Rural Police Officer Stress and Years of Experience: A Correlational Study

Submitted by

Robert Joseph Harris

A Dissertation Proposal Presented in Partial Fulfillment

of the Requirements for the Degree

Doctorate of Psychology

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Phoenix, Arizona

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February 22, 2019

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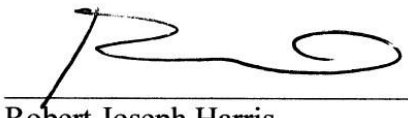

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Abstract

The problem of stress in police officers has been consistently recognized as one of the most stressful occupations worldwide with the cumulative effects of chronic exposure to stress resulting in numerous health and wellbeing issues. Theory of Self-Efficacy proposes individuals with high levels of perceived self-efficacy typically trust their own abilities during stressful situations, think in self-enhancing ways, and can experience less stress and anxiety. Individuals with a perceived internal locus of control believe they can control much of what happens in their daily lives, often leading to increased wellbeing. The theoretical foundations included Theory of Self-Efficacy and Locus of Control. The purpose of this quantitative correlational study was to determine if and to what extent there is any statistically significant relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. A convenience sample of 136 full-time police officers at small, rural police agencies answered questions about stress and years of experience through a demographic survey and the Law Enforcement Officer Stress Survey (LEOSS). Three research questions asked if a statistically significant relationship existed between police officer years of experience and overall stress, difficulty and likelihood of responding to stressful situations. Spearman (1904) rank-order correlation revealed a weak, positive statistically significant correlation between likelihood of responding to stressful situations and years of experience $r_s(134) = .314$, $p < .001$. The researcher rejected the null hypothesis for the corresponding research question but could not reject the other null hypotheses.

Keywords: Police officer, rural, LEOSS, stress, years of experience, self-efficacy, locus of control

Dedication

This doctoral dissertation is dedicated to my wife and family, friends and peers, and everyone who helped along the way. The knowledge I gained from this doctoral journey will be used to help inform and guide public safety agencies to increase employee wellbeing thus helping the employee, their families, and the communities they serve. Too many officers and public safety employees had their lives ended or forever altered because of stress related to the profession. They inspired this study and my efforts and passion to continue research until every officer comes home happy, healthy, and whole. Therefore, this study is also dedicated to my brothers and sisters in uniform, their families, and the ones we lost too soon.

Acknowledgments

Completion of this doctoral degree would not have been possible without a tremendous amount of guidance, love, and support throughout the journey. My wife and best friend, Andrea was essential to my success. Her understanding of the long hours, sleepless nights, and mental exhaustion during this process will not be forgotten. Additionally, my two loving children Noah and Nathan gave up many rowdy hours of play inside our home so I could have a peaceful environment to work on this study. Together, my immediate and extended family all contributed to my success in more ways than I can count.

I want to thank Dr. Bruce McKenzie for starting as my first dissertation committee chair. Dr. McKenzie started me down the right path before he was forced to leave due to unfortunate family circumstances. Dr. McKenzie will always be in my thoughts. I also want to thank every member of my dissertation committee for providing their expert advice, direction, and feedback. Dr. Hale challenged me to create the highest caliber study possible. Dr. Hale's advice and encouragement kept me chugging along through the long hours of research and data analysis. Dr. Marshall-Bradley provided exceptional advice for the methodology of this study. Together, Dr. Hale and Dr. Marshall-Bradley helped navigate the dissertation process. Last, but not at all least, I want to thank my content expert and friend, Dr. Neil Moore. Dr. Moore's career path, expertise, and friendship helped inspire me to begin this journey, complete this study, and work towards future career goals helping others. I am forever grateful.

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Chapter 1: Introduction to the Study

Introduction

This quantitative correlational study examined the relationship between police officer stress, difficulty, and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. Previous researchers of police officer stress have consistently recognized policing as one of the most stressful occupations worldwide (Husain, 2014). The effects of chronic exposure to stress are cumulative and result in numerous health and wellbeing issues for police (Elntib & Armstrong, 2014; Liu, Yang, & Yu, 2015). Considering all occupations nationwide, costs to employers related to stress exceed $300 billion annually because of treatment and missed work (Liu et al., 2015). Stress affects more than a million full-time police officers nationwide each year (Banks, Hendrix, Hickman, & Kyckelhahn, 2016) and presents a multifaceted problem affecting the officers, their families, partners, peers, and agencies, and the general public they serve. Stressed police officers are less effective because they are more likely to call in sick to work (Menendez, Svedberg, & Alexandersen, 2012), use excessive force (Terpstra & Schaap, 2013), engage in violence against family, friends, peers, and the public (Can, Hendy, & Imbody, 2013; Gershon, 2000), and even inappropriately discharge their firearms during a critical incident (Covey, Shucard, Violanti, Lee, & Shucard, 2013).

In a national study of over 1,000 officers, police officer "stress was significantly related to alcohol use, physical abuse of any sort (e.g. to co-workers, child, etc.) and importantly to domestic violence. Officers who reported high rates of work stress were three times more likely to report perpetuations physical spousal abuse" (Gershon, 2000,

p. 7). Police who are stressed are also more likely to receive complaints from the public about their attitude and actions, and are more likely to hurt the department with increased absenteeism (Menendez et al., 2012). When police exhibit these behaviors and even fail to come to work because of stress, they become ineffective and all stakeholders involve suffer.

Most studies of police stress focus on large metropolitan or national agencies (Brunet, 2015). Differing methodologies and samples have led to conflicting research showing officer stress increases, decreases, or forms more of a bell curve, with years of experience (Gershon, 2000; Padhy, Chelli, & Padiri, 2015; Stanley, Hom, & Joiner, 2016). This study used accepted research approaches to examine the relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. The study addressed the defined gaps including conflicting results in current studies investigating rural police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience, and following recommendations for future research of police officer stress and years of experience.

The following chapter addresses the background to this problem in more detail, describes the problem statement and purpose of the study, and presents research questions and hypotheses. A description of how this study may advance scientific knowledge and the significance of the study are then presented. Discussion of the rationale for the methodology chosen and the nature of the research design follow. Finally, definitions of the terms used throughout the study are presented before

assumptions, limitations, and delimitations are described and an overview of the rest of the study are discussed.

Background of the Study

Elevated stress and its effects on police have been an issue since the profession began (Anshel, Robertson, & Caputi, 1997). Studies over the past few decades illustrate the negative psychological and physiological effects of stress on police officers (Elntib & Armstrong, 2014; Liu et al., 2015). Research conducted by Westley (1970) in the 1940s examined police subculture and was finally published in 1970. Findings showed police experienced unique stressors that led to isolation, secrecy, and increased violence and cynicism (Westley, 1970). Additional ethnographic research throughout the 1950s, 1960s, and 1970s continued to examine police culture and stress (Terpstra & Schaap, 2013). Various scholars often found police cultural norms identified by Westley (1970) led officers down a path at odds with formal law, regulations, and accepted behavior. As a result, stress of police officers was consistently higher than the public sector (Willis & Mastrofski, 2017). Danger at work, role ambiguity, high expectations and coercion from authority were all found to contribute to police officer stress (Willis & Mastrofski, 2017). As research continued, focus evolved from looking at police culture as a whole, to examining if police officers experience stress, cope, and adapt to the stress uniformly, or if cultural heterogeneity exists, resulting in different experiences. Most current, quantitative research found the latter to be true with police officer experiences, coping, and adaptation related to stress varying according to sub-groups including religion, race, sex, location, etc. (Paoline & Gau, 2017). The President's Task Force on 21st Century Policing (2015) recognized police must adapt coping strategies to stress and improve

wellbeing to ultimately increase effectiveness and relationships with the communities they serve.

As early as 1978, Sandy and Devine (1978) noted rural police officers serving small and rural communities experienced unique stressors with their hypotheses serving as the basis for additional studies. Police have historically experienced increased stress compared to other professions. However, police today are even more stressed because carrying firearms, increased terrorism, and the fast-paced nature of society has resulted in ever-changing roles for police, instant life-and-death decision situations, and concurrently maintain personal lives (Haines, Harvey, Durand, & Marchand, 2013; Karaffa et al., 2015). Over 90 percent of police agencies in the United States are considered small or rural, serving less than 25,000 people, and often employing 25 or fewer officers (Carson, 2015).

In 2016, 118 police officers were killed in the line of duty and over 57,000 were assaulted nationwide (FBI, 2016). Of those officers, 41 killed and over 23,000 officers assaulted worked in agencies serving less than 50,000 people and non-metropolitan agencies, with 70,544 working in agencies serving less than 10,000 people (FBI, 2016). Rural police officers can be highly stressed, but studied even less than metropolitan officers (Page & Jacobs, 2011). Rural officers often wait longer times for assistance, serve multiple roles (counselor, detective, patrol, SWAT, jail transport officer, etc.), and experience lack of equipment, funding, and opportunities for advancement. Rural officers patrol the area they call “home” and are intimately connected to the community they serve (Scott, 2004). They are frequently recognized as police, even while off-duty at school and family functions, reducing time away from occupational stressors (Scott,

2004). The aforementioned studies identify rural police officer stress as unique, requiring separate study from large, metropolitan or national agencies.

Stress in police officers presents a multifaceted problem affecting the officers, their families, partners, peers, and agencies, and the general public they serve (Haines et al., 2013). All those affected by police stress bear witness to stressed officers' increased rates of alcohol use, physical abuse, and domestic violence (Gershon, 2000). In addition to violence against family, friends, peers, and the public (Can et al., 2013), and use of excessive force (Terpstra & Schaap, 2013), stressed police officers are also more likely to fire their weapons inappropriately during critical incidents (Covey et al., 2013). Police who are stressed are also more likely to receive complaints from the public about their attitude and actions, and are more likely to hurt the department with increased absenteeism (Menendez et al., 2012). When police exhibit these behaviors and even fail to come to work because of stress, they become ineffective and all stakeholders involve suffer. Some studies show police officer stress increases with years of experience while others show the opposite (Gershon, 2000; Padhy et al., 2015; Regehr, LeBlanc, Barath, Balch, & Birze, 2013). Other studies even found stress increased during the first years of experience, peaked high mid-career, and then fell with increased experience, similar to a bell curve (Scott, 2004).

Existing studies show various relationships between police officer stress and other demographic variables (marital status, race, financial status, etc.), but either neglect years of experience or produce conflicting results (Padhy et al., 2015). Recommendations in current literature suggest study of years of experience related to police officer stress, especially in rural agencies (Page & Jacobs, 2011; Van Hasselt, Reddin, Couwels,

Vecchi, & Baker, 2010). Paoline and Gau (2017) also recommended organizational psychologists further study police stress to increase understanding of the topic area.

This study used accepted research approaches to examine the relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. The study addressed the defined gaps including conflicting results in current studies investigating rural police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience, and followed recommendations for future research of police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience. It may help fill the gap of rural agencies and conflicting results in current literature and add to the body of knowledge (Balmer, Pooley, & Cohen, 2014; Liu et al., 2015). A survey was used to examine the relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana (Van Hasselt, Sheehan, Sellers, Baker, & Feiner, 2003). The increased understanding from this study may ultimately help reduce stress and increase wellbeing of police officers, benefiting the officers, their organizations, peers, and loved ones, and ultimately the communities they serve.

Problem Statement

It is not known if and to what extent any relationship exists between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies. Findings of researchers employing demand-control literature support individuals who have high job demands with low job control (including police officers) experience high levels of stress, increasing the importance of

this study (Brough & Biggs, 2015; Luchman & González-Morales, 2013). Approximately 91% of police agencies employ 50 or less officers, a standard partially used to determine rural officers for this study (Page & Jacobs, 2011). Most studies focus on large metropolitan, state, or federal police departments employing over 100 officers and serving over 50,000 people, or even larger agencies (Oliver & Meier, 2004). Stress related expenses in the United States exceeded $300 billion in 2012 and continues to rise (Liu et al., 2015). However, rural police agencies suffer from fewer officers and lower budgets than large, metropolitan agencies, so money must be spent as efficiently as possible (Brunet, 2015). Due to the gap in the literature addressing small, rural departments, the population for this study included agencies employing less than 50 officers and serving less than 50,000 people. A sample of 136 full-time police officers in target-population-qualifying small, rural agencies in Indiana were surveyed, including new officers through the most experienced. The target population of both male and female police officers from rural police agencies in Indiana included officers ranging in age from 21 to 57. The perceived stress scores (likelihood, difficulty, and total) from individual officers' responses to the LEOSS were tested for correlation with years of experience. The data collection design and anonymous nature of the surveys did not allow analysis of agency-specific details because the agency of participants were not known during analysis. Therefore, individual officer scores were used for unit of analysis to examine the relationship between stress, difficulty and likelihood of responding to stressful situations, and years of experience. The analysis revealed if any statistically significant relationship exists between individual officer's stress, difficulty and likelihood of responding to stressful situations, and years of experience.

The effects of chronic exposure to stress are cumulative and result in numerous health and wellbeing issues for police, so great urgency exists to expand knowledge in this area, increasing the magnitude of this study (Elntib & Armstrong, 2014; Liu et al., 2015). Although rates vary, up to one-third of police officers suffer from coronary heart disease, gastrointestinal problems, and high blood pressure related to stress (Van Hasselt et al., 2003). Additionally, stress in police can lead to exhaustion, absenteeism, withdrawal from family and peers (further exacerbating the problem) (Elntib & Armstrong, 2014), substance abuse and its related health problems, decreased ability to react appropriately to critical incidents, and even physical abuse and suicidal ideation (Liu et al., 2015). Stressed police officers are less effective because they are more likely to frequently call in sick to work (Menendez et al., 2012); use excessive force (Terpstra & Schaap, 2013); engage in violence against family, friends, peers, and the public (Can et al., 2013; Gershon, 2000); and are even more likely to inappropriately discharge their firearms during a critical incident (Covey et al., 2013).

Finally, exploring if and to what extent any statistically significant relationship exists between stress, difficulty and likelihood of responding to stressful situations, and years of experience in individual officers employed at rural police agencies is significant because rural stressors are so different from large, metropolitan agencies (Page & Jacobs, 2011). Some studies show police officer stress increases with years of experience while others show the opposite (Gershon, 2000; Padhy et al., 2015; Regehr et al., 2013). Other studies even found stress increased before peaking mid-career, then falling later in the career, similar to a bell curve (Scott, 2004). Existing studies show various relationships between police officer stress and other demographic variables (marital status, race,

financial status, etc.), but either neglect years of experience or produce conflicting results (Padhy et al., 2015). Recommendations in current literature suggest study of years of experience related to police officer stress, especially in rural agencies (Page & Jacobs, 2011; Van Hasselt et al., 2010). The Law Enforcement Officer Stress Survey (LEOSS) and demographic survey were used here to gather information on individual participants' years of service (reported as actual number of years as a rural police officer) and perceived stress (Van Hasselt et al., 2003). The researcher's findings address and expand existing literature on the relationship between individual police officer's stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana, United States, filling a critical gap.

Purpose of the Study

The purpose of this quantitative correlational study was to determine if and to what extent there is any statistically significant relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. Many researchers' studies have focused on police officer stress, but often neglect years of experience and rural agencies, present conflicting results, and most recommend further study (Padhy et al., 2015; Scott, 2004). The majority of studies focus on large, metropolitan or national police forces. Other researchers (Padhy et al., 2015; Scott, 2004) have shown rural police officers face different stressors and should be studied independently. Additionally, rural officers are often recognized while off-duty at family, school, and social events in the communities they serve, resulting in a different kind of stress (Scott, 2004). The current study examined the relationship

between police officers' stress difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana.

Several agencies in Indiana were invited to participate in the study. Participants included the agencies male and female officers, approximate ages 21-57. The participating officers' individual scores served as the unit of measure. Participants were recruited from agencies that employ fewer than 50 full-time officers and serve a population of less than 50,000. The question for participants' years of experience specified total years of experience *at a rural police agency* to account for anyone who might have transferred from a large or metropolitan department.

Individual participant years of service variable was reported as actual number of years as a full-time, rural police officer, through the demographic survey, and measured on a ratio scale. Stress was reported in the LEOSS survey, including likelihood and difficulty dealing with 25 situations including both work and personal life and measured as continuous because of the combination of multiple Likert items. The researcher then used correlational analysis to examine any relationship between the individual officers' years of service and LEOSS stress scores, addressing conflicts in the current literature. Considering the cumulative effects of stress and current literature, the theorized correlational relationship between the individual officers' stress, difficulty and likelihood of responding to stressful situations, and years of experience would show a statistically significant increase in individual police officer stress with increased years of experience (Gershon, 2000; Padhy et al., 2015; Regehr et al., 2013; 2015; Scott, 2004). Any statistically significant relationship between the variables could help small, rural departments with historically limited budgets (Brunet, 2015) focus spending on stress

mitigation, officer wellness, and other program efforts toward officers who show the most potential for increased stress. Additionally, the body of knowledge was advanced, hopefully awareness of the problem may increase, discussions spread, and future studies could look at possible causation.

Research Questions and Hypotheses

The variables for this study were police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. All variables were measured from the perspective of individual rural police officer participants. Therefore, what was measured was their individual perception of likelihood and difficulty responding to stressful events listed in the LEOSS survey, and actual years of experience as reported in the demographic survey. Due to lack of current intervention programs and the cumulative nature of stress, and following recent literature, stress was expected to increase with years of experience (Regehr et al., 2013). Understanding if and to what extent any statistically significant relationship exists between stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana could prioritize limited rural budget resources (e.g. money for stress intervention programs) to be directed to officers who perceive the most stress (Brunet, 2015). Taking these items into consideration, the following variables, research questions, and hypotheses were developed:

Variables: Police officer years of experience, individual police officer stress, and difficulty and likelihood of responding to stressful situations.

R_1: To what extent, if any, is there a statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana?

$H_0$1: There is not a statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana.

H1: There is a statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana.

R_2: To what extent, if any, is there a statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana?

$H_0$2: There is not a statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana.

H2: There is a statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana.

R_3: To what extent, if any, is there a statistically significant relationship between police officer years of experience and likelihood of stressful situations in small, rural police agencies in Indiana?

$H_0$3: There is not a statistically significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana.

H3: There is a statistically significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana.

Advancing Scientific Knowledge and Significance of the Study

This study examined if and to what extent any statistically significant relationship exists between individual police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. The proposed research may advance knowledge in three separate areas: the literature, theoretical foundations, and practical application benefits to police agencies. By exploring the relationship between individual police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in police in rural agencies in Indiana, this study may help fill the gap in current literature. The study followed recommendations of researchers in existing literature to study these areas, and address conflicting results in the current literature (Balmer et al., 2014; Liu et al., 2015). Most studies of police stress focus on large metropolitan, state, or national agencies (Brunet, 2015). Differing methodologies and samples have led to conflicting research showing officer stress increases, decreases, or forms more of a bell curve, with years of experience (Gershon, 2000; Padhy et al., 2015; Stanley et al., 2016). This study used accepted research approaches to examine any statistically significant relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. The researcher conducting this study addressed the defined gaps including conflicting results in current studies investigating rural police officer stress, difficulty and likelihood of

responding to stressful situations, and years of experience, and followed recommendations for future research of police officer stress and years of experience.

The researcher hoped to advance the body of knowledge surrounding police officer stress to help the overall effort to reduce the billions spent annually on stress-related expenses, and increase officer wellbeing so police lifespans will not continue to be shorter than the rest of the population (Liu et al., 2015; Violanti et al., 2013). To accomplish this, the researcher hoped to provide a better understanding of any relationship between stress and years of experience. If statistically significant relationships exist, this study may help find which years of experience perceive the most stress and if perceived stressors are different than those of metropolitan agencies as reported by participants (Page & Jacobs, 2011). These results could allow rural departments to more effectively invest limited budget resources to further study stressors, or fund programs to reduce negative effects of stress on officers (Brunet, 2015). Additionally, both self-efficacy and locus of control have been used to study police officer stress in the past (Bandura, 1977; Lester & Genz, 1978; Rotter, 1966).

Bandura's (1977) Theory of Self-Efficacy and Rotter's (1966) Locus of Control form the framework of this study. People with perceived internal locus of control believe they can control much of what happens in their daily lives, often leading to increased wellbeing (Judge & Bono, 2001). Similarly, individuals with high levels of perceived self-efficacy typically trust their own abilities when experiencing difficult, stressful situations, think in self-enhancing ways, and can experience less stress and anxiety (Pooley, Cohen, O'Connor, & Taylor, 2013; Warner, Gutiérrez-Doña, Villegas Angulo, & Schwarzer, 2015). Where self-efficacy is lacking, social and family support can

supplement the deficiency (Warner et al., 2015). Rural officers have a more intimate relationship with their community, opening the possibility for increase social support (Scott, 2004). Together, a person's perceived internal locus of control and high self-efficacy can predict behavior in stressful situations than how the person may be capable of reacting (Brown et al., 2016).

The LEOSS used in this study was developed using the behavior-analytic model, taking a behavior-analysis approach to complete a functional analysis of the relationship between participant police officers' environment and behavior, consistent with Kanfer and Saslow's (1965) recommendation to study variables in behavior of people in a manner that allowed inferences to be made of controlling factors and various stimuli (Van Hasselt et al., 2003). Although this study uses a slightly different approach, researchers have recognized behavioral-analytic models and self-efficacy approaches as reliable. In fact, researchers employing the behavior-analytic model recognize self-efficacy behavior ratings and correlations while adding possible correlations to environmental variables (Biglan, 1987). While self-efficacy and locus of control were not measured in this study, the theories were used to frame the study.

As mentioned, the researcher conducting the current study hoped to advance the body of knowledge in several ways. This could also lead to practical applications in other areas. The results from the study could be applied to help the national agenda surrounding police officer stress, measuring officer stress, relating stress to other variables (including years of experience), and resolving conflicts in the current literature.

National agenda/significance. Nationally, the need exists to reduce the effects of stress on police officers to increase their health and effectiveness to benefit the officers,

organizations, families, peers, and the communities the officers serve, especially rural areas (Papazoglou & Andersen, 2014). Effects of chronic exposure to stress are cumulative and result in numerous physical and mental health problems and lead to officers feeling irritable, sleep disorders, hypertension, anxiety, cynicism, emotional exhaustion, depersonalization, and reduced personal accomplishment (Elntib & Armstrong, 2014; Liu et al., 2015). Additional studies on the benefits of mentoring programs to reduce stress and increase resilience have been suggested (Hassell, Archbold, & Stichman, 2011; Husain, 2014). Page and Jacobs (2011) suggested future research on rural police agencies because of their unique stressors. Police in rural areas must often perform more than one role, cover larger areas, rely on less or no backup, interact on and off-duty with community members who know them well, and often work with older technology and equipment. Research may reveal if any significant relationship exists between police officers' stress, difficulty and likelihood of responding to stressful situations, and years of experience, in Indiana, to help organizations develop programs to better prepare officers and mitigate the effects of stress thus increasing wellbeing and benefiting officers and stakeholders (Papazoglou & Andersen, 2014).

Measuring police officers stress. Researchers conducting many studies of police stress rely on data collection through validated surveys or questionnaires. Instruments and sources of data exist to collect numerical data to examine if and to what extent there is a statistically significant relationship between police officer stress, resilience, and years of experience (Papazoglou & Andersen, 2014; Stanley et al., 2016). Previously accepted surveys are often distributed to participants including the LEOSS, which has been shown valid and reliable to measure stress in adult police officers (Stanley et al., 2016).

Participants completing the LEOSS are asked to respond to two Likert-type scales for each of twenty-five potentially stressful situations: how common is the event in their daily lives, and how difficult or problematic is it for the officer to respond to each situation (Van Hasselt et al., 2008). Choices range from not common (1) to extremely common (7), and not difficult (1) to extremely difficult (7) (Van Hasselt et al., 2008). LEOSS "test-retest correlation was robust across both categories and the combination" (Van Hasselt et al., 2008, p. 145). Coefficients for both categories and full-scale (combination) were calculated for likelihood (r=.578, p < .01), difficulty (r=.621, p < .01), and combination (r=.672, p < .01), with alpha coefficients of .874, .908, and .874, respectively (Van Hasselt et al., 2008). Furthermore, validity tests showed the LEOSS full-scale moderately, but significantly, related to the Police Stress Survey (PSS) (r = .407, p = < .001) (Van Hasselt et al., 2008, p. 145). The LEOSS is attached as Appendix D.

Years of experience and stress. Papazoglou and Andersen (2014) suggested future research in the area of mitigating the effects of stress in police. Additionally, Van Hasselt et al. (2010) suggested using the LEOSS to examine if, and to what extent, there is a relationship between police officer stress, years of experience, and other variables. Years of experience can be measured by self-reported data gathered in demographic section of questionnaires. Many studies have been completed on police officer stress, but often neglect years of experience and rural agencies, present conflicting results, and most recommend further study (Padhy et al., 2015; Scott, 2004), and thus it is included here for a variable. Liu et al. (2015) recommended future research on police stress and mitigation

of stress, complimenting Padhy et al.'s (2015) suggestion for future research in a wide variety of areas related to police stress and wellbeing, including years of experience.

Prior studies. Researchers who conducted prior studies show various relationships between variables including gender, race, marital and family status, and other demographics. The researchers examined stress and race, stress and marital status, stress and socio-economic statues, etc. and found significant correlations (Paoline & Gau, 2017; Terpstra & Schaap, 2013; Willis & Mastrofski, 2017). However, they either neglect years of experience, or produce conflicting results, and most all recommend additional studies on alternative variables possibly correlated to stress, including years of experience (Padhy et al., 2015).

Rationale for Methodology

The methodology used for this study was quantitative. The police subculture frequently results in police distrust of non-law enforcement, including researchers (Boshoff & Strydom, 2015). Law enforcement officers are notoriously hesitant to participate in interviews, observation periods, or other methods employed for qualitative methodologies (Boshoff & Strydom, 2015; Loriol, 2016). The police subculture, including the machismo culture, make police feel as if they cannot appear weak in front of anyone including other officers, researchers, and the general public (Steyn & Mkhize, 2016). Due to the overall reluctance of police to appear weak by speaking about stressful situations or participating in traditional qualitative methods (i.e. interviews or group sessions), a qualitative approach did not seem appropriate for this study. For this study, quantitative methodology allowed data gathered from the LEOSS and demographic survey to be tabulated and calculated using SPSS, allowing correlational analysis to

predict and differentiate between statistically significant and non-significant relationships between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience. Conclusions can then be made, findings discussed, and recommendations composed.

Additionally, the researcher conducting the current study aimed to avoid known validity and reliability issues with qualitative research methods. The goal was to ensure a sample representative of the population, and gather enough data to allow generalization of the results to other rural areas. Using a large sample makes many qualitative approaches difficult, including interviews and observations (Seale & Silverman, 1997). Furthermore, the researcher possessed personal knowledge of some of the participants (as described in the limitations section). Rater and measurement bias are more likely with qualitative methods because of the researcher's knowledge of the participants. A correlation thought to be almost perfect according to data could be observed as a weak correlation because of qualitative bias errors (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

To help avoid errors and bias, increase reliability and validity, and effectively gather data from a large sample, a quantitative methodology was chosen for this study. In their seminal works, Donald Campbell and Julian Stanley (Campbell, 1957; Campbell & Stanley, 1963) identified numerous threats to both internal and external validity including instrumentation, statistical regression, and differential selection of participants. Concerns to each of these areas were addressed in this study. A survey was administered to participants to gather data to be numerically scored. Actual numbers of years of service as a rural police officer and Likert-type responses for stress, difficulty and likelihood of

responding to stressful situations removed any subjective interpretation of data. Examining the relationship between variables (police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana) was best accomplished by numerical data. For these reasons, a quantitative methodology was appropriate (McCusker & Gunaydin, 2015). The multiple 7-point, Likert-type scale responses to the LEOSS were treated as continuous, and the years of experiences were treated as ratio and analyzed using Spearman's (1904) rank-order correlation (Sedgwick, 2012).

To reduce bias and best utilize the collected data to examine if any statistically significant variable relationships exist, many researchers in the literature examining police stress rely on deductive reasoning, quantitative methods, and data collection through surveys or questionnaires. Likert scales are typically used to quantify responses after previously accepted surveys have been distributed to participants (Regehr et al., 2013; Stanley et al., 2016). The quantitative methodology of this study allowed treatment of the multiple Likert-type scales and years of experience as continuous and ratio data, respectively, and will allow testing using Spearman's (1904) rank-order correlation.

Nature of the Research Design for the Study

This quantitative study has a correlational design with a focus on exploring if and to what extent any statistically significant relationship exists between individual police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience. Following recommendations from authors at Laerd Statistics (2018), data from the multiple 7-point Likert-type scale responses was treated as continuous and tested for correlation using Spearman's (1904) rank-order correlation (Sedgwick, 2012)

with a correlational analysis completed for each of the three stress variables. Responses in the LEOSS Likert-type scales range from not common (1) to extremely common (7), and not difficult (1) to extremely difficult (7) (Van Hasselt et al., 2008). The LEOSS can be found in Appendix D. Scoring the LEOSS results to find total stress score was accomplished by calculating the mean product score of the 'likelihood' × 'difficulty' ratings for items within the subscale (Van Hasselt et al., 2008). Results from the LEOSS Likert-type scales and years of experience was tested for correlation.

The researcher examined if and to what extent any statistically significant relationship exists between police officers' stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. Correlational designs are most appropriate when a study begins with hypotheses that predict relationships between two variables, and are interested if there is any statistically significant relationship between them (Bettany-Saltikov & Whittaker, 2014). According to Gay (as cited in Johnson, 2000), causal-comparison designs are similar to correlational design, but attempt to establish a cause-and-effect relationship. Similarly, experimental researchers can attempt to establish a cause-and-effect relationship, but require group comparisons (Johnson, 2000). The researcher conducting the current study was only interested in establishing if any statistically significant relationship exists between two quantifiable variables, expressed in numerical form. This goal matches Johnson's (2000) description of a correlational study in every aspect. Furthermore, Johnson (2000) recommends when a categorical variable is used (i.e. stressed or not stressed) and causality is desired, causal-comparison or some other experimental design is appropriate; however, when the variable includes a trait that can be operationalized as a quantitative

variable (i.e. degree or level of stress), a correlational design is appropriate. Additionally, researchers in the literature examining police stress often rely on quantitative methods and use correlational designs after using Likert-type scales in surveys or questionnaires to gather and quantify responses (Regehr et al., 2013; Stanley et al., 2016).

Officers from multiple agencies in the rural Indiana were invited to participate in the study, including agencies employing less than 50 full-time officers, serving a population of less than 50,000, and serving an area with at more than half agricultural land. Participant years of service variable was reported as actual number of years as a full-time, rural police officer, through the demographic survey. Individual stress was reported in the LEOSS survey, including likelihood and difficulty dealing with 25 situations including both work and personal life. The researcher then used correlational analysis to examine any statistically significant relationship between the years of experience and types of stress, addressing conflicts in the current literature. A statistically significant relationship between the variables means the findings could be useful in many ways. Administrators at small, rural departments with historically limited budgets (Brunet, 2015) could direct funds toward stress mitigation, officer wellness, and other program efforts to help officers who show the greatest potential for increased stress. Additionally, a statistically significant relationship could advance the body of knowledge, hopefully awareness of the problem may increase, discussions spread, and future studies could look at possible causation.

Definition of Terms

A description of terms included throughout the current study, and used operationally, are provided below. The variables including stress, difficulty and

likelihood responding to stressful situations, and years of experience, as well as a description of how *rural* agencies were identified for this study follows. Additionally, clarification for readers is provided for metropolitan police agency, traumatic events, coping, and resilience. Terms used in research can be operationalized differently, depending on the nature of the study. Clarification here will hopefully help the reader better understand the approach the researchers took throughout this study.

Coping. Coping mechanisms can help or hinder police officer wellbeing after stressful events. Simply stated by Balmer et al. (2014), "an individual's ability to moderate the effects of stressful and traumatic events is influenced by the coping style they employ" (p. 272). Coping is typical defined as an individual's "cognitive and behavioral actions to manage internal or external stressors or problems which exceed their personal resources" (Balmer et al., 2014, p. 271). Effective coping choices can turn stressful and traumatic events in to opportunities for growth (Fletcher & Sarkar, 2013) and increase officer wellbeing, even in the face of adversity (Majumdar, Dutta, & Banerjee, 2016). Thus, numerous researchers have examined coping mechanisms and police officer stress mitigation (Andersen et al., 2015; Arnetz, Arble, Backman, Lynch, & Lublin, 2013; Balmer et al., 2014; Budykin & Dvoryanchikov, 2013).

Difficulty responding to stressful situations. The level of internal stress each police officer experiences when responding to a particular situation is defined as *difficulty* (Van Hasselt et al., 2003). Since people experience varying stress levels associated with specific situations, the measure of difficulty responding to a situation is likely different for every officer.

Likelihood of responding to stressful situations. Likelihood is defined as the likelihood an officer was called to a specific situation during any given shift (Van Hasselt et al., 2003). Police officers cannot control the types of calls they are dispatched to or the likelihood of each type of call (Can, Hendy, & Karagoz, 2015). For this study, and completion of the LEOSS, officers were asked the *difficulty* and *likelihood* of responding to various scenarios. Much more detail about different types of stressors is included in the Literature Review section of Chapter 2.

Metropolitan. Metropolitan and urban agencies are defined here as agencies employing more than 50 officers, serving an area of more than 50,000 people (Oliver & Meier, 2004). These include agencies of cities, large towns, and even state and national levels. In fact, many of the metropolitan and urban agencies serve over 250,000 people and employ over 1,000 officers (Oliver & Meier, 2004).

Police subculture. Police subculture is mentioned several times in this study. It can be defined as a sort-of brotherhood formed by the close-knit community of police officers, resulting in both benefits and drawbacks. The police subculture can lead to officer self-isolation and distrust of non-officers (commonly used as a coping mechanism) because police sometimes feel non-officers can never understand what officers experience (Boshoff & Strydom, 2015). The overall distrust contributes to police lack of trust in confidentiality measures for research studies and officers' reluctance to participate in health and wellness programs, including seeking help with stressful and traumatic events (Boshoff & Strydom, 2015; Loriol, 2016). The reluctance is compounded when cultural traditions, religious beliefs, and customs also affect the willingness of police officers to discuss psychological wellbeing issues or seek help (Naz

& Gavin, 2013). The subculture also fosters a warrior image, increasing police reluctance to speak about stress or feeling for fear of appearing weak (Evans, Pistrang, & Billings, 2013).

Resilience. Police officer resilience is discussed in this study because of its close relation to police officers' ability to mitigate the negative effects of stress. Much of the research of police stress includes at least some discussion of resilience. Connor and Davidson (2003) are respected researchers specializing in resilience, and even developed the Connor-Davidson Resilience Scale (CD-RISC). They simply stated resilience as "the personal qualities that enables one to thrive in the face of adversity'' (Connor & Davidson, 2003, p. 76). Although definitions vary for resilience, the majority are based on two core concepts: adversity and positive adaptation (Fletcher & Sarkar, 2013). Resilience is crucial for police to effectively deal with adversity-filled situations including work, personal, and life events. Resilience allows the officers to positively adapt to situations, rather than applying negative coping mechanisms (Fletcher & Sarkar, 2013). Researchers have published encouraging findings showing resilience training programs can increase officer resilience and help them reduce anxiety and other negative effects of stress (Andersen et al., 2015).

Rural. Since the majority of police studies focus on large, metropolitan police agencies, rural officers are the main focus of this study. However, what classifies a department as rural? Classifications of rural agencies differ across studies, resulting in difficulty generalizing studies. Oliver and Meier (2004) defined rural agencies as police organizations that serve 50,000 or less people. Approximately 91% of police agencies employ 50 or less officers, a standard partially used to determine *rural* officers for this

study (Page & Jacobs, 2011). Most studies focus on large departments employing over 100 officers and serving over 50,000 people, or even larger agencies (Oliver & Meier, 2004). Rural agencies are typically smaller in size and employ fewer (less than 50) officers (Oliver & Meier, 2004; Page & Jacobs, 2011). Due to the gap in the literature neglecting small, rural agencies, the rural population defined for this study will include agencies employing less than 50 officers and serving less than 50,000 people.

Stress. One of the most frequently used terms throughout the study is stress. Hickman, Fricas, Strom, and Pope (2011) provided an overall definition of stress also used here: "an officer's physiological response to the perceived imbalance between situational demands and his or her capacity to meet or overcome those demands" (p. 230). Authors of studies in current literature typically classify stress in one of three ways: stress originating from organizational sources (e.g. conflict with management), originating from occupational sources (e.g. responding to violent calls for service), or overall stress including organizational, occupational, and life stressors from outside police work (Hickman et al., 2011; Liu et al., 2015). The LEOSS includes scenarios from all the previously mentioned classifications to provide an overall stress score.

Traumatic events. Traumatic events are discussed throughout this study as a source of stress in police officers and the general public. These events are typically defined as being confronted with an event involving threat of death, serious injury, or physical integrity, as described in the DSM-IV PTSD Category A1 criterion (Pineles et al., 2013). For police officers, traumatic events can include responding to vehicle crashes involving death or severe injury, officer-involved shootings, severe fights with suspects,

responding to murder scenes, etc. Increased resilience can help officers more effectively cope with traumatic events (Andersen et al., 2015).

Years of experience. Years of experience discussed throughout this study refers to the actual number of years a participant has been employed, full-time, at a rural police agency. Questions posed in the survey make this distinction to exclude years an officer may have accrued at a metropolitan or urban agency before transferring to a rural agency. Some terms in the literature refer to *years of experience* as tenure, years of service (Boshoff & Strydom, 2015), etc. However, *years of experience* was overwhelmingly the most commonly used phrase in literature located during this study, so the term was applied here.

Assumptions, Limitations, Delimitations

Assumptions, limitations, and delimitations present in this study are presented below. Including a discussion of any possible limitations to a study is important for academic integrity and transparency in dissertations as well as scholarly studies (Brutus, Aguinis, & Wassmer, 2013; Connelly, 2013). Limitations are a part of every study, so acknowledging their existence, importance, and how they might be overcome in the current study and future studies is imperative (Connelly, 2013; Laerd Dissertations, 2018). For clarification, each term is defined before they are discussed.

Assumptions. Assumptions are anything researchers assume to be true without concrete evidence. They are a part of any research, can be considered self-evident truths, and can be methodological, theoretical, or specific to the topic (Ellis & Levy, 2009). However, acknowledging the assumptions is important since an assumption clearly

evident to one person may not even be considered by another (Ellis & Levy, 2009). The following assumptions are present in this study:

1. It is assumed the participants in this study answered survey questions honestly and to the best of their ability with no deception. The anonymous nature of the surveys, explanation of confidentiality explained in the informed consent (See Appendix C), and the integrity assumed present in police officers combine to provide rationale for this assumption. Additionally, the surveys were completed during participants' scheduled work time to encourage thoughtful completion without rushing to return to family or personal obligations.
2. It is assumed that this study is an accurate representation of current stress, difficulty and likelihood of responding to stressful situations, and years of experience measures in small, rural police officers in Indiana. Officers were recruited from numerous agencies from a variety of rural areas in Indiana meeting the criteria, including some small communities, wide-spread county agencies, and departments from two full-time officers up to agencies employing many more. This rationale using this variety helped paint an accurate picture of the stress, difficulty and likelihood of responding to stressful situations, and years of experience measures for this study and generalization to other similar areas.
3. It is assumed every participant will interpret the instructions on the LEOSS the same. The instructions on the survey are clear and brief. Police officers are required to follow directions on forms on a regular basis as part of their duties completing arrest paperwork, reports, etc. Therefore, the rationale here is that all participants' responses was based on a similar understanding of the instructions.

Limitations and delimitations. Limitations are things the researcher cannot control, but threaten internal validity of the study- the likelihood that the findings of the study mean what the researcher states they mean (Ellis & Levy, 2009). Similarly, delimitations can threaten validity of the study, but the researcher can control them. Furthermore, delimitations outline what the researcher will *not* do, providing parameters for the study (Ellis & Levy, 2009). The following limitations/delimitations are present in this study:

1. A lack of research exists on rural officer stress, difficulty and likelihood of responding to stressful situations, and years of experience. This area of the identified gap leaves minimal references for support of a single method to study the topic. However, as discussed in other sections of this study, the few studies of rural police officer stress related to other demographic variables follow similar methodology and design.

2. The survey of full-time, rural police officers was delimited to several agencies in Indiana, limiting the demographic sample. The sample did not include reserve/part-time officers who may experience the same stressors. Furthermore, the generalizability may be diminished when applying the findings to other rural areas where cultural, religious, socioeconomic status, and other variables may differ.
3. The researcher is a full-time police officer and has personal knowledge of some of the participants recruited for the study. This possible conflict and bias was acknowledged and any participants who felt uncomfortable because of the personal knowledge were reminded they could withdraw from the study. Additionally, the anonymous nature of the surveys and additional steps (listed in the data collection and analysis sections) to help ensure the researcher did not know which surveys came from those participants of which he has personal knowledge.
4. Lack of available data could be a limitation to the study. Participants were reminded they are not required to answer all questions on the survey. The brevity and anonymous nature of the surveys helped limit the amount of incomplete surveys. Additionally, 424 participants were recruited to help ensure the minimum required sample size of 112 completed surveys was met.
5. The sample of police officers recruited for this study must also be acknowledged. Recruitment of every rural officer in Indiana was not logistically possible. Additionally, officers in the recruited agencies may have been on vacation, leave, or did not participate. Every effort was made to include officers from a variety of agencies meeting the rural criteria, including size, location, officer variety, etc.
6. Participation bias may be present since participants were offered a chance to win a gift card for participation. Every participant was invited to provide their contact information (separate from the survey) to be entered in a raffle for one $25.00 gift card for a central-Indiana police-supply store to be drawn after all sites have participated. The amount of the gift card was restricted to $25.00 to provide incentive, while hopefully not persuading participation by those who felt uncomfortable taking part in the study. Every participant was reminded they did not have to participate in either the study or the raffle, and could withdraw from the study at any time.

Summary and Organization of the Remainder of the Study

The researcher conducting this correlational study examined if and to what extent any statistically significant relationship exists between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. Prior researchers of police officer stress have consistently recognized policing as one of the most stressful occupations worldwide (Husain, 2014). The effects of chronic exposure to stress are cumulative and result in numerous health

and wellbeing issues for police (Elntib & Armstrong, 2014; Liu et al., 2015). Considering all occupations nationwide, costs to employers related to stress exceed $300 billion annually because of treatment and missed work (Liu et al., 2015). Stress affects more than a million full-time police officers nationwide each year (Banks et al., 2016) and presents a multifaceted problem affecting the officers, their families, partners, peers, and agencies, and the general public they serve. In a national study of over 1,000 officers, police officer stress was significantly related to alcohol use, physical abuse of any sort (e.g. to co-workers, child, etc.) and to domestic violence. Officers experiencing high rates of stress at work consistently are at three times greater risk of perpetuating physical abuse against their spouses (Gershon, 2000). In addition to violence against family, friends, peers, and the public (Can et al., 2013), and use of excessive force (Terpstra & Schaap, 2013), stressed police officers are also more likely to fire their weapons inappropriately during critical incidents (Covey et al., 2013). Police who are stressed are also more likely to receive complaints from the public about their attitude and actions, and are more likely to hurt the department with increased absenteeism (Menendez et al., 2012). When police exhibit these behaviors and even fail to come to work because of stress, they become ineffective and all stakeholders involve suffer.

Most researchers of police stress focus on large metropolitan, state, or national agencies (Brunet, 2015). Current researchers of small, rural police agencies found rural stressors to be different, requiring separate study (Page & Jacobs, 2011). As previously stated, methodologies and samples used in previous studies differed and led to conflicting research showing inconsistent relationships between officer stress and years of experience (Gershon, 2000; Padhy et al., 2015; Stanley et al., 2016). The researcher

conducting the current study used accepted research approaches from existing literature to examine if and to what extent any statistically significant relationship exists between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. The researcher used the current study to address the defined gaps including conflicting results in current literature on rural police officer stress and years of experience, and following researchers' recommendations for future research of police officer stress and years of experience.

The preceding chapter has addressed the background to this problem in more detail, described the problem statement and purpose of the study, and presented research questions and hypotheses. A description of how this study may advance scientific knowledge and the significance of the study were then presented. A discussion of the rationale for the methodology chosen and the nature of the research design were also included. Finally, definitions of the terms used throughout the study were be presented and assumptions, limitations, and delimitations were described.

The next chapter presents a review of current research on the topics of police officer stress, years of experience, and other topics relative to the core of this dissertation. A discussion of the background to the problem, the gap in existing literature, theoretical foundations, and an extensive review of the current literature is presented. The chapter illustrates how the current study follows current recommendations in literature to study the relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience, especially in small, rural police agencies using quantitative studies with correlational design (Papazoglou & Andersen, 2014). Exploring the background to this problem forms a foundation to help understand the gap

in current literature including conflicting results of recent studies and recommendations for future research on rural police officer stress and years of experience (Page & Jacobs, 2011; Van Hasselt et al., 2010;). Next, a discussion of Bandura's (1977) Theory of Self-Efficacy and Rotter's (1966) Locus of Control as the basis for the study illustrates how the theoretical foundation aligns with the research questions. Lastly, a review of the literature including the significance of the study on a global scale, police officer stress, years of experience, rural differences, coping, and methodology and instrumentation used for the study provides a clear understanding of the necessity for this study. The extensive review of current literature identifies the problem central to the study, reveals the gap, and provides blueprints for the design.

Chapter 3 includes a discussion of the methodology, research design, and procedures for the current study. Chapter 4 followed and provide details of how data were analyzed. Both written and graphic summaries of the results are presented to aid readers in understanding the data. Chapter 5 then provides an interpretation and discussion of the results, as is related to the existing body of knowledge discussed in previous chapters. The timeline for completing the research and dissertation was less than six months. Once IRB approval was obtained, gathering completed surveys from agencies took a relatively short amount of time. Final writing of the results and dissertation, revisions, and AQR approval then followed. The goal was to have the dissertation completed, defended, and ready for final approval no later than the end of February, 2019.

Chapter 2: Literature Review

Health and wellness problems related to chronic stress of police work are well documented. The annual cost of stress-related illness in the United States alone surpassed $300 billion in 2012 and continues to rise (Liu et al., 2015). The human cost is even more; the cumulative nature of stress-related issues can overwhelm the strongest officer when stress is not dealt with properly (Papazoglou & Andersen, 2014). Absenteeism, marital problems including spousal abuse and increase divorce rates, substance abuse, anger issues, depression, heart disease, and other psychological and physiological issues related to chronic stress plague the police profession and increase the urgency to better understand this problem (Elntib & Armstrong, 2014). Understanding any statistically significant relationship between rural police officer stress and officer years of experience and well-being is an essential first step in reducing stress and improving officer wellbeing.

Introduction to the Chapter and Background to the Problem

In this chapter, a discussion of the background to this problem, the gap in existing literature, theoretical foundations, and an extensive review of the current literature is presented. Throughout history scholars have researched various aspects of police officer stress related to a variety of variables using differing theoretical foundations, and samples (Balmer et al., 2014; Brown et al., 2016; Scott, 2004; Van Hasselt et al., 2003). The current study followed present recommendations in literature (Papazoglou & Andersen, 2014) to study the relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience, especially in small, rural police agencies using quantitative studies with correlational design. Exploring the

background to this problem forms a foundation to help understand the gap in current literature including conflicting results of recent studies and recommendations for future research on rural police officer stress and years of experience (Page & Jacobs, 2011; Paoline & Gau, 2017; Van Hasselt et al., 2010). Next, a discussion of Bandura's (1977) Theory of Self-Efficacy and Rotter's (1966) Locus of Control as the basis for this study illustrates how the theoretical foundation aligns with the research questions. Lastly, a review of the literature including the significance of the study on a global scale, police officer stress, years of experience, rural differences, coping, and methodology and instrumentation used here provide a clear understanding of the necessity for this study.

An extensive review of current literature identified the problem central to this study, revealed the gap, and provided blueprints for the design. With police officer stress recognized as a global problem, empirical studies, government reports, and other scholarly sources from around the world were critically reviewed. An internet-based search using online libraries and search engines including Google Scholar, ProQuest, SAGE, and Grand Canyon University (GCU) library was conducted to search thousands of journals and databases. Relevant search terms used included: police, law enforcement, stress, tenure, years of experience, rural, psychological, wellbeing, questionnaire, and survey. Numerous searches were conducted over a period of two years to include up-to-date sources, using differing search terms to reduce chances of missing important literature, and ensuring the literature review consisted of mostly all peer-reviewed sources. When conducting searches in Google Scholar, GCU library, SAGE, and ProQuest, optional boxes were selected in each search engine to include only peer-reviewed or scholarly sources. When sources were located, an additional review of the

journal or source of the article was conducted to make certain the source was peer-reviewed.

Searches began using the terms *police, officer, psychology,* and *wellbeing,* limiting the terms to the title field of articles. Thousands of results were found. Through a review of the most relevant results, police officer stress and wellbeing became common themes. Sources located produced conflicting results of police officers stress and a possible statistically significant relationship to years of experience. *Years of experience* was the most common terminology found in articles (as opposed to *tenure, years of service,* etc.). Additional searches conducted then included terms *police, officer, stress,* and *years of experience.* The searches resulted in hundreds of related articles with the most current, scholarly, relative sources used for this study. Finally, in reviewing the literature, the need to study rural officers became apparent. Therefore, searches of *rural, police, officer,* and *stress,* with and without *years of experience* resulted in several relevant articles used for this study. When using Google Scholar for all searches, a date limitation was not initially used in an attempt to prevent exclusion of older, but relevant articles. Then, the same search was conducted limiting searches to the past five years to identify recent articles that may have been missed in the thousands of sources listed in the previous search with no date limitation.

The search was primarily limited to the last five years except for seminal articles and rural studies. One of the most recent articles located studying rural police agencies, was Page and Jacobs in 2011, further illustrating the need for this study. Older studies of rural agencies and stress were also limited and found stressors unique to those agencies (e.g. limited budgets), and recommended future study of years of experience related to

stress (Oliver & Meier, 2004; Scott, 2004). When relevant studies were located, the cited references were reviewed and evaluated for possible literature review sources. Sources found in those articles were then searched, and so on. This search method allowed a thorough review of literature related to police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in police worldwide. The review also included conflicting results and the noticeable lack of current studies focusing on years of experience or rural police agencies, despite numerous studies so recommending. To clarify justification of this search and understanding of the overall issue, the background to the problem must be presented.

Background to the problem. Elevated stress and its effects on police have been an issue since the profession began. Studies over the past few decades illustrate the negative psychological and physiological effects of stress on police officers (Elntib & Armstrong, 2014; Liu et al., 2015). Research conducted by Westley in the 1940s and published in the 1970s examined police subculture (Westley, 1970). Findings showed police experienced unique stressors that led to isolation, secrecy, and increased violence and cynicism (Terpstra & Schaap, 2013). Ethnographic research throughout the 1950s, 1960s, and 1970s continued to examine police culture and stress. The majority of scholars found police cultural norms identified by Westley led officers down a path at odds with formal law, regulations, and accepted behavior. As a result, stress of police officers was consistently higher than the public. Danger at work, role ambiguity, high expectations and coercion from authority were all found to contribute to police officer stress (Willis & Mastrofski, 2017). As research continued, focus evolved to examine if police officers experience stress, cope, and adapt to the stress uniformly, or if cultural

heterogeneity exists, resulting in different experiences. Most current, quantitative research found the latter to be true with police officer experiences, coping, and adaptation related to stress varying according to sub-groups including religion, race, sex, location, etc. (Paoline & Gau, 2017). The President's Task Force on 21st Century Policing (2015) recognized police must adapt coping strategies to stress and improve wellbeing to ultimately increase effectiveness and relationships with the communities they serve.

As early as 1978, Sandy and Devine noted rural police officers serving small and rural communities experienced unique stressors (Oliver & Meier, 2004; Sandy & Devine, 1978). Police today are even more stressed because of ever-changing roles, instant life-and-death decision situations, and concurrently maintain personal lives (Haines, et al., 2013; Karaffa et al., 2015). Rural police officers can be highly stressed, but studied even less than metropolitan officers (Page & Jacobs, 2011). Despite over 90 percent of police agencies in 2002 serving jurisdictions fewer than 25,000 residents, the vast majority of research focused on large, urban agencies (Falcone, Wells, & Weisheit, 2002). Rural officers often wait longer times for assistance; serve multiple roles; and experience lack of equipment, funding, and opportunities for advancement. Full-time SWAT members, detectives, fatal crash investigators, hostage negotiators, and other specialized roles common to larger, metropolitan agencies are most commonly filled by patrol officers in rural agencies to save costs and make the most effective use of available personnel. However, serving multiple roles only adds to the rural officers' stress levels (Can & Hendy, 2014; Scott, 2004). Rural officers patrol the area they call "home" and are intimately connected to the community they serve (Scott, 2004, p. 239). They are

frequently recognized as police, even while off-duty at school and family functions, reducing time away from occupational stressors (Scott, 2004).

Stressors perceived by rural officers are not only greater at times, but are very different from urban officers, as illustrated above. Between Sandy and Devine's 1978 study and Oliver and Meier's 2004 study of rural officer stress, very little research was conducted specifically addressing rural officers (Oliver & Meier, 2004). Now more time has passed since Oliver and Meier (2004) and Scott (2004) with very little additional peer-reviewed publications addressing rural officer stress. Oliver and Meier (2004), Scott (2004), and many other scholarly publications recommend additional research of rural police officer stress and possible relationships with years of experience and other demographic factors (Brunet, 2015; Can & Hendy, 2014; Falcone et al., 2002; Page & Jacobs, 2011). This well-established gap in research neglecting rural officers justifies the need for this study, in addition to conflicting results in recent literature examining police officer stress.

Some researchers found police officer stress increases with years of experience while others found the opposite (Gershon, 2000; Padhy et al., 2015; Regehr et al., 2013). Other researchers even found stress increased during the first years of experience, peaked high mid-career, and then fell with increased experience, similar to a bell curve (Scott, 2004). Authors of existing studies show various relationships between police officer stress and other demographic variables (marital status, race, financial status, etc.), but either neglect years of experience or produce conflicting results (Padhy et al., 2015). Recommendations in current literature suggest study of years of experience related to police officer stress, especially in rural agencies (Page & Jacobs, 2011; Van Hasselt et al.,

2010). The researcher conducting the current study examined any statistically significant relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. This may help fill the gap surrounding rural agencies and conflicting results in current literature and add to the body of knowledge (Balmer et al., 2014; Liu et al., 2015).

Identification of the Gap

Police officers have experienced higher stress levels than other occupations since the inception of the career field. Research over the past several decades continues to affirm this and recognize the problem is only increasing (Haines et al., 2013; Karaffa et al., 2015). Negative effects of chronic and acute stress on police officers continues to lead to increased mortality rates, suicide, physical and psychological problems, martial and familial issues, behavioral problems, and expense to treat stress-related issues (Liu et al., 2015). Research of police culture, unique stressors, and related issues recognizes police as a whole experience increased stress. However, research has evolved over time to also recognize officers of different groups experience and process their unique stressors differently (i.e. groups by religion, beliefs, race, gender, age, location, department size, years of experience) (Paoline & Gau, 2017; Terpstra & Schaap, 2013; Willis & Mastrofski, 2017). Due to these differences, specialized studies have emerged focusing on most of those groups, but largely neglecting rural officers and officers with differing years of experience. The extent of any statistically significant relationship between stress and police officer years of experience in rural agencies still needs to be discovered.

A large research bias in police-stress research toward large, metropolitan, state, and national police agencies exists (Brunet, 2015). Most every researcher contributing to

the scant amount of literature on rural police officer stress recommends additional studies examining rural police officer stress and possible relationships to years of experience, coping mechanisms, gender, race, location, and other demographic factors (Brunet, 2015; Can & Hendy, 2014; Falcone et al., 2002; Page & Jacobs, 2011; Scott, 2004). While large metropolitan agencies have funds to support officer counseling, stress-mitigation programs, employee assistance programs, and other benefits, rural agencies often lack funds to offer similar programs (Can & Hendy, 2014). Therefore, a dire need exists to research rural police officer stress. Understanding the problem is the first step to raising awareness and hopefully bringing more resources to rural agencies to help officer wellbeing. By understanding the relationship between rural police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience, funds and resources can be directed where they are most needed to assist officers. If new officers experience the most perceived stress, stress-mitigation and other efforts can be directed to them. Conversely, if more experienced officers report more perceived stress, resources can be directed in that direction.

In addition to helping officers, other stakeholders can benefit from addressing the gap of understudied rural police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience. With increased knowledge and awareness, steps can hopefully be taken to effectively reduce officer stress and increase wellbeing. Officers who experience less stress are healthier, more productive, benefit other officers with improved interpersonal relationships, and are less likely to engage in maladaptive coping techniques (alcoholism and drug abuse, marital problems, physical violence, absenteeism, etc.) (Can & Hendy, 2014). As a result, family members of police officers

can benefit with healthier relationships. The general public can benefit from officers with increased wellbeing with improved service and not wondering if the officer who responds to their call is overworked, stressed, and thus more likely to engage in violence towards suspects and fellow officers (Kurtz, Zavala, & Melander, 2015). Finally, police agencies can benefit from more productive officers, reduced costs associated with officer stress (medical care, absenteeism, turnover, lawsuits, etc.) (Liu et al., 2015).

Unique rural stressors. A clear delineation between stressors of large metropolitan or national police forces and small, rural agencies was identified decades ago (Oliver & Meier, 2004; Weisheit, Falcone, & Wells, 1994). Rural officers are often recognized while off-duty at school, family, and social functions and while in the community completing daily tasks (e.g. grocery shopping), reducing time away from occupational stressors (Scott, 2004). They also experience unique stressors including reduced agency budgets and opportunities for advancement, increased wait times for backup officers, and even possible job loss due to the growing numbers of closing police departments (Brunet, 2015; Can & Hendy, 2014; Scott, 2004). Rural officers often wait longer times for assistance; serve multiple roles (counselor, detective, patrol, SWAT, jail transport officer, etc.); and experience lack of equipment, funding, and opportunities for advancement. Rural officers patrol the area they call "home" and are intimately connected to the community they serve (Scott, 2004, p. 239). Additionally, as budgets force towns and municipalities to close departments, still small, rural sheriff's departments are often tasked with taking on additional responsibility with no increase in budget or manpower (Brunet, 2015). These factors differentiate rural police officer stress and required separate study.

Rural agencies neglected in the literature. Despite rural police officers unique, sometimes increased stress, they are studied even less than metropolitan officers (Page & Jacobs, 2011). Police today are even more stressed because of ever-changing roles, instant life-and-death decision situations, and concurrently maintain personal lives (Haines et al., 2013; Karaffa et al., 2015). Rural agency officers can experience even further increased stressors even though they are not studied as much (Can & Hendy, 2014). Additionally, a distinct bias in literature focuses on large metropolitan or national police forces, neglecting rural agencies (Brunet, 2015). More than a decade passed between Sandy and Devine's (1978) often-cited study and Oliver and Meier's (2004) study of rural officer stress. During that time little research was conducted specifically addressing rural officers (Oliver & Meier, 2004). Since Oliver and Meier (2004) and Scott (2004), a noticeable lack of additional peer-reviewed publications addressing rural officer stress exists compared to studies of large, national and metropolitan agencies. Oliver and Meier (2004), Scott (2004), and many other scholarly publications recommend additional research of rural police officer stress and possible relationships with years of experience and other demographic factors (Brunet, 2015; Can & Hendy, 2014; Falcone et al., 2002; Page & Jacobs, 2011). This well-established gap in research neglecting rural officers justifies the need for this study, in addition to conflicting results in recent literature examining police officer stress.

Conflicting results in the literature. As previously mentioned, some researchers found police officer stress increases with years of experience while others presented the opposite (Gershon, 2000; Padhy et al., 2015; Regehr et al., 2013). Other researchers even found a relationship similar to a bell curve where stress increased during the first years of

experience, peaked high mid-career, and then fell with increased years of experience (Scott, 2004). The current body of literature either neglects years of experience or produce conflicting results while showing various relationships between police officer stress and other demographic variables (marital status, race, financial status, etc.) (Padhy et al., 2015). Limitations in current literature include a primary concentration on current studies focusing on large, state, national, and metropolitan officers rather than rural police, urban studies not generalizable to rural agencies, and a small number of studies focusing on years of experience despite including other demographic variables related to stress. Even still, conflicting results are frequently cited as a common limitation of current research, resulting in recommendations for future research.

Current trends and recommendations. Over the last five years, research has focused on sub-groups of police and their unique experiences related to stress. The trend in studies has moved from examining policing as a whole to specialized sub-groups including groups identified by age, gender, religion, marital status, socioeconomic status, specialty or rank within a department (Paoline & Gau, 2017). Recommendations in current literature suggest study of years of experience related to police officer stress, especially in rural agencies (Brunet, 2015; Page & Jacobs, 2011; Van Hasselt et al., 2010). This follows previous recommendations to address the lack of rural police studies (Brunet, 2015; Weisheit et al., 1994). Paoline and Gau (2017) recommended organizational psychologists further study police culture, particularly stress and coping mechanisms, to increase understanding of the topic area. The researcher conducting the current study examined if and to what extent any relationship exists between police officer stress, difficulty and likelihood of responding to stressful situations, and years of

experience in small, rural police agencies in Indiana. The goal is to fill the gap of limited number of current studies focused on small, rural agencies and conflicting results in current literature while also adding to the body of knowledge (Balmer et al., 2014; Liu et al., 2015). Stakeholders including officers, officers' families, agencies, and the general public can all benefit from increased understanding of rural police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience. Ultimately, the hope is by increasing understanding of rural police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience, resources can be appropriately directed to help mitigate stress and increase officer wellbeing, raise awareness, inspire additional research, help fill the gap, and add to the body of knowledge.

Theoretical Foundation

This study examined if and to what extent any statistically significant relationship exists between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. To aid in this process, Bandura's (1977) Theory of Self-Efficacy and Rotter's (1966) Locus of Control formed the framework of this study. Individuals with perceived internal locus of control believe they can control much of what happens in their daily lives, leading to increased wellbeing (Judge & Bono, 2001). Similarly, individuals with high levels of perceived self-efficacy typically trust their own abilities when experiencing difficult, stressful situations, think in self-enhancing ways, and can experience less stress and anxiety (Warner et al., 2015). Where self-efficacy is lacking, social and family support can supplement the deficiency (Warner et al., 2015). Officers at small, rural police

agencies have a more intimate relationship with their community, opening the possibility for increase social support (Scott, 2004). Every day police officers work, they are tasked with making decisions, sometimes life-or-death, based on their own abilities. While patrolling the streets officers have control over what happens in their life some of the time (deciding to perform traffic stops, visit citizens, etc.), while other times decisions are made for them in an instant (i.e. dispatched to an armed robbery). Officers in rural agencies must be more confident in their abilities and control because of increased wait times for backup officers, decreased supervision, and a larger patrol area away from resources (Can & Hendy, 2014; Scott, 2004).

Together, a person's perceived internal locus of control and high self-efficacy can better predict behavior in stressful situations than how the person may actually be capable of reacting (Brown et al., 2016). The Law Enforcement Officer Stress Survey (LEOSS) used in this study is designed to measure police officers' perceived stress for a variety of situations. Although it was developed using a behavior-analytic model, recent literature has emerged using theoretical foundations similar to this study (Cieslak et al., 2016; Van Hasselt et al., 2003). If police officers can develop and master internal locus of control and self-efficacy as years of experience increase, stress could decrease (Cieslak et al., 2016). If not, the opposite could hold true.

Alignment of self-efficacy and research questions. The research questions for this study ask if and to what extent any statistically significant relationship exists between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. Following the LEOSS, research questions also ask if any statistically significant relationship exists between

police officer years of experience and 1) difficulty and 2) likelihood responding to stressful situations in small, rural police agencies in Indiana.

According to Bandura's (1977) Theory of Self-Efficacy, individuals with increased self-efficacy should trust their own abilities when experiencing difficult, stressful situations (i.e. police work), think in self-enhancing ways, and could experience less stress and anxiety (Warner et al., 2015). Many current studies of police officer stress and resilience focus on self-efficacy and locus of control. Through those studies, researchers found statistically significant relationships between increased officer wellbeing and high levels of self-efficacy and internal locus of control (Balmer et al., 2014). Additionally, self-efficacy was significantly correlated with improved job performance and reduced stress (Judge & Bono, 2001). If police officers at rural agencies in Indiana experience increased social support to help supplement self-efficacy, perceived stress (difficulty and likelihood) related to work and life situations could be affected as years of experience increase (Scott, 2004).

Alignment of locus of control model and research questions. Rotter's (1966) Locus of Control was also used for research questions in this study. As mentioned above, the research questions for this study ask if and to what extent any statistically significant relationship exists between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. Locus of control refers to an individual's belief in how rewards or consequences of a situation come about. Those who place responsibility for outcomes with a higher power or any other external force are said to believe in external locus of control. Conversely, those who believe their own actions and behavior control situations and consequences are

said to believe in internal locus of control (Rotter, 1966). Since Rotter (1966) first postulated locus of control theory, many studies examining life and work topics in various professions explore the relationship of either internal or external locus of control to various outcomes.

Locus of control served as the foundation for many studies of stress and resilience throughout the years. Researchers comparing police officers who believed in external or internal locus of control participated in anonymous surveys to reveal stress levels related to work and life stressors. Results showed officers who believed in an external locus of control experienced the most perceived stress in all situations (Lester, 1982). Personality studies, including locus of control, revealed significant relationships between internal locus of control and reduced levels of work stress and strain, as well as more effective response and coping to presented stressors (Spector & O'Connell, 1994). The previously mentioned scholars who found self-efficacy was significantly correlated with improved job performance and reduced stress also found locus of control had a significant correlation with reduced stress (Judge & Bono, 2001). The current study may help extend Rotter's (1966) Locus of Control theory to include police officer stress.

Alignment of behavior-analytic model for stress and the LEOSS. The LEOSS used in this study was developed beginning in 2003 by Van Hasselt and associates (Van Hasselt et al., 2003). During the construction of the survey, the behavior-analytic model was used, taking a behavior-analysis approach to complete a functional analysis of the relationship between participant police officers' environment and behavior (Van Hasselt et al., 2003). The behavior analysis method was consistent with Kanfer and Saslow's

(1965) recommendation to study variables in behavior of people in a manner that allowed inferences to be made of controlling factors and various stimuli.

Van Hasselt and his associates found the behavior-analytic approach to be useful because it relied on empirical data and observable criteria rather than theoretical constructs, and had strong social validity (Browning, 2013). Although this study used a slightly different approach, researchers have recognized behavioral-analytic models and self-efficacy approaches are both reliable (Biglan, 1987). In fact, behavior-analytic model recognizes self-efficacy behavior ratings and correlations while adding possible correlations to environmental variables (Biglan, 1987).

Alignment of self-efficacy and locus of control to rural officers. This study examined if and to what extent any statistically significant relationship exists between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. The focus on officers at small, rural agencies was also supported by theories of self-efficacy and locus of control (Bandura, 1977; Rotter, 1966). Bandura and Rotter's theories have been used to study a variety of populations- rural officers was another population. As mentioned, rural officers typically have a closer relationship with their community, opening the possibility for increase social support (Scott, 2004). Social support can help supplement self-efficacy, possibly leading to higher ratings in rural officers (Warner et al., 2015). Rural officers could also benefit from a perceived internal locus of control and high self-efficacy, better predicting their behavior in stressful situations compared to how they may actually be capable of reacting (Brown et al., 2016). As years of experience increase, self-efficacy and perceived locus of control could result in increased or decreased stress.

Review of the Literature

Police officer stress has negatively affected officers since the inception of the profession. Numerous theories exist for reducing stress or improving how police respond to stress to help mitigate its negative effects. Theories proposed by researchers to mitigate the negative effects of stress in police include improving work-life balance (McDowall & Lindsay, 2014), focusing on positive emotions (Galatzer-Levy et al., 2013), and increasing resiliency through training (Weltman, Lamon, Freedy, & Chartrand, 2014). Understanding past and present literature surrounding these issues reveals the need for the current study. In the following sections of this chapter, a review of the literature is presented including discussion of the variables, relative themes and topics, and methodology and instrumentation commonly used. The comprehensive review includes a broad, balanced overview of the existing literature related to police officer stress and years of experience in rural agencies. It also identifies themes, trends, and conflicts in current research methodology, design, and findings. Additionally, a synthesis of the existing literature is presented including contributions related to police officer stress. Justification of the methodological approach used for the current study based on related empirical studies is also presented. Through this synthesis, the information presented defines the research gaps, plan, and approach for the current study.

Stress, years of experience, and rural agencies. Researchers conducting studies focused on police officers' increased potential for early death, chronic physical and psychological problems, and related work and family issues all acknowledge stress as the largest cause for these issues (Elntib & Armstrong, 2014; Liu et al., 2015; Violanti et al., 2013). The most common goals of related studies are to understand correlated variables

that result in increased or decreased stress, coping with stress, mitigating its effects, and improving police officer wellbeing (Papazoglou & Andersen, 2014). The current study examined police officer stress and the possible relationship to years of experience in rural agencies in Indiana, United States. A discussion of the literature surrounding these variables is presented here.

***Stress*.** Policing is consistently recognized as one of the most stressful and psychologically dangerous professions in the world (Husain, 2014; Kurtz et al., 2015). Current research of police officer stress continues to cite studies as far back as the 1940s when Westley (1970) and others studied police culture related to stress (Terpstra & Schaap, 2013). Stress in police stems from many sources including danger at work, role ambiguity, high expectations, coercion from authority, conflict among officers, and difficulty with problem solving (Corcoran, 2014; Willis & Mastrofski, 2017). Physical dangers at work can lead directly to psychological stress (West et al., 2017). Studies in current literature typically classify and study stress in one of three ways: stress originating from organizational sources (e.g. conflict with management), originating from occupational sources (e.g. responding to violent calls for service), or overall stress including organizational, occupational, and life stressors from outside police work (Hickman et al., 2011; Liu et al., 2015).

Organizational stressors are not unique to police work. Internal conflict with peers, subordinates, and superiors; red-tape; and ambiguity of goals and accountability are common in many career fields (McCormack & Riley, 2016). However, in police work, organizational stressors often include office politics, being subjected to scrutiny from multiple sources (bosses, prosecutors, judges, jurors, etc.), and internal desire to live

up to the high expectations of peers and the public (Liu et al., 2015). Researchers conducting a recent study of police officers in Buffalo New York found a perceived lack of organizational support resulted in a significant decrease in vagal control in female police officers, meaning the officers' autonomic nervous system took longer to recover from stressful, intense situations, leading to increased anxiety and risk of physical health problems (Andrew et al., 2017). McCormack and Riley (2016) echoed findings of other studies when they recognize organizational stressors can be more impactful than other stressor types. Officers in small and rural agencies also routinely experience organizational stress because of the lack of opportunity for advancement, older, limited equipment, reduced opportunities for training, and an expectation to serve multiple roles (Oliver & Meier, 2004; Page & Jacobs, 2011; Scott, 2004).

While studying how to reduce these stressors, researchers found police officers' satisfaction with organizational support, reception of positive feedback, and deserved recognition all contributed to significantly decreased levels of perceived stress (Giauque, Anderfuhren-Biget, & Varone, 2013). However, a commonly held internal police officer desire to help people (known as Public Service Motivation (PSM)) can actually lead to increased stress. Possessing too much PSM can actually increase officers' perceived stress levels because dedication to the profession and organization may cause increased self-criticism, self-demand, and criticism of personal shortcomings (Giauque et al., 2013).

Occupational stressors are present in almost every profession and are directly related to the tasks required by the profession. These are also sometimes referred to as operational stressors (Liu et al., 2015). Occupational stressors common to most

professions include work overload, struggle with work-life balance, role and role conflict (McCormack & Riley, 2016). They also contribute to detrimental effects on officer psychological and physiological wellbeing. In a recent study of 276 police officers from small (less than 100 member) police departments in Pennsylvania, data from surveys revealed occupational stress contributed to increased police officer aggression among the police 'family' (Can et al., 2013). Can et al. (2013) and Can et al. (2015) found officers in a supervisory role often experienced high levels of occupational stress and exhibited aggression towards younger officers, contributing to aggression between those officers as well. Police supervisors' ability to effectively manage relationships and conflict with subordinates is paramount (Corcoran, 2014). However, when officers were asked to report which type of stressor troubled them most, officers reported occupational stressors (e.g. critical incidents) the lowest, and organizational stressors (e.g. organizational unfairness) the highest (Can & Hendy, 2014).

The physical demands and increased risk of physical injury at work also contribute to occupational stressors of the job. Researchers conducting a recent study of full-time police officers in medium-sized urban police agency found sixty-two percent of officers experienced at least on non-fatal injury at work (West et al., 2017). Additionally, sixty-seven percent of those injured had experienced more than one injury at work with the average number of occurrences being three (West et al., 2017). However, the researchers showed although the officers typically heal from their physical injuries, the mental stress caused by the trauma of being injured, the fear of future injuries, and related strains (i.e. financial strain caused by lost work) was great. Officers working with those injured also experience stress worrying about the likelihood of also being injured at some

point in their career (West et al., 2017). Overall, West et al. (2017) found "even after adjusting for gender, age, and rank, a significant linear trend still existed in mean perceived stress across injury count (*P=0.025*)" (p. 1).

The highly stressful nature of police work has been shown to further harm police officers' physical wellbeing by disrupting cortisol levels. Violanti et al. (2017) studied over three-hundred police officers and their cortisol levels. Cortisol levels are supposed to quickly rise in people shortly after waking in the morning, then decrease before bed to allow sleep. Violanti et al. (2017) found repeated exposure to the occupational stressors of police work minimized the healthy, mountainous rise and fall of cortisol to more of a flat line, negatively influencing officers' ability to sleep at night and maintain energy during the day, leading to additional stress and physical health problems.

Work-life balance (also referred to as home-work conflict or work-family conflict) is another source of stress for many officers (McDowall & Lindsay, 2014). Police agencies often call off-duty officers in to work, require long hours, non-traditional schedules, and work on holidays. The stress of balancing commitment to the job and time with family and friends can become overwhelming. Kumar and Chakraborty (2013) found employees who effectively balance work and personal life are less stressed and more content overall, leading to improved performance and productivity at work, thus improving organizational effectiveness. High levels of emotional intelligence have been positively correlated with work-life balance, suggesting employers focus on increasing emotional intelligence of employees (Mahanta, 2015). According to Mahanta (2015) Emotional intelligence is "the capacity of an individual to define his own emotions and to become sensitive to those that he perceives from the environment and the circle of people

he is interacting with" (p. 43) and has been cited as a crucial contributor to organizational success. Additionally, Kumar and Chakraborty (2013) found employees must be empowered to put personal situations ahead of work commitments when necessary, without fear of reprisal or feelings of guilt. However, many times in the police profession spouses, parents, loved ones, friends, and other life commitments are forced to take a back seat to officers' work.

The findings of Padma and Reddy (2013) showed female police officers who were married or who had increased age and years of experience were better able to manage work and personal responsibilities, resulting in decreased stress. The younger, newer, single female officers were not as well-equipped to manage work and personal stress (Padma & Reddy, 2013). In a similar study, Kurtz (2012) found overall, female police officers who had families to care for at home experienced higher stress scores than single women and men who were single or had families. Regardless of gender, eight preliminary competencies have been recommended to help officers reduce stress from work-life strain: keeping perspective, boundary management (between work and life), being organized, proactively prioritizing work-life balance, managing flexibility, lifestyle changes, cooperation and coordination (with home life partner), and managing expectations (McDowall & Lindsay, 2014).

In police work, conflict between home and work life often leads to missed appointments, late work hours, arguments, and disappointed families (Can & Hendy, 2014). Newer, comprehensive instruments such as the LEOSS address life, work-life balance, organizational, and occupational stressors to provide a more complete picture for analysis (Can et al., 2015; Van Hasselt et al., 2003). Some argue work stress and life

stress are intertwined, so studies should use a comprehensive approach to examine all types of stressors (Garbarino & Magnavita, 2015). After using multiple linear regression tests to analyze data from 289 police officers in some form of union (e.g. marriage), Haines et al. (2013) found positive core self-evaluations (i.e. self-esteem, locus of control, and emotional stability) were related to less work-family conflict. Furthermore, they found officers who have a more positive outlook on life experienced less burnout at work, less work-family conflict, and less work-family conflict (Haines et al., 2013).

As mentioned, rural police officers are frequently recognized as officers even while off-duty (Scott, 2004). Even in urban areas, police must maintain heightened levels of awareness for long periods of time, resulting in routinely being over-stressed. Going home after a stressful shift to life's other responsibilities can make it hard for police to decompress, further linking stressors from work and life. Eventually, increased unnecessary aggression at home and work can become more likely because of the stress (Geller, Fagan, Tyler, & Link, 2014).

***Difficulty responding to situations*.** Every police officer responding to a particular situation will experience a unique, personal level of difficulty for a variety of reasons. Personality traits, emotions, and other human factors serve to explain difficulty and stress, its effects, and mitigation efforts. Police officers use of positive emotions can help mitigate the effects of stress and improve overall wellbeing. Negative emotions while anticipating a stressful experience, including fear and anxiety, can cause adverse psychological and physiological changes. Not only can positive emotions avoid these problems, they can also help to reverse the negative effects of previous adverse experiences (Galatzer-Levy et al., 2013). Personality traits have also been linked to stress

and response to stressors. Officers who are emotionally stable and show high friendliness scores are often able to navigate stressful situations more effectively and with fewer negative effects. Conversely, officers who held in emotions, were emotionally unstable, or did not have a strong support base (because of being emotionally closed-off or unstable, or being unfriendly) experienced more negative effects from stressful situations (Garbarino, Chiorri, & Magnavita, 2014).

Increased media coverage, social media presence, and public criticism of police have also contributed to increased stress in today's police officers (Wolfe, Rojek, Manjarrez, & Rojek, 2018). After an unarmed black teenager was shot and killed by a white police officer in Ferguson, Missouri in 2014, public outcry against police began to rise (Nix & Wolfe, 2016). Almost immediately, law enforcement agencies found police officers were more cautious using force against non-compliant suspects, even to the extent that officer safety was jeopardized (Nix & Wolfe, 2016). Increased social media posts and media coverage of police encounters have also contributed to police officers increased hesitancy to use even appropriate force to subdue suspects (Nix & Wolfe, 2017; Wolfe et al., 2018). Police officers know any action they take can be spread almost immediately via the internet, social media, and other outlets with increased scrutiny to follow. The fast-paced release of video and reports of police encounters has also led to increased scrutiny and inaccurate reporting by civilians and journalists, further increasing officer stress (Deschênes, Desjardins, & Dussault, 2018). Researchers are already trying to determine ways to combat this related stress and ensure police officers feel protected doing their job so they will not hesitate to take action when necessary (Wolfe et al., 2018). Consistent support by supervisors and organizations assuring officers they will

enjoy the support of their organizations and peers after such incidents was found essential to relieving some officer stress, but the problem still persists nationwide with no end in sight (Nix & Wolfe, 2016).

***Likelihood of responding to stressful situations*.** While police officers can make some decisions about pro-active policing activities (i.e. conducting traffic stops), they cannot control the type or likelihood of calls-for-service to which they are dispatched. The unique, personal levels of stress experienced by police officers caused by the likelihood of responding to stressful situations varies (Can et al., 2015). Researchers found high likelihood responding to stressful situations can lead to burnout in police, psychological and physical health issues, and officers leaving the career field all together (Haines et al., 2013). The stressful situations officers must frequently respond to can include calls-for-service (occupational) and daily interactions in their own agency (operational) including dealing with leadership (Parsekar, Singh, & Bhumika, 2015).

No matter the cause of stress, the effects have proven to be detrimental to physical and psychological health. Garbarino and Magnavita (2015) used medical tests at the beginning of their study, then five years later, to examine police officer health related to stress. The study concentrated on metabolic syndrome which increases the risk of myocardial infarction, cardiovascular disease, and cardiovascular disease mortality by twofold. It is also associated with the risk of cancer, and with cognitive decline in younger people. Police officers who experienced high levels of stress were much more likely to develop metabolic syndrome. Garbarino and Magnavita (2015) also recommended steps should be taken to understand, reduce, and mitigate stress from all sources since psychological stress at work is a key contributor to metabolic syndrome.

Years of Experience. While working to understand stress and related variables, most studies of police officers gather demographic data from participants including age, gender, marital status, and years of experience. Few studies have used police officer years of experience as a primary variable while examining any correlation between it and stress. However, Naz and Gavin (2013) found years of experience was significantly, inversely correlated to resilience. Resilience is often associated with the ability to effectively cope and deal with stress. In the multi-national sample, Naz and Gavin's 613 participants responded to the quantitative surveys, ultimately showing officers' resilience decreased as years of experience increased (Naz & Gavin, 2013).

Many researchers conducting current studies of police officer stress only focus on specific groups including officers who are just entering a police academy. While this allows for a convenient sample, officers with increased years of experience are typically not included (Arnetz et al., 2013). When studies include officers with varying years of experience, results vary. Multiple regression analysis as part of Browning's (2013) study showed police officers with over 30 years of experience reported increased difficulty and likelihood responding to stressful situations.

Coping strategies and resilience are generally accepted as directly impacting the ability to mitigate the negative effects of stress (Balmer et al., 2014). Years of experience has been negatively correlated with resilience, showing officers with increased years of experience exhibit lower levels of resilience (Prati & Pietrantoni, 2010). One recent article very similar to the current study examined if, and to what extent, a statistically significant relationship exists between police officer resilience and various demographic variables including years of service (Balmer et al., 2014). Researchers found "reliance on

emotional and avoidance coping strategies by…longer serving…officers may reflect officers' attempts to control their emotional responses to their long history of exposure to stress and trauma" resulting in decreased resilience and increase stress (Balmer et al., 2014, p. 280). Recommendations made by Balmer et al. (2014) include further study on police officer years of experience, stress, and other demographic variables. Additionally, in 2015, Parsekar, Singh, and Bhumika found years of experience as a police officer (P = 0.004) and 28 stressful activities were significantly associated with psychological stress. However, the authors noted their findings contradicted results of a similar study by Naik (2012) that found no such association (Parsekar et al., 2015). The limited number of studies focusing on years of experience as a primary variable, the recommendations to do so, and the conflicting results of existing studies are evident in the literature.

***Rural agencies*.** Some of the same issues surrounding years of experience are also present in respect to rural police agencies. The majority of current researchers focus studies on large, metropolitan or national police forces and neglect rural agencies (Brunet, 2015; Page & Jacobs, 2011). Despite decades of urbanization a substantial portion of police officers, the agencies they work for, and the populations they serve are still considered rural (Donnermeyer, 2017). Classifications of rural agencies differ across studies, resulting in difficulty generalizing studies. Studies range from specific, varying definitions of rural, to simply acknowledging the many definitions of rural, stating the sample or population of a study either does or does not meet a general rural criteria (Woldoff, Litchfield, & Sycafoose-Matthews, 2017). Oliver and Meier (2004) defined rural agencies as police organizations that serve 50,000 or less people, the same classification used for the current study. In recent years many small and rural police

agencies have faced closure and disbanding because of funding issues, leading to another unique stressor of rural officers (Brunet, 2015). Four of the most recent studies addressing rural police agencies and officer stress are Anderson and Reinsmith-Jones (2017), Scott (2004), Oliver and Meier (2004), and Page and Jacobs (2011).

Rural officers often wait longer times for assistance when responding to calls for service. Greater distance to travel to calls-for-service and fewer officers means an officer on a call who may be in a physical fight, chasing a suspect, responding to a robbery, or even trying to console a family after a severe crash or loss of a loved one, may be forced to wait much longer for assistance (Scott, 2004). The rural officers frequently serve multiple roles as well. Large, metropolitan agencies often have full-time, dedicated SWAT teams, hostage negotiators, detectives, etc. Due to the lack of manpower, funding, and resources, most rural officers are tasked with filling those specialized roles while also serving as a patrol officer (Page & Jacobs, 2011; Scott, 2004). Additionally, rural police agencies must often rely on unpaid volunteer or reserve officers to supplement patrol coverage (subjecting those reserve officers to the same stressors as full-time officers) (Vaghela & Khaniya, 2017). These multiple-responsibilities can strain the officer and contribute to work-life balance issues (Scott, 2004).

When officers in rural areas experience a lack of calls-for-service, the reduced activity can also cause stress unique to small and rural agencies. The often-large geographical areas rural agencies must cover can also lead to a feeling of isolation (Oliver & Meier, 2004). Additionally, rural officers patrol the area they call “home” and are intimately connected to the community they serve (Scott, 2004, p. 239). They are frequently recognized as police, even while off-duty at school and family functions,

reducing time away from occupational stressors (Scott, 2004). Working with the community officers are closely connected to also means rural officers must often deal with friends and family in an official capacity including investigations, vehicle crashes, arrests, and even deaths (Oliver & Meier, 2004; Page & Jacobs, 2011).

Rural agencies typically suffer from a lack of resources for the community and their officers compared to their urban counterparts (Anderson & Reinsmith-Jones, 2017). The reduced availability of training, equipment, and other resources can be stressful enough for officers (Scott, 2004). However, the current opioid crisis that affects residents nationwide is also very prevalent in rural areas where resources are limited (Anderson & Reinsmith-Jones, 2017). Anderson and Reinsmith-Jones (2017) found rural officers often experience a lack of resources for addicted residents (i.e. treatment facilities, Naloxone and other drugs to help overdose victims, and counselors), resulting in increased stress levels. The increased stressors included repeatedly dealing with the same residents, uncertainty over how to effectively deal with overdose victims, possible exposure to the new, powerful opiate drugs, and the possibility of dealing with family or friends addicted to opiates (Anderson & Reinsmith-Jones, 2017).

Since rural agencies often lack funding to provide counseling services for officers, and the police subculture leads to a distrust of therapy, rural officers often only have each other and social support to rely on (Scott, 2004). Even when counseling services are available in rural areas, counselors often do not understand the issues specific to police work and how to treat them. A recent article summarizing a mental health conference noted professional counselors need additional education on how to understand and treat rural police officers because of the unique stressors those officers face (Ahlgren, 2017).

In a recent study, Loriol (2016) examined collective forms of coping among police officers. Loriol (2016) found rural police units consisting of officers with mixed experience levels resulted in the best outcomes with positive attitudes and beneficial coping among officers. Loriol's (2016) study found older officers often re-tell stories of successful, high-profile cases from days long-ago, which helps perpetuate the notion of a great and noble profession. Additionally, the older rural officers' wisdom and experience combined with the younger officers re-energizing the older officers, and the mix seemed to work well for coping with stressful situations (Loriol, 2016).

Browning (2013) completed an analysis of archival data including studies involving over 200 police officers. The study's purpose was to evaluate the LEOSS compared to other stress, resilience, coping, and trauma assessments. Throughout the analysis of a wide variety of archival data included for the analysis, Browning (2013) noted officers included in the studies worked in almost every region of the United States, except Indiana and Northwest regions. Additionally, most officers (n=191) were from large state or municipal agencies. Finally, only a very small number of officers (n=10) were from rural areas, leaving a gap of rural officers in Indiana without representation (Browning, 2013).

In Page and Jacobs' 2011 study of 85 rural police officers in Oklahoma, results showed rural police benefited significantly from social support from friends. The data were analyzed from five self-report surveys participants completed, including the Police Stress Survey (PSS), Operational Police Stress Questionnaire (PSQ-Op), Organizational Police Stress Questionnaire (PSQ-Org), and the Multidimensional Scale of Perceived Social Support (MSPSS). In the sample of rural officers, social support from friends,

family, and significant others were significantly correlated with overall life stress. With respect to operational and organizational stress, social support from friends was the most significantly correlated (operational $r = -0.30$, $p < 0.01$) and (organizational $r = -0.19$, $p < 0.05$). The most significant findings, as identified by Page and Jacobs (2011), were that 62.5% of the rural officers desired more counseling services, citing a lack of services in their area; and 70.6% indicated they prefer speaking to peers about stressful events rather than a therapist. The lack of services, unique stressors, absence of recent studies of rural police agencies, and recommendations to further study rural agencies identifies a gap addressed by the current study.

Summary. Detrimental effects of police officer stress demand further study to examine correlated variables, better understand the problem and hopefully begin to increase officer wellbeing (Papazoglou & Andersen, 2014). Investigating police officers' increased potential for early death, chronic physical and psychological problems, and related work and family issues all acknowledge stress as the largest cause for these issues (Elntib & Armstrong, 2014; Liu et al., 2015; Violanti et al., 2013). Current literature identifies effects and types of stressors, but neglects years of experience and rural officers. A discussion of current themes and topics associated with police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies may offer more insight.

Themes and topics. The negative effects of chronic exposure to stress by police officers worldwide are commonly studied and accepted. The magnitude of those negative effects on physical and psychological health, family and marital life, and overall wellbeing have led to increased national need for related studies (Papazoglou &

Andersen, 2014). The national agenda, police subculture, coping, and post-traumatic growth are common themes and topics found throughout literature and discussions of the police-stress-problem. A discussion of each follows.

National agenda. Nationally, the need exists to reduce the effects of stress on police officers to increase their health and effectiveness to benefit the officers, organizations, families, peers, and the communities the officers serve, especially rural areas (Papazoglou & Andersen, 2014). Effects of chronic exposure to stress are cumulative and result in numerous physical and mental health problems and lead to officers feeling irritable, sleep disorders, hypertension, anxiety, cynicism, emotional exhaustion, depersonalization, and reduced personal accomplishment (Elntib & Armstrong, 2014; Liu et al., 2015). Obesity levels (high body mass index (BMI)) in police officers are also on the rise and have shown a significant correlation with increased stress (Gu et al., 2013). Police officers are more likely to abuse alcohol and other substances as they develop maladaptive coping strategies (Ménard & Arter, 2014; Shakespeare-Finch et al., 2014). Officers who are stressed and exhibit anxiety are also more likely to discharge their firearms in critical incidents when firearms use was not appropriate (Covey et al., 2013).

The stress of police work is also known to cause trouble with family life leading to increased marital issues, family problems, divorce, and even abuse. Familial issues cause by police work are one of the most common issues reported by mental health counselors nationwide. A recent sample of almost 100 police officers (mostly male) and their spouses (mostly female) completed questionnaires about martial issues and police work. The results showed police spouses developed some of the same habits as the

officers including financial concerns, work-family conflict, and law enforcement-specific stressors including dealing with negative public attitudes toward police. The study also showed both groups relied primarily on family and friends for support, instead of professional sources (Karaffa et al., 2015).

***Police subculture*.** The presence of a police subculture was studied by Westley in the 1940s and published in the 1970s. He used his findings to show police experienced unique stressors that led to isolation, secrecy, and increased violence and cynicism (Westley, 1970). Additional ethnographic research throughout the 1950s, 1960s, and 1970s continued to examine police culture and stress (Terpstra & Schaap, 2013). The unique stressors of police including danger at work, role ambiguity, high expectations and coercion from authority were all found to contribute to the existence of police subculture (Willis & Mastrofski, 2017). While some argue police subculture helps officers deal with the stressors of work among peers, pitfalls of the subculture include development of cynicism, pessimism, suspicion, isolation, and machismo attitude (Atkinson, 2017). Officers often use humor and conversation after stressful events to cope with stress. The conversations are typically restricted to those within the subculture since they believe the general public will not understand the issues. These conversations and groups can be helpful, unless they become too exclusive, secretive, and lead to an us-versus-them mentality (Loriol, 2016).

Although past research viewed police culture as a whole, current literature researched if police officers experience stress, cope, and adapt to the stress uniformly, or if cultural heterogeneity exists, resulting in different experiences. Most researchers of current, quantitative studies found the latter to be true with police officer experiences,

coping, and adaptation related to stress varying according to sub-groups including religion, race, sex, location, etc. (Paoline & Gau, 2017). Although police officers within the subculture experience increased stress over other professions, individual perceptions of stress and differences in coping exist. Police are expected to develop and use compassion, be sensitive during their work, but also learn to use aggressiveness to protect themselves in situations perceived as violent. These wide-ranging expectations can be stressful and effect every officer within the subculture differently (Mercadillo, Alcauter, Fernández-Ruiz, & Barrios, 2015). The President's Task Force on 21st Century Policing (2015) recognized police must work to break down the walls of the subculture. Police must adapt coping strategies to reduce stress and improve wellbeing to ultimately increase effectiveness and improve relationships with the communities they serve.

The police subculture and self-isolation commonly used as a coping mechanism can perpetuate distrust in non-police. The overall distrust contributes to police lack of trust in confidentiality measures for research studies and officers' reluctance to participate in health and wellness programs, including seeking help with stressful and traumatic events (Boshoff & Strydom, 2015; Loriol, 2016). The reluctance is compounded when cultural traditions, religious beliefs, and customs also affect the willingness of police officers to discuss psychological wellbeing issues or seek help (Naz & Gavin, 2013). The subculture also fosters a warrior image, increasing police reluctance to speak about stress or feeling for fear of appearing weak (Evans et al., 2013). Despite violence and increased terror events, police need to shift from a warrior mentality to a guardian mindset to improve wellbeing, break down negative walls of the subculture, and improve relationships with citizens (President's Task Force on 21st Century Policing,

2015). Although police subculture and self-isolation are used as coping mechanisms by officers, many other options exist.

***Coping*.** Coping is, as simply stated by Balmer et al. (2014), "an individual's ability to moderate the effects of stressful and traumatic events is influenced by the coping style they employ" (p. 272). Coping is also typical defined as an individual's "cognitive and behavioral actions to manage internal or external stressors or problems which exceed their personal resources" (Balmer et al., 2014, p. 271). When officers make the choice to use effective coping techniques, stressful and traumatic events can turn in to opportunities for growth (Fletcher & Sarkar, 2013) and increase officer wellbeing, even in the face of adversity (Majumdar et al., 2016). Because of the potential to turn a negative situation in to a positive opportunity for growth, numerous researchers have conducted studies examining coping mechanisms and police officer stress mitigation (Andersen et al., 2015; Arnetz et al., 2013; Balmer et al., 2014; Budykin & Dvoryanchikov, 2013).

Budykin and Dvoryanchikov (2013) found police officers' method of coping can contribute to either growth or adverse consequences after stressful or traumatic events. In general, coping mechanisms are grouped in to two categories: healthy (adaptive or active) and unhealthy (maladaptive). Healthy coping mechanisms help the individual feel better in the short and long-term and improve physical and psychological wellbeing. Kaiseler, Passos, Queirós, and Sousa (2014) studied almost 400 police recruits and found those who used healthy, active coping strategies (taking active steps to overcome stressors) exhibited less behavioral disengagement, resulting in increased wellbeing, vigor, and dedication to the job. Examples of healthy coping include talking with social support

networks including police peers, family, and religious family (Can et al., 2013). Naz and Gavin (2013) found strong family, social, and organizational support can help increase officers' ability to effectively cope with stress. Police often use humor with peers as a coping mechanism while using more direct conversation with family support systems (Evans et al., 2013). Eating right, exercising, and sleeping enough help also cope and improve wellbeing (Can & Hendy, 2014).

Unhealthy coping mechanisms, also referred to as maladaptive coping, result in decreased wellbeing, increased stress in the long-term, increased maladaptive behavior, and decreased physical and psychological health (Can & Hendy, 2014). Mechanisms police officers often use for unhealthy coping include eating fattening foods, increased use of caffeine, nicotine, alcohol, and other substances, isolation (e.g. 'bottling-up' emotions), and using outbursts of anger in attempts to relive bottled-up emotions (Can & Hendy, 2014). Using emotional venting to constructively relieve negative emotions to prevent 'bottling-up' and explosive outbursts can be effective in turning a potentially negative coping mechanism to a positive one (Gumani, Fourie, & Terre Blanche, 2013). When Can and Hendy (2014) studied coping mechanisms and police officer stress, they found when one important maladaptive coping mechanism was removed- repressed anger, health problems explained by stress dropped by 77% to non-significance, the association between police stress and low self-esteem became non-significant by dropping 69%, partner aggression relationship with stress became non-significant by dropping 67%, and the relationship between police stress and aggression dropped 62%, also dropping to non-significance.

Researchers studying police officer coping methods, personality traits, and stress, have also found effective and ineffective results. Personality traits of neuroticism, psychoticism, and extroversion were studied by Kaur, Chodagiri, and Reddi (2013) with coping methods including negative distraction and denial or blame. Kaur et al. (2013) showed a statistically significant association with the variables and psychological stress. They found the most commonly used coping methods across the sample included social support, acceptance, and problem solving. Finally, Kaur et al. (2013) found "personality traits and coping methods have significant independent and interactive role in the development of high psychological stress in police persons, thus placing them at a high risk of developing psychiatric disorders" (p. 146).

A recent study by Maran, Zedda, and Varetto (2018) closely examined both occupational and operational stress in police by using surveys distributed to over five-hundred police officers. The results supported findings of previous studies indicating police officers used multiple types of coping strategies to deal with various stressors. However, Maran et al. (2018) also divided their sample in two groups: officers stationed inside (administration, detectives, support staff, and anyone working daily inside the department) and officers stationed outside (patrol officers, parking enforcement, etc.). While the researchers found officers in both groups used both adaptive and maladaptive coping techniques at various times, a trend emerged depending on assignment. The officers stationed inside often use avoidance to and relieve stress caused by interpersonal conflict with other employees or administration (i.e. avoiding personal contact, calls, and emails). Officers stationed outside were more likely to use a wide variety of coping

techniques including changing their attitude or routine to form a more positive outlook (Maran et al., 2018).

***Post-traumatic growth*.** Negative effects of stress from both traumatic events and chronic exposure to everyday organizational and occupational stressors can lead to increased risk of Post-Traumatic Stress Disorder (PTSD) (Wills & Schuldberg, 2016). Effectively coping, managing stress, and possessing high self-efficacy can help mitigate effects of stress, reduce the risk of PTSD, and actually lead to Post-Traumatic Growth (PTG) (Brown et al., 2016; Wills & Schuldberg, 2016). According to Chopko, Palmieri, and Adams (2016), PTG is what occurs when trauma triggers a search for meaning and restructuring of a person's assumptions that results "in positive outcomes such as gaining a new appreciation for life, experiencing enhanced spirituality, and discovering new paths in life" (p. 2). Individuals who experience traumatic events often have personal views and assumptions of the world changed in an instant. The experience leaves the individual searching for meaning to replace or reshape the recently changed assumptions. The search for meaning can lead to positive or negative outcomes including PTSD or PTG (Chopko et al., 2016). Police officers are prone to experience either PTSD or PTG after exposure to traumatic events (McCanlies, Mnatsakanova, Andrew, Burchfiel, & Violanti, 2014).

PTG is predominantly studied using police officers who have experienced critical incidents and severe trauma. However, a recent study (Leppma et al., 2018) examined PTG using a sample of New Orleans police officers who were experiencing everyday stressors of police work. Leppma et al. (2018) found police officers who experienced gratitude, satisfaction with life, and increased social support enjoyed significantly higher

PTG and fewer negative effects from stress. Leppma et al. (2018) also recommended agencies teach officers to focus on gratitude, satisfaction with life, and developing social support to encourage PTG and improved wellbeing despite everyday stressors of law enforcement. With the proper mindset, training, and preparation, traumatic events can more likely result in PTG and positive outcomes including new, positive views on life, a new appreciation for being alive, enhanced spirituality, an appreciation for family, friends, and peers, increased wellbeing, and overall positive growth (Chopko et al., 2016). Researchers have recently shown current programs designed to reduce stress and anxiety through exposure therapy, emotional disclosure, and stress-management were also effective at increasing PTG (Roepke, Benson, Tsukayama, & Yaden, 2017).

Summary. The national discussion of police officer wellbeing and related stress issues has splintered. The discussion now includes literature on police officer subculture, coping mechanisms, and posttraumatic growth. The negative effects on physical and psychological health, family and marital life, and overall wellbeing of police officers has highlighted the national need for further study in these areas to add to previous literature (Papazoglou & Andersen, 2014).

Methodology and instrumentation. Existing literature on police officer stress, years of experience, and related themes and topics includes some common methodologies and instruments. Research of police has evolved over the years as limitations were identified with some methods and instrumentation choices. As mentioned, police subculture and attitude reduce the likelihood of police officers taking part in studies requiring discussion of stress with non-police, including therapists and researchers (Page & Jacobs, 2011). This limitation and more are included in the following discussion of

prior methodology and instrumentation used to study police officer stress and related variables.

***Prior methodology*.** Both qualitative and quantitative methodologies have been used by researchers to examine police officer stress. Many of the studies are correlational as researchers attempt to learn more about police officer stress and its causes, correlated variables, and how to mitigate its negative effects. Researchers conducting qualitative studies published in recent literature note several limitations. Evans et al. (2013) interviewed 19 police officers in the London area in their study of police officer stress and how officers cope with different situations around different audiences. Their findings echoed those of others by confirming police officers are largely reluctant to speak about stressful events, especially in-person to non-police officers, are reluctant to speak to others about perceived stress, especially in-person and to non-police, out of fear of appearing weak (Evans et al., 2013; Gumani et al., 2013). More recently, Mummolo (2018) found police officers' machismo attitude, conservative nature, and inherent distrust of anyone outside of law enforcement has led to unreliable findings in qualitative studies of police officers. Additionally, when police supervisors are used to answer questions about their subordinates in an attempt to circumvent the reluctance of street-level officers to speak honestly to researchers, findings are still unreliable. According to Mummolo (2018), police supervisors do not possess an accurate understanding of their subordinates' intimate feelings and daily activities because of the street-level officer's typical distrust of their own administrations. These findings help illustrate the choice of an anonymous survey for the current, quantitative study.

Bridging the gap between qualitative and quantitative studies, Boshoff and Strydom (2015) used a mixed-methods approach to study police officer stress, trauma responses, and demographic variables in an attempt to understand why current stress mitigation programs in the South African Police Services are ineffective. The researchers recognized police officers' reluctance to participate in wellness programs, and research studies, because of the police culture and a distrust of confidentiality measures. In method designed to increase participation in the study, Boshoff and Strydom (2015) used the most common method of data gathering in social work: quantitative surveys. Following Rahman, Aman, Adnan, Ahmad, and Darus (2014), years of service for the study were divided in to five-year increments, also similar to the current study. The correlational design used Spearman's rank-order correlation and found a significant, positive correlation between age (r_s (8) = .199, p = .000), and years of service within the SAPS (r_s (8) = .317, p = .000), and the likelihood of exposure to trauma, contributing to higher stress in police (Boshoff & Strydom, 2015).

Padma and Reddy (2013) used a quantitative study with a correlational design when they administered surveys to female police officers in India to examine stress and work-life balance. Their choice of method and design was dictated by literature included in their review and acknowledged reluctance of participants to speak personally about personal and psychological wellbeing. The researchers showed female police officers who were married or who had increased age and years of experience were better able to manage work and personal responsibilities, resulting in decreased stress. The younger, newer, single female officers were not as well-equipped to manage work and personal stress (Padma & Reddy, 2013).

Some researchers conducting studies in current literature rely on experimental treatment of police officers to evaluate effectiveness of stress mitigation or coping programs. Shakespeare-Finch et al. (2014) used such a method to study stress, resilience, coping, PTSD, and post-traumatic growth (PTG) in police officers. In the study of 246 Queensland Police Service participants Shakespeare-Finch et al. (2014) subjected the treatment group of participants to the Promoting Resilient Officers program. The Posttraumatic Growth Inventory and Impact of Events Scale-Revised results revealed increased likelihood of psychological growth after traumatic, stressful evets when officers are trained how to properly deal with events. However, the researchers noted police who do not receive such training remain at high risk for PTSD and other comorbid conditions related to exposure to chronic and acute stressors in police work. Shakespeare-Finch and associates acknowledged their study only used new police recruits with no experience. They recommended future studies examine officers with varying and increased years of experience (Shakespeare-Finch et al., 2014).

Using a similar methodology to Shakespeare-Finch et al. (2014), Weltman et al. (2014) studied 12 police officers and 2 dispatchers from the San Diego Police Department in California. The goal of the study was to increase resilience and decrease stress in police officers via a mobile app, minimal training, and four – one-hour blocks of mentoring. Surveys including the Personal and Organizational Quality Assessment (POQA) were used to evaluate participants before and after the treatment. Weltman et al. (2014) showed emotional vitality improved by 25% (P=0.05), physical stress improved by 24% (P=0.01), and the overall stress subscale improved by 40% (P=0.06). While

mentor notes and participant interviews were used, the primary source of data came from the 52-item POQA and quantitative analysis.

Arnetz et al. (2013) used a longitudinal study of new police officers over a two-year period. The sample of 75 Swedish police officers completed several assessments of biological measures (e.g. cortisol and endocrine levels) and an abbreviated version of the General Health Questionnaire (GHQ-R). These were completed before, during, and after guided imagery, education about negative effects of stress on human wellbeing, muscle relaxation techniques, and cue-controlled relaxation were applied in a program presented to the treatment group of officers. The treatment included exposure to ten critical incidents identified as typical, high-stress situations officers face on the job. The results showed the training was effective in improving physical and psychological stress-responses among new police officers (Arnetz et al., 2013). Arnetz worked with Andersen and other associates and completed a similar study of SWAT officers to help improve physiological responses to stressful situations and improve physical and psychological wellbeing (Andersen et al., 2015). While both studies contributed to the body of knowledge of police officer stress and mitigation approaches, years of experience and rural officers were neglected, and limitations of this study prevent the use of a longitudinal study.

Meta-analysis and case studies also appear in the review of police stress literature. Webster (2013) conducted a worldwide search of published and unpublished studies of police officer perceived stress, examining over 338 effect sizes from 103 studies. Webster (2013) found the most common method of gathering information to study police stress is author-created surveys with Likert-type scales for responses (15.1%). He also found rural

areas were vastly under-studied (8.1%) and typical rural agencies (e.g. sheriff's departments) were also under-studied (5.3%) (Webster, 2013). Although sociodemographic variables were noted in the analysis, they were reported collectively since many studies did not specify if the variables were part of specific analyzed workgroups. However, Webster (2013) found collectively, sociodemographic variables exhibited a modest effect on perceived stress (r=.05). Webster's (2013) analysis stated the need for more consistent, quantifiable data through increased rigor in methodology and instrumentation.

In a similar approach to the current study, Can and Hendy (2014) used anonymous surveys in their study of 201 police officers. The quantitative, correlational approach employed the LEOSS. Additionally, the survey began with a brief demographic survey and finished with supplemental questions asking participants to name possible healthy and unhealthy coping mechanisms that may be used by officers after stressful situations (Can & Hendy, 2014). The current study will also gather demographic information before the LEOSS. Can and Hendy (2014) used Pearson correlations to examine relationships between police stressor scores and demographic variables. They found "police stressor scores were not significantly associated with gender ($p = .935$), ethnicity ($p = .080$), police rank ($p = .054$), college education ($p = .051$), age ($p = .530$), years of service ($p = .194$), number of children ($p = .270$) or family income ($p = .604$)" (Can & Hendy, 2014, p. 172). However, Can and Hendy (2014) recognized the study was limited to primarily Caucasian, male officers in Pennsylvania; they recommended replicating their study in different regions of the United States with increased diversity in sample.

In yet another quantitative, correlational study, Jojo (2016) used a sample quite different from Can and Hendy (2014). Jojo (2016) investigated the relationship between occupational stress, intrinsic motivation and job engagement in the South African Police Service. The researcher also examined if rank or gender had an effect on the study variables. The 1,794 active police officer participants completed a four-part survey that included demographic questions, a police stress survey, the intrinsic motivation inventory, and the job engagement scale. For data analysis, SPSS was used to complete both inferential and descriptive statistical analyses. One finding by Jojo (2016) was a significant, negative relationship between occupational stress and job engagement.

In 2015, Parsekar et al. employed a quantitative study very similar to the current study. They found years of experience as a police officer ($P = 0.004$) and 28 stressful activities were significantly associated with psychological stress. The cross-sectional study took place in India using a sample of 76 police constables who completed surveys (General Health Questionnaire, Organizational Police Stress Survey, and Operational Police Stress Survey). When SPSS was used to conduct data analysis, Chi-square test was employed using $P < 0.05$ to examine the association between demographic variables and psychological stress. Years of service was grouped into three groups: less than 5 years, five years to 14 years, 11 months, and 15 years and over (Parsekar et al., 2015).

***Prior instrumentation*.** This study followed accepted practice of researching police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience by using a validated questionnaire (LEOSS) to gather numerical data for this quantitative, correlational study (Papazoglou & Andersen, 2014; Stanley et al., 2016). Scholars (Van Hasselt et al., 2010) suggested using the LEOSS to examine if there

is a statistically significant relationship between police officer stress, years of experience, and other demographic variables. However, other instruments have been used in prior studies.

Wills and Schuldberg (2016) used five surveys for their sample of 38 police officers, measuring stress, trauma, and psychological wellbeing. Three of the surveys used by Wills and Schuldberg are commonly used in studies of police stress. The Critical Incident History Questionnaire (CIHQ) measures only critical incident stress. Additionally, the Operational (PSQ-Op) and Organizational (PSQ-Org) Police Stress Questionnaires, designed by McCreary and Thompson (2006), measure stress specifically related to police work. The PSQ-Op and PSQ-Org use Likert-type scales and are both reliable with Cronbach's α of .90 and .89, respectively. As Wills and Schuldberg (2016) noted, police stress stems from operational and organizational stressors, but also includes stressors from personal life, work-life balance, and more. This explained their use of multiple surveys for the study. A limitation of using multiple surveys to gather information about multiple stressors in police officers in officers' reluctance to complete multiple, lengthy surveys (Van Hasselt et al., 2003). Arnetz et al. (2013) used an abbreviated version of the commonly used General Health Questionnaire (GHQ) to survey 75 Swedish police officers in an assessment of their work-related stress prevention program among urban police officers.

A published evaluation of the LEOSS conducted by Browning (2013) used for this study was conducted using archival data and compared the LEOSS to other accepted instruments. Browning (2013) compared the 60-item Police Stress Survey (PSS), 144-item Critical Life Events Scale (CLES), 68-item Work Environment Inventory (WEI),

PSQ-Op, PSQ-Org, Post Traumatic Growth Inventory (PTGI), Life Events Checklist (LEC), and nine other instruments used in assessing police officer stress, resilience, coping, and other related factors. One limitation of many of the instruments was the lengthy time required for completion (Browning, 2013). Police officers' time is often limited and their willingness to complete lengthy surveys even more limited. The result can be decreased participation, and questionable reliability due to officers rushing through lengthy surveys just to finish faster (Van Hasselt et al., 2003).

Additionally, specialization of some instruments (i.e. PSQ-Op and PSQ-Org) mean multiple instruments must be used when studying the overall issue of police officer stress. After all, police stress originates from a wide variety of organizational, operational, interpersonal, life, and work-life balance issues (Balmer et al., 2014). Finally, some instruments are reliable but do not specifically address the stressors of police work. The Brief Symptom Inventory – 53 (BSI-53) (Derogatis & Melisaratos, 1983) is used in some police studies examining police stress, resilience, and coping, but was created to assess levels of psychopathology and neglects specific police-related situations (Browning, 2013). Overall, Browning (2013) found the LEOSS showed moderate correlations with other measures of police officer stress and consistency with other measures for overall stress.

Summary. A wide range of studies exist in prior literature using a variety of methodologies and instruments. Strengths and weaknesses can be argued for each, a discussion of both was presented here. Researchers in current literature examining police officer stress most commonly relies on quantitative methodology with correlational (or similar) designs. Additionally, anonymous, validated instruments are typically used to

gather the quantitative data for analysis. Although numerous instruments exist, lengthy and over-specialized instruments present issues when studying the wide-ranging sources of police officer stress and surveying police who are reluctant to participate in time-consuming, intrusive studies (Van Hasselt et al., 2003).

Chapter Summary

Physical and psychological health, overall wellness, and cost issues related to chronic stress of police work are well documented (Liu et al., 2015). The monetary cost is great, but the cost of officers experiencing broken families and marriages, dying early, committing suicide, and falling victim to illegal behavior are even greater (Liu et al., 2015). The cumulative nature of stress-related issues can overwhelm any officer when stress is not dealt with properly (Papazoglou & Andersen, 2014). As mentioned, absenteeism, marital problems including spousal abuse and increase divorce rates, substance abuse, anger issues, depression, heart disease, and other psychological and physiological issues related to chronic stress plague the police profession and increase the urgency to better understand this problem (Elntib & Armstrong, 2014). Understanding the relationship between police officer stress and correlated variables is an essential first step in reducing stress and improving officer wellbeing.

This chapter presented a discussion of the background to this problem, the gap in existing literature, theoretical foundations, and an extensive review of the current literature. The current study followed present recommendations in literature to study the relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience, especially in small, rural police agencies using quantitative studies with correlational designs (Papazoglou & Andersen, 2014). The

discussion of the background to this problem formed a foundation to help understand the gap in current literature including conflicting results of recent studies, and the lack of studies of police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in rural agencies. The discussion of Bandura's (1977) Theory of Self-Efficacy and Rotter's (1966) Locus of Control as the basis for this study illustrated how the theoretical foundation aligns with the research questions. Lastly, a review of the literature including the significance of the study on a global scale, police officer stress, years of experience, rural differences, coping, and methodology and instrumentation used here provided a clear understanding of the necessity for this study.

An extensive review of current literature identified the problem central to this study, revealed the gap, and provided blueprints for the design. The search conducted for the review of current literature included resources from around the world focusing on police, law enforcement, stress, tenure, years of experience, rural, psychological, wellbeing, questionnaire, and surveys. Although the search was primarily limited to the last five years, older resources were consulted due to the small number of current studies of rural police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience. The older studies of rural agencies and stress were limited, but identified stressors unique to those agencies (e.g. isolation and being recognized as police even while off-duty), and recommended future study of years of experience related to stress (Oliver & Meier, 2004; Scott, 2004). The literature presented above resulted from the search method allowing a thorough review of literature related to police officer stress and years of experience in police worldwide. The review revealed conflicting results and

a clear lack of studies focusing on police officer years of experience and types of stress in small, rural police agencies, despite numerous sources recommending such studies.

Future research was suggested by Browning (2013) and Page and Jacobs (2011) to study rural police agencies because of their unique, possibly increased stressors compared to metropolitan agencies. Many studies completed focusing on police officer stress neglect years of experience and rural agencies with researchers presenting conflicting results, and most recommend further study (Padhy et al., 2015; Scott, 2004). Since existing research presents conflicting results, and most researchers recommend further study, supporting exists for years of experience as a primary variable (Liu et al., 2015; Padhy et al., 2015).

This study followed accepted practice, revealed by the literature review, of researching police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience by using a validated questionnaire (LEOSS) to gather numerical data for this quantitative, correlational study (Papazoglou & Andersen, 2014; Stanley et al., 2016). Scholars (Van Hasselt et al., 2010) suggested using the LEOSS to examine any possible statistically significant relationship between police officer stress, years of experience, and various demographic variables. Existing literature contains descriptions of various statistically significant relationships between stress and other variables including gender, race, marital and family status, and other demographics with some significant correlations found (Papazoglou & Andersen, 2014). Research examined if and to what extent any statistically significant relationship exists between police officers' stress, difficulty and likelihood of responding to stressful situations, and years of experience in officers at small, rural police agencies in Indiana.

Chapter 3: Methodology

Introduction

The purpose of this quantitative correlational study was to determine if and to what extent there is any statistically significant relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. Following recommendations from Laerd Statistics (2018), data were treated as ratio/continuous and tested for correlation. Results from the LEOSS 7-point, Likert-type scales and years of experience was to be tested for correlation using Pearson's (1901) correlation (Sedgwick, 2012). Correlational designs are most appropriate when a study begins with hypotheses that predict relationships between two variables, and are interested if there is any statistically significant relationship between them (Bettany-Saltikov & Whittaker, 2014). The current study meets Bettany-Saltikov and Whittaker's (2014) criteria. Additionally, researchers conducting studies of police officer stress frequently rely on quantitative methods, use correlational designs, and rely on Likert-type scales in surveys to gather and quantify responses (Regehr et al., 2013; Stanley et al., 2016).

Most studies of police stress focus on large metropolitan, state, or national agencies. Researchers' use of differing methodologies and samples have led to conflicting results surrounding police stress, difficulty and likelihood of responding to stressful situations, and years of experience. Some current researchers' findings show officer stress increases with experience while others show decreases or more of a bell curve throughout a career (Gershon, 2000; Padhy et al., 2015; Stanley et al., 2016). This study used accepted research approaches to examine the relationship between police

officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. The study addressed the defined gaps including previously mentioned conflicting results in current studies of rural police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience, and following recommendations for future research of police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience.

The following chapter presents detailed information about the study to allow for increased reader-understanding and possible replication of the study by others. A discussion of the problem in greater detail leads the chapter. Research questions and hypotheses, methodology, and design are then presented with additional detail. Next, a presentation of the sample size and selection is made before research materials and instrumentation are discussed. Validity and reliability are critical to any study, so details about both areas pertaining to this study will then be presented. Data collection, management, and analysis are then be discussed in great detail. Finally, ethical considerations, limitations and delimitations, and an overall chapter summary are presented for further clarification.

Statement of the Problem

It is not known if and to what extent any statistically significant relationship exists between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies. The effects of chronic exposure to stress are cumulative and result in numerous health and wellbeing issues for police (Elntib & Armstrong, 2014; Liu et al., 2015). Due to these health issues, the lifespan of over one million police officers in America is less than the general population

(Violanti et al., 2013). In the United States in 2012, stress related expenses exceeded $300 billion and continue to rise (Liu et al., 2015). Researchers have shown counseling and programs to remove repressed anger can significantly reduce associations between police stressors and negative outcomes (Can & Hendy, 2014). However, those programs cost money taken from limited budgets. Small and rural police agencies suffer from lower budgets than large state and national metropolitan agencies, so money must be spent as efficiently as possible (Brunet, 2015).

Exploring if and to what extent a statistically significant relationship exists between stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies is needed because stressors are so different from large, metropolitan agencies (Page & Jacobs, 2011; Scott, 2004). Conflicting results from recent studies including Balmer et al. (2014) and Liu et al. (2015) were addressed in an attempt to see if police officer stress increases or decreases with years of experience, or if it peaks somewhere in the middle. If stress, difficulty and likelihood of responding to stressful situations, and years of service are correlated, the relationship could help predict which officers are at highest risk for stress-related problems. This could allow rural agencies to more effectively spend funds from already limited budgets to help those officers. This study addressed, and may expand, existing literature on the relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana, filling a critical gap.

Research Questions and Hypotheses

The goal of this study was to determine if and to what extent there is any statistically significant relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. The variables for this study were police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience. The continuous variable of police officer years of experience was measured on a ratio scale since actual years of experience were reported (Brown, 2011). The variables of officer self-perceived stress, difficulty and likelihood of responding to stressful situations would normally be considered ordinal on a 5-point scale, but combining multiple Likert-type scale responses in the LEOSS allow treatment of this variable as continuous (Laerd Statistics, 2018). Police officer stress in all officers is the conceptual level for the stress variable. Self-reported difficulty and likelihood of responding to stressful situations comprise the conceptual level for difficulty and likelihood variables. The operational level was stress, difficulty, and likelihood of responding to stressful situations for full-time, rural police officers as they respond to personal and professional situations. At the measurement level, stress, difficulty, and likelihood were all reported via the LEOSS questions. All variables were measured from the perspective of individual, full-time police officer participants. Therefore, what was measured was their individual perception of stress, difficulty, and likelihood of responding to stressful situations indicated by responses to the LEOSS survey, and years of experience through responses to the demographic survey.

Finally, research in to the police subculture, and knowledge common to police officers, indicate police frequently interact with officers from other agencies of varying size and location through training, conferences, multi-agency responses, etc. (Terpstra & Schaap, 2013; Westley, 1970). Taking these items into consideration, the following variables, research questions, and hypotheses were developed:

R_1: To what extent, if any, is there any statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana?

$H_0$1: There is not a significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana.

H1: There is a significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana.

R_2: To what extent, if any, is there any statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana?

$H_0$2: There is not a significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana.

H2: There is a significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana.

R_3: To what extent, if any, is there any statistically significant relationship between police officer years of experience and likelihood of stressful situations in small, rural police agencies in Indiana?

$H_0 3$: There is not a significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana.

H3: There is a significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana.

The participant years of service variable was reported as actual number of years as a full-time, rural police officer, through the demographic survey. Stress was reported in the LEOSS survey instrument. The structure of the LEOSS requires participants to respond twice to each of 25 situations covering both work and personal life. Each of the two responses uses a 7-point Likert-type scale. The responses for each situation ask the participant to rate how difficult (difficulty) a response to the situation is, and the likelihood (likelihood) of the participant being required to respond to that situation. Analysis allows for a likelihood score, difficulty score, and an overall stress score with the previous two summed. The researcher will then use correlational analysis to examine any statistically significant relationship between the variables. Correlational designs are most appropriate when a study begins with hypotheses that predict relationships between two variables, and are interested if there is any statistically significant relationship between them (Bettany-Saltikov & Whittaker, 2014).

Research Methodology

The researcher conducting this study used a quantitative methodology for several reasons. The police subculture and self-isolation commonly used as a coping mechanism can perpetuate distrust in non-police, reducing their willingness to participate in qualitative methods of research. The overall distrust contributes to police lack of trust in confidentiality measures for research studies and officers' reluctance to participate in health and wellness programs, including seeking help with stressful and traumatic events (Boshoff & Strydom, 2015; Loriol, 2016). The reluctance is compounded when cultural traditions, religious beliefs, and customs also affect the willingness of police officers to discuss psychological wellbeing issues or seek help (Naz & Gavin, 2013). The subculture also fosters a warrior image, increasing police reluctance to speak about stress or feeling for fear of appearing weak (Evans et al., 2013). A machismo attitude reinforces the warrior image, further compelling police to not speak of anything that may make them appear weak, including stress, emotions, or feelings (Steyn & Mkhize, 2016). Due to the overall reluctance of police to speak about stressful situations, a qualitative approach did not seem appropriate for this study. Officers are notoriously hesitant to participate in interviews, observation periods, or other methods employed for qualitative methodologies (Boshoff & Strydom, 2015; Loriol, 2016).

Additionally, the researcher conducting this study aimed to avoid established validity and reliability issues with qualitative research methods (Seale & Silverman, 1997). The researcher recruited 424 police officers to meet the minimum required sample size of 112 participants after accounting for attrition, missing data, and outliers. The goal was to ensure a sample representative of the population, and gather enough data to allow

generalization of the results to other rural areas. Using a large sample makes many qualitative approaches difficult, including interviews and observations (Seale & Silverman, 1997). Furthermore, the researcher had personal knowledge of some of the participants (as described in the limitations section). Rater and measurement bias are more likely with qualitative methods because of the researcher's knowledge of the participants. An almost perfect correlation according to data could be observed as a weak correlation because of such errors (Podsakoff et al., 2003).

The researcher chose a quantitative methodology for this study to help avoid errors and bias. By using this methodology, the researcher also hoped to increase reliability and validity, and gather data from a large sample. Threats to internal and external validity identified by Donald Campbell and Julian Stanley (Campbell, 1957; Campbell & Stanley, 1963) include instrumentation, statistical regression, and differential selection of participants. The researcher addressed concerns in each of these areas relevant to this study by using an appropriate sample of participants, using an established valid and reliable instrument (LEOSS), and choosing appropriate analysis tests.

To reduce bias and best utilize the collected data to examine if any statistically significant variable relationships exist, researchers in many studies in current literature of police stress rely on several techniques. The researchers frequently use deductive reasoning, quantitative methods, and data collection through surveys or questionnaires. In such studies, Likert scales are typically used by researchers to quantify responses after previously accepted valid and reliable surveys have been distributed to participants (Regehr et al., 2013; Stanley et al., 2016). As previously mentioned, the researcher in this study used Spearman's (1904) rank-order correlation for analysis after treatment of the

Likert-type scale responses as continuous data and years of experience as ratio data (Sedgwick, 2012). Following accepted research approaches in this area, the author of this quantitative correlational study of police used the LEOSS survey to examine the relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. The researcher's goal was to address the gap in current research, conflicting results in previous studies, recommended future studies in all areas, and to increase health and wellbeing of police and stakeholders.

Research Design

The researcher conducting this quantitative study used a correlational design with a focus on exploring the relationship between the variables using Spearman's (1904) rank-order correlation. According to authors at Laerd Statistics (2018) and following researcher recommendations from similar studies (Boshoff & Strydom, 2015; Browning, 2013; Can & Hendy, 2014; Can et al., 2015; Van Hasselt et al., 2008), results from the LEOSS and years of experience was analyzed through treatment of the multiple 7-point, Likert-type scales as continuous data and years of experience as ratio data. This study examined if and to what extent any statistically significant relationship exists between police officers' stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana.

The researcher chose a correlational designs for several reasons. Since this study begins with hypotheses that predict relationships between the variables, and the researcher was interested in any statistically significant relationship between the variables, a correlational design is most appropriate (Bettany-Saltikov & Whittaker,

2014). The researcher decided against a causal-comparison design because according to Gay's publication (as cited in Johnson, 2000), causal-comparison designs look at differences between pre-existing groups. This study will not be looking at differences between pre-existing groups. Similarly, an experimental research design could attempt to establish a cause-and-effect relationship, but both require group comparisons and the researcher's goal only includes examining if any statistically significant relationship exists (Johnson, 2000). Typically quasi-experimental designs include non-randomized pre-test and post-test designs and repeated measures designs (Snider, Korner-Bitensky, Kammann, Warner, & Saleh, 2007). This design of the LEOSS and the current study do not use pre-test/post-test or repeated measures, so quasi-experimental design was not used. Finally, the current study and the LEOSS rely on statistical analysis of quantifiable data in the attempt to examine any statistically significant relationship between officer years of experience, stress, difficulty, or likelihood of responding to stressful situations, all of which are not compatible with a descriptive design (Edelson, 2002).

The current study was only interested in establishing if any statistically significant relationship exists between the quantifiable variables, expressed in numerical form, not causation. This goal matches Johnson's (2000) description of a correlational study in every aspect. Furthermore, Johnson (2000) recommended when a categorical variable is used (i.e. stressed or not stressed) and causality is desired, causal-comparison or some other experimental design is appropriate; however, when the variable includes a trait that can be operationalized as a quantitative variable (i.e. degree or level of stress), a correlational design is appropriate. Additionally, researchers published in current literature examining police officer stress often use quantitative methods and use

correlational designs to gather and analyze data from Likert-type scales in surveys or questionnaires (Regehr et al., 2013; Stanley et al., 2016).

The researcher gathered individual participant years of service variable reported as actual number of years as a full-time, rural police officer. The unit of analysis for this study was individual police officers. The unit of observation was individual police officers according to years of experience. This was obtained through the demographic survey and measured on a ratio scale. Stress was reported in the LEOSS survey, including likelihood and difficulty dealing with 25 stressful situations including both work and personal life. Stress, likelihood, and difficulty were measured as continuous because of the combination of multiple Likert items. The researcher then conducted correlational analysis using Spearman's (1904) rank-order correlation to examine any statistically significant relationship between the variables, addressing conflicts in the current literature. Historically, small and rural department leaders must deal with limited budgets (Brunet, 2015). The results of this study could help leaders focus spending on helping officers who show the most potential for increased stress. Additionally, the body of knowledge was advanced and hopefully awareness of the problem may increase, discussions spread, and future studies could look at possible causation.

Population and Sample Selection

The population of interest for this study was full-time police officers in small, rural police agencies. The classification of *small* department used here followed the criteria used in previously accepted research and included agencies employing 50 or less officers (Page & Jacobs, 2011). The U.S. Census Bureau defines urban as "areas with a population of 50,000 or more" (Ratcliffe, Burd, Holder, & Fields, 2016, p. 3).

Additionally, the corresponding definition of *rural* is any area not meeting the urbanized area definition, including outlying and unincorporated areas with less than 50,000 people (Ratcliffe et al., 2016). Rural police agencies are agencies located in those rural areas. The target population included full-time, rural police officers in Indiana. Indiana is in the Midwest region of the United States. As classified by the U.S. Census Bureau, the Midwest includes the states of North and South Dakota, Nebraska, Kansas, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, and Ohio (US Census Bureau, 2018). Approximately 91% of police agencies employ 50 or less officers, a standard partially used to determine *rural* officers for this study (Page & Jacobs, 2011). Most studies focus on medium-size departments employing over 100 officers and serving over 50,000 people, or even larger agencies (Oliver & Meier, 2004). Due to this gap in the literature, the rural population for this study included agencies employing less than 50 officers and serving less than 50,000 people. Both male and female officers, ages approximately 21-57, employed at selected rural agencies were the focus of the study with their individual scores serving as the unit of measure. A sample of 136 full-time police officers in target-population-qualifying rural agencies were surveyed, including new officers through the most experienced. Convenience sampling was used to give every officer employed at each department included in the study an equal chance to participate, increasing generalizability of the results to similar agencies and reducing selection bias (Marshall, 1996; Meng, 2013).

To identify and recruit participants, agencies in east-central Indiana and meeting the *rural* criteria were identified. The *rural* criteria used by the researcher for this study included agencies employing less than 50 officers and serving less than 50,000. Each site

was contacted via email or telephone to arrange a meeting with the researcher. Site authorization letters, signed by the chief of police, sheriff, or other authorizing official, were obtained from those agencies willing to permit the researcher to recruit officers. The site authorization letters contained confidentiality statements, requests to allow the participants to complete the 5-10 minute survey during work hours, and permission for the researcher to access the site and use the information gathered for completion of the study. Information about the study was then distributed to potential participants at all sites, including a pre-arranged date, time, and location the researcher would visit the site. Once at the site for those meetings, the researcher explained the study and provided informed consent (See Appendix C). During this process, the researcher emphasized the anonymous nature of the surveys, and the option of entering the raffle to win a single $25.00 gift card to a central-Indiana police-supply store to be drawn after all sites had participated, to encourage participation.

Quantitative sample size. In addition to the use of anonymous surveys and an incentive gift card raffle, the LEOSS typically has an over 70 percent response rate when combined with anonymity (Van Hasselt et al., 2008). However, the researcher did not rely on such a high response rate. The researcher chose a quantitative methodology with a correlational design for this study. As such, the researcher used Pearson's (1901) rank-order product-moment correlation during data analysis. To ensure a proper sample size, an *a priori* G*Power analysis computation for Pearson's (1901) rank-order correlation was conducted. Parameters for the G*Power analysis included an alpha of 0.017, a power of 0.80, and a medium effect size (ρ=0.3). The corrected alpha of 0.017 was determined using Bonferroni (1936) correction since three correlational was analyses were used, one

for each type of stress. The result was a required, minimum sample size of 112 (See Appendix E) (Faul, Erdfelder, Buchner, & Lang, 2009). Researchers of similar studies in the literature have also used similar sample sizes (Arnetz et al., 2013; Can et al., 2015; Van Hasselt et al., 2008). The study recruited a convenience sample of 424 officers from nine law enforcement agencies meeting the criteria, allowing for an approximate response rate of 29%. The anticipated 29% response rate would result in 127 completed surveys to end with a minimum sample of at least 112 officers after allowing a loss of 15 due to attrition, missing data, outliers, etc. The question for participants' years of experience specified total years of experience *at a rural police agency* to account for anyone who might have transferred from a large or metropolitan department.

Planning ahead. Although the LEOSS is expected to have at least a 70% response rate when combined with anonymity, the researcher has allowed for an approximate 29% response rate. If the initial sites did not yield the minimum requirement of 112 participants with completed surveys, additional sites could have been added. Previous researchers conducting similar quantitative studies using the LEOSS have used similar sample sizes of 75 (Arnetz et al., 2013), 166 (Van Hasselt et al., 2003), 91 (Van Hasselt et al., 2008), and 232 (Can et al., 2015). With several-hundred agencies located in Indiana, consisting of several-thousand full-time officers (Reaves & Hickman, 2011), alternative sites could have been used to reach the required number of participants. If problems with statistical analysis of data emerge, alternative tests could be explored for possible use.

Instrumentation

The researcher conducting this study used a short, demographic survey and a single, established instrument to gather data from participants. The Likert-type scales used in the LEOSS were used by the researcher to complete correlational analysis with the actual number of years of service of participants. Pearson's (1901) rank-order correlation was used to analyze the data. The researcher's goal during analysis was to help answer the research questions surrounding any statistically significant relationship between rural police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience.

Survey. The survey packet distributed to participants began with an informed consent page (See Appendix C). Immediately following informed consent information, a six-question demographic survey page was used by the researcher to gather participant information. The final section contained the LEOSS. The continuous variable of police officer years of experience were measured on a ratio scale since actual years of experience was reported. Police officer self-perceived stress, difficulty, and likelihood would normally be considered ordinal, but the researcher treated this variable as continuous because of the multiple 7-point, Likert-type scale responses in the LEOSS (Laerd Statistics, 2018). The multiple 7-point Likert-type scale responses in the LEOSS are combined resulting in total scores for data analysis. The resulting total scores behave like continuous data.

Demographic survey. Limited questions were first used to collect demographic and general information from the participating police officers including gender, age, marital status, rank, years of experience as a rural police officer, and assignment (See

Appendix D). Demographic data were used by the researcher to create a general profile of the study participants with years of experience used as a variable. When years of experience is included as a variable for analysis, demographic surveys are frequently used by researchers to gather the data (Can et al., 2015; Jojo, 2016; Van Hasselt et al., 2008). However, the anonymous nature of the survey allowed the researcher to purposely exclude participant's name, agency, and other specific information that could have possibly led to identification of a participant through compilation of other answers (i.e. race, gender, marital status). Years of experience was reported as the actual number of completed years of experience as a rural police officer, following previous researchers (Can et al., 2015; Jojo, 2016; Van Hasselt et al., 2008).

LEOSS. There was one established instrument used for this study. The participants' stress was measured with a quantitative survey: the LEOSS (See Appendix D). The LEOSS has been found valid and reliable by researchers for measuring stress in adult police officers over a variety of personal and professional scenarios (Van Hasselt et al., 2003, 2008, 2010). The LEOSS was created by Dr. Vincent Van Hasselt and associates and is available for use studying stress in law enforcement officers. Written permission was obtained by the researcher for its use in this study (See Appendix D). Additionally, the LEOSS has been effectively used in previous studies on police officer stress, and quantitative correlational studies (Diana & John, 2016; Heath, 2015).

The LEOSS used in this study was developed using the behavior-analytic model, taking a behavior-analysis approach to complete a functional analysis of the relationship between participant police officers' environment and behavior, consistent with Kanfer and Saslow's recommendation to study variables in behavior of people in a manner that

allowed inferences to be made of controlling factors and various stimuli (Kanfer & Saslow, 1965; Van Hasselt et al., 2003). Although the researcher conducting this study used a slightly different approach, researchers have recognized behavioral-analytic models and self-efficacy approaches as reliable. In fact, researchers of the behavior-analytic model recognize self-efficacy behavior ratings and correlations while adding possible correlations to environmental variables (Biglan, 1987). While self-efficacy and locus of control were not measured in this study, the theories were used to frame the study.

Dr. Van Hasselt and his associates began development of the LEOSS by recruiting 166 Federal Bureau of Investigation (FBI) trainees to "list five situations you find stressful" (Van Hasselt et al., 2008, p. 136). The researchers used the resulting information to show 89 various scenarios the trainees deemed stressful. Next, 100 law enforcement officers from Florida and Alaska (91% male; mean age=41.2 years; 57% married; 47.0% Patrol Officer rank; mean experience=16.5 years) were recruited to respond to seven-point Likert-type rating scales for the likelihood they would have to encounter the situation, and for the difficulty for the officer to respond to the situation. Lastly, the initial list of 89 scenarios was reduced to 25 items for brevity. The 25 situations in the final LEOSS all had participant ratings of at least 4 out of 7 for likelihood and 5 out of 7 for difficulty (Can et al., 2015; Van Hasselt et al., 2008).

Participants completing the LEOSS are asked to respond to two, Likert-type scales for each of twenty-five potentially stressful situations. The first sub-scale is a rating of how common the event is in the participants' daily lives (likelihood) (1 = Not At All Common and 7 = Extremely Common). The second scale is a rating of how difficult

it would be for the officer to respond to each situation (difficulty) (1 = Not At All Difficult/Problematic and 7 = Extremely Difficult/Problematic). Scores are gathered from each of the two scales before a combination of both is used to determine overall stress score (Van Hasselt et al., 2008). The total LEOSS score for exposure to police officer stressors calculated as the sum of likelihood × difficulty ratings for the 25 items has resulted in strong internal reliability (α=0.87) (Can et al., 2015).

Since its development and initial testing, researchers using the LEOSS have shown the instrument to have strong ability to detect early signs of police officer stress, and strong psychometric properties including validity and internal consistency (Browning, 2013). During testing, test-retest correlation coefficients were calculated for the likelihood (r = .578, $p < .01$) and difficulty (r = .621, $p < .01$) subscales, as well as the overall scale (r = .672, $p < .01$). The alpha coefficients for likelihood and difficulty scales, as well as the overall scale were .874, .908, and .874, respectively (Browning, 2013; Van Hasselt et al., 2008).

Validity

Police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience as a police officer at a rural agency were measured for this study. Careful steps were taken to ensure what was set out to be measured is actually what was measured. Internal and external validity for the study were ensured by using a previously-validated instrument: the LEOSS. Strict standards were used for determination of *small, rural* agencies, as described previously in the *definition of terms* section. Additionally, years of experience was reported as the actual number of years each participant completed as a police officer in a qualifying agency.

During creation and testing of the LEOSS, researchers performed correlational analysis between the LEOSS and other instruments used to measure police officer stress, including the Police Stress Survey (PSS). The PSS is also an accepted, valid instrument used to measure police officer stress. The PSS is used to measure intensity and likelihood of occurrence of specific stressors in police work. However, the lengthy 60-question PSS results in reduced participation rates among police (Van Hasselt et al., 2008). Psychometric property testing results found the LEOSS was moderately, but significantly, related to the PSS ($r = .407$, $p < .001$) (Van Hasselt et al., 2008, p.145). The researchers' demonstrated concurrent validity between the LEOSS and the PSS (a well-established instrument) with their results. When researchers find significant concurrent validity between an instrument being tested and an established instrument, confidence is established that the instrument being tested is accurately measuring what was intended (Haynes, Richard, & Kubany, 1995). Significant concurrent validity here means researchers using the LEOSS can be confident they are measuring police officer stress as accurately as the PSS.

The demographic portion of the survey allowed the researcher to gather information on police officer years of experience, just as previous researchers have done (Can et al., 2015; Jojo, 2016; Van Hasselt et al., 2008). The question was written, and instructions were provided, so participants provided the actual number of years completed as a police officer at a small, rural police agency. Police officers can move from one department to another, as with any professional changing companies. Some officers participating in the survey may have spent some years as an officer with a large metropolitan, state, or national agency. The phrasing of the question and instructions

ensured only the years of experience completed *at a small, rural agency* were included. Participants were informed *rural agencies* for the purposes of this study include those employing less than 50 officers, serving less than 50,000 people. Participants were informed their agency met the requirements for this study, therefore they were eligible to participate by being employed at the agency.

Reliability

Reliability was ensured throughout the current study by using a proven, reliable instrument: the LEOSS, and straightforward procedures easily replicable by future researchers. Data gathered from participants was accomplished using a short, minimally-intrusive demographic survey. The informed consent, demographic survey, and LEOSS were presented to each participant as a single packet. This packet is easily reproduced by future researchers to replicate the study. The use of in-person, paper survey packets distributed by the researcher allowed accountability and increased reliability. With the researcher observing survey completion and submission, as well as all participants, the possibility of participants completing more than one survey, purposely corrupting data by discussing responses with peers during completion, and other reliability-reducing actions was drastically reduced. This would not have been possible if surveys were completed via online format, email, etc.

The LEOSS was tested for reliability using multiple steps since the instrument includes 25 items measured on three scales (likelihood, difficulty, and combined/overall/full-scale). Test-retest correlations were used to determine temporal stability. The correlation between each of the 25 items and the total of all other items (corrected correlations) was used to determine internal reliability (Van Hasselt et al.,

2008). “Test-retest correlation was robust across both categories and the combination” (Van Hasselt et al., 2008, p. 145). Coefficients for both categories and full-scale (combination) were calculated for likelihood (r=.578, p < .01), difficulty (r=.621, p < .01), and combination (r=.672, p < .01), with alpha coefficients of .874, .908, and .874, respectively (Van Hasselt et al., 2008, p. 145).

Data Collection and Management

The population of interest to the researcher for this study included individual, full-time police officers in small, rural police agencies in Indiana. As previously mentioned, most current studies focus on large departments in urban areas (Oliver & Meier, 2004). Because of the gap in the literature neglecting small, rural departments, the population for this study included agencies meeting the *small* and *rural* criteria described earlier. Additionally, all participants worked in agencies in Indiana and included a range from new officers through the most experienced.

Identify agencies. To identify and recruit participants, agencies meeting the small, *rural* criteria were identified. Again, the small, *rural* criteria included agencies in Indiana with a population of less than 50,000 in their primary area of jurisdiction, a full-time police force of no more than 50 officers, and a where agricultural land and industry are more prevalent than developed urban land and non-agricultural-related industry. Internet searches from a variety of sources including census data and government and agency websites were used to locate agencies in Indiana meeting the *rural* criteria for this study. In large rural counties where urban cities or towns are also contained, the populations from those cities or towns was excluded when determining the number of citizens served by the rural agencies. Site authorization letters, signed by the chief of

police, sheriff, or other authorizing official, were obtained from those agencies willing to permit the researcher to recruit officers (See Appendix A). The site authorization letters contain confidentiality statements and request permission for the participants to meet with the researcher and complete the 5-10 minute survey during normal shift hours, allowing the researcher to meet with each shift. Additionally, the site authorization letters requested permission for the researcher to access the site (including space for participants to complete the surveys) and permission to use any gathered information for completion of the study. Each participating site was contacted via email or telephone to arrange a meeting with the researcher for completion of the surveys.

Information delivered. Information about the study was distributed to potential participants at all sites, including a pre-arranged date(s), time(s), and location(s) the researcher planned visits to the sites. Information was delivered via email format (forwarded by site-authorization approving official to all officers). If the pre-arranged dates and times fell during agency meetings (i.e. shift roll-call), agencies were encouraged to tell potential participants they have the option to skip the meeting. This allowed participants time to consider participation in the study before informed consent was provided and reduce any feelings of obligation to participate.

Site visits. Once at the site for the scheduled meetings, the researcher again explained the study and provided informed consent (See Appendix C). The survey packets were distributed and explained including the informed consent page, demographic survey, and LEOSS. During this process, the researcher emphasized the anonymous nature of the surveys, and then discussed the option of participants entering the drawing to win a $25.00 gift card to a central-Indiana police-supply store, to

encourage participation. Participants were informed the drawing for a single $25.00 gift card would be completed after all sites have participated. A gift card would not be drawn for each site.

With completion time estimated at 5 to 10 minutes, the researcher waited for participants who chose to complete the survey to finish. The participants were reminded of their option to withdrawal participation. They were given the option to leave the room, stay in the room and submit a blank survey, or act as if they are completing a survey and still not participate. Participant supervisors not taking part in the study were asked to leave the room prior to administration of surveys to further protect participants from any harm related to their position. Considerations were made for any participant who expressed the need for stress-related assistance during or after the study was referred to a qualified organization to provide assistance. The researcher teaches classes on critical incident stress and stress management for police officers, so the researcher has a list of national organizations who could either help any participant who needs assistance, or refer them to a licensed, certified professional in their local area. These options were also meant to help minimize any feelings of pressure to participate by peers or the researcher.

The researcher had a secure, padlocked box with slot for participants to insert completed surveys. A small, quarter-inch vertical slot was included in the front of the box to allow the researcher to view an approximate number of surveys submitted without viewing details on the surveys. To ensure anonymity, completed surveys were not removed from the box until all sites had been visited and surveys submitted. The researcher kept count as all surveys were placed in the box, also viewing through the front slot for redundancy. The researcher could have returned, if necessary, at the

beginning of each shift to include all participants at each agency. The process continued until responding, participating officers at all agencies were surveyed. The researcher strived for maximum participation to well-exceed the 112 required, completed surveys to account for attrition.

The participants also had the option to place their contact information in a second, padlocked box for the gift card drawing. Participants were told they could provide their name, phone number, email, address, website, or whatever combination they felt comfortable providing so long as the researcher was able to contact the winner to arrange delivery of the gift card.

Planning ahead. Although researchers using the LEOSS typically see at least a 70%response rate when combined with anonymity, this researcher allowed for a minimum response rate of 29%. If the initial sites did not yield the minimum requirement of 112 participants with completed surveys, officers from additional law enforcement agencies could have been added. Alternative sites could have been used to reach the required number of participants (after additional IRB re-approval) and were easily accessed because of the several-hundred agencies located in Indiana, consisting of several-thousand full-time officers (Reaves & Hickman, 2011). If problems with statistical analysis of data emerge, alternative tests could have been explored for possible use (i.e. non-parametric instead of parametric).

Data preparation. Once all surveys were collected, responses were transferred directly to SPSS version 24 (IBM Corp., 2018) for analysis. Missing data for each variable and question were reviewed. Assuming any missing data were at least missing at random (MAR), multiple imputation (within SPSS) could have been used for data

checking and screening before complete data analysis was performed (Rubin, 1996). During and after analysis, data security was ensured using a passcode to access the digital folder containing survey information and SPSS files, stored on an external hard drive. The box containing the surveys was padlocked and stored in a secure location until completion of data collection. The secure location for the paper copies of the surveys and the hard drive was a commercially available, name-brand gun safe secured with multiple locking mechanisms and fire-rated to protect contents. Physical copies of the surveys were destroyed immediately after responses were manually transferred to SPSS by using a commercial shredder certified for confidential materials. After three years of secure storage (as required by IRB), the computer files and external hard drive will be digitally destroyed using industry accepted programming followed by mechanical shredding of the hard drive.

Data Analysis Procedures

The purpose of this study was to determine if and to what extent there is any statistically significant relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. The variables for this study were police officer self-reported stress, difficulty and likelihood of responding to stressful situations, and years of experience. All variables were measured from the perspective of individual officer participants from small, rural agencies. What was being measured is each participant's perception of likelihood and difficulty responding to stressful events listed in the LEOSS survey, and actual years of experience as reported in the demographic survey. Since three types of stress were included in this study, three correlational analyses were completed. Using

Bonferroni (1936) correction for Type I error rate, the original significance level ($\alpha = 0.05$) was corrected to $\alpha = 0.017$ for each of the three stress variables.

Due to lack of current intervention programs at many small, rural law enforcement agencies and the cumulative nature of stress, and following recent literature, stress was expected to increase with years of experience (Regehr et al., 2013). Understanding if and to what extent any statistically significant relationship exists between stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana could prioritize limited rural budget resources (e.g. money for stress intervention programs) to be directed to officers who perceive the most stress (Brunet, 2015). Taking these items into consideration, the following variables, research questions, and hypotheses were developed:

R_1: To what extent, if any, is there any statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana?

$H_0 1$: There is not a significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana.

H1: There is a significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana.

Following recommendations in the literature, R_1, stress scale was calculated as the sum of all items from the difficulty and likelihood subscales (*difficulty* × *likelihood*) (Van Hasselt et al., 2008). Spearman's correlation was conducted for R_1 between stress and years of experience. Years of experience as a rural police officer was the numerical value participants report via the demographic questionnaire.

R_2: To what extent, if any, is there any statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana?

$H_0$2: There is not a significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana.

H2: There is a significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana.

Following recommendations in the literature, R_2, *difficulty* scale was calculated and presented as the mean and standard deviation of participant responses to the *difficulty* portion of each of the 25 items and all items were scored *as reported* with no reverse-order items (Van Hasselt et al., 2008). Spearman's correlation was conducted for R_2 between difficulty of stress and years of experience.

R_3: To what extent, if any, is there any statistically significant relationship between police officer years of experience and likelihood of stressful situations in small, rural police agencies in Indiana?

$H_0$3: There is not a significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana.

H3: There is a significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana.

Following recommendations in the literature, R_3, *likelihood* scale was calculated and presented as the mean and standard deviation of participant responses to the *likelihood* portion of each of the 25 items and all items were scored *as reported* with no reverse-order items (Van Hasselt et al., 2008). Spearman's correlation between likelihood of stress and years of experience was conducted for R_3.

Data collection for this study was completed via surveys completed by participants. Each survey packet consisted of two main sections: demographic questions and the LEOSS responses. Descriptive statistics (central tendency and spread) was used to analyze and report responses to demographic questions, including years of experience completed as a rural police officer, as reported by each participant. Tables and charts helped the researcher illustrate the mean, median, and spread of responses to the demographic questions. Before any analysis, data were screened for missing or erroneous data and cleaned. The Likert-type scales used in the LEOSS limited erroneous data to the demographic survey. Missing responses in both the demographic survey and the LEOSS were possible. The researcher's goal was to *not* change or correct any participant responses during data preparation and analysis to protect the integrity of the data. The researcher planned to sample enough participants (424) to allow surveys with missing or erroneous data to be discarded instead of data changed. Inferential statistics, specifically Spearman's (1904) rank-order correlation, was used to examine any correlation between police officer years of experience and types of stress (as reported in the LEOSS). Siegel (1957) recommends choosing a statistical test that fits the conditions of the research, the measurement requirement of the test should be met by measures used in the study, and the test chosen should have the greatest power-efficiency. Assumptions of normal

distribution and variables of at least ordinal, interval, or ratio are included in the current study. Since parametric tests typically have more statistical power, the researcher originally chose Pearson's (1901) correlation because it fits the conditions, measurement requirements are met, and has greater statistical power than a non-parametric test (Siegel, 1957; Pearson, 1901). However, Pearson's (1901) correlation contains an assumption of a linear relationship between variables. This linear assumption was violated, so data analysis was changed to Spearman's (1904) rank-order correlation after consultation of and recommendations by several sources. This change will be discussed in great detail in Chapter 4.

The following data analysis procedures were conducted:

1. Data were cleaned and screened for missing or erroneous responses. Surveys with missing or erroneous data were not included in the final analyses, but were reported.
2. Data were transferred directly to SPSS.
3. Descriptive statistics including measures of central tendency and spread were computed for demographics and for each of the variables
4. Years of Experience was measured on a continuous scale but used as ratio for completion of Spearman's (1904) rank-order correlation.
5. Assumptions testing was completed for each of the assumptions required for Spearman's (1904) rank-order correlation:
    a. Two paired variables for each test. This assumption has already been met as each of the variables are paired.

b. Ordinal or continuous variables for each test. This assumption has already been met as each of the variables are ordinal or continuous.

c. An expected monotonic relationship between the variables. SPSS was used to complete a scatterplot to check for and confirm a monotonic relationship. If a monotonic relationship did not exist, SPSS could have been used to perform a log transformation or square transformation on variables so the assumption of a monotonic relationship could be met.

6. If assumptions were violated, alternative non-parametric tests would have been used.

7. Spearman's (1904) rank-order correlation analysis was computed three times (once for each of the stress variables) using SPSS.

Ethical Considerations

The safety and welfare of all participants was the first ethical consideration addressed. To ensure the fundamental tenets of the Belmont report (Department of Health & Services, 2015) were met, including beneficence respect for persons, and justice for all participants was addressed, IRB approval was received before reaching out to any participants. Participants were recruited in person and will never be required to reveal their name on the survey. Participation was completely voluntary, and participants were reminded they could choose not to participate, not to answer some or all the questions, and they could stop at any time and withdraw their participation. Personal information gathered for the random drawing was stored securely and separately from surveys at all times so anonymity of responses was guaranteed. Informed consent was obtained from all participants via the first page of the survey and verbally in-person, which informed them

of steps taken to reduce the likelihood of any potential harmful effects that may have occurred in response to their participation (See Appendix C).

Harmful effects could have included supervisor discrimination, harassment from peers, increased stress from questions on the survey bringing back memories, and unforeseen, unlikely data breeches including theft of the box containing business cards and contact information. Steps mentioned above helped prevent participants from potential harm. Additionally, participants were offered references to professional help if they felt the need to seek counseling or outside services after participation in the study. The researcher had a list of national organizations who could either help any participant who needed assistance, or refer them to a licensed, certified professional in their local area including peer-counselors, therapists, or psychiatrists.

The data from all participants in the study was protected with paper responses being locked until data aggregated and paper copies destroyed. Business cards and contact information from participants who entered the random drawing were stored securely and separately from the surveys, and destroyed after the drawing. All participants completed the surveys in-person and the data from the surveys was not attached to any identifiable information, thus ensuring complete anonymity. By giving the choice for invited participants who decide not to participate to still submit a blank survey, they could have chosen not to divulge their choice to peers or the researcher. Once data from the surveys was ready to be viewed by the researcher, the data files were saved to a password-protected folder on a secure server to ensure confidentiality. After the required storage time of three years after study completion, all electronic files will be digitally shredded using industry accepted software.

A potential conflict of interest exists since the researcher was employed with one of the participating law enforcement agencies. This potential conflict has been acknowledged for readers and the Institutional Review Board. Several steps were taken to mitigate this conflict. Participants were reminded their surveys were anonymous and were included in the box with surveys from all other participating agencies. Therefore, the researcher did not know which surveys came from the researcher's agency participants. Additionally, participants at the agency were reminded they were not required to participate, and a decision of participation would not result in any repercussions or benefits to their employment status. Participants were provided the same options as other participants to leave the room, submit a completed survey, or remain in the room and submit a blank survey so the researcher and other participants would not know the participation decision. These options were meant to reduce or eliminate any pressure to participate on participants and to further mitigate any effects from the potential conflict of interest.

Limitations and Delimitations

General assumptions, limitations, and delimitations were presented in Chapter 1. Here, more specific limitations and delimitations surrounding the method, design, sample, instrumentation, data collection, and data analysis of this study are presented. The discussion also includes reasons the limitations and delimitations will not negatively affect the results. This discussion of the possible limitations is included here, as it should be in any scholarly study, in the interest of academic integrity and transparency (Brutus et al., 2013; Connelly, 2013).

The majority of researchers in current literature focus on large, national or metropolitan police officers rather than rural police officer stress and years of experience. This area of the identified gap leaves minimal references for support of a single method to study the topic. However, as discussed in other sections of this study, researchers conducting the few studies of rural police officer stress related to other demographic variables follow similar methodology and design. These researchers have shown qualitative studies of police officers are typically less reliable and more difficult to complete because officers' resistance to participate or divulge truthful responses to interviews, groups, etc. for fear of appearing vulnerable (Van Hasselt et al., 2008). For these reasons, a quantitative methodology is appropriate here and attempts to overcome this limitation and result in no effect on the data quality, validity, reliability, or generalizability of findings (McCusker & Gunaydin, 2015).

The survey of full-time, rural police officers was delimited to several agencies in Indiana, limiting the demographic sample. The sample did not include reserve/part-time officers who may experience the same stressors. Furthermore, the generalizability may be diminished when applying the findings to other rural areas where cultural, religious, socioeconomic status, and other variables may differ. Future studies with significant funding may be able to sample more agencies on a national scale. However, funding and time constraints forced this delimitation for the current study.

Additionally, the researcher was a full-time police officer and had personal knowledge of some of the participants recruited for the study. This possible conflict and bias was acknowledged, and any participants who felt uncomfortable because of the personal knowledge were reminded they could withdraw from the study. Additionally,

the anonymous nature of the surveys and additional steps (listed in the data collection and analysis sections) helped ensure the researcher did not know which surveys came from those participants of which he had personal knowledge.

The lack of available data could be a limitation to this study. Participants were reminded they were not required to answer all questions on the survey. The brevity and anonymous nature of the surveys will hopefully limit the amount of incomplete surveys. Additionally, 424 participants were recruited to help ensure the minimum required sample size of 112 completed surveys was met after accounting for attrition, missing data, and outliers. The sample of police officers recruited for this study must also be acknowledged. Recruitment of every rural officer in Indiana was not logistically possible. Additionally, officers in the recruited agencies may have been on vacation, leave, or did not participate. Every effort was made to include officers from a variety of agencies meeting the rural criteria, including size, location, officer variety, etc.

As discussed earlier, participation bias may be present since participants were offered a chance to win a gift card for participation. Every participant at each participating agency was invited to provide their contact information to be entered in a raffle for a single $25.00 gift card for a central-Indiana police-supply store, to be drawn after all sites had participated. Participants were reminded the raffle contact information was kept separate from the surveys. Additionally, the amount of the gift card was held to $25.00 to provide incentive, while hopefully not pressuring participants to take part in the study if they had reservations or desired non-participation. Every participant was reminded they did not have to participate in the study, the raffle, or both, and could withdraw from the study at any time.

Steps taken to reduce the effects of these limitations and delimitations (as stated above) should result in valid, reliable data meeting the goals of this study. The goal was to study rural agencies in Indiana, United States. The instrument used to gather data was shown by researchers to be valid and reliable in multiple locations (Van Hasselt et al., 2008). Future studies with proper funding and allotted time may choose to replicate this study across a larger geographic region. However, the data gathered for the current study should meet the desired goal with strong reliability and validity with minimal effect from limitations and delimitations.

Summary

The purpose of this quantitative correlational study was to determine if and to what extent there is any relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. Following recommendations from researchers at Laerd Statistics (2018), data were treated as ratio/continuous and tested for correlation. Results from the LEOSS 7-point, Likert-type scales and years of experience was tested for correlation using Spearman's (1904) rank-order correlation (Sedgwick, 2012). As mentioned, correlational designs are most appropriate when a study begins with hypotheses that predict relationships between variables, and are interested if there is any statistically significant relationship between them (Bettany-Saltikov & Whittaker, 2014). Additionally, researchers in the literature examining police stress frequently rely on quantitative methods, use correlational designs, and rely on Likert-type scales in surveys to gather and quantify responses (Regehr et al., 2013; Stanley et al., 2016).

Most researchers of police stress focus on large metropolitan or national agencies. Differing methodologies and samples have led to conflicting research showing officer stress increases, decreases, or forms more of a bell curve, with years of experience (Gershon, 2000; Padhy et al., 2015; Stanley et al., 2016). This researcher used accepted research approaches to examine the relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. The researcher addressed the defined gaps including conflicting results in current studies investigating rural police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience, and followed recommendations for future research of police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience.

The researcher presented detailed information in the preceding chapter about the current study to increase reader-understanding and possible replication of the study by others. A discussion of the problem in greater detail led the chapter. Research questions and hypotheses, methodology, and design were then presented with additional detail. Next, a presentation of the sample size and selection were made before research materials and instrumentation were discussed. Validity and reliability are critical to any study, so details about both areas pertaining to this study were also presented. Data collection, management, and analysis were discussed in great detail. Finally, ethical considerations, limitations and delimitations were presented for further clarification. In Chapter 4, a discussion of the data analysis results is presented including descriptive findings, data analysis procedures, and results.

Chapter 4: Data Analysis and Results

Introduction

The purpose of this study was to determine if and to what extent there is any statistically significant relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. This study sought to address defined gaps including conflicting results in current studies investigating rural police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience, and followed recommendations for future research of police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience (Balmer et al., 2014; Liu et al., 2015). Consistent with approaches used in similar, recent studies of police officer stress, this research used an established survey distributed to participating members of small, rural law enforcement agencies in Indiana. A total of 140 completed surveys were obtained from 424 invited participants.

The collection of data occurred through the administration of survey packets including a six-question demographic survey and the 25-question LEOSS instrument over a 3-week timeframe. The demographic survey measured participants' years of experience as a police officer with a small, rural law enforcement agency. The LEOSS measured participants' responses to two Likert-type scales for each of 25 potentially stressful situations: how common or likely is the event in their daily lives, and how difficult or problematic is it for the officer to respond to each situation (Van Hasselt et al., 2008). The results of both surveys produced the years of experience variable, and likelihood,

difficulty, and overall stress score (likelihood × difficulty) variables, quantifying participant self-reported, perceived stress (Van Hasselt et al., 2008).

After collecting the data from 140 participants, the upload of data into SPSS for statistical analysis followed. Analysis of the data included descriptive and correlational procedures in SPSS to address the research questions and hypothesis. Three research questions and associated hypotheses guided this study:

R_1: To what extent, if any, is there a statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana?

$H_0$1: There is not a statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana.

H1: There is a statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana.

R_2: To what extent, if any, is there a statistically relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana?

$H_0$2: There is not a statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana.

H2: There is a statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana.

R_3: To what extent, if any, is there a statistically significant relationship between police officer years of experience and likelihood of stressful situations in small, rural police agencies in Indiana?

$H_0$3: There is not a statistically significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana.

H3: There is a statistically significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana.

The remainder of this chapter contains a summary of the data analysis and results. The research questions provided a framework for the data analysis and presentation of results. Descriptive findings regarding the demographic characteristics of the sample and variables are presented first. Next, an explanation is provided describing the procedures used for data analysis. Finally, presentation of the results of data analysis are provided with respect to each research question.

Descriptive Findings

The following section provides a summary of the target population and descriptive statistics including demographics of the participants in the study. The target population was 424 full-time police officers from small, rural police agencies in Indiana. The examination of raw data from 140 completed participant surveys led to the exclusion of four surveys due to invalid responses by participants. The four excluded surveys were removed by creating a filter variable in SPSS (Laerd Statistics, 2018). The filter variable was set to exclude the four surveys from further analysis. Additionally, data entered in

SPSS were visually double-checked to ensure the filter was properly applied and no missing data were present. The resulting final response rate was 32% (n = 136). The recommended minimum sample size was 112, or 26.4% of the target population based on an *a priori* G*Power 3.1 software analysis computation conducted for correlational analysis (Faul et al., 2009). Parameters for the G*Power analysis included an alpha of .017, a power of .80, and a medium effect size ($\rho = 0.3$). The corrected alpha of .017 was determined using Bonferroni (1936) correction since three correlational analysis was used, one for each type of stress. The result was a required, minimum sample size of 112 (See Appendix E) (Faul et al., 2009). Based on a comparison of the actual response rate with the recommended minimum sample size, the survey response exceeded the requirements of the power analysis.

Participant demographics. This narrative provides a summary of demographic data including the number of subjects, age, gender, marital status, level of education, years of experience, and employee classification. Descriptive statistics for *age* revealed a range of 21 to 57 years of age (M = 32.18). Collected data for *gender* showed 89.7% were male and 10.3% were female. *Marital status* was divided in to 4 categories (single, married, divorced, and other). Results found most were married (55.1%). Marital status results are shown in Table 1.

Table 1

Marital Status

Marital Status	Likelihood	Percent	Cumulative Percent
Single	46	33.8	33.8
Married	75	55.1	89.0
Divorced	13	9.6	98.5
Other	2	1.5	100.0
Total	136	100.0	

Data showed varying highest levels of education for participants with 19.1% reporting high school, 21.3% some college, 17.6% associate degree, 41.2% bachelor degree, and .7% terminal degree. *Employee classification* responses showed the most common classification was patrol officer (n = 111, 81.6%). The next highest was patrol supervisors (n = 18, 13.2%). The fewest were investigators (n = 4, 2.9%), and administrators (n = 3, 2.2%).

Regarding the y*ears of experience*, data were reported as the actual number of completed years of experience and ranged from 1 to 29 years of experience (M = 7.6). Likelihood of participation showed a trend of decreasing as years of experience increased. Years of experience results are presented below in Table 2. Although demographic data were gathered for comparison and reporting here, *years of experience* was the primary focus since it is a variable used for correlation in the current study.

Table 2

Years of Experience Statistics

Years of Experience	Likelihood	Percent
1	14	10.3
2	13	9.6
3	11	8.1
4	11	8.1
5	10	7.4
6	14	10.3
7	6	4.4
8	8	5.9
9	9	6.6
10	8	5.9
11	4	2.9
12	5	3.7
13	4	2.9
14	3	2.2
15	1	0.7
16	4	2.9
17	5	3.7
22	2	1.5
27	3	2.2
29	1	0.7
Total	136	100.0

Descriptive statistics of the variables. The LEOSS consists of 25-item questionnaire using two 7-point Likert-type scales for each of 25 potentially stressful situations: how common is the event in their daily lives, and how difficult or problematic is it for the officer to respond to each situation (Van Hasselt et al., 2008). Choices range from not common (1) to extremely common (7), and not difficult (1) to extremely difficult (7) (Van Hasselt et al., 2008). The LEOSS quantifies the total likelihood score, difficulty score, and provides an overall or total stress score (likelihood × difficulty) (Van Hasselt et al., 2008). Primary data gathered from the LEOSS measured participants' self-

reported stress for likelihood, difficulty, and overall stress for each of the 25 scenarios in the survey. This data were used for the variables of police officer stress, difficulty and likelihood of responding to stressful situations in small, rural police agencies in Indiana.

Prior to SPSS statistical analysis of the data, Cronbach's (1951) alpha scale analysis was used to provide reliability measures of the LEOSS likelihood, difficulty, and overall stress scales used in this study. The Cronbach's (1951) alpha indicated high levels of internal consistency for the likelihood (.75), difficulty (.90), and overall (.83). Since each level exceeded the recommended .70, all subscales were included in analysis (Bland & Altman, 1997; Tavakol & Dennick, 2011). The author of the LEOSS also found all subscales exceeded the minimum recommendation of .70 for Cronbach's alpha (Van Hasselt et al., 2008). See Table 3 for Cronbach's alpha reliability coefficients from this study and Van Hasselt et al. (2008).

Table 3

Cronbach's Alpha Reliability Coefficients for LEOSS Subscales

Subscale	This Study	Van Hasselt et al. (2008)
Likelihood	.75	.87
Difficulty	.90	.90
Overall	.83	.87

The mean, range, standard deviation, skew, and kurtosis of the participants' scores provide a description of the distribution and dispersion of the variables. Table 4 illustrates results using the totaled scores for each scale to be used for correlational analysis. Table 4 provides an illustration of the mean and standard deviation for individual likelihood and difficulty responses from the LEOSS. Table 4 illustrates the mean scores for most likelihood responses were below the midpoint of the 7-point Likert-

type scales, while many of the difficulty score means were at or above the midpoint of the 7-point Likert-type scales.

Table 4

Law Enforcement Officer Stress Survey (LEOSS) Statistics

	Likelihood Scale Mean Score	Difficulty Scale Mean Score	Overall Mean Score
N	136	136	136
Mean	56.07	121.12	177.18
Skew	.396	-.724	-.51
Std. Error of Skew	.21	.21	.21
Kurtosis	.032	.552	.32
Std. Error of Kurtosis	.41	.41	.41
Standard Deviation	10.00	16.38	18.60
Range	53	84	106
Minimum	37	67	119
Maximum	90	151	225

Since parametric procedures were proposed to analyze data, scatterplots were completed in SPSS with fit lines. A scatterplot was completed for likelihood scores and years of experience (Figure 1), difficulty scores and years of experience (Figure 2), and overall scores and years of experience (Figure 3). Review of the scatterplots and fit lines revealed a monotonic relationship between variables with linear relationships ranging from weak to non-linear. When comparing likelihood, difficulty, and overall scores to years of experience, linear relationship strengths were .07, .008, and .005, respectively. The non-linear relationship results violate a key assumption of Pearson's product moment correlation. This violation resulted in a change from Pearson's parametric testing procedure to Spearman's non-parametric procedure and is discussed further in the next section. Since Pearson and Spearman are both bivariate correlations, the *a priori* G*Power calculations remained the same.

Figure 1. Likelihood Total Score and Years of Experience Scatterplot with Fit Line.

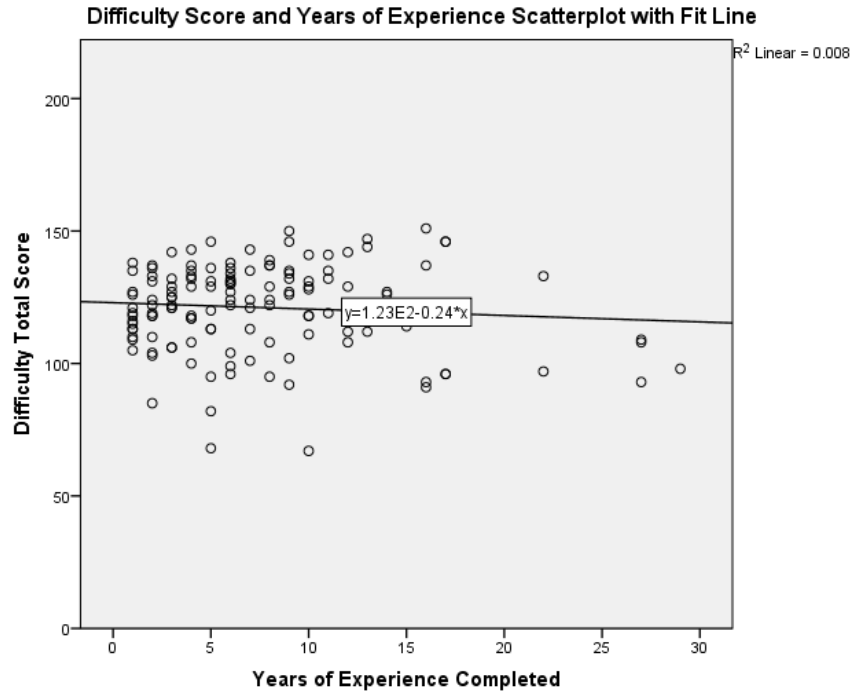

Figure 2. Difficulty Total Score and Years of Experience Scatterplot with Fit Line.

Figure 3. Overall Total Score and Years of Experience Scatterplot with Fit Line.

This section provided descriptive data summarizing participant demographics and descriptive statistics regarding distribution and dispersion of variables. Cronbach's (1951) alpha scale analysis provided reliability measures of the LEOSS prior to SPSS analysis of the data. Scatterplots with fit lines also illustrated the monotonic but non-linear relationships between variables. The next section includes a description of data analysis procedures including data preparation and additional assumption testing.

Data Analysis Procedures

The purpose of this quantitative correlational study was to determine if and to what extent there is any statistically significant relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. Data analysis requires performing statistical tests on raw data to validate and determine acceptance or rejection of null hypotheses (Smith,

Meade, Wolf, & Jerry, 2013). The null hypothesis for the first research question is that there is not a statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana. The null hypothesis for the second research question is that there is not a statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana. The null hypothesis for the third research question is that there is not a statistically significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana.

This section describes the process used in the current study to enter and analyze data. Data entry and analysis is described in further detail in the subsections below. The data analysis procedure align with the plan described in Chapter 3 with the exception of changing from Pearson's (1901) correlation to Spearman's (1904) correlation. The change from Pearson (1901) to Spearman (1904) will be discussed in depth. Data analysis for the current quantitative, correlational study was completed through data preparation, assumptions testing, and testing for outliers. Then Spearman's (1904) rank-order correlation was conducted for all variables. The significance level for this study was initially set at $\alpha = .05$. Since correlational analysis were used, one for each pair of variables, Bonferroni (1936) correction was used, resulting in an alpha of .017, a power of 0.80, and a medium effect size ($\rho=0.3$). Therefore, and results will be considered significant if the *p*-value is less than or equal to .017.

The LEOSS was used to gather data for overall stress, difficulty and likelihood responding to stressful situations variables via 7-point Likert-type scales. The total

LEOSS score for exposure to police officer stressors calculated as the sum of likelihood × difficulty ratings for the 25 items has resulted in strong internal reliability (α=0.87) (Can et al., 2015). Since its development and initial testing, the LEOSS has exhibited strong psychometric properties including validity and internal consistency (Browning, 2013). During testing, test-retest correlation coefficients were calculated for the frequency (r = .578, $p < .01$) and difficulty (r = .621, $p < .01$) subscales, as well as the overall scale (r = .672, $p < .01$). The alpha coefficients for frequency and difficulty scales, as well as the overall scale were .874, .908, and .874, respectively (Browning, 2013; Van Hasselt et al., 2008). Additionally, Van Hasselt et al. (2008) demonstrated concurrent validity between the LEOSS and the PSS (a lengthy, but well-established instrument for measuring police officer stress). Testing results found the LEOSS was moderately, but significantly, related to the PSS (r = .407, $p < .001$) (Van Hasselt et al., 2008, p.145).

Data preparation. Data collection for this study used printed copies of a demographic survey and the LEOSS, two valid and reliable instruments, administered in-person by the researcher. The target population for this study was 424 full-time police officers at small, rural departments in Indiana. After receiving IRB approval, contact was attempted with all participating agencies. After three weeks of contacting agencies and their designated approving officials, surveys were collected from 140 participants. Responses from all 140 surveys were manually entered in to SPSS. The researcher reviewed all 140 surveys. An SPSS data sheet was created with columns created for each value to be entered (gender, marital status, likelihood and difficulty responses to each scenario, etc.). Columns in the SPSS sheet were then prepared for coding (Gender, Marital Status, Education, and Primary Assignment) (as discussed below). Raw data were

then prepared for analysis by sorting and coding responses according to each survey. Since the surveys were anonymous, as responses from each survey were entered in to SPSS, the corresponding number from the SPSS data sheet was written on the paper survey (1-140) to allow for later review if necessary. These numbers were used later to investigate the outliers. Age was entered as the actual number reported. Gender was coded as 0 for male and 1 for female. Marital status was coded as well (0-single, 1-married, 2-divorced, 3-widowed, and 4-other). Highest level of education was coded as 0 for high school, 1 for some college, 2 for associate degree, 3 for bachelor degree, and 4 for terminal degree. Years of experience was entered as the actual number of completed years of experience. Primary assignment was also coded (0-patrol officer, 1-patrol supervisor, 2-investigations, 3-administration). Responses to the LEOSS were all entered in order (no reverse ordering) with two Likert-type scale (1-7) responses for each of the 25 scenarios (likelihood and frequency).

All responses were then manually entered in to the SPSS data sheet by the researcher. The result was 56 entries for each of the 140 completed surveys. All submitted surveys were reviewed and found to be complete with none missing data or blank. However, the researcher noticed four of the 140 surveys had the same response for all 25 LEOSS scenarios (i.e. all 1). These four surveys were later identified as outliers and removed from analysis, resulting in 136 surveys. Identification of outliers was completed using the interquartile range and removal from analysis completed by using a filter variable as discussed in detail below. Finally, totals of the likelihood score, difficulty score, and overall/total score were computed and added to the SPSS sheet. The *a priori* G*Power analysis computation for Spearman's (1904) product-moment

correlation was conducted. Parameters for the G*Power analysis included an alpha of 0.017, a power of 0.80, and a medium effect size (ρ=0.3). The corrected alpha of 0.017 was determined using Bonferroni (1936) correction since three correlational analysis were planned, one for each type of stress. The result was a required, minimum sample size of 112 (See Appendix E) (Faul et al., 2009). Since both Pearson and Spearman correlations are bivariate, the G*Power analysis results are the same, the resulting 136 surveys exceeded the minimum 112, so all surveys were included in the analysis.

Change in analysis. As previously mentioned, Pearson's (1901) product-moment correlation was originally proposed for data analysis for this study. Since parametric tests typically have more statistical power than a non-parametric test, the researcher chose Pearson's (1901) correlation (Pearson, 1901; Siegel, 1957). However, when scatterplots with fit lines were produced in SPSS, the results showed linear relationships between all variables were minimal to non-linear. Even after four outliers were omitted because they contained invalid data, linear relationships between variables remained minimal to non-linear (.07, .008, and .005). These results were illustrated in Tables 1, 2, and 3 above. Following recommendations from Laerd Statistics (2018) and Bishara and Hittner (2017), a logarithmic data transformation was completed in SPSS in an attempt to increase the strength of the linear relationship. The transformation was unsuccessful and relationships remained non-linear. Figures 4, 5, and 6 show these scatterplots.

Figure 4. Likelihood and Years of Experience Scatterplot Transformed.

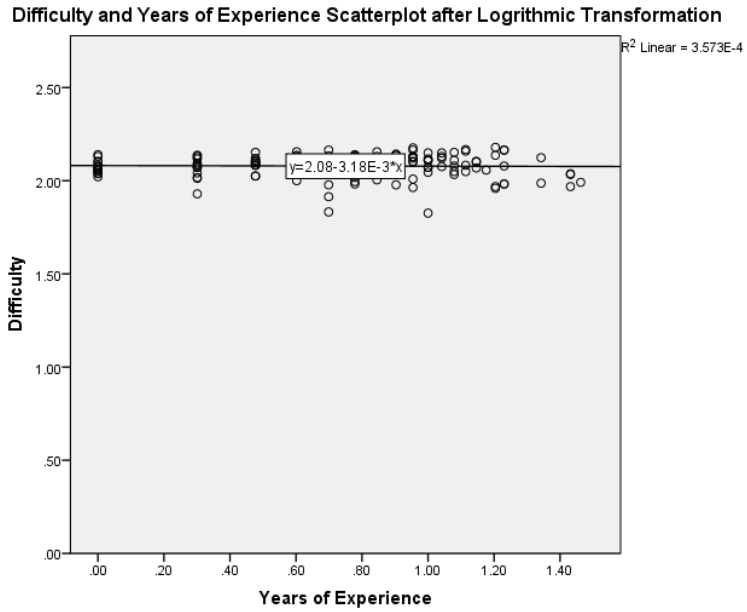

Figure 5. Difficulty and Years of Experience Scatterplot Transformed.

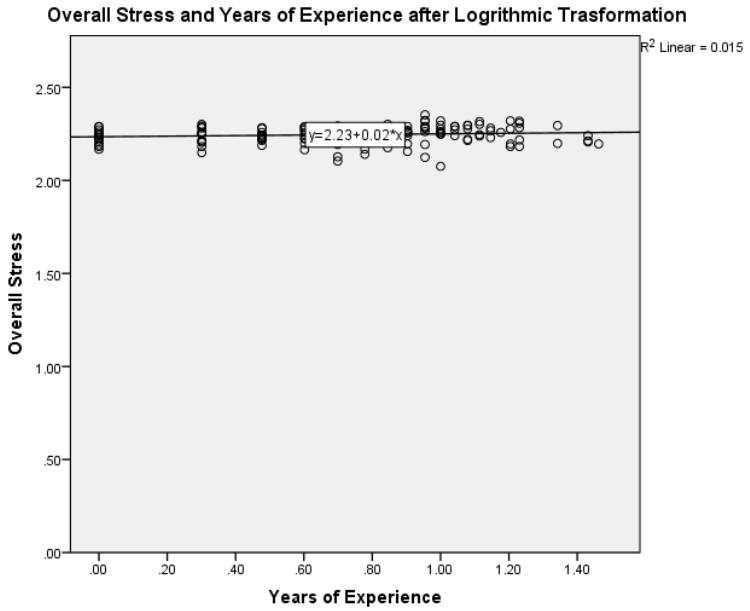

Figure 6. Overall Stress and Years of Experience Scatterplot Transformed.

The researcher initially resisted trying to transform data since such transformations can reduce the magnitude of Pearson's (1901) correlation (Bishara & Hittner, 2017). The preceding transformation was completed to further support the switch to non-parametric Spearman's (1904) correlation. Laerd Statistics (2018) also recommend moving from Pearson's (1901) correlation to a non-parametric test if a linear relationship does not exist between variables. Although Spearman's (1904) correlation is a non-parametric test, it has shown better Type I error rate control, compared with Pearson's (1901) correlation in some cases, and is often more powerful than Pearson in the context of non-normality (Bishara & Hittner, 2017). Additionally, according to Bishara and Hittner (2017), Spearman's (1904) and Pearson's (1901) formulas, when applied to ranked data in the absence of ties, give identical correlation values. Furthermore, Bishara and Hittner (2017) found Spearman's (1904) *r* was more powerful than Pearson's (1901) *r* across a range of non-normal bivariate distributions. Finally,

Bishara and Hittner (2017) reference authors of several other scholarly articles who all found Spearman's (1904) rank-order correlation is commonly used for nonlinear relationships and is a recommended alternative to the Pearson's (1901) correlation. For these reasons the researcher used Spearman's (1904) rank-order correlation for data analysis in this study.

Assumption testing. The use of Pearson's (1901) correlation was discussed previously, and the assumption of linearity found to be violated. The assumption testing for Spearman's (1904) rank-order correlation are discussed further here. Spearman's (1904) rank-order correlation was used to measure the extent of the strength and direction of any relationship between variables. Spearman's correlation was used to examine the relationship between overall stress and years of experience for research question one, the extent of the relationship between difficulty and years of experience for research question two, and the extent of the relationship between likelihood and years of experience for research question three. Before using Spearman's (1904) correlation to determine the strength and direction of any relationship between the variables, the data were checked to ensure data conformed to assumptions necessary for the correlation. According to Laerd Statistics (2018), the Spearman (1904) rank-order correlation requires three tests of assumption including two paired variables, two ordinal or continuous variables, and a monotonic relationship between the variables.

Two paired variables. Three sets of paired variables were used for this study. The total likelihood scores were paired with years of experience. Also, the total difficulty scores were paired with years of experience. Finally, the overall score (likelihood and

difficulty summed) was paired with years of experience. Each of these three tests represent a pair of variables.

Two ordinal or continuous variables. The multiple 7-point, Likert-type scale responses to the LEOSS were treated as continuous for this study (Sedgwick, 2012). Additionally, the years of experiences variable was also continuous since the actual number of completed years of experience was reported.

Monotonic relationship between variables. The three sets of paired variables used for this study exhibited a monotonic relationship. Scatterplots previously used to determine non-linear relationships also revealed a monotonic relationship between all pairs. No pairs existed in which one variable increased while the other decreased, or vice versa (Laerd Statistics, 2018). Figures 1, 2, and 3 illustrated the monotonic relationship.

Outliers. Outliers were identified using the interquartile range (Ghasemi & Zahediasl, 2012). The interquartile range was calculated using an online calculator for both Likelihood Total Score and Difficulty Total Score. The results of the online calculator produced the 25^{th} and 75^{th} percentile for each scale as well as the difference between the two (interquartile range). A calculation was then made for each scale to find 1.5 times above the high end, and 1.5 times below the low end of the interquartile range. The values for each scale were then placed in numerical order and compared to the high and low limits of the interquartile range calculations. Values exceeding 1.5 times the interquartile range were then identified as outliers and considered for exclusion. Four possible outliers were identified and those surveys reviewed (Ghasemi & Zahediasl, 2012). The four completed surveys appeared to be invalid. Participants in all four cases responded with the same answer for all scales on all scenarios (i.e. all 1s). To confirm the

outliers, SPSS was used to complete a box plot of the difficulty and likelihood scores. The four cases were confirmed as outliers and removed from further analysis. The 4 excluded surveys were removed by creating a filter variable in SPSS (Laerd Statistics, 2018). The filter variable was set to exclude the 4 surveys from further analysis. Additionally, data entered in SPSS was visually double-checked to ensure the filter was properly applied and no missing data were present. These are illustrated in Figures 7 and 8 below. Since the minimum sample size revealed by G*Power analysis was 112 and the study still had 136 after removing four outliers, the study was not impacted by the removal (Faul et al., 2009).

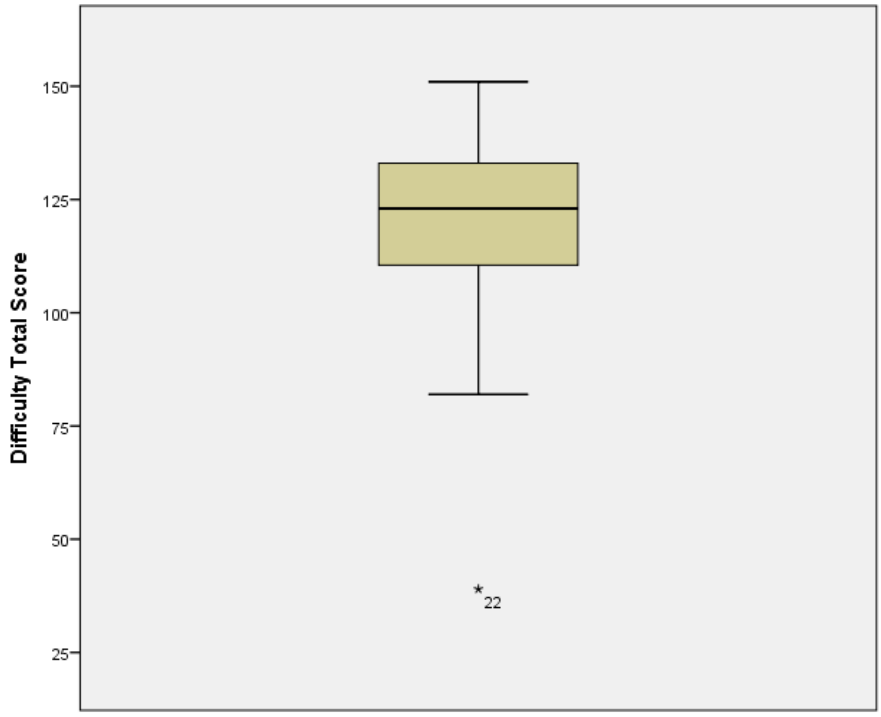

Figure 7. Difficulty Score Boxplot Showing Outliers

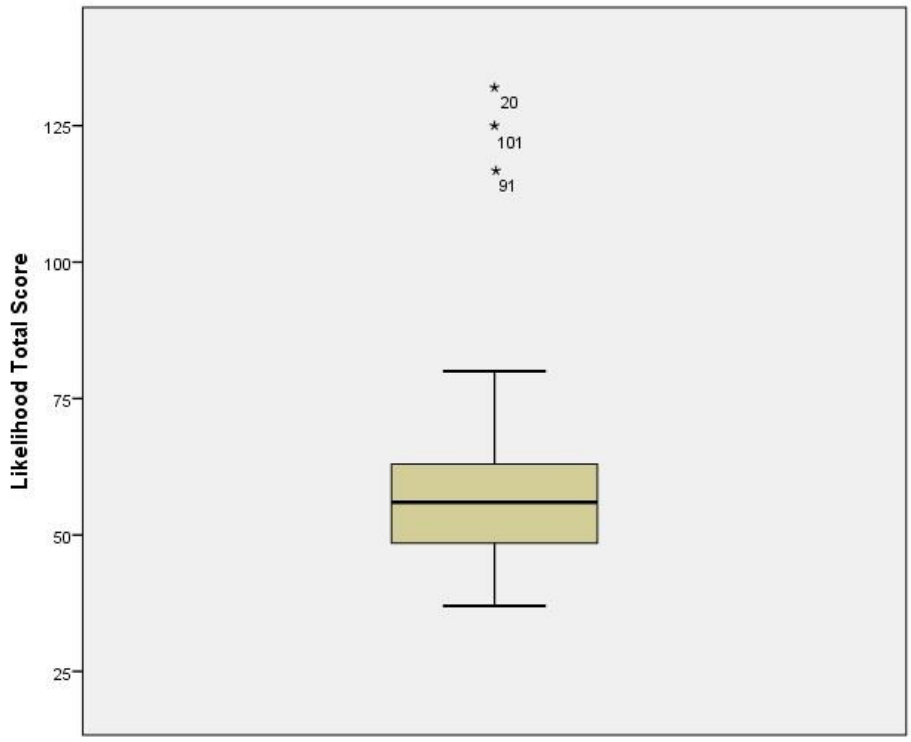

Figure 8. Likelihood Score Boxplot Showing Outliers

Descriptive statistics. The initial step in data analysis included using SPSS to compute the descriptive statistics described in the preceding section. The demographic variables of *age, gender, marital status, education level, years of experience,* and *primary assignment* described the target population characteristics. Additionally, the descriptive statistics narrative and illustrations included the means, medians, standard deviations, skewedness, kurtosis, and rages of scores for the variables. Tables 1, 2, 3, and 4 include supporting illustrations of descriptive data contained in the narrative summaries of this chapter.

Inferential statistics. After descriptive statistics and assumptions testing, Spearman's (1904) rank-order correlation comparing variable pairs was the next step. Spearman's (1904) correlation was used to compare the overall stress scores to years of experience, the likelihood scores to years of experience, and the difficulty scores to years

of experience in an attempt to answer the research questions. The results section includes a detailed review of the statistical procedure used to answer the three research questions (R1, R2, and R3) and allow acceptance or rejection of the related hypotheses. Considering the cumulative effects of stress and current literature, R1, R2, and R3 asked if any statistically significant correlational relationship between the individual officers' stress, difficulty and frequency of responding to stressful situations, and years of experience exists using Spearman's (1904) rank-order correlation (Gershon, 2000; Padhy et al., 2015; Regehr et al., 2013; Scott, 2004). Spearman's (1904) rank-order correlation is the most appropriate measure of correlation based on assumptions testing and the Pearson's ability to measure the strength and direction of the relationship between two variables (Laerd Statistics, 2018).

The null hypothesis associated with R1 was formulated for testing using correlational analysis and stated there is not a statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana. Similarly, the null hypothesis associated with R2 was formulated for testing using correlational analysis and stated there is not a statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana. The hypothesis associated with R3 was also formulated for testing using correlational analysis and stated there is not a statistically significant relationship between police officer years of experience and frequency of responding to stressful situations in small, rural police agencies in Indiana.

This section of Chapter 4 described data preparation and analysis procedures used to examine the relationship between variables from the demographic survey and the

LEOSS. It included sections with information on data preparation, testing assumptions, changing procedures, descriptive statistics, and inferential statistics. No changes occurred since initial IRB approval that required notification to IRB or re-submission to IRB. Changes in the procedure of analysis from Pearson's (1901) correlation to Spearman's (1904) correlation was discussed with supporting reasons and literature. The following section describes the quantified relationships between police officer stress, difficulty, and likelihood responding to stressful situations and years of experience as reported by police officers in small, rural departments in Indiana.

Results

The LEOSS measured police officer responses to overall stress, difficulty and likelihood of responding to stressful situations as variables for correlation. The participant responses ranged from 1 to 7 for each of the 2 Likert-type scales for each of the 25 scenarios in the LEOSS. The demographic survey measured the correlational variable of actual number of years of service completed as police officers at small, rural departments in Indiana. Analysis of the relationships using Spearman's (1904) correlational involved the overall, difficulty, and likelihood scores each compared to years of experience.

The *a priori* G*Power analysis computation conducted for Spearman's (1904) product-moment correlation revealed a required, minimum sample size of 112 (See Appendix E) (Faul et al., 2009). Parameters for the G*Power analysis included an alpha of 0.017, a power of 0.80, and a medium effect size (ρ=0.3). The corrected alpha of 0.017 was determined using Bonferroni (1936) correction since three correlational analysis were planned, one for each type of stress. The removal of four surveys (outliers) from the

original 140 resulted in 136 surveys, exceeding the minimum 112. Therefore, all surveys were included in the analysis and were sufficient to power the study. Post hoc G*Power analysis with the final sample size of 136 resulted in a power of 0.88, above the desired power of 0.80.

Research Question 1. The first research question asked if there is a statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana. The null hypothesis stated there is not a statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana. To answer R1 and reject or fail to reject the null hypothesis, Spearman's (1904) rank-order correlation was used to establish whether a correlation existed between the two variables. Initial analyses showed a non-linear, monotonic relationship between both variables.

The Spearman (1904) rank-order correlation revealed the relationship between overall stress and years of experience was not statistically significant for this study $r_s(134) = .172$, $p = .045$. This is illustrated in Table 5 below. The corrected alpha of .017 used for this study was determined using Bonferroni (1936) since three correlational analyses were used, one for each pair of variables. For this correlation $p > .017$ ($p = .045$), therefore the researcher cannot reject the null hypothesis for research question 1.

Table 5

Spearman's Overall Stress and Years of Experience

			Overall Total Score	Years of Experience Completed
Spearman's rho	Overall Total Score	Correlation Coefficient	1.000	.172
		Sig. (2-tailed)	.	. 045
		N	136	136
	Years of Experience Completed	Correlation Coefficient	. 172	1.000
		Sig. (2-tailed)	. 045	.
		N	136	136

Research Question 2. The second research question asked if there is a statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana. The null hypothesis stated there is not a statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana. To answer R2 and reject or fail to reject the null hypothesis, Spearman's (1904) rank-order correlation was used to establish whether a correlation existed between the two variables. Initial analyses showed a non-linear, monotonic relationship between both variables.

The Spearman (1904) rank-order correlation revealed the relationship between difficulty responding to stressful situations and years of experience was not statistically significant for this study $r_s(134) = .039$, $p = .650$. This is illustrated in Table 6 below. Additional discussion of this result is included in the Chapter 5 Interpretation section. The corrected alpha of .017 used for this study was determined using Bonferroni (1936) since three correlational analyses were used, one for each pair of variables. For this

correlation $p > .017$ ($p = .650$), therefore the researcher cannot reject the null hypothesis for research question 2.

Table 6

Spearman's Correlation of Difficulty and Years of Experience

			Difficulty Total Score	Years of Experience Completed
Spearman's rho	Difficulty Total Score	Correlation Coefficient	1.000	.039
		Sig. (2-tailed)	.	.650
		N	136	136
	Years of Experience Completed	Correlation Coefficient	.039	1.000
		Sig. (2-tailed)	. 650	.
		N	136	136

Research Question 3. The third research question asked if there is a statistically significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana. The null hypothesis stated there is not a statistically significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana. To answer R3 and reject or fail to reject the null hypothesis, Spearman's (1904) rank-order correlation was used to establish whether a correlation existed between the two variables. Initial analyses showed a non-linear, monotonic relationship between both variables.

The Spearman (1904) rank-order correlation revealed there was statistically significant, weak positive correlation between likelihood of responding to stressful situations and years of experience $r_s(134) = .314$, $p < .001$. This is illustrated in Table 7 below. The corrected alpha of .017 used for this study was determined using Bonferroni (1936) since three correlational analyses were used, one for each pair of variables. For

this correlation $p < .001$, therefore the researcher can reject the null hypothesis for research question 3.

Table 7

Spearman's Correlation of Likelihood and Years of Experience

			Likelihood Total Score	Years of Experience Completed
Spearman's rho	Likelihood Total Score	Correlation Coefficient	1.000	.314**
		Sig. (2-tailed)	.	.000
		N	136	136
	Years of Experience Completed	Correlation Coefficient	.314**	1.000
		Sig. (2-tailed)	.000	.
		N	136	136

**. Correlation is significant at the 0.01 level (2-tailed).

Summary

The purpose of this quantitative correlational study was to determine if and to what extent there is any relationship between police officer stress, difficulty and frequency of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. Summaries of data collected were presented in this chapter including data from 140 surveys completed by participants. The exclusion of four surveys (outliers) resulted in 136 surveys representing the target population, exceeding the minimum requirements of the power analysis. The recommended sample size was 112, or 29% of the target population of 424 based on power analysis performed for correlational analysis using G*Power 3.1 software (Faul et al., 2009) and an alpha of 0.017, a power of 0.80, and a medium effect size (ρ=0.3). The corrected alpha of 0.017 was determined using Bonferroni (1936) correction since three correlational analysis was used, one for each type of stress. Analysis of the data included necessity to, and justification for

changing correlation procedures from Pearson (1901) to Spearman (1904). Additionally, analysis of data including descriptive, correlational analysis using Spearman's (1904) rank-order correlation was included to confirm acceptance or rejection of null hypotheses.

Demographic characteristics of participants was examined through descriptive statistics. The results showed the majority of participants were younger patrol officers with fewer years of experience (Tables 1, 2, and 3). Data findings were then presented with respect to each research question and hypothesis. Confirmation of three required assumptions for Spearman's (1904) correlation were completed before correlational analysis. Paired continuous variables with monotonic relationships allowed the used of Pearson's (1901) correlation.

Research question 1 examined any statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana. The null hypothesis for RQ1 stated there was not a significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana. Results of the correlation found no statistically significant relationship between police officer stress and years of experience. This was illustrated in Table 5. This meant the researcher could not reject the null hypothesis.

Similarly, research question 2 examined any statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana. The null hypothesis for RQ2 stated there was not a significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana.

Results of the correlation found no statistically significant relationship between police officer difficulty responding to stressful situations and years of experience. This was illustrated in Table 6. This meant the researcher could not reject the null hypothesis.

Finally, research question 3 examined any statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana. The null hypothesis for RQ3 stated there was not a significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana. The Spearman (1904) rank-order correlation revealed there was weak, positive statistically significant correlation between likelihood of responding to stressful situations and years of experience $r_s(134) = .314$, $p < .001$. This was illustrated in Table 7.

Limitations discussed in Chapters 1 and 3 were realized during data analysis. The target population presented a limitation of the finding including mostly young male officers with fewer years of experience participating in the study. Known issues with self-assessment data could have also impacted the study, as evident in the four outlier surveys removed from analysis and was a possible contributing factor to the non-linearity of variable relationships (Brutus et al., 2013).

The totality of Chapter 4 presented data collection and analysis procedures. The information presented procedures used to answer the three research questions and hypotheses. Chapter 5 presents a review of the implications of the data and data analysis relative to the research questions and hypotheses. A discussion of the importance of the research in this study and contributions to the existing body of knowledge is also

presented. Finally, an overall summary of the study incudes recommendations and implications for future research, findings, and overall conclusions to complete the study.

Chapter 5: Summary, Conclusions, and Recommendations

Introduction

Recognizing the need to fill the gap of lacking research on rural police agencies and address conflicting results in current literature, one goal of this study was to add to the body of knowledge (Balmer et al., 2014; Liu et al., 2015). Another goal of this study was to determine if and to what extent there is any statistically significant relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. Differing methodologies and samples in existing literature have led to conflicting research showing officer stress increases, decreases, or forms more of a bell curve, with years of experience (Gershon, 2000; Padhy et al., 2015; Stanley et al., 2016). Many researchers' studies have focused on police officer stress, but often neglect years of experience and rural agencies, present conflicting results, and most recommend further study (Padhy et al., 2015; Scott, 2004). The majority of studies focus on large, metropolitan or national police forces. Other researchers (Padhy et al., 2015; Scott, 2004) have shown rural police officers face different stressors and should be studied independently. Additionally, rural officers are often recognized while off-duty at family, school, and social events in the communities they serve, resulting in a different kind of stress (Scott, 2004).

The purpose of this quantitative correlational study was to determine if and to what extent there is any statistically significant relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. Three research questions using correlational analysis examined the relationship between police officer years of experience and stress.

The first research question asked if there is a statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana. The second research question asked if there is a statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana. The third research question asked if there is a statistically significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana.

A survey (demographic and LEOSS) was used to collect data for the study in an attempt to answer the research questions. Quantitative methodology with a correlational data analysis design was most appropriate because the current study began with hypotheses that predicted relationships between two variables, and was interested if there is any statistically significant relationship between them (Bettany-Saltikov & Whittaker, 2014). The multiple 7-point, Likert-type scale responses to the LEOSS were treated as continuous, and the years of experiences were treated as ratio and analyzed using Spearman's (1904) rank-order correlation (Sedgwick, 2012). The researcher conducting the current study was only interested in establishing if any statistically significant relationship exists between two quantifiable variables, expressed in numerical form. The goal matches Johnson's (2000) description of a correlational study in every aspect.

The increased understanding from this study may ultimately help reduce stress and increase wellbeing of police officers, benefiting the officers, their organizations, peers, and loved ones, and ultimately the communities they serve. Bandura's (1977) Theory of Self-Efficacy and Rotter's (1966) Locus of Control formed the framework of

this study. People with perceived internal locus of control believe they can control much of what happens in their daily lives, often leading to increased wellbeing (Judge & Bono, 2001). Similarly, individuals with high levels of perceived self-efficacy typically trust their own abilities when experiencing difficult, stressful situations, think in self-enhancing ways, and can experience less stress and anxiety (Pooley et al., 2013; Warner et al., 2015). Together, a person's perceived internal locus of control and high self-efficacy can predict behavior in stressful situations than how the person may be capable of reacting (Brown et al., 2016).

As mentioned, the researcher conducting this study hoped to advance the body of knowledge in several ways. Several key literature topics including the national agenda surrounding police officer stress, measuring officer stress, relating stress to other variables (including years of experience), and resolving conflicts in the current literature have been addressed by this study. Results could help advance the body of knowledge in these areas. The findings from this study also provide opportunities for further study in this area, including more diverse samples, causal-comparative, and mixed methods research.

Chapter 5 contains a summary of the overall study. A summary of the findings and conclusions is also presented based on data analysis and findings. Theoretical, practical, and future implications of the study are discussed. Strengths and weaknesses of the study are acknowledged and presented as well. Finally, recommendations for future research and future practice close the chapter.

Summary of Study

The identified problem is it is not known if and to what extent any relationship exists between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. The problem demonstrated the need to examine possible relationships between the stress variables and years of experience with correlational analysis. Findings in current literature state individuals who have high job demands with low job control (including police officers) experience high levels of stress, increasing the importance of this study (Brough & Biggs, 2015; Luchman & González-Morales, 2013). Approximately 91% of police agencies employ 50 or less officers, a standard partially used to determine rural officers for this study (Page & Jacobs, 2011). Most studies focus on large metropolitan, state, or federal police departments employing over 100 officers and serving over 50,000 people, or even larger agencies (Oliver & Meier, 2004). Stress related expenses in the United States exceeded $300 billion in 2012 and continues to rise (Liu et al., 2015). However, rural police agencies suffer from fewer officers and lower budgets than large, metropolitan agencies, so money must be spent as efficiently as possible (Brunet, 2015). The current study may help fill the gap of rural agency studies, address conflicting results in current literature, increase understanding of the problem, and add to the body of knowledge (Balmer et al., 2014; Liu et al., 2015). The purpose of this quantitative correlational study was to determine if and to what extent there is any statistically significant relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. Survey packets distributed in-person by the researcher included an informed consent page,

demographic survey, and the LEOSS, yielded 140 responses, a 32% response rate, with 136 used for analysis (n = 136). This total well-exceeded the 112 required minimum. The required minimum sample size of 112, or 26.4% of the target population was based on an *a priori* G*Power 3.1 software analysis computation conducted for correlational analysis (Faul et al., 2009). Parameters for the G*Power analysis included an alpha of .017, a power of .80, and a medium effect size ($\rho = 0.3$). The corrected alpha of .017 was determined using Bonferroni (1936) correction since three correlational analysis was used, one for each type of stress. The result was the required, minimum sample size of 112 (See Appendix E) (Faul et al., 2009).

Chapter 1 introduced the study and included a summary of the need to examine the relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies. The defined gaps were discussed including conflicting results in current studies investigating rural police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience, lack of studies on rural agencies, and following recommendations for future research of police officer stress and years of experience (Balmer et al., 2014; Liu et al., 2015). The chapter also outlined how this study contributes to advancing the body of knowledge in in three separate areas: the literature, theoretical foundations, and practical application benefits to police agencies, and hopefully increases awareness of the problem, spread discussion, and inspire future studies to examine at possible causation. The chapter concluded with a rationale for methodology, nature of the research design for the study, discussion of assumptions, limitations, and delimitations, and a summary of the organization of the remainder of the study.

Chapter 2 began with a discussion of the background to the problem of police officer stress including its negative effects on police since the profession began (Anshel et al., 1997), findings of researchers over the past few decades illustrating the negative psychological and physiological effects of stress on police officers (Elntib & Armstrong, 2014; Liu et al., 2015), and stressors unique to police lead to isolation, secrecy, and increased violence and cynicism (Westley, 1970). Additional background information of ethnographic research throughout the 1950s, 1960s, and 1970s continued to examine police culture and stress (Terpstra & Schaap, 2013) with various scholars finding police cultural norms identified by Westley (1970) led officers down a path at odds with formal law, regulations, and accepted behavior, resulting in police officers stress at consistently higher than the public sector (Willis & Mastrofski, 2017).

Additional information supporting the identification of the gap was then discussed including stressors unique to rural police agencies, lack of current studies on rural police agencies, conflicting results in the literature, and current trends and recommendations from researchers. Next, a discussion of Bandura's (1977) Theory of Self-Efficacy and Rotter's (1966) Locus of Control as the basis for this study illustrated how the theoretical foundation aligned with the research questions. Lastly, an extensive review of the literature included the significance of the study on a global scale, police officer stress, years of experience, rural differences, and coping. The literature review also provided support for the methodology and instrumentation used here, identified the problem central to this study, revealed the gap, and provided blueprints for both the study design and a clear understanding of the necessity for the study.

Chapter 3 opened with by repeating the problem that it is not known if and to what extent any relationship exists between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. The chapter also discussed the research questions and hypotheses, research design, population and sample size. Additionally, validity, reliability, data collection, management, and analysis, ethical considerations, and limitations and delimitations were discussed. Considerable discussion was presented to allow replication of the study by future researchers.

The quantitative correlational design of the study to examine the relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana by using a demographic survey and the LEOSS was discussed at length. The sample of 136 full-time police officers in target-population-qualifying rural agencies were surveyed, including new officers through the most experienced. Convenience sampling was used to give every officer employed at each department included in the study an equal chance to participate, increasing generalizability of the results to similar agencies and reducing selection bias (Marshall, 1996; Meng, 2013). To find the sample size, an *a priori* G*Power analysis computation for Spearman's (1904) rank-order correlation was conducted. Parameters for the G*Power analysis included an alpha of 0.017, a power of 0.80, and a medium effect size (ρ=0.3). The corrected alpha of 0.017 was determined using Bonferroni (1936) correction since three correlational analysis was used, one for each type of stress. The result was a required, minimum sample size of 112 (See Appendix E) (Faul et al., 2009). Researchers of similar studies in the literature have also

used similar sample sizes (Arnetz et al., 2013; Can et al., 2015; Van Hasselt et al., 2008). The study recruited a convenience sample of 424 officers from nine law enforcement agencies meeting the criteria, allowing for an approximate response rate of 29%. The 29% response rate would result in 127 completed surveys to end with a minimum sample of at least 112 officers after allowing a loss of 15 due to attrition, missing data, outliers, etc. To examine any relationship between the variables of police officer stress, difficulty and likelihood responding to stressful situations and years of experience, the following variables, research questions, and hypotheses were developed and presented in Chapter 3:

R_1: To what extent, if any, is there any statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana?

$H_0$1: There is not a significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana.

H1: There is a significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana.

R_2: To what extent, if any, is there any statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana?

$H_0$2: There is not a significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana.

H2: There is a significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana.

R_3: To what extent, if any, is there any statistically significant relationship between police officer years of experience and likelihood of stressful situations in small, rural police agencies in Indiana?

$H_0 3$: There is not a significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana.

H3: There is a significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana.

Research Question 1. The first research question asked to what extent, if any, is there a statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana. The null hypothesis stated there is not a statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana. The Spearman (1904) rank-order correlation revealed the relationship between overall stress and years of experience was not statistically significant $r_s(134) = .172$, $p = .045$. This was illustrated in Table 5. The corrected alpha of .017 used for this study was determined using Bonferroni (1936) since three correlational analyses were used, one for each pair of variables. For this correlation $p > .017$ ($p = .045$), therefore the researcher could not reject the null hypothesis for research question 1.

Research Question 2. The second research question asked to what extent, if any, is there a statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana. The null hypothesis stated there is not a statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana. The Spearman (1904) rank-order correlation revealed the relationship between difficulty responding to stressful situations and years of experience was not statistically significant $r_s(134) = .039$, $p = .650$. This was illustrated in Table 6. The corrected alpha of .017 used for this study was determined using Bonferroni (1936) since three correlational analyses were used, one for each pair of variables. For this correlation $p > .017$ ($p = .650$), therefore the researcher could not reject the null hypothesis for research question 2.

Research Question 3. The third research question asked to what extent, if any, is there a statistically significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana. The null hypothesis stated there is not a statistically significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana. The Spearman (1904) rank-order correlation revealed there was statistically significant, weak positive correlation between likelihood of responding to stressful situations and years of experience $r_s(134) = .314$, $p < .001$. This was illustrated in Table 7. The corrected alpha of .017 used for this study was determined using Bonferroni (1936) since three correlational analyses were used, one for each pair of variables. For this correlation $p < .001$, therefore the researcher could reject the null

hypothesis for research question 3. A detailed discussion of the data analysis results is presented in the next section of this chapter.

Chapter 4 included a description of the data collected in the current study, descriptive findings including participant demographics and descriptive statistics of the variables. Then a discussion of the data analysis procedures was discussed including data preparation, a change in analysis after assumption testing, descriptive statistics, and inferential statistics. Finally, results with respect to each research question were presented before a summary closed the chapter.

The current chapter discusses the data analysis results from the previous chapter. The discussion includes a discussion of the importance of the findings including a summary and interpretation. Conclusions are presented based on the analysis of the findings. The conclusions are compared to the existing body of knowledge on police officer stress, answer the researcher questions, research problem, and help illustrate the contribution to knowledge in this area. Chapter 5 finally concludes with theoretical, practical, and future implications with respect to the findings, a discussion of weaknesses and strengths of this study, and recommendations for future research and practice.

Summary of Findings and Conclusion

The three research questions and related hypotheses formed the organizational structure for this study. This section includes a discussion of the results and the decision to reject or fail to reject the null hypothesis for each research question. Conclusions based on data analysis and findings related to the literature are also provided. Additionally, an explanation of how the study advances scientific knowledge is provided along with a discussion of the significance of the study related to future research and practice.

Before correlational analysis of data related to the three research questions, descriptive results were discussed including variables and demographic information providing an overview of survey responses. Demographic data for participants and descriptive statistics revealed the following information. Participant *age* revealed a range of 21 to 57 years of age (M = 32.18), *gender* showed 89.7% were male and 10.3% were female, *marital status* was divided in to 4 categories (single, married, divorced, and other) and results found most were married (55.1%). Data showed varying highest levels of education for participants with 19.1% reporting high school, 21.3% some college, 17.6% associate degree, 41.2% bachelor degree, and .7% with a terminal degree. *Employee classification* responses showed the most common classification was patrol officer (n = 111, 81.6%). The next highest was patrol supervisors (n = 18, 13.2%). The fewest were investigators (n = 4, 2.9%), and administrators (n = 3, 2.2%). Additionally, the y*ears of experience*, data were reported as the actual number of completed years of experience and ranged from 1 to 29 years of experience (M = 7.6). Likelihood of participation showed a trend of decreasing as years of experience increased. Although demographic data were gathered for comparison and reporting in Chapter 4, *years of experience* was the primary focus since it is a variable used for correlation in the current study.

As stated in Chapters 1, 3, and 4, the LEOSS was used for three variables and consists of 25-item questionnaire using two 7-point Likert-type scales for each of 25 potentially stressful situations: how common is the event in their daily lives (likelihood), and how difficult or problematic is it for the officer to respond to each situation (difficulty) (Van Hasselt et al., 2008). Choices range from not common (1) to extremely

common (7), and not difficult (1) to extremely difficult (7) (Van Hasselt et al., 2008). The LEOSS quantifies the total likelihood score, difficulty score, and provides an overall or total stress score (likelihood × difficulty) (Van Hasselt et al., 2008). Primary data gathered from the LEOSS measured participants' self-reported stress for likelihood, difficulty, and overall stress for each of the 25 scenarios in the survey. This data were used for the variables of police officer stress, difficulty and likelihood of responding to stressful situations in small, rural police agencies in Indiana.

Prior to SPSS statistical analysis of the data, Cronbach's (1951) alpha scale analysis was used to provide reliability measures of the LEOSS likelihood, difficulty, and overall stress scales used in this study. The Cronbach's (1951) alpha indicated high levels of internal consistency for the likelihood (.75), difficulty (.90), and overall (.83) scales. Since each level exceeded the recommended .70, all subscales were included in analysis (Bland & Altman, 1997; Tavakol & Dennick, 2011). During verification studies, the author of the LEOSS also found all subscales exceeded the minimum recommendation of .70 for Cronbach's alpha (Van Hasselt et al., 2008). Table 3 represented Cronbach's alpha reliability coefficients from this study and Van Hasselt et al. (2008).

The mean, range, standard deviation, skew, and kurtosis of the participants' scores provided a description of the distribution and dispersion of the variables and were discussed in Chapter 4. The mean scores for most likelihood responses were below the midpoint of the 7-point Likert-type scales, while many of the difficulty score means were at or above the midpoint of the 7-point Likert-type scales. This combination seemed to indicate the majority of participants were not as likely to respond to stressful situations, but when required to respond to them, experienced increased stress.

Parametric procedures were originally proposed to analyze data. However, when scatterplots were completed in SPSS with fit lines were completed for likelihood scores and years of experience (Figure 1), difficulty scores and years of experience (Figure 2), and overall scores and years of experience (Figure 3), the review of the scatterplots and fit lines revealed a monotonic relationship between variables with linear relationships ranging from weak to non-linear. When comparing likelihood, difficulty, and overall scores to years of experience, linear relationship strengths were .07, .008, and .005, respectively. The relationships were illustrated in Figures 1, 2, and 3. The non-linear relationship results violate a key assumption of Pearson's product moment correlation and resulted in a change from Pearson's parametric testing procedure to Spearman's non-parametric procedure. Even after four outliers were omitted and a logarithmic data transformation was completed in SPSS in an attempt to increase the strength of the linear relationship, the transformation was unsuccessful and relationships remained non-linear. Therefore, the change was made to Spearman's (1904) correlation. Although Spearman's (1904) correlation is a non-parametric test, it has shown better Type I error rate control, compared with Pearson's (1901) correlation in some cases, and is often more powerful than Pearson in the context of non-normality (Bishara & Hittner, 2017). Bishara and Hittner (2017) also found Spearman's (1904) and Pearson's (1901) formulas give identical correlation values when applied to ranked data in the absence of ties. Furthermore, Bishara and Hittner (2017) reference authors of several other scholarly articles who all found Spearman's (1904) rank-order correlation is commonly used for nonlinear relationships and is a recommended alternative to the Pearson's (1901) correlation. All assumptions for Spearman's (1904) correlation were met.

Research Question 1. The first research question asked if there was a statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana. The null hypothesis stated there was not a statistically significant relationship between police officer stress and years of experience in small, rural police agencies in Indiana. To answer R1 and either reject or fail to reject the null hypothesis, Spearman's (1904) rank-order correlation was used to establish whether a correlation existed between the two variables. Initial analyses showed a non-linear, monotonic relationship between both variables.

The Spearman (1904) rank-order correlation revealed the relationship between overall stress and years of experience was not statistically significant $r_s(134) = .172$, $p = .045$. The corrected alpha of .017 used for this study was determined using Bonferroni (1936) since three correlational analyses were used, one for each pair of variables. For this correlation $p > .017$ ($p = .045$), therefore the researcher could not reject the null hypothesis for research question 1. The researcher recognized without using Bonferroni (1936) correction for Type I error rate which corrected the original significance level ($\alpha = 0.05$) to $\alpha = 0.017$ for each of the three stress variables, the correlation for R1 *would have been* statistically significant. However, the finding here is *not* statistically significant since $p > .017$ ($p = .045$).

Research Question 2. The second research question asked if there was a statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural police agencies in Indiana. The null hypothesis stated there was not a statistically significant relationship between police officer years of experience and difficulty responding to stressful situations in small, rural

police agencies in Indiana. To answer R2 and either reject or fail to reject the null hypothesis, Spearman's (1904) rank-order correlation was used to establish whether a correlation existed between the two variables. Initial analyses showed a non-linear, monotonic relationship between both variables.

The Spearman (1904) rank-order correlation revealed the relationship between difficulty responding to stressful situations and years of experience was not statistically significant $r_s(134) = .039$, $p = .650$. The corrected alpha of .017 used for this study was determined using Bonferroni (1936) since three correlational analyses were used, one for each pair of variables. For this correlation $p > .017$ ($p = .650$), therefore the researcher could not reject the null hypothesis for research question 2.

Research Question 3. The third research question asked if there was a statistically significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana. The null hypothesis stated there was not a statistically significant relationship between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana. To answer R3 and reject or fail to reject the null hypothesis, Spearman's (1904) rank-order correlation was used to establish whether a correlation existed between the two variables. Initial analyses showed a non-linear, monotonic relationship between both variables.

The Spearman (1904) rank-order correlation revealed there was statistically significant, weak positive correlation between likelihood of responding to stressful situations and years of experience $r_s(134) = .314$, $p < .001$. The corrected alpha of .017 used for this study was determined using Bonferroni (1936) since three correlational

analyses were used, one for each pair of variables. For this correlation $p < .001$, therefore the researcher could reject the null hypothesis for research question 3.

The findings from all three research questions relate back to Chapters1, 2, and 3, and help advance the body of scientific knowledge. The literature review in Chapter 2 illustrated a lack of current research studies focusing on police officer years of experience and stress in small, rural police agencies, despite numerous sources recommending such studies. The current study followed the suggestions of Browning (2013) and Page and Jacobs (2011) to study rural police agencies because of their unique, possibly increased stressors compared to metropolitan agencies and was able to contribute to the body of knowledge. As discussed in previous chapters, understanding if and to what extent any statistically significant relationship exists between stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana could prioritize limited rural budget resources (e.g. money for stress intervention programs) to be directed to officers who perceive the most stress (Brunet, 2015). Agencies may use findings of the current study to direct resources toward officers who are more likely to respond to stressful situations since a significant correlation was found.

Advancing knowledge. Findings in the current study contribute to the body of knowledge related to rural police agencies and officer stress. Findings in current research do not provide much information on rural agencies or years of experience as a primary variable because most researchers used large metropolitan agencies and examined stress and race, stress and marital status, stress and socio-economic statues, etc. and found significant correlations (Paoline & Gau, 2017; Terpstra & Schaap, 2013; Willis &

Mastrofski, 2017). However, they either neglected years of experience, or produce conflicting results (Padhy et al., 2015). The current study used years of experience from the demographic survey and completed correlational analysis with police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. The statistically significant, weak positive correlation ($r_s(134) = .314$, $p < .001$) found between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana advances the body of scientific knowledge surrounding years of experience as a primary variable. The non-statistically significant results of the remaining two research questions also further the body knowledge.

Although this single study advances the scientific knowledge discussed in the literature review in Chapter 2, it is a start. One of the goals of the study was to increase discussion and inspire additional studies to contribute further to the body of knowledge and decrease the disparity between the numbers of current studies of rural police agencies compared to large, metropolitan or national police agencies. That goal was accomplished with the completion of the current study and the answers to the three research questions. Findings revealed a statistically significant, weak positive correlation between police officer years of experience and likelihood of responding to stressful situations in small, rural police agencies in Indiana $r_s(134) = .314$, $p < .001$. Although no statistically significant relationship was found for R1 and R2, the findings still contribute to the body of knowledge and can be referenced by future researchers.

In addition to a lack of current studies on rural police agencies and stress related to years of experience, the identified gap discussed in previous chapters also noted

conflicting results of the few researchers focused on police officer stress, years of experience, and rural agencies (Padhy et al., 2015; Scott, 2004). The literature review illustrated differing methodologies and samples have led to conflicting research showing officer stress increases, decreases, or forms more of a bell curve, with years of experience (Gershon, 2000; Padhy et al., 2015; Stanley et al., 2016). Since existing research presented conflicting results, and most researchers recommend further study (Liu et al., 2015; Padhy et al., 2015), the current study was able to address conflicting results and further contribute to the body of knowledge. When answering Research Question 1, the statistically significant, weak, positive correlation found between police officer years of experience and likelihood of responding to stressful situations ($r_s(134) = .314$, $p < .001$) supports previous findings indicating police officer stress can increase with years of experience. Additionally, if Bonferroni's (1936) correction had not been used and the original significance level ($\alpha = 0.05$) was used, the relationship between police officer years of experience and overall stress score would have been statistically significant ($r_s(134) = .172$, $p = .045$). The findings partially support police officer stress increasing with years of experience.

National agenda. The findings of this study provide additional information to support the national agenda of reducing police officer stress and measuring police officer stress as discussed in Chapter 1 Significance of the Study section. Nationally, the need exists to reduce the effects of stress on police officers to increase their health and effectiveness to benefit the officers, organizations, families, peers, and the communities the officers serve, especially rural areas (Papazoglou & Andersen, 2014). Effects of chronic exposure to stress are cumulative and result in numerous physical and mental

health problems and lead to officers feeling irritable, sleep disorders, hypertension, anxiety, cynicism, emotional exhaustion, depersonalization, and reduced personal accomplishment (Elntib & Armstrong, 2014; Liu et al., 2015). The findings of this study provide additional insight in to the body of knowledge surrounding police officer stress, measuring stress, and years of experience in rural police officers in Indiana.

Theoretical interpretation. Bandura's (1977) Theory of Self-Efficacy and Rotter's (1966) Locus of Control form the theoretical framework of this study and support for the findings. As discussed in Chapters 1 and 2, people with perceived internal locus of control believe they can control much of what happens in their daily lives, often leading to increased wellbeing (Judge & Bono, 2001). Similarly, individuals with high levels of perceived self-efficacy typically trust their own abilities when experiencing difficult, stressful situations, think in self-enhancing ways, and can experience less stress and anxiety (Pooley et al., 2013; Warner et al., 2015). Where self-efficacy is lacking, social and family support can supplement the deficiency (Warner et al., 2015). Rural officers have a more intimate relationship with their community, opening the possibility for increase social support (Scott, 2004). Together, a person's perceived internal locus of control and high self-efficacy can predict behavior in stressful situations than how the person may be capable of reacting (Brown et al., 2016). The findings from Research Question 3 in this study indicating police officer stress from frequently responding to stressful situations is positively correlated with years of experience indicates increasing self-efficacy and locus of control in officers' beginning years of experience may need more attention as indicated by the findings.

Summary. The research design for the current study outlined in Chapters 1, 2, and 3 provided the boundaries for this correlational inquiry. The theoretical foundation and the data provided support for the findings. This chapter has included a summary of the study and discussed the findings in detail. A discussion of the significance of the findings tied to the background to the problem, literature review, theoretical foundation, and research questions and hypotheses presented in Chapters 1, 2, 3 and 4 was presented. The findings regarding police officer years of experience and stress addressed the gap and contributed to advancing the scientific body of knowledge. In the following sections, theoretical, practical, and future implications are discussed along with the strengths and weaknesses of the study and future recommendations for research and practice.

Implications

This quantitative correlational study examined the relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. Data from the demographic survey and LEOSS subscales measured police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience. Evidence of a weak, positive statistically significant relationship between likelihood and years of experience in Research Question 3 led to rejection of the null hypothesis. Correlation revealed no statistically significant relationship between police officer stress or difficulty and years of experience in Research Questions 1 and 2, so the evidence did not allow rejection of the null hypotheses. Data analysis of additional demographic information specific to the target population sample used in this study provided additional findings. The following

section provides theoretical, practical, and future implications of this research followed by critical analysis of the strengths and weaknesses of the study.

Theoretical implications. The current study examined the relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience. Police officer stress has been the subject of numerous studies around the world as discussed in Chapter 2. However, also noted in Chapter 2 was the distinct lack of studies on small, rural police agencies and a focus on years of experience related to stress, despite researchers recommending such study (Page & Jacobs, 2011; Van Hasselt et al., 2010). The lack of literature and need for study of small, rural police agencies and years of experience to expand knowledge and address conflicting results provided justification for this study.

Bandura's (1977) Theory of Self-Efficacy and Rotter's (1966) Locust of Control helped form the foundation of this study. The three research questions developed from the foundation formed the framework of this quantitative, correlational study examining the relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience. Current research reviewed in Chapter 2 found individuals (including police officers) with increased self-efficacy should trust their own abilities when experiencing difficult, stressful situations (i.e. police work), think in self-enhancing ways, and could experience less stress and anxiety (Warner et al., 2015). Many current studies of police officer stress and resilience focus on self-efficacy and locus of control. Through those studies, researchers found statistically significant relationships between increased officer wellbeing and high levels of self-efficacy and internal locus of control (Balmer et al., 2014).

Evidence from the current study showed increased stress in police officers related to the likelihood of responding to stressful situations positively correlated with years of experience ($r_s(134) = .314$, $p < .001$). Additionally, if Bonferroni's (1936) correction was not used, the relationship between overall stress and years of experience would have shown a significant, positive correlation ($r_s(134) = .172$, $p <= .045$). The strength of the findings were increased by the use of design of the study and data collection and analysis. The strength of the findings and the overall study will be discussed in greater detail after implications.

The findings in this study, including the non-significant relationships added to both theories used in the foundation. The theory added to Bandura's (1977) Theory of Self-Efficacy that explains individuals with high levels of perceived self-efficacy typically trust their own abilities when experiencing difficult, stressful situations, think in self-enhancing ways, and can experience less stress and anxiety (Pooley et al., 2013; Warner et al., 2015). The unique acute, traumatic, and chronic stressors police officers face may inhibit development of or degrade self-efficacy, resulting in increased stress with years of experience. The same may be possible for degraded or inhibited feelings of internal locus of control due to the unique stress of police work (Rotter, 1966). Considering the findings of the current study, investigation in to the roles of self-efficacy and locus of control in police officer stress including confounding variables may explore why officers with increased years of experience report higher stress scores. The current study presents these implications so future researchers may expand on the concepts.

Practical implications. The current study provided empirical evidence to answer the three research questions, rejecting the null hypothesis for Research Question 3 and

failing to reject the other two. Findings support a weak, positive correlation between police officer years of experience and likelihood of responding to stressful situations ($r_s(134) = .314$, $p < .001$). The literature review in Chapter 2 confirmed the negative effects of stress on police is a national problem, effecting many stakeholders including the officers, their families, peers, and departments, and the public they serve (Papazoglou & Andersen, 2014). Increased officer stress leads to increased expense for departments because of higher rates of injury, declining health, and lawsuits related to inappropriate use-of-force (Covey et al., 2013). The officers can experience chronic health problems (feeling irritable, sleep disorders, hypertension, anxiety, cynicism, emotional exhaustion, depersonalization, and reduced personal accomplishment) (Elntib & Armstrong, 2014; Liu et al., 2015), higher obesity levels (Gu et al., 2013), and are more likely to abuse alcohol and other substances as they develop maladaptive coping strategies (Ménard & Arter, 2014; Shakespeare-Finch et al., 2014). All of these negative issues can have drastic impacts on rural agencies with historically low budgets and reduced resources (Brunet, 2015).

The target population of this study was police officers at small, rural police agencies in Indiana. The participating agencies are all susceptible to the budget, manpower, and resource shortfalls common in small, rural agencies (Brunet, 2015). Using the findings from this study, administrators at small, rural departments with historically limited budgets (Brunet, 2015) could direct funds toward stress mitigation, officer wellness, and other program efforts to help officers who show the greatest potential for increased stress. Considering all occupations nationwide, costs to employers related to stress exceed $300 billion annually because of treatment and missed work (Liu

et al., 2015). Additionally, stress affects more than a million full-time police officers nationwide each year (Banks et al., 2016). Therefore, police officer stress in officers at small, rural agencies is a real and significant problem this study contributes to understanding. Additionally, the findings in this study have advanced the body of knowledge, hopefully increased awareness of the problem, and may inspire future discussions and studies to look at possible causation.

Future implications. The three research questions, corresponding hypotheses, and findings of the current study provide the basis of implications for future research. This quantitative correlational study examined the relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana. A demographic survey and LEOSS subscales were used to measure police officer stress and years of experience. Results of Spearman's (1904) correlation found a weak, positive statistically significant relationship between likelihood and years of experience in Research Question 3 and the rejection of the null hypothesis. Correlation also revealed no statistically significant relationship between police officer stress or difficulty and years of experience in Research Questions 1 and 2, so the evidence did not allow rejection of the null hypotheses. The convenience sample of the study included full-time officers from rural police agencies in east-central Indiana.

While the current study found a statistically significant relationship for one of the three research questions, the result was a weak, positive correlation. The other two correlations found no statistically significant relationship. Based on the significant finding, future research with increased funding, time, and resources may use a more

diverse sample to replicate the current study and compare findings. Similarly, a larger, more diverse sample of officers at small, rural agencies may confirm or fail to confirm the two non-significant relationships. In either case, a larger and more diverse sample could increase generalizability of results. Since this study did not find a statistically significant relationship between overall stress or difficulty responding to stressful situations and years of experience, future research using Bandura's (1977) Theory of Self-Efficacy and Rotter's (1966) Locus of Control could examine contributing factors to the lack of a significant relationship between the variables. Perhaps the most fruitful future implication could be causal-comparison or experimental research to investigate possible causation for the findings in this study while continuing to contribute to the body of knowledge surrounding police officer stress in small, rural police agencies.

Strengths and weaknesses of the study. Chapters 1, 2, and 3 all discussed limitations of this study that could contribute to weaknesses. Additionally, the same chapters discussed steps taken by the researcher to overcome limitations and increase the strength of the study. Limitations, strengths, and weaknesses are discussed here since the study is now complete. Limitations include a lack of current studies, sample, researcher knowledge of some participants, lack of available data, and participation bias.

Most studies of police stress focus on large metropolitan or national agencies (Brunet, 2015), resulting in a lack of current studies and available data from examining small, rural police agencies (Page & Jacobs, 2011). The lack of current studies was a limitation of the study mitigated by using similar studies to inform the study design. Similar studies examining larger agencies were used to help fill the gap in design literature and support best practices. This was discussed in the preceding chapters and did

not affect the strength of the findings or the study. Additional support for the non-effect of limited research on the strength of current findings is found in the following discussion of the sample.

The sample was also a limitation to the study. The issue with the sample was twofold. A convenience sample was used, resulting in a somewhat limited geographical area of study (east-central Indiana). The participants in the sample were also a limitation because of their profession. Law enforcement officers are notoriously hesitant to participate in interviews, observation periods, or other methods employed for qualitative methodologies (Boshoff & Strydom, 2015; Loriol, 2016). Additionally, the researcher conducting the current study aimed to avoid known validity, reliability, and bias issues with qualitative research methods discussed in previous chapters (Podsakoff et al., 2003). The quantitative design of the study, use of brief, anonymous, paper surveys helped overcome participation limitations (Van Hasselt et al., 2008). Additionally, the researcher is a full-time police officer. The researcher being a police officer helped overcome known limitations of police mistrust of others outside the professions (Boshoff & Strydom, 2015). Since the researcher had personal knowledge of some of the participants, additional steps described in the limitations section were taken to mitigate any negative effects. While the relatively localized geographical location, sample of police officers, researcher knowledge of participants, and possible bias are limitations and may present a weakness of the study, steps were taken to avoid strength and validity issues related to those limitations and ensure the results were valid.

A strength of the study was the design. As previously discussed, the brief anonymous, quantitative surveys increased participation and reduced bias during data

collection and analysis. Additionally, the data were collected in-person. Since the study relied on participant honesty, the in-person visits allowed the researcher to personally distribute the surveys to each participant. This prevented participation by non-eligible persons and multiple responses by a single person. This would much harder to control if an online survey site was used. To reduce the effect of the researcher on participation once the surveys were distributed, the researcher stepped out of view until the survey were complete and placed in the sealed box. The data collection section also discussed these steps and more. The analysis of the data followed all recommended, best-practices methods discussed in previous chapters and used to design the study.

Non-parametric data analysis was a weakness of the study compared to the original design. Pearson's (1901) correlation was originally proposed for examination of relationships between variables. However, when assumptions were violated, transformations failed to coax a linear-relationship, and Laerd Statistics (2018) and other sources were consulted, a change was made to Spearman's (1904) non-parametric correlation. The Change in Analysis section of Chapter 4 addressed this issue in more detail and led the researcher to support the decision to change the analysis. Researchers debate practices of using multiple data transformations just to meet parametric test assumptions (sometimes to the point the data is almost meaningless) compared to maintaining data without transformation and using non-parametric analysis (Bishara & Hittner, 2017). For this study Spearman's (1904) correlation was used rather than performing multiple transformations and risking validity issues. Considering all strengths, weaknesses, findings, and implications, recommendations for future research and practice are presented in the next section.

Recommendations

This quantitative correlational study found evidence of a positive, weak statistically significant relationship between the likelihood subscale and years of experience. Correlation also revealed no statistically significant relationship between police officer stress or difficulty and years of experience in Research Questions 1 and 2. The findings also included demographic information about the target population of full-time police officers in small, rural police agencies in Indiana. The following section provides recommendations for future research including different methodologies, parametric testing, alternative instruments, larger geographical area, and additional studies to continue to increase the number of current studies on police officer stress at small, rural agencies. The last section provides recommendations for future practice including directing more funding to stress mitigation and reduction programs and increasing training early in police officers' careers to hopefully prevent stress from increasing with years of experience.

Recommendations for future research. The following recommendations are based on findings of this study and relate to lack of research in the topic area. This quantitative correlational study serves as the basis for additional studies using different research designs, instruments, and populations. The current study employed correlational analysis to examine any statistically significant relationship between police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience in small, rural police agencies in Indiana.

Future research could use causal-comparison or experimental designs to determine causation for the statistically significant relationship found between police

officer years of experience and the likelihood subscale. Additionally, such study designs could explore why there was not a statistically significant relationship found between other variables. Future research determining causation behind the lack of a relationship between police officer years of experience and difficulty or overall stress could highlight those causes and explore ways to use them to mitigate stress for the likelihood subscale.

Next, future research with additional funding and resources could use a larger sample including a larger geographical area. Time, funding, and resource limitations dictated the sample for this study target officers in east-central Indiana. Using the theoretical foundations of the current study including Bandura's (1977) Theory of Self-Efficacy and Rotter's (1966) Locus of Control, with the design and methodology could have benefits with a larger study area. A larger geographical area with more participants could help increase generalizability of findings. Although rural areas in Indiana may be similar to other rural areas throughout the United States, differences may exist and could alter results.

Additionally, future research could follow similar design and methodology while using other survey instruments. Additional valid and reliable police stress survey instruments exist as discussed in previous chapters of this study. Utilizing other survey instruments may lead to possible data analysis using parametric testing without transformation or violating assumptions. The Police Stress Survey (PSS), Operational Police Stress Questionnaire (PSQ-Op), Organizational Police Stress Questionnaire (PSQ-Org), and the Multidimensional Scale of Perceived Social Support (MSPSS) have all been effectively used in previous studies (Page & Jacobs, 2011). Perhaps an updated

study employing such instruments with the design of the current study could yield valid results through parametric correlational analysis.

Finally, future research can continue to fill the gap of studies focusing on small, rural police agencies. In filling the gap, results could also serve to further address conflicting results from current studies. Most studies of police stress still focus on large metropolitan or national agencies (Brunet, 2015). Differing methodologies and samples have produced conflicting research showing officer stress increases, decreases, or forms more of a bell curve, with years of experience (Gershon, 2000; Padhy et al., 2015; Stanley et al., 2016). The significance of the current study served to address these gaps and advance the body of knowledge, but more progress is still needed and recommended.

Recommendations for future practice. Organizational leaders at small, rural police agencies can benefit from findings presented in this study. In turn, police officers, their families, and the communities they serve could all benefit from changes to reduce stress based on findings of this study. As discussed in Chapter 1, the current study was significant because of the great monetary and health cost to police, agencies, and all stakeholders across the globe (Liu et al., 2015). Stress affects more than a million full-time police officers nationwide each year (Banks et al., 2016) and presents a multifaceted problem affecting the officers, their families, partners, peers, and agencies, and the general public they serve (Menendez et al., 2012; Terpstra & Schaap, 2013). Advancing scientific knowledge of police officer stress at small, rural agencies and understanding the positive relationship between police officer stress and likelihood of responding to stressful situations can help leaders at those agencies make changes to help reduce stress.

First, agency leaders can direct funding to programs for officers to learn to cope with stress and mitigate the negative effects of stress. Since many small, rural agencies currently lack intervention programs and the do not focus on the cumulative nature of stress, future practice directing funding to such programs could help (Regehr et al., 2013). Additionally, limited small, rural budget resources (e.g. money for stress intervention programs) (Brunet, 2015) could be directed to officers who perceive the most stress. Findings from this study and others discussed in the literature review and significance of the study could be used by leaders to request additional funding for resources from agencies' respective funding bodies (County Councils, County Commissioners, State Budge Boards, etc.).

Second, leaders in charge of police officer training academies and field training programs could focus on positive coping mechanisms and stress-mitigation for officers early in their careers. Positive coping mechanisms and stress-mitigation and reduction programs have been shown to reduce stress in police (Paoline & Gau, 2017). Additionally, The President's Task Force on 21st Century Policing (2015) recognized police must adapt coping strategies to stress and improve wellbeing to ultimately increase effectiveness and relationships with the communities they serve. If police officers are taught early in their career to have an internal locus of control (Rotter, 1966) and experience programs to increase self-efficacy (Bandura, 1977), the officers could benefit from increased wellbeing and stress may not increase with years of experience (Pooley et al., 2013; Warner et al., 2015). The significant relationship found in the current study could provide justification for creation or expansion of coping and stress-mitigation and

reduction programs early in officers' careers to hopefully prevent stress from increasing with years of experience.

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Appendix A.

Site Authorization Letters

Site authorization letters are on file at Grand Canyon University.

Appendix B.

IRB Approval Letter

GRAND CANYON UNIVERSITY

3300 West Camelback Road, Phoenix Arizona 85017 602.639.7500 Toll Free 800.800.9776 www.gcu.edu

DATE:	August 10, 2018
TO:	Robert Harris
FROM:	Grand Canyon University Institutional Review Board
STUDY TITLE:	Rural Police Officer Stress and Years of Experience: A Correlational Study
IRB REFERENCE #:	IRB-2018-429
SUBMISSION TYPE:	Submission Response for Initial Review Submission Packet
ACTION:	Determination of Exempt Status
REVIEW CATEGORY:	Category 2

Thank you for your submission of New Project materials for this research study.

Grand Canyon University Institutional Review Board has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations. You now have GCU IRB approval to collect data.

If applicable, please use the approved informed consent that is included in your published documents.

We will put a copy of this correspondence on file in our office.

If you have any questions, please contact the IRB office at irb@gcu.edu or 602-639-7804. Please include your study title and reference number in all correspondence with this office.

Appendix C.

Informed Consent

Introduction

You are invited to be a participant in this research study. The purpose of this form is to provide information that may affect your decision to participate. It will also record the consent of those who agree to be involved in the study.

Research

Robert Harris has invited you to participate in a research study. Robert is a Doctoral Learner at Grand Canyon University College of Doctoral Studies. He is completing this study for his doctoral degree in Psychology.

Study Purpose

Many studies have investigated police officer stress. The studies linked stress to several health problems. Most of the studies only used officers at large city or state agencies. Current studies also produce mixed results. The few studies of rural police officers found rural officers experience unique stressors. No studies have explored the relationship between rural police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience. This study examined that relationship.

Eligibility

You are eligible to participate if you are employed by this participating agency. If you are not employed by this agency, you are not eligible.

Description of Research Study

If you decide to participate, you will join a study of rural police officer stress, difficulty and likelihood of responding to stressful situations, and years of experience.

Participation will include completing an anonymous survey with 25 questions. The survey has been used in many other police studies. Circling numbers is required to answer the questions in the 25-item survey. You will also be asked to answer 10 questions about your years of experience, age, etc. Surveys will not have name, agency, or any information that would allow you to be identified. All completed surveys was placed in a locked box. The box will not be opened until surveys are gathered from all agencies. All surveys was shuffled before review. The goal is to make sure no officer can be identified. The process will also make sure the researcher cannot tell which agency a survey came from. As a participant, you may skip questions during the survey. You may also withdrawal your participation at any time. You can choose to complete and turn in the survey. You can also submit a blank survey. You can also leave the room at any time without turning in a survey.

A second locked box will also be used during the study. It was used for a raffle. Participants can enter a raffle for a $25.00 gift card to a central-Indiana police supply store to be drawn after all sites have participated. Any participant who wants to enter the raffle was asked to provide contact information. The raffle information was kept separate from the surveys. It will also be kept confidential. Raffle information was destroyed after the raffle. The raffle information will not be linked to the surveys in any way. The researcher will remain in the room until all participants have finished.

If you say YES, your participation will last for 5-10 minutes. Surveys was completed at your agency. About 424 officers was asked to participate in this study. They will come from rural agencies around east-central Indiana.

Risks

There are no known risks from taking part in this study. However, in any research there is some possibility that you may be subject to risks that have not yet been identified.

Benefits

There may be no direct benefits to you, but there may be possible benefits of your participation. They may include a better understanding of rural police officer stress and any relationship to years of experience.

New Information

If the researcher finds new information during the study that would reasonably change your decision about participating, he will provide this information to you.

Anonymity

All information obtained in this study is anonymous unless disclosure is required by law. The results of this research study may be used in reports, presentations, and publications. But, the researcher will not identify you. The researcher will take steps to make sure records are confidential. Completed surveys was stored in a locked storage box. The key was stored inside a separate, industrial safe. The surveys was stored for 3 years, then destroyed by shredding. Three years of storage is required by the University. The raffle contact information was shredded immediately after the raffle. The raffle information and the surveys will always be kept separate.

Withdrawal Privilege

Participation in this study is voluntary. It is ok for you to say no. Even if you say yes now, you are free to say no later. You can withdrawal from the study at any time. Your decision will not affect your relationship with your agency or Robert Harris. It will

not cause any loss of benefits to which you might otherwise be entitled. Your organization will not be notified of your participation decision. Your agency has approved your participation in this study, if you so choose. Nonparticipation or withdrawal from the study will not affect your employment status.

Costs and Payments

Your agency has allowed your participation in this study during your shift time. There is no payment for your participation other than your regular department pay.

Voluntary Consent

Any questions you have about the research study or your participation in the study, before or after your consent, was answered by Robert Harris at [redacted]

If you have questions about your rights as a participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Institutional Review Board, through the College of Doctoral Studies at [redacted]

This form explains the nature, demands, benefits and any risk of the project. By completing a survey, you are agreeing to participate in this study. You agree knowingly to assume any risks involved. Your participation is voluntary. You may choose not to participate. You may also withdraw your consent at any time. You may stop participating at any time without penalty. You are not waiving any legal claims, rights, or remedies by participating. A copy of this consent form was offered to you.

Do you agree to participate? □YES □NO

Investigator’s Statement

"I certify that I have explained to the above individual the nature and purpose, the potential benefits and possible risks associated with participation in this research study, have answered any questions that have been raised. These elements of Informed Consent conform to the Assurance given by Grand Canyon University to the Office for Human Research Protections to protect the rights of human subjects. I have provided (offered) the subject/participant a copy of this signed consent document."

Signature of Investigator_____Date_____

Appendix D.

Copy of Instruments and Permissions Letters to Use the Instruments

RE: Permission to use LEOSS for doctoral dissertation

Vincent Van Hasselt <!XXXX@email.XXX
Tue 1/16/2018 12:17 PM

To Robert J Harris !XXXX@email.XXX

Ofc. Harris:

You certainly have my permission to use the LEOSS for your dissertation. I would be interested in receiving a final copy of your dissertation and any publication write-ups that follow from that.

Good luck with your dissertation and completing your doctoral degree. That's quite accomplishment, particularly given your day job!

All the best,

Vince Van Hasselt

Vincent B. Van Hasselt, Ph.D.

123 Street
City, State 123456
Email: !XXXX@email.XXX

From: Robert J Harris [mailto:!XXXX@email.XXX
Sent: Sunday, January 14, 2018 1:01 PM
To: Vincent Van Hasselt !XXXX@email.XXX
Subject: Permission to use LEOSS for doctoral dissertation

Hello Dr. Van Hasselt

I am currently a doctoral learner in the dissertation stage of my PhD in Psychology through Grand Canyon University. I am also a full-time law enforcement officer with the Hancock County Sheriff's Department (Indiana). I have read numerous publications you have authored or contributed to, and I find great value in your work and assertions!

I would be grateful to receive your written permission to use the LEOSS as my survey instrument for my dissertation. The study is built around your survey and is titled: Rural Police Officer Stress and Years of Experience: A Correlational Study. I will be surveying full-time police officers. My school and the IRB are requesting written permission before I can begin my study.

I can provide as many more details as you would like, if necessary. I look forward to receiving your permission so I can begin my study. I will also be happy to provide you with a copy of the final dissertation.

Thank you in advance!

1/17/2018, 1:04 AM

Respectfully,

Robert Harris
123 Street
City, State 123456
!XXXX@email.XXX

Demographic Survey

1. Age: _____

2. Gender: Male Female

3. Marital Status:

Single Married Divorced Widowed Other

4. Highest Level of Education:

High School Some College Associate Degree Bachelor Degree Terminal Degree

5. Please list the number of years of experience as a law enforcement officer in a small-medium / rural agency(s) (Jurisdiction serving less than 50,000 people, agricultural areas, agency comprised of less than 50 full-time officers): _____

6. Which of the following best describes your primary assignment at this agency?

Patrol Officer Patrol Supervisor Investigations Administration

Law Enforcement Stress Survey (LEOSS)

For each scenario, please circle a number from 1 (Not Common) to 7 (Common) that best reflects how common the situation is for you. For example, a 1 would mean you have not experienced the situation, whereas a 7 would mean the situation is extremely common.

1 2 3 4 5 6 7
Not Common Common

For each scenario, please circle a number from 1 (Not Difficult) to 7 (Extremely Difficult) that best reflects how difficult or problematic the situation *would be* for you. For example, a 1 would mean that the situation would not be difficult or problematic for you at all, whereas a 7 would mean that the situation would be extremely difficult or problematic for you.

1 2 3 4 5 6 7
Not Difficult Extremely Difficult

---

1. You are called to a burglary in progress. The assailant may be armed.

1 2 3 4 5 6 7
Not Common Common

1 2 3 4 5 6 7
Not Difficult Extremely Difficult

2. You are called to respond to a silent alarm from a bank.

1 2 3 4 5 6 7
Not Common Common

1 2 3 4 5 6 7
Not Difficult Extremely Difficult

3. You are executing an arrest warrant for a violent criminal and are unsure of his/her location.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

4. You are executing an arrest warrant when the suspect barricades himself/herself.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

5. You respond to a major motor vehicle accident with multiple injuries and possible fatalities.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

6. You are engaged in a promotional process.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

7. You have been brought up on civil rights violations which are untrue.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

8. You have plans with your family, but work demands interfere and you are unable to go.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

9. You are responsible to notify the parents of a child killed by a hit and run driver.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

10. You are called to contain a public rally that is becoming agitated.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

11. You are recruited to investigate a fellow officer.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

12. You find that your subordinates did not complete the assignment you gave.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

13. You must rely on employees that you feel are not trustworthy or incompetent.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

14. You are trying to solve a high-profile case while the public pressures for immediate results.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

15. You have spent hours putting data into your computer, only to have it go down and data is lost.

1 2 3 4 5 6 7

Not Common
Common

1 2 3 4 5 6 7

Not Extremely
Difficult Difficult

16. You find that work is taking up more time, leaving you with little left for family and recreation.

1 2 3 4 5 6 7

Not Common
Common

1 2 3 4 5 6 7

Not Extremely
Difficult Difficult

17. You are unable to work on a project because your supervisor keeps changing the direction.

1 2 3 4 5 6 7

Not Common
Common

1 2 3 4 5 6 7

Not Extremely
Difficult Difficult

18. You are on your way to a high emergency call when the radio has interference.

1 2 3 4 5 6 7

Not Common
Common

1 2 3 4 5 6 7

Not Extremely
Difficult Difficult

19. Changing shifts has interfered with your sleep patterns.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

20. You frequently argue with your spouse but are unable to resolve anything.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

21. You are making progress on a case when pulled off for political reasons.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

22. You are on a high pursuit chase in icy conditions.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

23. You are investigating an officer's death in which suicide is suspected.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

24. You have been injured and your back-up is late responding.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

25. You respond to a shooting in progress between two gangs.

1 2 3 4 5 6 7
Not Common
Common

1 2 3 4 5 6 7
Not Extremely
Difficult Difficult

Appendix E.

G*Power Analyses for Sample Size Calculation