was evident since no study participant endorsed the spontaneous style. The variable of PSQ-OP had two statistically significant correlations that were positive small correlations with the dependent and avoidant decision-making styles. The variable of PSQ-ORG did not have any statistically significant correlations with the three GDMS decision-making styles. PSQ-ORG did have a negative correlation with the GDMS dependent decision-making style, and as PSQ-ORG stress levels decrease, it is more likely the dependent decision-making is used. The variables of PSQ-OP and PSQ-ORG had a strong positive correlation, which can indicate as the reported levels of PSQ-OP increase so do PSQ-ORG. There could be some response bias with the participants where if they report high levels of organizational stress they will also report higher levels of operational stress. The correlation between PSQ-OP and PSQ-ORG did not create multicollinearity in the regression. As the standard regression results indicate this correlation between the variables may account for the non-statistically significant regressions.

In the regression analysis, I found the regression models to be non-statistically significant, except for one. The variable of PSQ-OP was found to be statistically significant in the models using the PSQ-OP score. Research Question 6 addressed the

variables of PSQ-OP, PSQ-ORG, rank, years of service, and gender with a dependent variable of GDMS dependent decision-making style. This regression was found to be statistically significant. The variable PSQ-ORG is negatively correlated with the GDMS dependent style, so as the score for PSQ-ORG increases, use of this style decreases. With PSQ-OP and PSQ-ORG having a strong correlation, the addition of both variables created a suppressor effect in the regression model allowing the effects of organizational stress to become significant.

A factor that could account for the similarity in decision-making style across all the subjects could be related to job training police officers receive. Police officers tend to assess situations similarly as they arrive to a call for service where they need to assess the situation quickly due to having a limited time frame and having to judge the level of risk of the decision (Flin et al., 2006). Police officers' training provides them with a framework to base their decision-making on so they can provide reasonable responses to any situation (Sharps, 2009). Training and experience may provide a buffer against stress, allowing police officers to select the best decision for the best outcome to resolve any situation encountered.

Theoretical Implications

The theoretical framework for this study was based on the JD-R model. The JD-R model has the job demands outweighing the resources to counter the stress individuals may experience in their job (Demerouti et al., 2001). The job stressors police officers experience can cause negative health effects (Franke et al., 2002). There are various

factors that cause stress for police officers from the organization, personal life choices, and the everyday routine (Grawitch et al., 2010).

In this study, the subjects completed the two instruments: PSQ-OP and PSQ-ORG. Both instruments were developed for use with police officers and are a measure of the unique stressors of police work (McCreary & Thompson, 2006). Both instruments are reliable and valid measures of stress in police work and look at the interaction between work and family life (McCreary & Thompson, 2006). For this study, when the PSQ-OP and PSQ-ORG were administered, the study participants were asked to think about a specific timeframe, the last 6 months, when answering the questions. This limited timeframe could have affected their responses because they may have not had any stressful incidents that occurred during this time frame.

The reported results of both the PSQ-OP and PSQ-ORG suggested that participants were experiencing relatively low levels of stress. Where previous researchers have found that police officers reporting high levels of stress both in critical or acute incidents and with organizational stresses, this was not the case with this study (see McCreary & Thompson, 2006; Stinchcomb, 2004). It is possible that the two instruments may be too broad in scope and may miss an area of stress that causes distress, such as the press or the news. In the future, it may be worth reviewing the scores and changing how they are scored to more accurately reflect stress levels. The top end of the moderate stress level could be adjusted so more of the higher moderate scores would be scored in the high stress level. The instruments were created using Canadian law enforcement as the subjects and the instruments have been used and standardized by various researchers in

the United States, but there still could be parts that do not resonate with police officers in Iowa.

Another study of police officers in Italy found that emotional stability (low neuroticism) may have a greater role in regulating stress levels (Garbarino, Chiorri, & Magnavita, 2014). Those police officers with greater emotional stability tend to exhibit better control over their work and receive more support from coworkers, providing greater reward (Garbarino et al., 2014). The researchers found that those police officers who are friendlier also receive more support, which may moderate their stress (Garbarino et al., 2014). In the same study, the researchers found that as the work condition becomes more stressful, the support and reward decrease, but those police officers with emotional stability and friendliness were able to moderate the stress associated with the changes in work condition (Garbarino et al., 2014).

Having the participants complete an instrument that measured emotional stability might have provided some further insight into the results from this study. According to the JD-R model, the job demands outweigh resources, but it is possible that the subjects in this study may have enough coping skill to overcome some of the organizational and occupational stresses, and the police departments have sufficient resources to support their police officers. There are rewarding parts of the job, including helping people, saving lives, and their commitment to helping their communities. In this study, I focused on smaller departments, and these police officers can be more engaged with the community they police, unlike large cities where there may not be time to help their

citizens because they have to move on to the next call for service. Further investigation into what activity helps mitigate stress would be one area to investigate.

Limitations of the Study

Overall, the results of this study may be difficult to generalize to other law enforcement in other states. In this study, I looked at only municipalities that employed fewer than 100 police officers per agency in the state of Iowa. The results of this study may not be applicable to other larger law enforcement agencies in the state of Iowa. Prior studies conducted by Violanti and Aron (1995), McCarty et al. (2007), and Boke and Nalla (2009) used large organizations employing more than 1,000 police officers per department. There may be different work place dynamics with the smaller agencies. Additionally, with the nature of law enforcement, the action of police officers using force against the public has continually made the news. In Iowa, there has not been tension between law enforcement and the community, like in some larger cities where there has been rioting and protesting over the actions of the police.

For some law enforcement departments, because they are smaller and police a smaller population, there may be more public support for the police officers. Community policing may be easier in small towns than larger cities. It may be worth paying attention to a subgroup of police officers rather than looking at an entire group, to see who is vulnerable to stress (Sallo & Allwood, 2009). The subgroups could be composed of patrol officers only, those police officers who are assigned to a desk, and supervisors. It also could be divided by time on the job or sick leave usage. Further identifying the correct subgroup could be the key for stress intervention. The use of a qualitative study

could provide more detailed information from test subjects, as long as the police officers were not reluctant to talk to researchers.

Another limitation is the length of time for responses to the survey. The use of the Internet provided instantaneous access to the survey. Even with most police officers having access to the Internet, there were eight police officers who did not complete the survey. It is possible lengthening the amount of time for police officers to access the survey and complete it would allow for more people to finish the survey. Data were collected for approximately 30 days in this study. Lengthening the time for data collection would allow for a second letter asking for participation to be sent to each police department. There were a few incomplete surveys as well, selecting not to keep incomplete surveys submitted through SurveyMonkey.com made it easier for accountability.

A limitation of the GDMS instrument is that more than one decision-making style can be noted for an individual. Thunholm (2008) noted it is hard to classify individuals with one main style since more than one style may be noted. In this study, nine participants had a second decision-making style, two had dependent and seven had intuitive decision-making style. Scott and Bruce (2005) who developed the instrument did note that individuals do not rely on a single style but will utilize a combination of styles to make important decisions. The majority of the subjects in this study use rational decision-making style (74.4%). This primary decision-making style is determined by adding up the questions on the GDMS instrument by style and the score that is the highest is the primary style. Those study participants with more than one primary style,

had the same score for each style. Decision-making styles which have the same high scores will be a secondary style. This manner of scoring and determining a primary decision-making style is a limitation, as it can result in multiple styles receiving similar scores and does not provide a way to determine which style is most preferred. Rational decision-making style, research had found typically take on problems rather than avoiding them (Thunholm, 2008). For police officers, avoiding problems is not typically an option.

Recommendations

There is an increasing body of work about police stress; however, gaps may remain as to which groups of law enforcement may have increased stress. One question is whether smaller departments experience less stress than larger ones. Several studies about police stress have used large metropolitan cities where the participant pool can be from a single department. There is also a large body of research on police stress that has been conducted in foreign countries such as, Europe or Canada, and those results may not be applicable to U.S. police officers. The low levels of stress reported by police officers in this study seems counterintuitive to what is being reported nationwide. There may be factors which make comparing smaller cities with large metropolitan areas impossible, such as a higher cost of living in metropolitan areas may require a second job or having a spouse that has to work, which can create child care issues.

Further investigation into other stress measures may be important for future studies. Determining if PSQ-OP and PSQ-ORG are short and are not accurately getting an overall scope of stress police officers may be experiencing. Being able to differentiate

stress between small and large departments is another area for future research. The ease of using PSQ-OP and PSQ-ORG makes it a viable option since both instruments have only 20 questions, and it can be completed quickly. Administering multiple stress measures may not be a good option since faking the responses or having subjects quit before they are finished is possible.

The use of GDMS as a guide to a police officers' decision-making style might be a better prescreening tool. In this study participants were fairly consistent in which decision-making style was most common. The style was also consistent between police officers and supervisors, and levels of stress they reported. Future research could focus on new police officers and how their decision-making style could change as they complete training and begin working on their own. It is possible that having a second decision-making style allows the person to have more options in forming their decision. Future research could determine if the police officers with two main styles have better outcomes with decisions.

The findings from this study should help researchers generate future research into stress and decision-making styles. The research should help set a course and further build on what is causing stress for police officers. Previous research found that two decision-making styles are utilized when an individual is stressed, dependent and avoidant decision-making (Thunholm, 2004). Police officers should be able to make their own decisions under pressure and in time sensitive situations. If they need to depend on others to make a decision for them, it may compromise safety of the public, coworkers, and the police officer. Losing the trust of the public or the community they serve by being unable

to make a decision under pressure is going to add to the stressors already inherent in this field. Early identification of which decision-making style works the best and developing skills to enhance this style will benefit police officers.

This study was restricted by cost and time limitations. Future research could focus on midsized police agencies. This study was a quantitative study, but future research could use a mixed method methodology and focus on individual participants to gain more information about what is stressful and how it may affect their decision-making styles.

Implications for Social Change

It is generally accepted that policing is a high stress occupation. Police work is increasingly coming under fire and there is greater scrutiny for use of force by police officers. Citizens are video taping interactions with police officers. Law enforcement agencies, especially smaller departments, cannot afford to alienate those populations they are supposed to protect. Identifying which stressors influence decision-making can help law enforcement agencies develop coping mechanisms for stress.

Law enforcement departments are required to prescreen police officer candidates to ensure hiring those individuals who are well-adjusted. Candidates have to pass psychological screenings and physical fitness testing, as well as in-depth background screening (Hostetter, 2007). It is important for those departments to keep those candidates as they transition into police officers well-adjusted and able to cope with the stresses on the job.

The scrutiny police officers face on the street and from their supervisors is a small part of the psychological struggle they can face. Long-term stress can contribute to both

physical and psychological problems. These issues can cost smaller departments in manpower and money. Smaller departments may not be able to afford losing police officers to early retirement or constantly cover overtime pay. Recruitment and finding candidates who can pass all the screenings can be costly. Small towns may not have the budget to cover these expenses. Retaining police officers may be a priority for these agencies. Finding ways to minimize stress for police officers and developing coping skills to deal with the scrutiny of law enforcement should be a priority for all police departments.

Conclusions

This study generated information which adds to the body of work on police stress. The identification of decision-making style may be helpful as there is limited research on decision-making style. This research can add to the small body of work on decision-making. Further research into police decision-making would be worth investigating and could provide a positive impact for our society. Bridging the gap between what is lacking in research and keeping police officers well-adjusted and able to cope with the odd stresses in policing will be a positive goal for police departments and the communities they serve.

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Appendix A: Demographic Questions

1. What is your age?
2. What is your gender?
3. What is your ethnicity?
4. What is the highest level of education you have completed?
5. Are you now married, widowed, divorced, separated, or have you never been married?
6. Do you have any children?
7. If you are in a relationship, is your partner/spouse employed?
8. Are you a sworn police officer?
9. Do you work for a municipality, university, state, or sheriff department?
10. How many years total have you been at your current department?
11. If you have been employed as a police officer at another department, how many years total have you been a sworn officer?
12. What is your official title?
13. Are you a supervisor?
14. How many police officers do you supervise?
15. Are you the head law enforcement officer of your agency?
16. How many officers are employed at your agency?
17. Are you in a specialty position, such as detective, drug task force officer, or school resource officer?
18. In the past 12 months, how often have you called in sick?

19. In the past 12 months, have you received any discipline?