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Influence of Personality Traits on Trooper Retention in the Southeast United States

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Abstract

Influence of Personality Traits on Trooper Retention in the Southeast United States

by

Amethyste Marie Sanchez

MS, National University, 2015

BA, University of West Florida, 2009

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Criminal Justice

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Abstract

Evidence suggests an issue with trooper retention at state law enforcement agencies in the

Southeast United States. A current literature gap exists in understanding how personality

affects long-term employment at law enforcement agencies in the Southeast United

States. The purpose of this quantitative study was to determine whether there are

personality traits that influence the retention of a trooper in the Southeast United States

for 5 or more years. The personality traits tested were taken from the 16 Personality

Factor 6th Edition Security Selection Report and included emotional adjustment,

integrity/control, intellectual efficiency, and interpersonal relations. The theoretical basis

for this study was Allport's trait theory, which suggests that individuals are shaped by a

unique set of personality traits that not only define who they are but also guide their

decision-making processes. A nonexperimental survey research design was used in this

research with 48 trooper participants. Results indicated that none of the 4 protective

service dimensions tested significantly impacted a respondent's decision to remain

employed as a trooper at an agency in the Southeast United States. Though the evidence

in this investigation fell short of allowing rejection of the null hypothesis, analysis of the

link between personality and specific occupations such as law enforcement remains a

worthwhile endeavor. If utilized and supported by future researchers, the results of this

study have tremendous potential to enhance recruitment and retention of those choosing

to enter law enforcement. By employing applicants whose personality traits are

consistent with police work, agencies can reduce officer turnover and improve law

enforcement coverage leading to positive social change.

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Dedication

"The time has come," the Walrus said." Those were the words my father used to repeat time and time again growing up. The quip made famous by Lewis Carroll may have related to ships, and sails, and sealing wax, but for us, the Johnson children, they were a reminder that all things have their set place in time.

Although my father is no longer alive, the indelible mark he and my mother made on my life is irrefutable. Thanks to the support of my parents and family, I have accomplished so much more than I ever imagined. So now, on the cusp of finally achieving this goal, I can look back and happily agree that, "Yes, the time has come."

Acknowledgments

While only my name appears on the cover of this academic endeavor, several great individuals were instrumental in its completion. First and foremost, I would like to express my sincere gratitude to my committee, Michael Klemp-North, Ph.D, Dianne Williams, Ph.D, and Daniel Jones. Their thought-provoking and constructive criticism, combined with insightful practical advice and motivating affirmations, helped me to grow as a scholar practitioner and hold my research to a high standard.

I would also like to acknowledge the law enforcement agency and troopers who assisted me in my study. Despite the hectic and difficult nature of their profession, they took time out of their day to respond to my emails and complete my questionnaires. There are not words enough to thank them for their contribution.

My deepest gratitude also goes out to my church and immediate family for helping me through this process. I am fortunate to have so many people rallying behind me. You have not only taken care of me, you have supported me through every struggle and every victory.

Lastly, I would like to acknowledge the most important law enforcement officer in my life, my husband, Jacob. His hard work and dedication were not only the impetus to this study, they were also the example I looked to when I felt like quitting. The Bible says, "As iron sharpens iron, so one person sharpens another." You have been the iron in my life, Jacob. I love you.

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Chapter 1: Introduction to the Study

Introduction

According to Wallace (2015), state law enforcement agencies in the Southeast United States are struggling to retain troopers. The loss of these officers could negatively impact the ability to provide roadside coverage and assistance. By increasing the number of troopers employed for the long-term, state law enforcement agencies could better meet the enforcement needs of their area and improve their agency's ability to provide effective, efficient, and courteous service. At present, little research has been conducted to understand what factors influence the retention of state troopers. This study was designed to determine whether personality traits influence the number of years a trooper in the Southeast United States remains employed.

Background

Pastushenia (2012) posited that specific psychological knowledge is necessary for officers to effectively maintain employment. Sanders (2003) stated that, although specific qualities are difficult to identify, traits such as honesty, dependability, common sense, and intelligence are generally linked to long-term officer employment. Falkenbach, McKinley, and Roelofs Larson (2017) found the traits of fearlessness, decreased emotional response, and low stress beneficial to maintaining law enforcement employment. Conversely, they postulated that the traits of aggression, impulsivity, and emotional dysregulation could negatively impact long-term law employment for officers.

A recent study by Challacombe, Ackerman, and Stones (2019) indicated that personality differences exist between law enforcement officers with longer versus shorter

lengths of service. Overall, results showed that these groups differed most significantly amongst the traits neuroticism and conscientiousness. These findings mirrored those reported in a similar study conducted by Temple (2009). Balmer, Pooley, and Cohen (2014) also noted a link between length of service and officer personality. Their study found that as officer length of service increased, scores for the trait resiliency decreased. Porter and Prenzler (2017) found that as officer length of service increased, the number of excessive force complaints increased. Challacombe et al. (2019) postulated that both lower resilience and excessive force complaints could be attributed to higher levels of neuroticism. Despite the substantial research done regarding officer personality (Corey, Sellbom, & Ben-Porath, 2018; Falkenbach, Glackin, & McKinley, 2018; Weiss & Inwald, 2018), no studies have been conducted to measure the personality traits and characteristics of troopers in the Southeast United States as it relates to their decision to maintain long-term employment.

Problem Statement

Preliminary evidence suggests an issue with trooper retention at agencies in the Southeast United States (Office of Inspector General, 2017). Between 2011 and 2016, the turnover rate fluctuated between approximately 6% and 8%, peaking at the highest rate of 8.83% in fiscal year 2015-2016. This percentage far exceeds the state and local government rate of 3.7% reported by the Bureau of Labor Statistics (2019). It is possible that the troopers being hired do not have a personality suitable for long-term employment. Although research has been conducted to predict how personality affects paramedic longevity (Paschal, 2016), a current literature gap exists in understanding how

personality affects long-term employment at law enforcement agencies in the Southeast United States. To better understand this phenomenon and whether a correlation exists, I performed a quantitative study to assess personality trait differences between troopers in the Southeast United States whose tenure at is short and those whose tenure is long.

Purpose of the Study

The purpose of this quantitative study was to better understand the personality trait differences between troopers in the Southeast United States with short-term employment and those with long-term employment. Specifically, this study was to determine whether there are personality traits that influence or increase the likelihood of a trooper in the Southeast United States remaining employed for 5 or more years.

Research Questions and Hypotheses

The following research question will be addressed in this study: What are the personality traits of troopers in the Southeast United States who are employed less than 5 years compared to those employed more than 5 years?

For this study, long-term is 5 or more years, whereas short-term is less than 5 years. The personality traits tested will be taken from the Sixteen Personality Factor Sixth Edition Security Selection Report (16PF SSR, 2018) and include emotional adjustment, integrity/control, intellectual efficiency, and interpersonal relations.

H_0: There is no significant difference between the personality traits of troopers in the Southeast United States currently working for 5 or more years and troopers in the Southeast United States working for less than 5 years, as measured using the

16 Personality Factor dimensions of emotional adjustment, integrity/control, intellectual efficiency, and interpersonal relations.

H_1: There is a significant difference between the personality traits of troopers in the Southeast United States currently working for 5 or more years and troopers in the Southeast United States working for less than 5 years, as measured using the 16 Personality Factor dimensions of emotional adjustment, integrity/control, intellectual efficiency, and interpersonal relations.

Theoretical Framework

The theoretical basis for this study is Allport's (1961) trait theory. This theory suggests that individuals are shaped by a unique set of personality traits that not only define who they are but guide their decision-making process. Allport posited that because these traits are relatively stable, they can provide a more accurate understanding of an individual and his or her actions. Trait theory has been used extensively in research studies (Feist & Feist, 2002; Liao & Chuang, 2004; McCrae & John, 1992; Schneider & Smith, 2004), not only because it asserts the need to study the unique personality of individuals, but also because it suggests a link between personality traits and behavior within an organization. Trait theory supports the current study because it undergirds the assumption that the decision to remain employed as a trooper in the Southeast United States can be accurately predicted using specific personality traits.

Nature of the Study

This study was quantitative in nature. Research of this type tests numerical data by comparing or finding correlations among sample attributes and then generalizes

findings across populations (Laureate Education, 2010). Specifically, I used a nonexperimental survey research design. Such a design allows for the collection of detailed descriptions of existing variables to help construct a picture of the phenomenon being investigated (Walden University, 2010, p. 3). Nonexperimental survey designs are typically used to explore situations, events, or people and are consistent with utilizing large sample populations (Blackstone, 2014, p. 192).

The primary objective of this study was to provide empirical data on the personality traits possessed by troopers in the Southeast United States who have been working for 5 or more years. The personality traits of these troopers will then be compared with the personality traits of troopers in the Southeast United States who have been working for less than 5 years.

The hypothesis tested in this study was whether there are specific personality traits present in troopers with long-term employment in the Southeast United States and whether those traits differ from those of troopers with short-term employment in the Southeast United States. Determining these personality traits will assist state agencies in testing future trooper applicants and provide an increased agency awareness regarding the applicant's psychological suitability for long-term employment in the Southeast United States.

The 16PF SSR (2018) was used to determine the relationship between personality traits of a state trooper and his or her years of service at an agency in the Southeast United States. Specifically, I compared the 16PF SSR scores of troopers with 5 or more years of employment at an agency in the Southeast United States with the scores of

troopers with less than 5 years of employment at an agency in the Southeast United States. The four personality dimensions assessed are emotional adjustment, integrity/control, intellectual efficiency, and interpersonal relations. The 16PF SSR (2018) was generated from the administration of the 16PF Questionnaire (16PF) created by Raymond B. Cattell in the late 1940s. The 16PF assesses 16 primary personality trait dimensions (Boyle et al., 2016) and provides a comprehensive and quantifiable measure of an individual's personality and ability traits (16PF Fifth Edition Questionnaire, 2009).

Definitions

16 Personality Factor Questionnaire (16PF): Designed to assess a constellation of 16 unique traits, which include warmth, reasoning, emotional stability, dominance, liveliness, rule-consciousness, social boldness, sensitivity, vigilance, abstractedness, privateness, apprehensiveness, openness to change, self-reliance, perfectionism, and tension. The 16PF is considered a predecessor of the modern five-factor model (Cattell, Cattell, & Cattell, 1993).

Abstractedness: A personality trait where a person is abstract, imaginative, absent-minded, impractical, and absorbed in ideas (Ojeda, Ree, & Carretta, 2010).

Apprehension: A personality trait where a person is apprehensive, self-doubting, worried, guilt prone, insecure, worrying, and self-blaming (Ojeda et al., 2010).

Dominance: A personality trait where a person is dominant, forceful, assertive, aggressive, competitive, stubborn, and bossy (Ojeda et al., 2010).

Emotional adjustment: How well a respondent adjusts to challenging and stress situations (16PF Security Selection Report User Guide, 2015).

Emotional stability: A personality trait where a person is emotionally stable, adaptive, mature, and faces reality calmly (Ojeda et al., 2010).

Five-factor model: Posits that five broad trait dimensions (i.e., extraversion, agreeableness, neuroticism, conscientiousness, openness) encompass most or all stable individual differences (McRae & Costa, 1989, 2003).

Trooper: A recruit who has successfully finished the law enforcement academy (Office of Inspector General, 2017).

Integrity/control: How likely a respondent is to act in a dependable, conscientious, and self-controlled manner (16PF Security Selection Report User Guide, 2015).

Intellectual efficiency: The respondent's typical style of decision-making and ability to reason and solve problems (16PF Security Selection Report User Guide, 2015).

Interpersonal relations: How well the respondent relates to others and their typical preferences for interaction (16PF Security Selection Report User Guide, 2015).

Law enforcement officer: A government employee whose primary function is to see that the law is obeyed and respected and who derives their authority and exercises their powers within the sphere of executive action. Theirs is the task of detecting crime, apprehending the wrongdoer, and instituting the proceedings authorized by law for administering criminal punishment, the imposition of which rests with the courts (Haymond, 1947).

Liveliness: A personality trait where a person is lively, animated, spontaneous, enthusiastic, happy-go-lucky, cheerful, expressive, and impulsive (Ojeda et al., 2010).

Long-term employment: For the purposes of this study, 5 or more years of service as a trooper at an agency in the Southeast United States.

Openness to change: A personality trait where a person is open to change, experimental, liberal, analytical, critical, free-thinking, and flexible.

Perfectionism: A personality trait where a person is perfectionistic, organized, compulsive, self-disciplined, socially precise, exacting willpower, control, and is self-sentimental (Ojeda et al., 2010).

Personality: The unique and relatively stable ways in which people think, feel, and behave (Ciccarelli & White, 2009).

Protective services dimensions: The four protective service dimensions identified as critical to performance in high-risk occupations, which include emotional adjustment, integrity/control, intellectual efficiency, and interpersonal relations (16PF Security Selection Report User Guide, 2015).

Privateness: A personality trait where a person is private, discreet, nondisclosing, shrewd, polished, worldly, astute, and diplomatic (Ojeda et al., 2010).

Reasoning: A personality trait where a person is abstract-thinking, more intelligent, bright, higher general mental capacity, and a fast learner (Ojeda et al., 2010).

Rule-consciousness: A personality trait where a person is rule conscious, dutiful, conscientious, conforming, moralistic, staid, and rule bound (Ojeda et al., 2010).

Self-reliance: A personality trait where a person is self-reliant, solitary, resourceful, individualistic, and self-sufficient (Ojeda et al., 2010).

Sensitivity: A personality trait where a person is sensitive, aesthetic, sentimental, tender-minded, intuitive, and refined (Ojeda et al., 2010).

Short-term employment: For the purposes of this study, less than 5 years of service as a trooper at an agency in the Southeast United States.

Social boldness: A personality trait where a person is socially bold, venturesome, thick-skinned, and uninhibited (Ojeda et al., 2010).

Tension: A personality trait where a person is tense, high-energy, impatient, driven, frustrated, overwrought, and time-driven (Ojeda et al., 2010).

Trait: A collection of reactions or responses bound by some kind of unity which permits the responses to be gathered under one term and treated in the same fashion for most purposes (Cattell, 1946).

Trait theory: Postulates that each person's personality is composed of several different trait subsystems (Thompson, 2018).

Turnover: Refers to a permanent ending of employment, and as such, does not include absenteeism, long-term leave, layoffs, transfers, promotion, or demotions where the person either still works for the organization or is expected to return to working at the organization at some point (Price, 1977)

Vigilance: A personality trait where a person is vigilant, suspicious, skeptical, distrustful, and oppositional (Ojeda et al., 2010).

Warmth: A personality trait where a person is warm, outgoing, attentive to others, kindly, easy going, participating, and likes people (Ojeda et al., 2010).

Assumptions, Limitations, and Delimitations

Assumptions

The initial assumption in this study was that there are personality differences between troopers in the Southeast United States. Marcus and Roy (2019) described personality as a distinct construct that incrementally and differentially predicts economic, social, and environmental outcomes. McAdams (1996, 2001) delineated personality into the three categories of traits, personal concerns (e.g., defenses, motives, strategies), and life stories. Given the unique variances possible in each of these groups, it is reasonable to assume that no two troopers have identical personalities.

This study also assumes that a trooper working in the Southeast United States for less than 5 years indicates a poor match in the occupational field of law enforcement. Conversely, it assumes that working 5 or more years indicates a good match in the occupational field of law enforcement. This assumption is necessary in the context of the study because it allows troopers participating to be categorized during analysis as having either long- or short-term employment. Although no specific data can be found to reflect the national turnover rate of state troopers, the national turnover rate for sworn police officers was found to be 10.8% in 2003 and 2008 (Wareham, Smith, & Lambert, 2015). Current data released from the Bureau of Justice Statistics have also indicated an 11% decrease in the number of full-time sworn police officers per 1,000 U.S. residents (Hyland, 2018). These figures are troubling given that 5 years' service is sometimes seen by the Police Education Advisory Council (PEAC) as the minimum period for an effective return on police training (PEAC, 1998).

As I did not include anyone resigning from the department in my research, a third assumption of this study was that a theoretical relationship exists between the data gathered from short-term troopers and the data that would have been gathered from troopers leaving an agency in the Southeast United States. This assumption is based in part on a 2016 final report released by the Washington State Joint Transportation Committee (Branson, Braziel, Coffee, Cummings, & Fleckenstein, 2016). Per the report, resignations typically occur early in a trooper's career with the highest number occurring within the first 5 years of commissioning. Furthermore, as troopers gain tenure, there generally is a decrease in resignations and reduced attrition to other law enforcement agencies. Based on this information, troopers in the Southeast United States with less than 5 years of service are at the highest risk of resigning and likely to respond to survey questions in a manner similar to those actually resigning from the agency. A report issued by the Vermont Criminal Justice Center further undergirds this assumption (McIntyre, Stageberg, Repine, & Menard, 1990). The authors found that officers who have been with an agency for a short period of time generally have higher rates of turnover than those with lengthier careers (McIntyre et al., 1990). These findings were echoed by many other researchers (Mangione, 1973; Mobley, Griffeth, Hand, & Meglino, 1979; Muchinsky & Tuttle, 1979; Porter & Steers, 1973; Price, 1977). Mangione (1973) also concluded in a national multivariate study that length of service is one of the best predictors of officer turnover.

A fourth assumption of this study was that personality is able to be accurately measured using the 16PF SSR (2018). Historically, the 16PF has been one of the most

widely used personality inventories (Cattell & Mead, 2008). It was designed as a multilevel measure of human personality traits, incorporating specific narrow, primary, and broad global factors (Irwing, Booth, & Batey, 2014). Though it does not provide a measure which corresponds particularly well with the five-factor model, the 16PF is assumed to be a practical measurement tool of psychometric properties compared to other personality inventories (Irwing et al., 2014).

A final assumption of this study was that all participants would answer their surveys honestly and completely. This assumption is necessary as previous research has shown that questionnaires answered dishonestly can have lower predictive validity (Dilchert, Ones, Viswesvaran, & Deller, 2006).

Limitations

As with most studies, the design of the current study is subject to limitations. Contrary to the assertions of Cattell and Mead (2008), Revelle and Anderson (1995) stipulated that personality is transitory, altered by both memory and perception. Schatz (2009) furthered this notion when he stated that personality is more or less a description of a person rather than an inherent and unchanging type. As a result, one potential limitation of this study is that an individual's personality may not be accurately assessed using the specific values and independent trait dimensions of the 16PF SSR (2018). Similarly, this study does not account for an individual's adaptability to perform tasks outside of the scope of their typical nature and temperament.

Another limitation of the study is that troopers may not have provided honest responses to the questionnaire. Any dishonesty during the testing would have been almost

impossible to distinguish. As noted by Tonković (2012), fakery is not a behavior that can

be easily detected. Coupled with the tendency of test takers to deliberately provide

inaccurate responses to personality items, it is rational to assume that not all responses

provided will be entirely honest (Goffin & Boyd, 2009, p. 151).

Delimitations

One delimitation of this study is that participants are all troopers in the Southeast

United States. The participants and their responses may not fully represent the norm for

all state law enforcement professionals. A larger and more professionally diverse group

could provide additional insight into the personalities of troopers as a distinct subgroup.

For instance, a study that compares the traits of these troopers with those from New York

State Police and California Highway Patrol could provide a truer depiction of the

commonalities and differences of troopers across a broader economic and geographical

spectrum.

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Significance

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To date, no research has been conducted on the personality traits of current

troopers in the Southeast United States. This research helped fill that gap in

understanding by surveying the personality traits of troopers in the Southeast United

States as defined by the 16PF SSR (2018). The 16PF SSR was generated from the

administration of the 16PF and is a comprehensive measure of normal-range personality

found to be effective in a variety of settings where an in-depth assessment of the whole

person is needed (Cattell & Mead, 2008, p. 135). By gathering and analyzing this data,

hiring authorities for state law enforcement agencies in the Southeast United States can

more effectively screen and evaluate job applicants, thereby increasing officer retention and state coverage. In addition, by increasing officer awareness of individual strengths and weaknesses, troopers can more effectively focus their professional development (Pastushenia, 2012) and improve community policing efforts (Moon & Zager, 2007, p. 494).

Lane (1998) established that circumstances of work play a key role in influencing individual well-being. Given the push to recruit and retain workers and also generate high levels of job satisfaction, this research has the potential to contribute to future research and policy across the diverse fields of economics, psychology, and industrial relations. It is especially significant to the policy management field because its correlates personality with turnover, a crucial factor to firm and organizational success (Judge et al., 2001).

Summary

Although research has established a link between personality traits and employment tenure (Barrick & Mount, 2005; Dawis & Lofquist, 1998; Schmidt & Hunter, 1998), Roberts, Shiner, Caspi, and Goldberg (2007) argued that more research is needed. They noted that past studies have only been conducted sporadically and that the full extent of the correlation remains unknown. One area that requires additional research is the connection between personality traits and tenure at state law enforcement agencies in the Southeast United States. At the time of this study, no studies had been conducted to determine the personality traits needed by troopers for long-term employment in the

Southeast United States. To fill this gap in knowledge, the next chapter will discuss

available literature pertaining to personality and law enforcement.

Chapter 2: Literature Review

Introduction

This chapter provides a comprehensive review of research regarding law enforcement officers. It places particular emphasis on studies pertaining to personality traits and the correlation between these traits and employment tenure. It also explores differing theories on personality as presented historically by psychologists. Finally, this review highlights the lack of existing literature regarding personality traits of troopers in the Southeast United States, and contrasts this with the abundance of research on personality theory and personality trait studies of other emergency and first responders.

The study of personality, as presented by Steyer, Schmitt, and Eid (1999), assumes the premise that human behavior, cognition, and emotion are dependent on the situation, characteristics of the individual, and the interaction between the individual and his or her situation or environment. Richardson, Lounsbury, Bhaskar, Gibson, and Drost (2009) suggested that personality traits not only predict how a person will work, but also determine whether or not he or she is a good occupational match. In this review, I discuss how personality traits are formed, and compare and contrast the opposing theories regarding personality traits of law enforcement officers. I also discuss the possible connection between tenure and the personality traits of law enforcement officers. These discussions will reinforce the notion that people are distinctly unique.

Literature Search Strategy

Three strategies were used to obtain the peer-reviewed knowledge and published studies for this literature review. The first strategy involved searching online databases

such as Sage Journals, ProQuest Criminal Justice Database, PsycINFO, GOOGLE, and the Bureau of Justice Statistics. The second strategy consisted of performing in-person searches at campus libraries such as Florida State University, Florida Agricultural and Mechanical University, and Tallahassee Community College. Lastly, I searched the websites of state law enforcement agencies located in the Southeast United States and the Bureau of Labor Statistics. After performing my preliminary research, I scrutinized the reference lists from obtained studies to find additional resources, such as technical reports. Due to the scarcity of information regarding the personality traits of troopers, I did not limit my search to specific years.

Several keywords were used to locate literature related to this study. The primary keywords included singular and combined versions of the following: *state trooper, Highway Patrol, job performance, career path, career, employment, law enforcement, personality, personality trait, tenure, turnover, police, long-term, short-term, retention, cop, employment, organizational performance, employment conditions, Sixteen Personality Factor Questionnaire, 16PF, warmth, reasoning, emotional stability, dominance, liveliness, rule-consciousness, social boldness, sensitivity, vigilance, abstractedness, privateness, apprehensiveness, openness to change, self-reliance, perfectionism, tension, theory, behavior, job satisfaction,* and *predictor.*

Theoretical Foundation

One of the most complex areas of psychological study is the theory of personality and personality traits (Anderson, Potocnik, & Zhou, 2014; Woods, Mustafa, Anderson, & Sayer, 2017). Research focused primarily on human personality is often approached

using trait theory. This concept suggests that although traits differ among individuals, they are relatively stable over time and have the ability to influence behavior (Schatz, 2009). Based on these assumptions, trait theorists generally concentrate their research on the measurement of traits.

Krech and Crutchfield (1958) defined a *trait* as an enduring characteristic of an individual manifesting in a consistent behavior in a wide variety of situations. Examples of traits include openness to experience, conscientiousness, and extraversion (Milojev & Sibley, 2017). Adlerian psychology posits that human personality is a cognitive blueprint created by the goals, convictions, and personal beliefs unique to each individual (Adler, 2019). Mosak (1989) built on this assumption, arguing that life tasks centered on love, work, spirituality, society, and self are strongly impacted by personality. This research study was designed to determine whether there is a specific set of goals, convictions, and personal beliefs inherent to guiding a person into the field of law enforcement in the Southeast United States. It was also designed to determine whether these same common goals, convictions, and personal beliefs work in a positive manner to promote employment longevity as a trooper in the Southeast United States.

The *Handbook of Personality Assessment* (Weiner & Green, 2017) summarized Corey and Borum (2013), Hough and Johnson (2013), and Klimoski and Wilkinson (2013) when stating that in organizational settings, personnel decisions related to fitness for duty or employee selection and promotion often hinge on personality characteristics that can be measured with psychological tests. Though assessments of this nature are often used to screen out individuals, they can also be used, conversely, to find those who

are best-suited. Examples of this type of psychological tool are screen-in assessments.

Screen-in assessments evaluate and help identify applicants possessing the greatest

amount of desirable job-related characteristics and traits (Fruyt & Mervielde, 1999;

Motowidlo, Borman, & Schmit, 1997; Ployhart & Ryan, 1997).

Literature Review Related to Key Variables and/or Concepts

Historical Perspectives on Personality

Almost 40 years of research was spent attempting to define human personality

(Digman, 1990). Prior to the creation of current psychological models, independent

researchers factor-analyzed hundreds of known personality traits. From their

investigation, an underlying set of 5 personality factors emerged (Digman, 1990).

Russell and Karol (2002), along with Costa and McCrae (1992), concluded these

identified factors successfully conceptualize and organize the framework of a regular

lower-level personality. Other studies, however, indicated that the five-factor traits are

too comprehensive and broad to predict and explain actual behavior; for example,

research by Mershon and Gorsuch (1988) as well as Paunonen and Ashton (2001)

provided evidence that lower-level traits are actually far better predictors of human

behavior.

Modern psychology generally refers to the five identified domains as the "Five-

Factors of Personality." These variables are known collectively by many titles, however,

including the "Global Factors of Personality," the "Five-Factor Model," and the "16PF

Global Factors" (Cattell & Schuerger, 2003; Costa & McCrae, 1992; Russell & Karol,

2002). Although similar, there are unique differences within each group. For instance,

the 16PF and the five-factor model vary slightly in the personality traits assessed. The

16PF global factors seek to measure the five dimensions of independence, anxiety, self-

control, extraversion, and tough mindedness whereas the five-factor model measures

neuroticism, extraversion, openness, conscientiousness, and agreeableness (Cattell &

Schuerger, 2003).

Five-Factor Personality Model

Despite some criticism (Block, 1995; Cattell, 1995), most researchers have agreed

that from the perspective of traits, personality is best conceptualized using the terms of

the five-factor model (Zweig & Webster, 2004). Within that model, the measurable

dimensions are agreeableness, emotional stability (lack of neuroticism), extraversion,

conscientiousness, and openness to experience (Lewis, 1990; McRae & Costa, 1999).

Sancineto da Silva Nunes and Hutz (2007) suggested that agreeableness is a

quality comprised of many traits. They proposed that characteristics such as altruism,

trust in others, straightforwardness, and coldness all play a contributing factor in forming

an individual's level of agreeableness. McCrae and Costa (1987) described individuals

having this trait as being imperturbable. Those lacking in agreeableness were portrayed

by McCrae and Costa as being competitive and interested in proving their abilities.

The dimension of emotional stability is often interchanged with the trait

neuroticism. Qualities frequently associated with neuroticism include being depressed,

insecure, anxious, angry, and worried (McCrae & Costa, 1987). Those with low levels of

emotional stability were seen as having a negative self-image, being defensive and

guarded, and being preoccupied with how others viewed them. They were also noted as

making constant and internal generalized statements about negative events (Clark & Watson, 1991), and defensively avoiding unfavorable judgements regarding their performance (McCrae & Costa, 1987).

Barrick and Mount (1991) characterized individuals with extraversion as being talkative, sociable, active, assertive, and gregarious. The authors posited that those possessing high levels of this trait are predisposed to have both positive affect and cognitions. Eysenck (1981) added that in addition to being more optimistic about the future, extroverts are also less affected by competition and less susceptible to distraction than introverts are. Clark and Watson (1991) asserted that extroverts are fueled by ambition reflecting unique differences in mastery seeking and perseverance. Conversely, they maintain that individuals with low levels of extraversion have an avoidance of stimulation and diminished activity and enthusiasm.

The fourth dimension of the five-factor model is conscientiousness. This personality trait is generally characterized by the attributes of carefulness, thoroughness, responsibility, organization, self-discipline, and scrupulousness. Those lacking the trait are often viewed as irresponsible, undisciplined, disorganized, and unscrupulous (McCrae & Costa, 1987). Barrick and Mount (1991) contended that conscientiousness also incorporates other characteristics such as being hardworking, perseverant, and achievement-oriented. It is because of these qualities that Barrick and Mount argued that conscientiousness is one of the best predictors of job performance. This sentiment is echoed by Barrick, Mount, and Strauss in the 1993 article "Conscientiousness and Performance of Sales Representatives: Test of the Mediating Effects of Goal Setting." In

that study, conscientiousness was described as the most influential trait-motivation variable in the work domain.

The final dimension in the five-factor model is openness to experience. Individuals possessing this trait are often seen as intellectual, imaginative, curious, and sensitive. Those lacking the quality are sometimes viewed as being simple, insensitive, and narrow minded (McCrae & Costa, 1987). Individuals having a high degree of openness to experience were described by Costa and McCrae (1988) as more adept at grasping new ideas and more appreciative of change and intellectual stimulation. Those with low levels of the quality were found to have a preference for simplicity, familiarity, and closure. They tended to be socially conforming, conventionally thinking, unadventurous, and behaviorally rigid (McCrae & Costa, 1987).

Personality as a Predictor of Turnover

Conscientiousness, neuroticism, extraversion, openness to change, and agreeableness are all significant to various areas of employment (Rust, 1999). Of the five factors, the characteristics of agreeableness and openness to change were found to have the smallest correlation to employment turnover (Bernardin, 1977; Cortina, Doherty, Schmitt, Kaufman, & Smith, 1992). Agreeableness was generally noted in individuals considered warm and friendly (Friedman & Schustack, 2012). These altruistic and trusting workers tend to get along with most people, but do not generally work in top management positions (Rust, 1999). Workers in those roles often need to make unpopular decisions not always agreeable to those under them. For those reasons, individuals with the trait of agreeableness often choose to work as part of a group that

follows the rules rather than makes them. People who are open to change, however, tend

to be the more senior workers. Hogan and Sinclair (1997) said that the high employment

status of these workers is likely linked to their ability to consider the opinion of others.

Despite their flexibility, however, they are not often considered agreeable.

Personality as a Predictor of Job Performance

Historically, there has been little empirical interest in the relationship between

personality and job performance (Griffeth, Hom, & Gaertner, 2000; Steers & Mowday,

1990). One important study, however, was conducted by Barrick and Mount in 1991.

Their seminal research examined the relationship between job performance and

personality traits (Barrett, Miguel, Hurd, Lueke, & Tan, 2003). Contrary to the assertions

of Bernardin (1977) and Cortina et al. (1992), Barrick and Mount concluded that

personality is a useful tool in predicting occupational performance (1991). Of the five

factors, they determined openness to change to be the most valid predictor of training

proficiency. Barrick and Mount attributed this influence to the factor ingredients of

curiosity, intelligence, and broad mindedness. Each of these characteristics, they

reasoned, were attributes associated with a favorable learning attitude. As such,

individuals with these traits were more likely to be motivated upon acceptance into a

training program and, thus, more likely to benefit from that training. Furthermore, these

students were more likely to accept personal responsibility for their learning and more

willing to participate in self-assessment (Barrick & Mount, 1991).

Rust (1999) contended that conscientiousness is the best predictor of job

performance. Of the big five personality traits, he finds conscientious to be the most

closely linked with integrity. He reasons that workers with a high level of integrity likely transfer that reliability and honesty into their work performance (Rust, 1999). For successful work performance in most jobs, Rust argues that a combination of high conscientiousness, high agreeableness, and low neuroticism are key.

Neuroticism is a trait that harbors both negative and positive connotations. Individuals scoring high in this area can be viewed as somewhat complicated and emotionally difficult for others to understand. They often present as high-strung, nervous, worried, tense, vulnerable, depressed, and even hostile (Friedman & Schustack, 2012). Despite their emotional volatility, they are genuinely sensitive to the feelings of others. Rust (1999) writes that despite their internal instability, neurotic individuals are often very caring and friendly. Troopers having his trait would present a mixture of both positive and negative characteristics for successful job performance.

These studies, coupled with subsequent follow-up research, led not only to the general acceptance of the five-factor model of personality, but also to the widespread use of personality tests for employee selection (Barrett et al., 2003). A 2003 study by Surrette, Ebert, Willis, and Smallidge only furthered the movement. Their study found preemployment psychological tests not only valid and reliable, but also effective at reducing human influence on recruitment and selection of candidates. When meta-analysis later solidified the link between conscientiousness and positive job performance in law enforcement, the use of personality tests became standard practice in many agencies (Barrett et al., 2003; Salgado, 1997).

Despite these findings, some scholars remain skeptic. Researchers such as Roberts, Kuncel, Shiner, Caspi, and Goldberg (2007) rally against the notion that personality traits matter in the workplace. Regardless of the meta-analysis, they are not convinced personality should be linked with personnel decisions. This is directly contrary to Hogan (Hogan Assessment Systems, 2001), however, who argues that personality determines if a specific occupation will fit a specific person.

Personality Traits of Troopers in the Southeast United States

No current literature exists regarding the specific personality traits of troopers in the Southeast United States. Despite the lack of published data, the agency who assisted with this study does employ internal psychological screenings to determine an applicant's suitability for a career in law enforcement (Office of Inspector General, 2017). Psychological screenings are conducted by third party organizations contracted by the assisting agency. Examinations include an intelligence evaluation, personality evaluation, motivation evaluation, crisis and conflict handling evaluation, psychopathology, maturity evaluation, work relations evaluation, attitude evaluation, and an approach to police functions evaluation. Reports are generated by psychological examiners who rate applicants as acceptable, unacceptable, or marginal based on evaluation responses. These reports are then reviewed by the Recruitment Section to determine who moves forward in the hiring process.

Although no formal research had been conducted at the time of this study to determine the personality traits best suited for employment as a trooper in the Southeast United States, an extensive search of the literature did uncover one study pertaining to

troopers (Hogan, 1971). In that experiment, Hogan (1971) administered the California Psychological Inventory (CPI) to three classes of recruits at the Maryland State Police Academy and 42 state police officers with one year of experience. Results indicated that officers who were the most highly rated policemen scored highest on the CPI scale in the areas of self-confidence, intellectual efficiency, and sociability. The author noted, however, that these findings may not be generalized to police with several years' experience.

Personality Traits of Other Emergency Responders

Due to the lack of existing information on trooper personality, the literature review was expanded to include studies related to other rescue personalities. This broader search uncovered additional studies related primarily to paramedics, police officers, and firefighters.

Mitchell (1983) asserted that a specific and necessary personality exists in first responders. He claimed that without this distinct personality, emergency personnel could not successfully complete all the daily demands of first response work. Mitchell referred to this unique personality as the *Rescue Personality*. According to his research, commons traits of this personality archetype include high levels of dedication, empathy, and performance. Despite Mitchell's findings, other researchers (Shannon, Crystal, & Juanita, 2009; Wagner, 2005), found little empirical evidence to demonstrate the existence of the rescue personality. Gist & Woodall (1998) went so far as to vehemently refute his claim arguing that Mitchell's theory was not supported by evidence or data.

Paramedics. Rescue personality is not the only area still being debated, however. There is also significant lack of research regarding the specific personality traits and characteristics of paramedics (Grevin, 1996). What few studies can be found do not isolate exact personality traits or characteristics for paramedics working in emergency management for any significant number of years. For purposes of this study's research, a "significant number of years" was equal to 5 or more years of employment. Grevin's study (1996) employed the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) to assess and compare the mental health impact of emergency medical work on paramedics versus the general population. The data showed that paramedics had a significantly higher denial score on empathy than their civilian counterparts. Studies by Alexander and Klein (2001) and Blumenfield and Byrne (2002) supported Grevin's assertion.

One association that has been linked to paramedic personality is the degree of sensation seeking and its relationship to occupational burnout (Chng, Collins, & Eaddy, 2001). A study in 2002 by Regehr, Goldberg, Glancy, and Knott concluded that EMTs with the personality traits of suspiciousness, isolation, and hostility often had a higher occurrence of mental health issues and occupational burnout than those with healthier social skills. Though these behaviors could be more a matter of mental illness than personality, they do provide insight into possible traits affecting long-term employment of paramedics.

Firefighters. Scientists have not limited their research to paramedics. There has also been interest in identifying the attributes most valuable for success in the field of firefighting (Carter, 1997; Cassel, 1997; Gilliam, 1999). In 1999, Gilliam proposed that

physical fitness, psychological fitness, and personality were the greatest key indicators of success. No specific details were given to clarify specific personality traits. Much like Mitchell's (1983) assertions regarding rescue personality, however, Gilliam's findings were met with skepticism. Pushback was largely based on Gilliam's refusal to disclose his assessment tool and his statement that much of the information gathered for his article came from talking to an unidentified testing company.

Research from other scientists has not been met with the same cynicism, though. A later study in 2014 conducted by Imani offered new suggestions on qualities Gilliam failed to discuss. Imani proposed that firefighters must have the ability to follow instructions, operate in a living environment, resolve conflict, and function well during an emergency. The traits he deemed most important to success were self-discipline, the ability to get along with others, adaptability, technical orientation, a sense of humor, and the ability to accept direction. Carter (1997) hypothesized the significance of other unique traits. He suggested that firefighters must be approachable, not put on airs of importance, encourage interaction with others, share what they know, fit in wherever they go, and have a preference to remain anonymous. Furthermore, Carter suggested that fire service workers generally have a preference for stability in both their personal lives and careers. He noted that they tend to hold traditional methods of operating in high esteem.

Police officers. Psychological research has not been confined simply to EMS and firefighters. Arguably, the greatest number of studies found for this literature review related to police officers. In one such study, Placide (2008) surveyed officers in Minnesota to determine the personality traits best suited for law enforcement personnel.

Overall, Placide found the traits of good judgement, honesty, respectful behavior, responsibility, and understanding to be the most essential. In a follow-up study done in cooperation with the University of Wisconsin-River Falls and Minnesota law enforcement executives, Placide examined sixteen specific personality traits to determine their effect on the success and tenure of local law enforcement officers. Results of this additional study supported the original 2008 findings, and further substantiated the link between character traits of police applicants and future success in law enforcement.

Placide's research was preceded by a 1994 study conducted by Lorr and Strak. In an effort to understand the personality characteristics of police applicants, two sample sets of 275 police candidates from various cities across the United States were evaluated using the 16PF. Cattell and Schuerger (2003) describe the 16PF as a quantifiable assessment of 16 normal personality dimensions. For their purposes, Lorr and Strak only examined the personality traits extraversion, anxiety, control, toughness, and independence. Both sample sets contained males and females across a broad and diverse range of ethnicities. Following the establishment of the sample groups, the researchers abstained from making predictions regarding the outcome of their study.

Results of Lorr and Strak's study (1994) yielded two strong and very distinct clusters. The first cluster indicated high levels of schizophrenia, anxiety, and paranoia. Participants were found to be no less or no more independent or tough than their counterparts. Lorr and Strak hypothesized that respondents in the first cluster would likely demonstrate a higher rate of anxiety and a lower degree of self-control and extraversion.   This, they assumed, would manifest as problems on the job and ultimately

lead to a less than successful career in law enforcement. The second cluster yielded more promising results. In this group, Lorr and Strak identified personality traits they believed to be more conducive with successful law enforcement officers. Overall, the second sample group had a higher degree of control, independence, emotional adjustment, interpersonal skills, and tough mindedness.

A final psychological study involving law enforcement was completed in 2003 by Surrette, Ebert, Willis, and Smallidge. Their research sought to compare and contrast personality profiles of traffic officers with deputies using the California Personality Inventory (CPI) and the Minnesota Multiphasic Personality Inventory (MMPI). Results indicated that traffic officers shared many of the same attributes as deputies.   Overall, workers in both positions were dominant, spontaneous, energetic, well-adjusted, high defended, flexible, free from anxiety-related behaviors, and independent. The quality seen as last desirable was introversion, while dominance and leadership were traits linked most directly with effectiveness. Perhaps most intriguing, however, was the finding that police officers differ psychologically from their civilian counterparts.

Research Purpose

The purpose of this research was to determine the personality traits common among troopers in the Southeast United States with long-term employment and make comparison of those traits with troopers in the Southeast United States with less than 5 years of employment. Results of this study could promote the hiring of troopers who ultimately remain employed in the Southeast United States for more than 5 years.

The personality traits of the qualifying troopers was determined using the 16PF SSR (2018). The four protective service dimensions used to assess commonalities and differences among troopers included emotional adjustment, integrity/control, intellectual efficiency, and interpersonal relations.

The use of the 16PF SSR (2018) was supported by Allport's trait theory, the theoretical basis of this study. Allport (1937) contended that the concept of trait should be the primary focus when studying personality. By the theorist's standard, the importance of traits as a personality construct is entirely appropriate. Thompson (2018) echoed this assertion noting that Allport's theory undergirds many of the personality tests available today. Thompson went on to say that Allport's factor analysis was seminal in the creation of the current structure of the big five taxonomy. Despite generalized acceptance by Thompson and Epstein (2002), other theorists claim that traits are only predictive of personality at the most basic level. According to Pervin (1994), traits fail to consider patterns of behavior as well as motivational influences. As such, Pervin described traits as a descriptive rather than explanatory construct of personality.

Summary and Conclusions

The amount of existing literature on troopers is extremely limited. According to PEAC (1998), 5 years' service is often seen as the minimum period for an effective return on police training. If this figure is correct, the agency who participated in this study is failing to recover the cost of its training. Between 2009 and 2016, the largest number of separations from the participating agency occurred within just two years of graduation (Office of Inspector General, 2017).

Roberts, Kuncel, Shiner, Caspi, and Goldberg (2007) contended that over the past few decades, only a sporadic amount of research has been conducted on personality traits. Grevin (1996) and Wagner (2005) echoed this sentiment. They noted that there is not only a significant lack of research into what personality traits demonstrate, but also a lack of psychological study focused on the successful and long-term employment of emergency response workers.

In 1996, Hogan, Hogan, and Roberts published a review claiming that a well-constructed measure of personality traits could be a valid predictor of work-related performance for a broad range of professions. Just nine short years later, Barrick and Mount (2005) presented quantitative results gathered from respected personality constructs and meta-analysis that further demonstrated and substantiated the important link between personality traits and occupational performance.

Although some level of agreement has been reached on the connection between personality and career performance, arguments still continue regarding the validity of rescue personality and occupational tenure. Despite Mitchell's (1983) support, Gist and Woodall (1998) along with Wagner (2005) remain unconvinced. Unfortunately, the only recent research conducted on the topic was focused on paramedics (Alexander & Klein, 2001; Blumenfield & Byrne, 2002). As such, there is no data to support how rescue personality may or may not be indicative of trooper temperament and occupational tenure.

As noted by Goldberg (1993) in Barrick and Mount's 2005 article in *Human Performance*, "personality matters because it predicts and explains behavior at work" (p.

359).   Given the lack of overall research on the topic, it is imperative studies be

conducted to distinguish healthy personality traits in troopers. Better understanding of

these traits has the possibility to increase tenure and attract more workers into the field of

law enforcement. Given the lack of formalized research, many agencies utilize internal

personality tests to study the personality and personality traits of job applicants (Barrett,

Miguel, Hurd, Lueke, & Tan, 2003; Black, 2000). Steyer et al. (1999) stated that these

tests assume that the foundation of human behavior, emotion, and cognition are

dependent upon the characteristics of the individual, the situation that individual is in,

and the interaction between that individual and his or her situation or environment.

Hogan and Sinclair (1997) noted that tests of this type are increasingly becoming

popular. They believe this is due in part to the taxonomic appeal of the five-factor model.

Contemporary psychologists such as Costa and McCrae (1992) and Digman (1990) stated

that this model assumes personality can be fashioned from five broad domains.

According to Hogan Assessment Systems (2001), personality traits not only

predict occupational fit and tenure, they also predict how well an individual will work.

Using this principal and based on additional trait research by Costa and McCrae (1992)

and Previn (1994), trait theory forms the foundation for supporting the use of the 16PF

SSR (2018) in this study.

For this dissertation, the personality traits of qualifying participants in two sample

groups were compared using the 16PF SSR. Comparisons were made regarding the

personality traits and employment tenure of troopers currently employed in the Southeast

United States. 16PF SSR data established what personality traits exist in troopers

currently employed in the Southeast United States and how those traits differed among

short-term versus long-term troopers.

Chapter 3: Research Method

Introduction

The primary objective of the current study was to provide empirical data on the personality traits possessed by troopers who have been working at an agency in the Southeast United States for 5 or more years. The personality traits of troopers who have worked at an agency in the Southeast United States for 5 or more years were compared with the personality traits of troopers with less than 5 years of work experience at an agency in the Southeast United States.

The hypothesis tested in this study was that certain personality traits are present in troopers who remain employed in the Southeast United States for more than 5 years. The goal of determining those personality traits is to increase the ability of command staff in the Southeast United States to recruit future troopers who would be more likely to remain on the force for the long term. For the purpose of this study, the term *long-term trooper* is used to describe an individual with 5 or more years as a trooper who is still working in a law enforcement capacity at an agency in the Southeast United States.

This chapter details the rationale for the research design as well as the population and sampling procedures used. I also describe and explain the use of the sociodemographic survey and the 16PF SSR (2018). Lastly, the chapter provides clarification on the procedures for data collection, recruitment and participation of the research sample, and threats to validity.

Research Design and Rationale

A nonexperimental survey research design was used in this study. Blackstone

(2014) stated that this design is typically used to explore situations, events, or people and

is consistent with utilizing large sample populations. Robson (1993) noted that surveys

are a particularly quick, easy, and cost-effective method of administering questionnaires

to large groups while also maintaining confidentiality. By selecting this design, a

researcher is able to collect detailed descriptions of existing variables and help construct

a picture of the phenomenon being investigated (Walden University, 2010).

I administered two surveys to a convenience sample of troopers currently

employed at an agency in the Southeast United States. The first was a short

sociodemographic questionnaire used to group participants and determine any significant

differences in gender, education, and life choices. The second survey administered was

the 16PF SSR (2018), which I used to determine the personality trait differences among

participants in each group.

Participants were placed using a two-group design. The first population group was

composed of current state-certified troopers who have worked 5 or more years at an

agency in the Southeast United States. The second population group was composed of

current state-certified troopers with less than 5 years of employment at an agency in the

Southeast United States. Five years of service was established as the cutoff based on the

1998 PEAC report which indicated 5 years as the minimum period for an effective return

on police training.

A nondirectional hypothesis was tested in this study. Hypotheses of this type predict that the independent variable will have an effect on the dependent variable; however, the direction of the effect is not specified (Tiemann, 2010). In this study, the nondirectional hypothesis was that the personality traits unique to each trooper would influence their years of employment at an agency in the Southeast United States. Although the long-term troopers in the Southeast United States appeared to be satisfied with their career choice, I was unable to directionally predict how this group's specific personality traits differed from troopers with less than 5 years of employment at an agency in the Southeast United States.

To further clarify differences and enrich the conclusions drawn, I used inferential statistics. Tests of this nature allow researchers to test hypotheses to determine if the results of a study have statistical significance, meaning that they occur at a rate that is unlikely to be coincidental (Wienclaw, 2019). Completing these tests informed me on the probability than any observed differences between the two groups in this study were dependable rather than simply a matter of chance. The significance level established for all hypothesis tests conducted in this research was .05.

For this research, the primary analysis planned was a multivariate analysis of variance (MANOVA). MANOVA designs are appropriate when multiple dependent variables are included in an analysis and the dependent variables are represented using a continuous measure (Kraska, 2010). The planned MANOVA analysis was intended to gauge whether significant personality trait differences existed for troopers in the Southeast United States based on years of service. Unfortunately, as discussed in

Chapter 4, the data failed to satisfy the assumptions required to proceed with the planned MANOVA. Consequently, primary analysis was conducted using nonparametric statistics. Specifically, I conducted the nonparametric equivalent to the independent samples t test and the Mann-Whitney U test. Warner (2013) noted that researchers should consider the use of nonparametric statistics when data fail to meet some or all of the requirements for parametric statistics.

The intent of the study was to determine what personality traits exist in long-term troopers and how those traits differed from those found in short-term troopers. The results of the data collected from respondents allowed the research question to be answered and may better inform hiring decisions of trooper command staff in the Southeast United States.

Methodology

Research methodology is the method used to systematically solve the research problem. Per Kothari (2004), when explaining this methodology, researchers must not only discuss the methods and range of tools used in their inquiry, but also the logic behind these decisions. In this section, I explain this study's population, sampling, instrumentation, and procedures for recruitment, participation, and data collection.

Population

Reid (2014) characterized population in a study as all units possessing certain characteristics, which are of the interest of researchers' study. Using Reid's definition, one can infer population to be the targeted community or group of people involved or selected by the researcher for his or her study. For this study, the population from which

the samples were derived consisted of licensed troopers currently working at a state law enforcement agency in the Southeast United States. Although the agency participating in this study is currently authorized 1,974 sworn positions, as of July 2016 only 1,789 troopers were employed (Office of Inspector General, 2017).

A review by the Office of the Inspector General (2017) found the racial demographic makeup of the participating agency's sworn members closely mirrors the statewide racial demographic, though these findings may not be generalized across the entire United States. Overall, the participating agency employs more White troopers and slightly fewer Black, Hispanic, or troopers of other races (Asian, Native Hawaiian, other Pacific Islander, American Indian, Alaska Native, or two or more races) than the state. It also consists of significantly a higher percentage of men than the gender makeup of the state it serves. According to the Federal Bureau of Investigation, the participating agency's current gender makeup is consistent with the national average for law enforcement officers. Based on 2018 statistics, the national average gender breakdown for law enforcement officers is 87.4% male and 12.6% female (Federal Bureau of Investigation, 2018).

Sampling and Sampling Procedures

In this study, I employed the convenience sampling method for the selection of participants. Convenience sampling is a strategy where participants are selected in an ad hoc manner based on their proximity and accessibility to the research (Jager, Putnick, & Bornstein, 2017). This sampling strategy was selected due to its efficiency, affordability, and ease of implementation.

The population for this study encompassed all licensed troopers currently working at a state law enforcement agency in the Southeast United States. The sample participants were individuals from that population who indicated their willingness to participate in the study via email response. There were no other specific exclusionary or inclusionary criteria.

A priori (prospective) statistical power analysis was used to determine the required sample size. The use of a post hoc (retrospective) power analysis was not selected for this study as it is considered a controversial practice in quantitative research (Wang, 2010). As noted by Cohen (1990), a proper sample size is critical for maintaining the integrity and validity of a study. Where a small sample size could lead to a study being underpowered, a sample with an excessive sample size could lead to a study being overpowered. Meehl (1978) and Fagley (1985) described how, given a large enough sample, group differences found to be statistically significant could actually be, in terms of magnitude (effect size), meaningless. Sample size for this study was estimated using the following formula:

$$N = \frac{Z_{a/2}^2 * P * (1 - p)D}{E^2}$$

Where P is the prevalence or proportion of event of interest for this study, E is the margin of error. Generally, E is 10% of P and $Z_{\alpha/2}$ is a standard normal deviate for two-tailed alternate hypotheses at a level of significance (Suresh & Chandrashekara, 2012). In this study, P was estimated at 75% to reflect the assumption that an impact was expected in 75% of the population. Suresh and Chandrashekara (2012) noted 50% as a

conservative estimate. Assuming a 95% confidence interval or 5% level of significance and a 10% margin of error, the sample size can be calculated as follows:

$N = (Z_{\alpha/2})^2 \, P(1-P)*1/E^2 = (1.96)^2*0.75*(1-0.75)/(0.1*0.75)^2 = 3.8416*0.75/(0.075)^2 = 128$

Power analysis indicated an estimated study sample size of 128 respondents. Allowing for a nonresponse rate of 10%, the final adjusted sample size will be $128/(1-0.10) = 128/0.90 = 142$.

Procedures for Recruitment, Participation, and Data Collection

My recruitment method involved calling, emailing, and faxing state law enforcement agencies. My original intent was to survey a state agency close to where I resided; however, they declined to participate. I then reached out to the participating agency for assistance. After I explained my research request, they agreed to take part in my study.

Following this study's institutional review board (IRB) approval and at my direction, the participating agency's command staff sent an initial email to all currently employed troopers. This email described the current study and requested voluntary trooper participation. This email was drafted by me and approved by the participating agency's command staff prior to dissemination. Respondents were told in the message to email me directly for additional information regarding how to access survey questionnaires. Once I received an email expressing interest in participation, I emailed the trooper back and provided an individualized user name and password. The email also clearly instructed the participant to log in to the Survey Monkey website (www.surveymonkey.com) prior to beginning the 16PF SSR questionnaire (2018).

Troopers participating in this study needed to enter their user specific login and password to obtain access to the Survey Monkey portal for this research. Following the entry of their unique logon credentials, participants in both groups were instructed to carefully read an informed consent. By proceeding to the first survey, participants inferred their consent to participate in this research project. They were then instructed to fill out all sections of the survey. Participants were told that they did not have to complete any part of the testing in one sitting. Rather, they were allowed to log in an out of the testing site as many times as required. At the end of the sociodemographic survey, participants were provided a link to access the IPAT website (www.IPAT.com) where they logged in and completed the 16PF SSR assessment.

The sociodemographic survey was used to group participants and determine whether there were any significant differences in gender, education, and life choices between the two groups. Personality trait differences among participants in both groups were determined using the 16PF Sixth Edition SSR questionnaire (2018). The group of troopers remaining employed at the participating agency for 5 or more years suggested a certain level of satisfaction regarding their current choice of employment. Troopers working less than 5 years at the participating agency could have had lower levels of career satisfaction in their current occupation.

Immediately following the last question of the 16PF SSR and sociodemographic survey, participants were thanked online for their participation and provided additional information such as my contact details and links to other resources (IRB info, Health Services, Local Resources). Participants were reminded to print a copy of the debriefing

form for their records and were given the option to withdraw their data. If they agreed to

have their data used for the study, then they clicked the "I Agree" button to submit their

data online. If they did not agree to have their data used in the study, they clicked the "I

Do Not Agree" button to so that their data were not submitted and collected online.

Overall research findings were made available to participants using a hosting

website. Participants were provided a link to the hosting website at the end of their

survey and given directions as to how they could access findings upon study completion.

Participants who desired their specific 16PF SSR assessment results were

instructed to contact IPAT directly using the provided contact information (phone

number and email). By offering individual research results to participants, I

demonstrated respect for participant needs and preferences in the research process.

Having participants contact IPAT directly ensured that the anonymity and privacy of each

respondent was maintained. The stakeholder, a state law enforcement agency in the

Southeast United States, received a summary of the overall research findings at the

conclusion of the study via an email and mailed written response.

Following completion of the 16PF SSR (2018) testing, IPAT (www.IPAT.com)

forwarded the raw data to me via email. Results of the sociodemographic survey and

informed consent were retrieved from the Survey Monkey website

(www.surveymonkey.com). The raw data received from IPAT (www.IPAT.com) was

loaded into SPSS. Utilizing calculations from SPSS software, I determined whether there

were personality trait differences between short-term and long-term troopers currently

working at an agency in the Southeast United States. The traits assessed included the

four protective service dimensions of emotional adjustment, integrity/control, intellectual efficiency, and interpersonal relations.

Instrumentation and Operationalization of Constructs

The sociodemographic questionnaire was created to gather basic information on study participants. It also allowed the researcher to categorize trooper participants as having either short- or long-term employment.

The 16PF Sixth Edition SSR (2018) was used to evaluate participants. This assessment is the most reliable, valid, and administratively efficient survey instrument for this study (16PF Sixth Edition FAQs, 2018). I originally intended to use the Fifth Edition 16PF Competency Development Report (2009), but due to assessment updates and licensing requirements, I chose the 16PF SSR (2018). Use of the 16PF SSR was accessible without specific psychological knowledge, licensure, or training and allowed me to analyze personality from multiple organizational levels. This capacity was critical given IPAT's (2010) declaration that an individual's personality is comprised of distinct and varied personality traits. Cattell (1950) notes that these personality traits are not only unique, but predictive of how an individual will behave in a given situation. For this reason, rather than simply asking a test taker to rate themselves on a personality scale, the 16PF SSR surveys participants about how they would behave in specific situations. By using this method, the 16PF SSR can assess both normal and psychopathic behavior. As stated by Cattell and Schuerger (2003), given its ability to provide such a comprehensive measure of personality, the 16PF SSR is extensively used in studies seeking an in-depth psychological analysis.

The 16PF SSR consists of 155 multiple choice questions and generally takes applicants between 30-35 minutes to complete (16PF Sixth Edition FAQs, 2018). The untimed assessment is designed to analyze personality traits of individuals working in high-risk occupations such as law enforcement, security, and the military (16PF Security Selection Report User Guide, 2015). The traits assessed are grouped into four protective service dimensions. The first dimension, emotional adjustment, analyzes how well a respondent adjusts to challenging and stressful situations. The second dimension is integrity/control. This dimension measures a respondent's likelihood to be dependable, conscientious, and self-controlled. The third dimension, intellectual efficiency, evaluates the respondent's reasoning, decision making, and problem-solving ability. The final 16PF SSR dimension is interpersonal relations. This dimension assesses how well a respondent relates to others and their typical interaction preferences (16PF Security Selection Report User Guide, 2015).

Cutoff scores for each of the four dimensions were derived using data from 13,000 individual 16PF Questionnaire responses. Each response was rated on the protective services dimensions and classified into three color coded risk categories: Low Risk (green), Average Risk (yellow), and High Risk (red) (16PF Security Selection Report User Guide, 2015).

Validity. The dimensions of the 16PF SSR were identified following an exhaustive and expert review of literature pertaining to personality and high-risk occupations such as law enforcement. As highlighted in Table 1, statistical analysis has proven that these dimensions accurately predict characteristics of individuals working in

high-risk fields (16PF Security Selection Report User Guide, 2015). Given that troopers in the Southeast United States are working in such a field, the 16PF SSR is an appropriate survey choice for this study.

Table 1

Predictions from 16PF Protective Services Dimensions

Protective services dimensions	Shown to predict	
Emotional adjustment	Training success	Positive work behaviors
	Peer approval	Terminations
	Job knowledge	Reprimands
Integrity/control	Terminations	Successful hires
Intellectual efficiency	Training success	Terminations
	Job-specific knowledge	Successful hires
Interpersonal relations	Peer acceptance	Terminations
	Training success	Successful hires

Reliability. The 16PF SSR consistently measures the four protective service dimensions above the commonly accepted .70 minimum reliability coefficient (16PF Security Selection Report User Guide, 2015). Table 2 evidences this reliability and substantiates the assessment's clear consistency over time (seven month test-retest correlations).

Table 2

Reliability Coefficients for the 16PF Protective Service Dimensions

Protective service dimensions	Reliability for a linear composite	7-month test-retest correlations
Emotional adjustment	.76	.83
Integrity/control	.83	.77
Intellectual efficiency	.83	.71
Interpersonal relations	.89	.78

Adverse impact. A final factor in selecting the 16PF SSR is that the assessment does not treat members of protected classes, such as race, differently (16PF Security Selection Report User Guide, 2015). As seen in Figure 1, although small differences exist in each of the four dimension scores among racial groups, no race scores significantly higher or lower than another in any of the four dimensions.
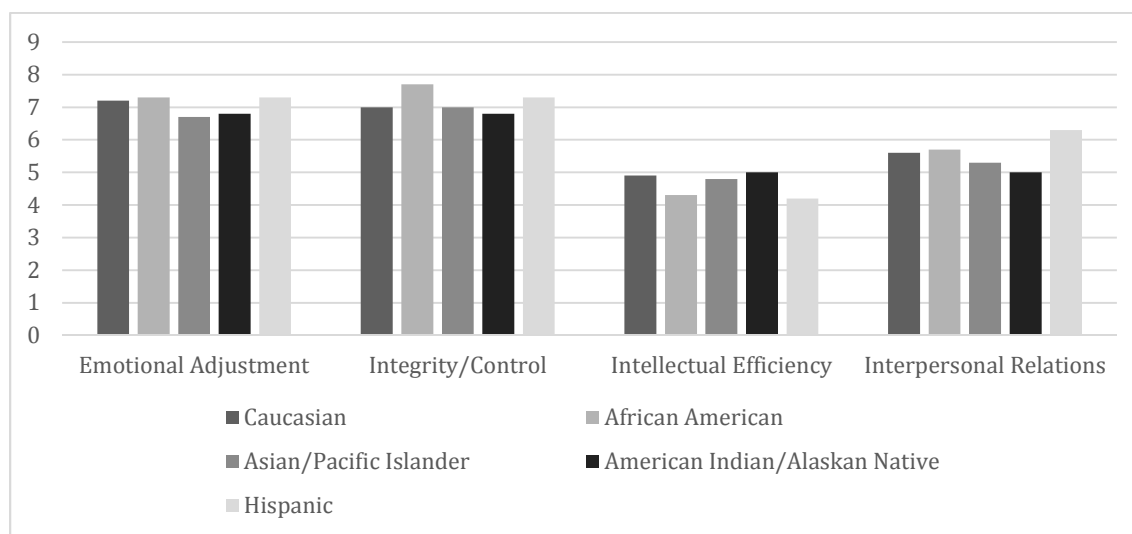
Figure 1. Adverse impact of the 16PF protective services dimensions.

This study utilized all the questions and answers on the 16PF SSR (2018) assessment. This decision was based on IPAT's commitment to the improvement of the 16PF Questionnaire as exemplified by their continued research, refinement of test language, and improved psychometric dimensions. SPSS software was used to assess reliability.

Threats to Validity

Concerns regarding threats to validity are not new. Over 50 years ago Campbell and Stanley (1966) released a volume on experimental and quasi-experimental research designs wherein they discussed issues relating to internal validity. Threats of this nature refer to whether an experimental treatment or condition makes a difference to the outcome or not, and whether there is sufficient evidence to substantiate the claim (Cook & Campbell, 1979). In this study, no substantial threats to internal validity were found.

Although some researchers argue that internal validity is the priority for research (Calder, Phillips, & Tybout, 1983), external validity must also be considered (Campbell & Stanley, 1966). Threats of this type refer to the generalizability of the treatment or condition outcomes across various settings (Cook & Campbell, 1979). In this study, population validity was a possible concern. The troopers participating in this study may not have responded to the 16PF SSR (2018) in the same manner as a larger more metropolitan state agency. For this reason, I recommend this study be identified as a preliminary or initial investigation. More research will need to be conducted to see if the results of this study are able to be generalized across a broader population.

Ethical Procedures

Research ethics provide guidelines for responsible conduct in research. Adhering to these guidelines ensures research integrity and protects the dignity, rights, and welfare of study participants. In this study, several steps were taken to safeguard both the research and the wellbeing of participants.

This study was deemed to be one of minimal risk to participants. The probability and magnitude of harm or discomfort anticipated in the research was not greater than that which is encountered ordinarily in daily life, or during the performance of routine physical or psychological examinations and tests.

Prior to the administration of the 16PF SSR (2018), all possible participants were provided with a detailed description of this study and the specific steps they were being requested to complete. Participants were also informed of their ability to withdraw from the study at any time with no consequences or questions. Providing this information ensured participants fully understood the nature of the study and the fact that participation was voluntary. This information was presented in the initial email sent by the participating agency's command staff.

Possible participants were also provided with a consent form which they were required to read and acknowledge prior to testing. The informed consent included the researcher's name, institutional affiliation, and Walden University email address as well as the phone number for Walden University's Research Participant Advocate.

After participants read and agreed with the informed consent, they completed the sociodemographic survey and the 16PF questionnaire (IPAT, 2010). The

sociodemographic survey was used to gather data on respondent age, gender, marital status, education level, and years of employment as a trooper in the Southeast United States. This information helped place the respondents in the correct survey group during data analysis.

The confidentiality of recovered data was maintained at all times. At the conclusion of all testing, I gathered results from the Survey Monkey website and entered the data into SPSS for data analysis. Once all data had been gathered from the Survey Monkey sociodemographic survey, the researcher deleted all records relating to this study from the site. Raw data from the 16PF SSR (2018) questionnaire was forwarded by IPAT and entered by the researcher into SPSS. Following the transmission of that data, IPAT purged their database of all usernames and passwords related to this study. Raw data was retained in the IPAT database for further IPAT research.

Hard copy data gathered during this research was safeguarded in a locked gun safe and will be retained for a period of ten years. Data and information currently kept on my laptop was transferred to an external hard drive and was placed in the same locked gun safe as hard copy data. It will also be retained for 10 years. Once all electronic data was transferred to the external hard drive and stored in the gun safe, I deleted all computer files pertaining to this research.

This study was only intended for full time currently employed troopers in the Southeast United States. No participants were surveyed for this study until the Walden IRB had approved the procedures used in this research. The IRB approval number for this study is #07-17-20-0657318 and it expires on July 16, 2021.

Summary

This chapter began with an introduction followed by a description of the research design and rationale. The subsequent section, research methodology, covered several topics including population, sampling and sampling procedures, procedures for recruitment, participation, and data collection, as well as instrumentation and operationalization of constructs. The final section discussed in this chapter covered external and internal threats to validity and the ethical procedures taken to protect both the research and the wellbeing of participants. The data that was collected during this study will be analyzed and examined in the ensuing chapter.

Chapter 4: Results

Introduction

The purpose of this quantitative study was to determine whether there are specific personality traits that influence the likelihood of a trooper in the Southeast United States remaining employed for 5 or more years. It also examined the possible influence of demographic variables such as age, gender, marital status, ethnicity, level of education, and years of law enforcement experience as a trooper. In this chapter, I describe the purpose, research question, and hypotheses that were the basis for this study. In addition, the data collection procedures as well as preliminary and primary study results are provided. The primary research question was, "What are the personality traits of troopers in the Southeast United States who are employed less than 5 years compared to those employed more than 5 years?"

The primary objective of this study was to provide empirical data on the personality traits possessed by long-term troopers. For the purposes of this study, long-term troopers were full-time, paid, state troopers who have performed their law enforcement duties at an agency in the Southeast United States for 5 or more years. The personality traits tested were taken from the 16PF SSR (2018) and included emotional adjustment, integrity/control, intellectual efficiency, and interpersonal relations. Data for this study were gathered by testing the following hypotheses about personality traits:

- H_0: There is no significant difference between the personality traits of troopers in the Southeast United States currently working for 5 or more years and troopers in the Southeast United States working for less than 5 years, as

measured using the 16 Personality Factor dimensions of emotional adjustment, integrity/control, intellectual efficiency, and interpersonal relations.

- H_1: There is a significant difference between the personality traits of troopers in the Southeast United States currently working for 5 or more years and troopers in the Southeast United States working for less than 5 years, as measured using the 16 Personality Factor dimensions of emotional adjustment, integrity/control, intellectual efficiency, and interpersonal relations

Data Collection

Data for this study were collected over a period of 3 weeks. Only responses from those completing both the demographic survey and the 16PF were included in data analysis. An email introducing this study was made available to all currently employed troopers at the participating agency located in the Southeast United States. The total recruited population was estimated to be 1,789 troopers. Although the final adjusted sample size was estimated to be 142 for this study, only 48 troopers responded to the email requesting participation. Of that number, six took no further action completing neither the demographic nor the 16PF survey; one participant chose to withdraw consent while completing the demographic survey, and 12 others did not provide the information necessary to be placed in the appropriate category of short- or long-term trooper. This resulted in a final sample of 29 and an overall agency response rate of 1.6%. This low

response rate could possibly be attributed to complications stemming from the COVID-19 pandemic and nationwide civil unrest at the time of this research.

As noted in Table 3, the final group was comprised of 5 short-term and 24 long-term troopers. The average number of years respondents were employed with the participating agency as a state trooper was 13.83 years with the longest tenure noted as 40 years and the shortest noted as 1 year. Twenty-five (86.2%) respondents were men and four (13.8%) were women. The majority of respondents (82.8%) were married; the remaining percentage were separated (3.4%), divorced (6.9%), or never married (6.9%). The age categories ranged from 18-20 to 60 and older, with the majority of participants falling in the age group of 40-49 (37.9%) or 30-39 (24.1%). The highest level of education for 34.5% of respondents was noted as some college, but no degree. An additional 51% held either a bachelor's (31%) or an associate's degree (20.7%). The ethnic background of respondents was primarily (93.1%) White with Black or African-American respondents (6.9%) comprising the next largest demographic.

Table 3

Demographic Data from Short- and Long-Term Troopers in the Southeast United States

Category	Short-term (*n* = X)		Long-term (*n* = X)		Total (*N* = X)	
	n	%	*n*	%	*n*	%
Gender						
Male	3	60.0%	22	91.7%	25	86.2%
Female	2	40.0%	2	8.3%	4	13.8%
Age of participants						
18-20	0	0.0%	0	0.0%	0	0.0%
21-29	1	20.0%	3	12.5%	4	13.8%
30-39	2	40.0%	5	20.8%	7	24.1%
40-49	1	20.0%	10	41.6%	11	37.9%
50-59	1	20.0%	4	16.6%	5	17.2%
60 or older	0	0.0%	1	4.2%	1	3.4%
Skipped question	0	0.0%	1	4.2%	1	3.4%
Marital status						
Married	3	60.0%	21	87.5%	24	82.8%
Widowed	0	0.0%	0	0.0%	0	0.0%
Divorced	0	0.0%	2	8.3%	2	6.9%
Separated	1	20.0%	0	0.0%	1	3.4%
Never married	1	20.0%	1	4.2%	2	6.9%
Level of education						
Less than high school	0	0.0%	0	0.0%	0	0.0%
High school degree or GED	0	0.0%	1	4.2%	1	3.4%
Some college, no degree	2	40.0%	8	33.3%	10	34.5%
Associate's degree	0	0.0%	6	25.0%	6	20.7%
Bachelor's degree	1	20.0%	8	33.3%	9	31.0%
Graduate degree	2	40.0%	1	4.2%	3	10.3%
Ethnicity						
White	5	100%	22	91.7%	27	93.1%
Black/African American	0	0.0%	2	8.3%	2	6.9%
Asian	0	0.0%	0	0.0%	0	0.0%
Native Hawaiian/Pacific Isl.	0	0.0%	0	0.0%	0	0.0%
American Indian/Alaskan	0	0.0%	0	0.0%	0	0.0%
From multiple races	0	0.0%	0	0.0%	0	0.0%
Some other race	0	0.0%	0	0.0%	0	0.0%

Although no comparison data could be found specifically related to troopers, the population of this study does closely mirror the gender distribution of full-time law enforcement officers in the United States (see Figure 2). Per the Department of Justice, in 2017, only 12.5% of full-time law enforcement officers were female. Nationwide, the remaining 87.5% of law enforcement officers were male (United States Department of Justice, 2017). These figures match the male/female distribution of full-time troopers participating in this study; overall, 13.8% of participating troopers were female, while the majority, 86.2%, were male. This male/female percentage comparison is further reinforced when compared to the percentages found in the following databases and studies: Duffin (2019); Local Police Departments, 2016: Personnel (Hyland & Davis, 2019); and Police Officers (Pickering, n.d.).
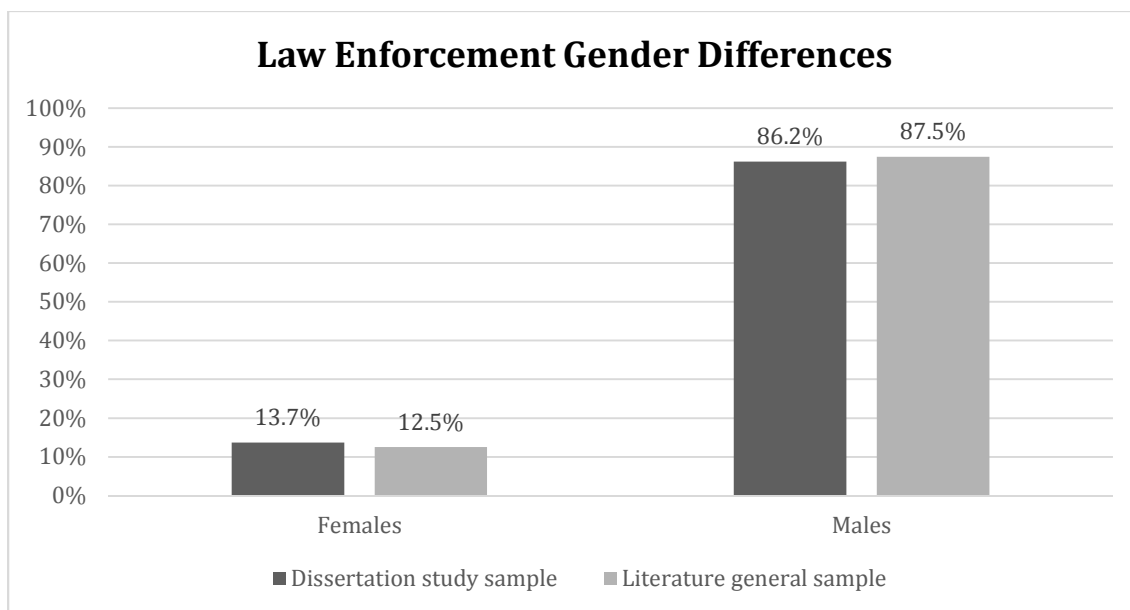
Figure 2. Gender distributions illustrating the dissertation study sample and the general population of law enforcement officers.

Initially, there appeared to be a distinct difference in the level of education between short- and long-term troopers in this study. The short-term troopers' highest level of education was "graduate degree" (40%), whereas that same category tied for the lowest along with high school graduate (4.2%), for long-term troopers (see Figure 3). However, when a Mann-Whitney U test was conducted, the results indicated that there were no statistical differences between the education levels of short-term ($Mdn = 5$, $n = 5$) and long-term troopers ($Mdn = 4$, $n = 24$), $U = 44.00$, $z = -.963$, $p = .382$, $r = -.207$.
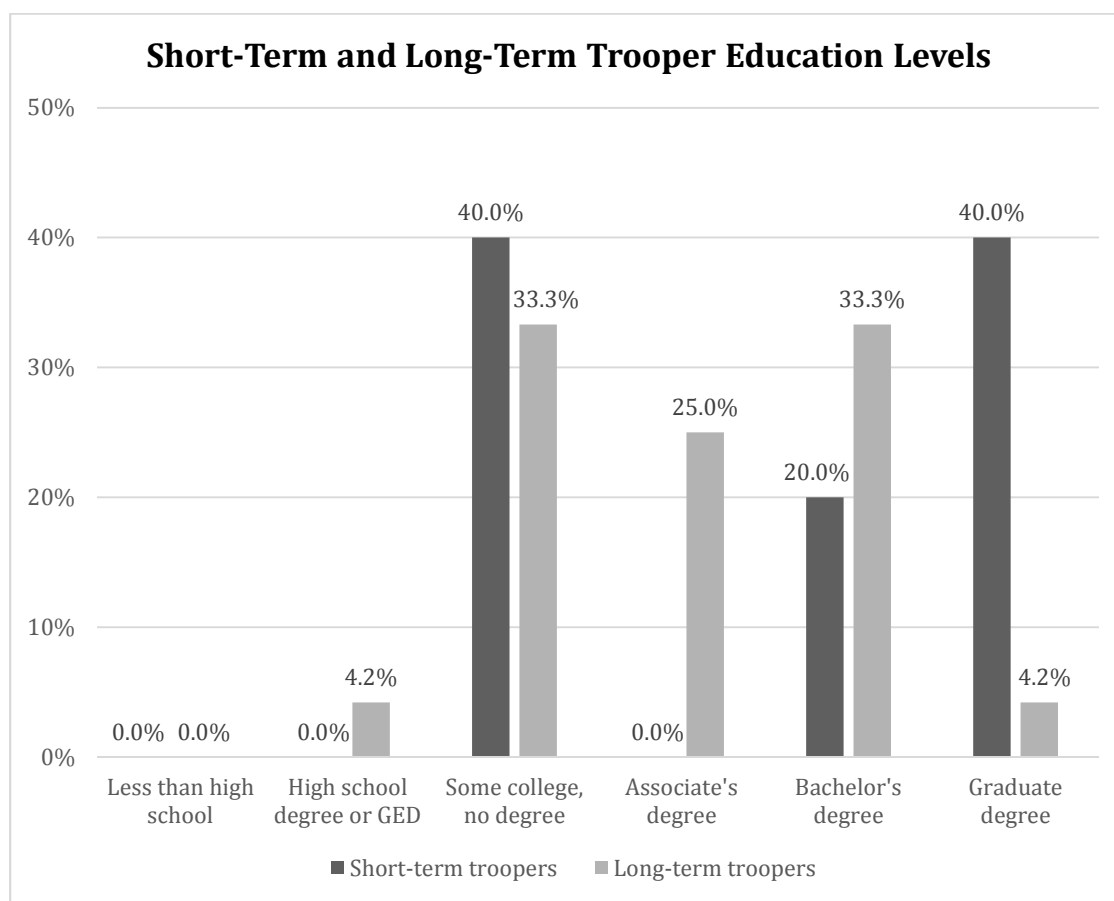
Figure 3. A comparison of the short-term and long-term trooper education levels

Study Results

Both preliminary and primary tests of analysis were conducted on the data. This not only increased understanding of the information gathered, it also allowed me to more thoroughly answer the research question.

Preliminary Analysis

Prior to evaluating the significant differences between troopers and the 16PF SSR personality scales (emotional adjustment, integrity/control, intellectual efficiency, and interpersonal relations), I first tested the assumption of homogeneity of variance using a Bonferroni adjustment to alpha. This was a necessary step in order to confirm that the data met all assumptions needed to obtain reliable results from further parametric tests such as the independent samples t tests.

A reliability analysis was then carried out on the 16PF SSR subscales. Chronbach's alpha showed the questionnaire to reach acceptable reliability, $\alpha = .338$. Most items appeared to be worthy of retention, resulting in a decrease in the alpha if deleted. The one exception (see Table 4) was the subscale interpersonal relations, which would increase the alpha to $\alpha = .531$.

Table 4

Output for the Reliability Analysis: 16PF Protective Services Dimensions

Protective service dimensions	Scale mean if item deleted	Scale variance if item deleted	corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
Emotional adjustment	4.72	1.207	.367	.255	.126
Integrity/control	4.59	1.251	.207	.120	.251
Intellectual efficiency	4.24	1.047	.241	.169	.194
Interpersonal relations	4.24	1.190	.008	.001	.531

Levene's test was then performed on each of the four variables to test the assumption of homogeneity of variance. The results indicated that the variances between short- and long-term troopers were equal across all four variables. As seen in Table 5, all *p* values were greater than .05. Given the low sample sizes, however, these results were taken with caution.

Table 5

Output for Levene's Test of Homogeneity of Variance (n = 29)

Protective service dimensions	Levene's statistic	*df1*	*df2*	*p*
Emotional adjustment	.007	1	27	.936
Integrity/control	1.639	1	27	.211
Intellectual efficiency	2.800	1	27	.106
Interpersonal relations	.220	1	27	.642

A Shapiro-Wilk test was then conducted to evaluate the normality of each of the four protective dimensions. In order to meet the assumptions of normality, the *p* values for both short- and long-term trooper groups needed to be .05 or greater for each of the 16PF SSR variables. As seen in Table 6, results for the Shapiro Wilk's indicated abnormal distributions for all variables with the exception of short-term trooper interpersonal relations.

Table 6

Results of Shapiro-Wilk's Test of Normality (n = 29)

Protective service dimensions	Status	*W*	*Df*	*p*
Emotional adjustment	Short-term	.552	5	.000
	Long-term	.503	24	.000
Integrity/control	Short-term	.883	5	.325
	Long-term	.761	24	.000
Intellectual efficiency	Short-term	.552	5	.000
	Long-term	.768	24	.000
Interpersonal relations	Short-term	.684	5	.006
	Long-term	.598	24	.000

Intensifying the assumption violation was the vast difference in sample sizes between short-term (*n* = 5) and long-term (*n* = 24) trooper groups. The sample size for short-term troopers was 5, while the size of long-term troopers was 24, almost five times the size of the former group. Per Anderson, Babin, Black, and Hair (2013), when sample sizes fall below 30, violations in the assumptions of multivariate normality and homogeneity of variance are difficult to detect due to decreased statistical power.

Due to these violations, the data failed to satisfy the assumptions required to proceed with the planned MANOVA. Consequently, primary analysis was conducted using nonparametric statistics. Specifically, I conducted the nonparametric equivalent to the independent samples *t* test and the Mann-Whitney *U* test. Warner (2013) notes that researchers should consider the use of nonparametric statistics when data fails to meet some or all of the requirements for parametric statistics.

Primary Analysis

As the data was skewed (not normally distributed), the most appropriate statistical test was the Mann-Whitney *U*. This nonparametric test converts the scores on a continuous variable (ex. emotional adjustment) to ranks across two groups (short-term and long-term troopers). It then evaluates whether the ranks for the two groups differ significantly. Results are reported for each group as median rather than mean scores.

In order to utilize the Mann-Whitney *U*, Kiess (2002) notes that the following requirements must be met:

- The data is continuous

- The scale of measurement is ordinal or continuous

- Two population's means that come from the same population are compared

- There are no assumptions made related to the distribution of the populations being tested

As seen in Table 7, descriptive statistics showed that short-term troopers had higher median and mean scores (*mdn* = 2, *mean* = 18.60, *n* = 5) on interpersonal relations than the long-term Trooper group (*mdn* = 1.5, *mean* = 14.25, *n* = 24). After applying the

Bonferroni adjusted *p* value of .0125, this interaction was not found to be statistically

significant, however. The Bonferroni adjustment was used to maintain the study wide

error rate at .05 by dividing .05 by the number of post hoc comparisons, four (Keselman

& Keselman, 1988). Effect size *r* was calculated by diving the absolute value of *z* by the

square root of the total sample size (ex. $r = \frac{|z|}{\sqrt{n}} = \frac{|-1.136|}{\sqrt{29}} = .210$). These results indicated

that trooper group (short- or long-term) had only a small to medium effect on 16PF SSR

interpersonal relation scores, based on Cohen's (1988) criteria of .1 = small, .3 =

medium, and .5 = large. There were no significant differences in the mean scores

between the two groups on emotional adjustment, integrity/control, or intellectual

efficiency.

Table 7

Results of Mann – Whitney U Test (n = 29)

Protective service dimension and status	Mdn	Mean	Mann-Whitney *U*	Z	r	p
Emotional adjustment			59.500	-.041	.007	.978
Short-term	1	14.90				
Long-term	1	15.02				
Integrity/control			56.000	-.280	.051	.845
Short-term	1	15.80				
Long-term	1	14.83				
Intellectual efficiency			51.000	-.589	.109	.634
Short-term	2	16.80				
Long-term	2	14.63				
Interpersonal relations			42.000	-1.136	.210	.323
Short-term	2	18.60				
Long-term	1.5	14.25				

To determine whether length of trooper employment could be predicted by emotional adjustment, integrity/control, intellectual efficiency, and interpersonal relations, I performed a logistic regression. The regression examined whether scores on these variables could reliably determine the likelihood of a person remaining employed as a trooper for less than 5 years or more than 5 years. The continuous independent variables were emotional adjustment, integrity/control, intellectual efficiency, and interpersonal relations. The dependent variable was trooper status where zero was less than 5 years and 1.0 was 5 or more years.

Prior to performing the regression, an outlier analysis was conducted. This analysis calculated the standardized residuals and Cook's distance for reach respondent. Per Anderson et al. (2013), standardized residual values greater than +3 or less than -3 indicate that the respondent is an outlier. Furthermore, a Cook's distance found to be greater than 1 indicates that a respondent is highly influential on a model, more than what is deemed acceptable. Results indicated that no respondent had standardized residual values of greater than +3 or less than -3. In fact, the most extreme values were +1.5 and -2.5. All values for Cook's distance fell within the acceptable range as well.

The results of the logistic regression indicated that the full model containing all variables was not statistically significant $\square^2$ (4, $N = 29$) = 1.470, $p = .832$, indicating that the model was not able to distinguish between respondents who worked as troopers for less than 5 years and those who worked as troopers for more than 5 years. The model as a whole explained 4.9% (Cox and Snell R^2) and 8.2% (Nagelkerke R^2) of the variance in trooper employment and correctly classified 82.8% of the cases in the sample.

Table 8 summarizes the raw score binary logistic regression coefficients, Wald

statistics, and the estimated change in odds of trooper tenure, along with a 95% CI. As

indicated below, none of the independent variables made a unique statistically significant

contribution to the model. Of the four variables tested, scores related to interpersonal

relations were shown to have the greatest statistical significance ($p = .486$), however, the

p-value for the variable fell well outside the standard accepted range of $p = \leq 0.05$.

Table 8

Binary Logistic Regression Analysis: Predicting Tenure of Trooper Employment
Including All Four Independent Variables

						95% Confidence interval for exp(B)	
Protective service dimension	*B*	*SE*	*OR*	Wald chi-square test	*p*	Lower	Upper
Emotional adjustment	.364	1.434	.991	.064	.800	.087	23.905
Integrity/control	-.321	1.093	1.053	.086	.769	.085	6.175
Intellectual efficiency	-.451	.940	1.169	.230	.637	.101	4.021
Interpersonal relations	-.721	.698	1.231	1.068	.486	.124	1.909
Constant	3.653	2.586		1.996	.158		

Summary

The null hypothesis for this study stated that there is no significant difference

between the personality traits of troopers in the Southeast United States currently

working for 5 or more years and troopers in the Southeast United States working for less

than 5 years, as measured using the Sixteen Personality Factor dimensions of emotional

adjustment, integrity/control, intellectual efficiency, and interpersonal relations. This

hypothesis was tested using a Bonferroni adjustment to alpha and four Mann-Whitney U

tests. The study showed that none of the four protective service dimensions tested

significantly impacted a respondent's decision to remain employed as a trooper at an

agency in the Southeast United States. As such, the strength of the evidence falls short of

being able to reject the null hypothesis.

Results from the logistic regression indicated that the full model containing all

variables was not statistically significant $\square^2$ $(4, N = 29) = 1.470$, $p = .832$, indicating that

the model was not able to distinguish between respondents who worked as troopers less

than 5 years and those who worked as troopers for more than 5 years. As a whole, the

model explained 4.9% (Cox and Snell R^2) and 8.2% (Nagelkerke R^2) of the variance in

trooper employment and correctly classified 82.8% of the cases in the sample. Based on

the Mann-Whitney U results and as shown in Table 7, none of the independent variables

tested made a uniquely statistically significant contribution to the model. I discuss

possible reasons for these findings in the next chapter.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this quantitative study was to determine whether there are specific personality traits that differentiate long-term troopers from short-term troopers. For the purposes of this research, long-term troopers were full-time, paid, state troopers who have performed their law enforcement duties at an agency in the Southeast United States for 5 or more years. To examine whether differences existed between the personality traits of both short- and long-term troopers, four protective service dimensions from the 16PF SSR assessment were tested. The analyzed dimensions included emotional adjustment, integrity/control, intellectual efficiency, and interpersonal relations. These trait dimensions are based upon Allport's trait theory wherein he refers to the study of traits as the study of dispositions (Roxenzweig & Fisher, 1997). Results of the logistic regression showed that none of the four dimensions had a significant impact in determining a trooper's years of service. Of the four variables tested, scores related to interpersonal relations were shown to have the greatest statistical significance ($p = .486$), however, the p-value for this variable fell well outside the standard accepted range of $p = \leq 0.05$.

Though research has been conducted to understand how personality affects the tenure of paramedics (Paschal, 2016), this study is possibly the only research to date that has examined the correlation between personality traits and the tenure of troopers in the Southeast United States. In this chapter, I address four important issues related to this study. First, I interpret the findings themselves. I then explore limitations of this study

as well as make recommendations regarding how the results may be used. Lastly, I

provide an explanation of the implications, as well as discuss positive social change

arising from this research.

Interpretation of the Findings

Although little research exists on the topic, I predicted that there would be

significant differences between the personality traits of short- and long-term troopers.

Contrary to my hypothesis, however, there were no significant differences between the

personality traits of troopers in the Southeast United States currently working for 5 or

more years and troopers in the Southeast United States working for less than 5 years, as

measured using the 16 Personality Factor dimensions of emotional adjustment,

integrity/control, intellectual efficiency, and interpersonal relations. Of the variables

tested, scores related to interpersonal relations were shown to have the greatest statistical

significance ($p = .486$), however, the p value for this variable fell well outside the

standard accepted range of $p = \leq 0.05$. Based on these findings, I failed to reject the null

hypothesis.

Failing to reject the null indicates that this study's sample did not provide

sufficient evidence to conclude that there are significant differences in the personality

traits of short- and long-term troopers. At the same time, however, that lack of evidence

does not prove that the effect does not exist. Warner (2013) stated that the null

hypothesis can only be fully rejected if we are able to rule out all alternative explanations

for a nonsignificant outcome. Possible explanations for the nonsignificant outcome in

this study include the following:

- The effect size that I tried to detect is very small (e.g., the magnitude of the difference between μ and μ_{hyp} is very small).

- The number of cases in the study (*N*) may have been too small to provide adequate statistical power for the significance test. Sample sizes that are too small to have sufficient statistical power are fairly common (Maxwell, 2004).

- The relationship between the variables is of a type that the analysis cannot detect (e.g., Pearson's *r* is not appropriate for detecting curvilinear relationships between variables).

- A nonsignificant result can arise due to sampling error.

Though a researcher can present evidence to try to discount each of these, Warner (2013) argued that it is actually not possible, in practice, to rule out all alternative explanations completely. Warner also noted that the results of one study are not conclusive proof of the null hypothesis; only after a nonsignificant outcome has been replicated across many studies with large samples and good quality outcomes does the evidence support that there is no difference between populations.

Despite results of the current study, Barrick and Mount (2005) were convinced that personality can predict and explain behavior at work. The researchers stated that, although critics would argue otherwise, it is actually implausible from a commonsense perspective to believe that our thoughts, feelings, and actions do not impact our workplace decisions. Similarly, Worden (1989, p 670) suggested that "to maintain that people act in ways that are inconsistent with their attitudes seems patently absurd." Based on these assumptions, it is possible that although the tested traits were not

statistically significant, they were still impactful on a respondent's decision to remain employed as a trooper at an agency in the Southeast United States.

Limitations of the Study

There were several limitations to this study. As noted in Chapter 1, although the 16 PF SSR (2018) has been rigorously tested for reliability and validity, it is still possible that a respondent's personality was not accurately assessed using the specific values and independent trait dimensions of the 16PF SSR. Similarly, this study did not account for a respondent's adaptability to perform tasks outside of the scope of their typical nature and temperament.

An additional limitation of this study is that troopers may not have provided honest responses in their demographic survey or 16PF assessment. Tonković (2012) defends the notion that this type of behavior is not easily detected. As this study relied on anonymous online responses, dishonesty during testing would have been virtually impossible to distinguish. Coupled with the tendency of test takers to deliberately provide inaccurate responses to personality items, it is rational to assume that not all responses provided were entirely honest (Goffin & Boyd, 2009).

The greatest limitation to this study, however, was the disproportionate nature of the respondent categories. The first variance was seen in the unequal grouping of short- and long-term troopers. As noted in Table 3, only 5 short-term troopers participated in this study. This sample size was almost five times smaller than the number of participating long-term troopers ($n = 24$). The disparity not only affected the data's ability to meet the assumption of equal variances, but also diminished the validity and

reliability of the results. As discussed by Rusticus and Lovato (2014), having both unequal sample sizes and unequal variances dramatically affects statistical power and Type 1 error rates. Small sample sizes also limited this study. Per Anderson et al. (2013), when sample sizes fall below 30, violations in the assumptions of multivariate normality and homogeneity of variance are difficult to detect due to decreased statistical power.

From a race perspective, this study also lacked participant diversity. Over 90% of the respondents in this research identified as White, with the remaining 6.9% identifying as Black or African American. No other races were represented. These figures are in stark contrast to the 2016 national averages released by the U.S. Bureau of Justice Statistics. Per that research (Hyland & Davis, 2019), 71% of full-time sworn officers in local police departments were White, whereas 27% were Black, Hispanic, or of other races (Asian, Native Hawaiian, other Pacific Islander, American Indian, Alaska Native, or two or more races). Approximately 37% of sworn officers in jurisdictions with 250,000 or more residents, and 11% of officers in jurisdictions with less than 25,000 residents, were Black or Hispanic. Although some might argue that race does not affect personality, the fact that this study's demographic was so misaligned from the national average cannot be ignored. For the results of this research to be generalized across all populations, it must first be representative of all populations.

A final limiting factor of this study was that participants were all troopers at an agency in the Southeast United States. While this limitation was by design, it did preclude responses from troopers working in other geographic locations. As such,

participants and their responses were not fully representative of the norm for all state law enforcement professionals. This further prevents the generalization of results.

Recommendations

The aforementioned limitations provide an impetus for future research. As discussed in Chapter 2, although studies exist regarding the personality of other first responders, the literature on trooper personality is extremely limited. Future researchers should continue to study the impact of personality using more extensive data. The more we know about what constitutes a trooper's personality, the more successful we will be at isolating factors that matter most.

The initial recommendation going forward would be to improve the current study. Although I still agree that quantitative research was the right choice for this study, coupling this methodology with qualitative research tools, such as interviews, could have provided a deeper understanding of the personality trait differences being examined. An ideal study would use the 16PF SSR as well as interview data on background characteristics and attitudes and combine it with behavioral measures such as direct observation. A multimethod study of this type may also allow a researcher to overcome some of the data collection issues encountered in this study. Twelve of the 48 troopers initially responding to this study failed to provide the information necessary to be placed in the appropriate category of short- or long-term trooper. Conducting in-person interviews would allow the researcher to gather all the information necessary to appropriately categorize and survey respondents. This would boost the small sample size and help overcome issues related to unequal variance and low statistical power.

To fill the research gap that currently exists, several other investigations are recommended. One follow-up that could be performed is a longitudinal study. Future researchers could solicit troopers of all ages and lengths of service to answer survey questions related to personality over a 5- to 10-year period. This would allow the researcher to detect developments or changes in trooper personality at both the group and individual level.

As a continuation to this study, a larger and more diverse population could also be investigated. The current study only utilized responses from one state law enforcement agency in the Southeast United States. By increasing the number of agencies and personnel tested, more robust and accurate data could be generated. For instance, a study that includes and compares the traits of troopers from New York State Police and California Highway Patrol could provide a truer depiction of the commonalities and differences of troopers across a broader economic and geographical spectrum. This would also improve the generalizability of study results.

A broader demographic of participants should also be tested in further research. As previously stated, this study lacked diversity of participants. Though the gender breakout closely mirrored the gender distribution of full-time law enforcement officers in the United States (See Figure 2), the same was not true regarding race. Over 90% of those participating in this study identified as White. Participants in research should reflect the diversity of our culture and conditions. The lack of diversity among this study's research participants had serious ethical and research consequences. Not only

were the opinions of whole populations omitted, my ability to generalize study results was impeded.

Another potential study could compare the personality traits of troopers who remain employed versus those choosing to leave. This study would allow the researcher to explore personality traits as well as ascertain specific reasons for a trooper's departure. Qualitative coding could reveal whether work environment rather than personality influenced a trooper's decision to resign from an agency. Collectively, this data could educate a department on the personality of their staff as well as highlight potential negative workplace issues.

A final recommendation is to have this study's participating agency administer the 16PF SSR assessment at the beginning of each new trooper training class. Potentially, a large number of participants could be tested and followed over the years. Optimally, these results would be correlated with performance and longevity measures. The breadth and scope of the data gathered would help validate whether results of the study were translatable to the law enforcement profession as a whole. As necessary and appropriate, other state law enforcement agencies could also replicate this research. As more data was gathered, issues related to this study such as small sample size and lack of participant diversity would be nullified.

Implications for Social Change

With further research, the results of this study have the potential to make a significant impact on both criminal justice policy and practice. This impact could be seen at the organizational, societal, and individual level.

Organizational Impact

The Bureau of Labor Statistics (2020) projects 51,000 openings in law enforcement between 2019 and 2029. By further studying personality and its influence on tenure, hiring authorities for law enforcement agencies across the nation can more effectively screen and evaluate job applicants for positions, possibly increasing officer retention and improving state coverage.

Given the amount of trust and responsibility placed on law enforcement officers, selecting those who have a compatible personality and a motivation to succeed is vital. If this study and subsequent follow-up research validate the ability of the 16PF SSR to successfully gauge the link between personality and tenure, agencies could quickly identify applicants who are at high risk for problems. Those categorized as unsuitable could then be removed from the hiring process and would not have to continue to the more expensive and time-consuming screening measures such as interviews, ability tests drug testing, and background checks. Although this would result in a narrower pool of applicants, those remaining would be more qualified and more likely to be successful.

Ensuring the right candidate is hired is critical given the high-risk nature of the law enforcement profession. The demands of the job can quickly diminish an unsuitable officer's ability to cope. Over time, this can lead to burnout and result in an officer leaving his or her position. Turnover costs typically range between 25% and 200% of an officer's salary (McNally, 2004). With an average salary of approximately $67,600 (Bureau of Labor Statistics, 2019), this means it could cost between $16,900 and $135,200 to replace one officer. Coupled with this cost is the intangible value that is lost

when the officer leaves. Intangibles include the officer's professional knowledge and experience as well as their relationship with the community they served. By using the results of this study and future research to inform hiring decisions, agencies could reduce the likelihood of turnover and its related costs.

Societal/Policy Impact

Improving the tenure of law enforcement officers will also have a societal impact. Improving officer turnover and returning agencies to full staffing will ensure that Homeland Security Presidential Directive 8 is satisfied (Department of Homeland Security, 2011). This directive was established to strengthen the security and resilience of the United States by ensuring that threats to that security such as acts of terrorism, cyber-attacks, pandemics, and catastrophic natural disasters are mitigated. Having adequate law enforcement coverage is a common sense and practical aspect of fulfilling that directive.

Similarly, effective staffing levels are also vital in satisfying Homeland Security Presidential Directive 5 (Department of Homeland Security, 2003). This directive was created to enhance the ability of the United States to manage domestic incidences. With improvements in officer tenure, the United States can more easily prevent, prepare for, respond to, and recover from terrorist attacks, major disasters, and other emergencies.

Individual Impact

Lane (1998) established that circumstances of work play a key role in influencing individual well-being. If, as a result of this study, agencies choose to implement the 16PF SSR assessment as part of their standard operating procedure, officers could be

affected both personally and professionally. Following completion of the assessment, officers will have a greater understanding of their unique personality characteristics. Once areas of strength and weakness are identified, troopers can more effectively focus their professional development (Pastushenia, 2012) and possibly improve community policing efforts (Moon & Zager, 2007).

Conclusion

The study of personality as presented by Steyer et al. (1999) assumes the premise that human behavior, cognition, and emotion are dependent upon the situation, characteristics of the individual, and the interaction between the individual and his or her situation or environment. Based on the fluid nature of these variables, Steyer et al. suggest that personality is inherently unique and what makes people distinctly themselves. Hogan Assessment Systems (2001) further argues that personality traits not only predict how well an individual will work, they also predict occupational fit and tenure.

The purpose of this quantitative study was to better understand the personality trait differences between troopers in the Southeast United States with short-term employment and those with long-term employment. Specifically, this study sought to determine whether there are personality traits that influence or increase the likelihood of a trooper in the Southeast United States remaining employed for 5 or more years. Although results did not provide sufficient evidence to conclude that there are significant differences in the personality traits of short- and long-term troopers, results also did not prove that an effect does not exist.

The fact of the matter is that human behavior is complex. To understand the relationship between personality traits and job tenure, one must consider and account for both mediating and moderating variables. Bearing this in mind, it is prudent to remember that the current study contained a small sample size of only 24 long-term and 5 short-term troopers. Given the likelihood of a Type II error skewing results, additional research is strongly recommended.

Though the evidence in this investigation fell short of being able to reject the null hypothesis, analyzing the link between personality and specific occupations such as law enforcement remains a worthwhile endeavor. Ackerman (1997) supported this notion for two reasons. The first is that it is a common scientific goal to investigate the relationships between different constructs. The second reason is that the study of these relationships could potentially be useful in the context of career counselling. Several studies have investigated the overlap between personality traits and vocational interests (Blake & Sackett, 1999; De Fruyt & Mervielde, 1997; Hogan & Blake, 1999; Tokar & Swanson, 1995). Results of these studies reveal a weak, but consistent pattern between personality traits and interests.

As with all research, future empirical studies are needed to further explore the link between personality and tenure. Still, this study is an important addition to the very limited literature on troopers and their specific personality traits. If utilized and supported by future researchers, the results of this study have tremendous potential to enhance recruitment and retention of those choosing to enter law enforcement. By

employing applicants that have personality traits consistent with police work, agencies

can reduce officer turnover and improve law enforcement coverage.

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Appendix A: Sociodemographic Survey

"Influence of Personality Traits on Trooper Retention in the Southeast United States "

Thank you for participating in our survey. Your feedback is important.

Please enter your User Name Code and User Password Code to access Survey #1 - Socio-Demographic Survey

* 1. User Name Code

[   ]

* 2. User Password Code

[   ]

SURVEY #1: Socio-Demographic Survey

Directions:

Please complete the following questions. Some items require a yes/no response and others will ask you choose from a selection of choices. You may stop, exit, and then re-enter to complete at any time provided you click the "Next" or "Done" button before you exit.

Thank you for your time and assistance with this project.
Amethyste M. Sanchez, M.S.

* 1. Are you currently employed as a State Trooper at an agency in the Southeast United States?

◯ Yes

◯ No

* 2. How many years have you been employed as a State Trooper at an agency in the Southeast United States?

☐ Less than 5 years

☐ More than 5 years

3. Please select the number of years you have been employed with Florida Highway Patrol as a State Trooper.

0   30+

4. What is your gender?

○ Female   ○ Male

5. Which category below includes your age?

○ 18-20   ○ 40-49

○ 21-29   ○ 50-59

○ 30-39   ○ 60 or older

6. Are you now married, widowed, divorced, separated, or have you never been married?

○ Married

○ Widowed

○ Divorced

○ Separated

○ Never married

7. What is the highest level of school you have completed or the highest degree you have received?

○ Less than high school degree   ○ Associate degree

○ High school degree or equivalent (e.g., GED)   ○ Bachelor degree

○ Some college but no degree   ○ Graduate degree

8. Are you White, Black or African-American, American Indian or Alaskan Native, Asian, Native Hawaiian or other Pacific islander, or some other race?

○ White   ○ Asian

○ Black or African-American   ○ Native Hawaiian or other Pacific Islander

○ American Indian or Alaskan Native   ○ From multiple races

○ Some other race (please specify)

Thank you for your participation! You have now completed the first assessment. You can either choose to take a break and do the remaining assessment later, or proceed to the final questionnaire now using the link provided to you in your registration email. Below is an example of what you should have received:

Hello Test Test,

You have been registered to take an assessment for Walden University. The assessment(s) you are to take is the 16pf® Sixth Edition Questionnaire: Security Selection Report, and I am your Test Administrator.

Follow the directions on the screen. If the button generates an error, instead of clicking the button directly, copy and paste the link below into your browser.

Your assessment will expire on 14/08/2020.

Start Assessment

https://tara.vitapowered.com/TestEngine/TestLauncher.aspx?batteryID=dc3dc588-6b6f-4a6f-ac6e-e0a319270123&key=CdptEaVa2_WrHz-G1pjSJuSYhjv80cKFc543ZKpNUD81

For any additional questions, contact me.

If you cannot access the link or need the link to be resent, please let me know and I will be happy to assist.

Please note that results for your individual assessment will not be immediately available, however, they can be provided upon request. Overall research findings will be available upon completion of this study by accessing the Wix.com website and searching by the title of this research study.

For more information pertaining to the research process including information regarding your protection as a research participant, please click here.

If you experience any health concerns as a result of this study, please click here.
For local resources pertaining to this research, please click here.

This concludes the first assessment. Thank you for participation.

Appendix B: Permission to Use 16PF Assessment

Rick Jacobs
To: Amethyste Sanchez

Tue, Jul 30, 2019 at 2:20 PM

We are happy to approve the use of the 16pf for your project. We can supply up to 200 uses. You will have to collect the email addresses for all participants and provide them to our system so the 16pf surveys can be sent. You will also have to decide what report you will be providing to the participants and who is an authorized user of 16pf participating on the research team. I would recommend the 16pf Development Report as it is straightforward and requires little in the way of abstract interpretations. You will be able to get scores from this for your analyses.

Finally, should you find you need more than 200 uses, please let me know.

Rick Jacobs | Senior Vice President, Advisory Services

PSI Services, Talent Measurement & Education