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Firearm Risk Regression Analysis for Law Enforcement Officer Firearm Usage Utilizing Factors in the M-Pulse and MMPI-2RF

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Walden University

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Jesse D. Stout

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Walden University
2019

Abstract

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Factors in the M-Pulse and MMPI-2RF

by

Jesse D. Stout

MA, Walden University 2011

BS, Charter Oak State College 2009

Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy
Forensic Psychology

Walden University

May 2019

Abstract

The purpose of this quantitative study was to determine to what extent the 4 M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance in the MMPI-2RF (aggression and antisocial) subscales scores. Archival data was provided by a private business that conducts these screenings for multiple law enforcement organizations (local and state). Law enforcement candidates ($N = 127$) were evaluated by a private business during the prehiring psychological screening process using the M-PULSE and MMPI-2RF to assess their risk factors for employment as law enforcement officers. Using Social Learning theory as the basis, the scores from the 2 measures were provided for regression analysis to determine what effect the M-PULSE factors had on the MMPI-2RF factors. This research did not find any significant effect on either MMPI-2RF factor by the 4 M-PULSE factors. This study adds to the growing body of knowledge of law enforcement psychological screening processes and how different measures provide critical information on personality, aggression, and risk factors that should be considered for individuals seeking employment in a law enforcement position. This study has implications for positive social change by increasing understanding of how current psychological screening processes determine suitability of candidates and help to ensure that individuals who would put the public and law enforcement organizations at higher risk should be screened out prior to completion of any law enforcement training.

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Chapter 1: Introduction to the Study

Introduction

Law enforcement professionals are put into unique and challenging situations that require professionalism, poise, decision-making, stress management, and application of law enforcement training at an appropriate level (Van Hasselt et al., 2008). It is critical to determine that they are physically and mentally prepared to address and manage these dynamic situations. In order to accomplish this, law enforcement organizations have employed psychological screening as a component of the hiring process. Some of the psychological measures used to evaluate a multitude of personality factors to assess the suitability of candidates to situations and stresses normally experienced in law enforcement settings are: the Minnesota Multiphasic Personality Inventory (MMPI), Matrix-Predictive Uniform Law Enforcement Inventory (M-PULSE), Inwald Personality Inventory (IPI), Five Factor Model (FFM), Assessment of Individual Motivation (AIM), Personality Assessment Inventory (PAI), and the Tailored Adaptive Personality Assessment System (TAPAS). Dantzker (2011) discussed the lack of consistency between screening processes in law enforcement organizations and the importance of improving psychological screening processes.

Law enforcement candidate screening processes provide organizations the opportunity to identify candidates who are best suited and able to conduct themselves in a professional manner in the administration of enforcing federal, state, and local laws (Brennan, Davis, & Rostow, 2005). Finding methods to improve or refine the screening processes could provide a pool of candidates that are best suited for this type of work. Identifying educational, physical, psychological, and social criteria that most accurately

select appropriate candidates reduces risk, increases personal and public safety, and helps identify issues that may influence longevity of service (Morison, 2017). Psychological screening could provide a basis for candidate selection, but it has not been standardized or centralized (Ramsey, 2015).

When screening processes fail or are not implemented, candidates who are not able to conduct themselves in a professional manner can proceed with training or enter into an operational capacity (Morison, 2017). This can have significant negative results impacting officers and the organizations they are employed by if misconduct or perceived misconduct occurs. Historical issues of officer misconduct include: corruption, excessive use of force, substance abuse, misuse of firearms, endangerment of civilians, and other socially unacceptable behaviors for individuals charged with such responsibilities (Malmin et al., 2013; United States Department of Justice Civil Rights Division and United States Attorney's Office Northern District of Illinois, 2017).

Morison (2017) discussed the importance of not just “weeding out” candidates, but proactively selecting individuals who are best suited and capable of law enforcement types of work, selecting candidates who not only are capable of performing the tasks required but also have the characteristics desired for the rigors and judgment required to successfully perform in the various situations faced by law enforcement officers (Morison, 2017). Morison summarized some of the desirable traits: integrity, service orientation, empathy, communication and human relation skills, self-control, team orientation, and problem solving skills. An officer with these traits would have the social and decision-making skills required to navigate the social intricacies of engaging in law

enforcement activities in most settings. Working individually or as a team member an officer needs to have the ability to communicate and make appropriate decisions based on a set of given laws while simultaneously providing the service of public safety (Morison, 2017).

Background

Law enforcement organizations are faced with many challenges when screening candidates for potential risk or adverse behaviors during and after training. A concern that many law enforcement organizations consider is the potential for officers to utilize their firearms in a manner outside of the use of force policy or those officers who may incite a situation that would result in the use of a firearm (Brennan et al., 2005).

Ensuring that law enforcement professionals are mentally fit and psychologically prepared for the rigorous training, stressful situations, and potential trauma that they will be exposed to is critical for the employing agency to consider during screening (Detrick & Chibnall, 2013). Officers face many challenging situations (e.g., domestic violence, auto accidents, child abuse, drug overdoses) that will ultimately affect their perceptions of the world in which they live and work (Linton, 1995). This study provided psychologists and law enforcement organizations with information that could prove useful in the modification or improvement of screening processes.

Problem Statement

Nonstandard screening processes and psychological screening measures can compromise the effectiveness of risk assessment of candidates as it relates to firearm use. Law enforcement organizations are working on methods for screening candidates to

mitigate risk and improve candidate suitability to the stressors and style of work normally experienced by law enforcement officers. Weiss, Vivian, Weiss, Davis, and Rostow (2013) discussed how law enforcement officers are required to make quick and effective decisions that may have in life or death implications, but they must also be able to apply the appropriate existing laws to effectively perform their duties.

Current screening processes include both physical and psychological screening components to provide an assessment of a candidate's suitability. Borum and Stock (1993) discussed the role of a psychologist in the screening process as one who will assist with identifying at-risk candidates who could pose a threat to the population or the laws that are to be enforced by that law enforcement organization. This screening process can involve the identification of mental health issues, addiction issues, or other psychological traits that may not be conducive to law enforcement work (Deschênes et al., 2013)

One tool that is used in the screening and conditional hire of candidates is the M-PULSE inventory (Davis & Rostow, 2008). This measure's purpose is to evaluate liability factors of candidates (Davis & Rostow, 2008). The M-PULSE inventory collects data in a number of different areas: interpersonal difficulties, discharge of weapon, inappropriate use of weapon, and unprofessional conduct (MHS Assessments, n.d.). The M-PULSE measure is a multiple choice, forced selection test that uses a Likert scale that is then interpreted into the liability factors mentioned previously that provides the administering psychologist a risk analysis of the candidate's behaviors or predispositions in multiple categories (Davis & Rostow, 2008). The M-PULSE measure was specifically

designed for law enforcement screening and has acceptable reliability ($\alpha > .70$; Davis & Rostow, 2008).

Another measure commonly used to prescreen candidates for suitability is the Minnesota Multiphasic Personality Inventory-2 Restructured Form (MMPI-2RF; Ben-Porath & Tellegen, 2011). The MMPI-2RF is 338-question self-report inventory that provides relevant data on personality characteristics, behaviors, interpersonal functions, and interests (Ben-Porath & Tellegen, 2011). The RF form was updated in 2008 to better align with current clinical diagnostic criteria (Ben-Porath & Tellegen, 2011). The MMPI-2RF measure has acceptable reliability ($\alpha > .70$; Tarescavage, Fischler et al., 2015).

Gap in Literature

Measures such as the MMPI-2RF and the M-PULSE have provided insight into candidates' mindset, mental health, and potential bias. These two measures have historically provided organizations with measurable criteria for potential psychological issues for candidates. However, most pre-employment measures do not provide predictive validity of an officer's future performance. Predicting future behaviors or choices will ultimately be influenced by an individual's experiences, training, and beliefs (Bandura, 1971). Currently no research has been conducted to determine whether pre-employment screening of law enforcement candidates who could have a higher potential for a firearms event during their careers that resulted from aggression and antisocial tendencies. This type of risk analysis may provide organizations with the ability to manage higher risk candidates using organizational policies, training, or other means suitable to the needs of the organization.

The M-PULSE was developed in 2008 by Rostow and Davis (2008). This measure provided a significant predictive validity in the behaviors of law enforcement candidates. Mark's (2013) study reviewed the validity of multiple types of psychological evaluations for law enforcement officer candidates and the differences in use of these evaluations across multiple organizations. Mark (2013) briefly discussed how these measures had varied results for predicting retention, officer health, and performance. Mark (2013) identified that officers were influenced by their environment and simultaneously influenced their environments, which then drives their perceptions of danger, decision-making, and interpersonal skills use. The use of evaluations to determine an officer's suitability can provide a way to ensure the risk management for both the organization and the individual candidate.

Purpose of Study

In this quantitative study I analyzed archival data of pre-employment psychological screening of law enforcement candidates to determine if a relationship exists between M-PULSE scales (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) and MMPI-2RF scales (aggression & antisocial behaviors). I selected a quantitative study method in order to analyze the archival data of pre-employment psychological screening of law enforcement candidates with data provided by a private practice in a midsized city in California.

Research Questions

RQ1: To what extent do the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance in the MMPI-2RF aggression subscale score?

H_{01a} : The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do not account for variance ($R = 0, p > .05$) in the MMPI-2RF aggression subscale score.

H_{a1a} : The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do account for variance ($R > 0, p < .05$) in the MMPI-2RF aggression subscale score.

H_{01b} : None of the unique effects (i.e., semi partial correlations [sr]) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance (each $sr = 0, p > .05$) in the MMPI-2RF aggression subscale score.

H_{a1b} : At least one of the unique effects (i.e., sr) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance (at least one $sr > 0, p < .05$) in the MMPI-2RF aggression subscale score.

RQ2: To what extent do the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use

of weapon) account for variance in the MMPI-2RF antisocial behaviors subscale score?

H₀2a: The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do not account for variance ($R = 0, p > .05$) in the MMPI-2RF antisocial behaviors subscale score.

H_a2a: The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do account for variance ($R > 0, p < .05$) in the MMPI-2RF antisocial behaviors subscale score.

H₀2b: None of the unique effects (i.e., semi partial correlations [*sr*]) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance (each $sr = 0, p > .05$) in the MMPI-2RF antisocial behaviors subscale score.

H_a2b: At least one of the unique effects (i.e., *sr*) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance (at least one $sr > 0, p < .05$) in the MMPI-2RF antisocial behaviors subscale score.

Conceptual Framework

The theoretical basis for this study was social learning theory (Bandura, 1978). Social learning theory states three determining factors that influence an individual's

choice in actions: personal factors, environmental factors, and behavior (Phillips & Orton, 1983). Analyzing the pre-employment psychological screening of law enforcement candidates' M-PULSE and MMPI-2RF measures' factors for the sampled population utilizing a regression analysis led to inferences about the relationship between the selected factors of the two measures.

Bandura's (1971) social learning theory was applied to this research due to the idea of learned or observed behaviors by candidates and probationary officers. Each new candidate is assigned to a field training officer to provide training and instruction during the probationary period (Getty, Worrall, & Morris, 2013). The field training officer provides real world application and experience to the "book knowledge" of the candidate (Getty et al., 2013). If the former candidate and now new probationary officer is assigned to a field training officer who may have a more aggressive approach, there may be influence toward more aggressiveness in response to law enforcement events or cases (Getty et al., 2013).

This research was focused on behavioral factors related to aggression, antisocial behaviors, and the use of a firearm, as described by the M-PULSE and MMPI-2RF (Davis & Rostow, 2008; Tarescavage, Fischler, et al., 2015). The use of pre-employment screening data establishes a baseline of how candidates meet the basic psychological ideals of an officer as described by the International Association of Chiefs of Police (IACP, 2014b). The early identification of aggressive or antisocial behaviors may directly correlate to a candidate's willingness or eagerness to use of a firearm during training or once assigned in the field. This early identification can lead to different training

requirements or more extensive training to ensure a candidate's suitability for law enforcement work.

Nature of Study

The nature of this study was a quantitative statistical analysis of archival data to determine whether relationships exist between results from the M-PULSE (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) and MMPI-2RF (aggression and antisocial behaviors). Factors were selected with consideration to how behaviors and weapon use/experience influence how an individual may respond to stressful stimuli. Identifying candidates who have potential instabilities or aggressive behaviors early in screening processes can help reduce or mitigate risk to organizations (Foreman, 2013). In one study, researchers found that officers who had a history of disciplinary problems were more likely to be dismissed or fired from law enforcement employment (Malmin et al., 2013). Thus, identifying factors that increase risk potential during a candidate's screening process reduces risk to the organization and potentially to the public.

The data for this study was collected by a private business during the course of law enforcement pre-employment screening processes. I accessed it with permission and with the understanding that no identifiable information will be released for the individual candidates or the organization that collected the original data.

Definitions

This section identifies technical language and acronyms used in this dissertation to reduce confusion or misalignment for the reader(s):

Matrix-Predictive Uniform Law Enforcement Inventory (M-PULSE): A self-reporting personality measure commonly used in law enforcement screening that assesses liability for risk of misbehavior (Malmin et al., 2013).

Minnesota Multiphasic Personal Inventory 2 Restructured Form (MMPI-2RF): A revised self-report measure commonly used in law enforcement candidate screening to evaluation for psychological issues based on clinically identifiable problems (Tarescavage, Corey, & Ben-Porath, 2015)

Use of force: The continuum of force used by law enforcement organizations to gain compliance or enforce laws.

Assumptions

For this study I assumed that all candidates answered the measures honestly and accurately when being assessed. In both test measures (M-PULSE and MMPI-2RF) there was a possibility that a candidate could have answered with intent to deceive the test measure. To mitigate this, psychological measures have factored in an area for deception detection. The two measures selected have specific questions included to identify deception intentions. All members of the sample group for this research have been successfully screened for hire, thus mitigating concern for deception. Both measures have a proven history for reliability and validity as described below for the psychological prescreening of law enforcement candidates:

M-PULSE

MHS Assessments (n.d.) reported the following regarding the M-PULSE measure's reliability and validity:

Research with the M-PULSE Inventory shows that overall approximately 86% (average overall classification accuracy across the 18 Liability areas) of the liability cases could be predicted correctly using M-PULSE Inventory items. The M-PULSE Inventory normative data includes 2,000 cases that are geographically representative and includes data from 44 states within the United States. The M-PULSE Inventory scales are statistically reliable, meaning that there is a high degree of accuracy in the assessment. Cronbach's alpha is the most common statistic used for assessing reliability. Alpha values above .70 indicate very good reliability, and values above .80 indicate excellent reliability. All M-PULSE Inventory scale reliabilities are above .70 with the vast majority of the alpha values being higher than .80. (p. 1)

MMPI-2RF

Tarescavage, Fischler, et al. (2015) summarized the reliability and validity of the MMPI-2RF measure, as follows:

MMPI-2RF test-retest correlations fall within a similar range (.55 to .93), with the vast majority above .70. Associated standard errors of measurement expressed in T-score values range from 2.65 to 6.71, with most below 5.0 in non-clinical settings on both instruments (p. 1).

For this study I also assumed that the resultant data would accurately represent a sample of the entire law enforcement community, even though there are no federal candidates represented in the data set. Because law enforcement jobs and training are

comparable across the different areas of training and implementation, the resultant data provided an appropriate sampling based on a G*Power analysis.

Scope and Delimitations

This was a quantitative study of pre-employment psychological screening of law enforcement candidates' archival data. I selected a quantitative research design to determine if any relationships exist between the selected variables of the pre-employment psychological screening measures (M-PULSE and MMPI-2RF) data. The data used for this research was archival data from a private practice that conducts pre-employment psychological screening of law enforcement officers in a midsized city in California.

Another delimitation was the scope of this research that was limited to the two measures (M-PULSE and MMPI-2RF) and the selected factors within each measure. These measures are commonly used in the selection or screening of law enforcement candidates, but they are not the only measures used for such evaluations.

A delimitation of the study was the location where the information was collected, a private practice in a mid-sized city in California. This sample may not provide a diverse cultural representation that may be experienced in other locations or multiple locations. It should be noted that the area in which the data was collected has a diverse population with approximately 134 languages spoken. The practice from which the data was gathered is located in a centralized city that has a large surrounding population of various cultures, ages, and socioeconomic and educational backgrounds.

The data collected centered on state and local law enforcement candidates; it did not include any Federal candidates. These candidates may not be a representative sample of all law enforcement officers.

Limitations

The limitations for this study centered on the responses of the candidates to the two different measures (M-PULSE and MMPI-2RF). If the candidates answered dishonestly or misrepresented themselves, then the measures have factors that should identify those false answers. However, that was not within my control as the researcher. Due to the fact that the candidates used for this research were successfully screened for a conditional job offer, it can be assumed that they did not answer dishonestly or in a way that reached a threshold for concern for the screening psychologist.

Significance

This study provided analysis of data collected from historical pre-employment psychological screening processes for law enforcement. The focus of this study was to determine if there are relationships between the M-PULSE Inventory data (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) and MMPI-2RF data (aggression and antisocial behaviors).

This study of relationships between M-PULSE and MMPI-2RF pre-employment psychological screening factors for law enforcement candidates may assist in the development of future screening, training, and policy decisions in law enforcement organizations. The use of psychological indicators from pre-employment psychological screening could shape training and policy development and improve standard practices in

which law enforcement officers are mentored during employment as law enforcement professionals. The significance of this study lies in the early identification of risk factors for officer misconduct or higher risk for firearm use, which may provide organizations with the awareness to identify and further screen candidates. The results of this study provide screening professionals with indicators of a candidate's suitability issues that may not have previously been identified. Police psychologists could use the results of this study to better interpret multiple scale elevations of candidates to improve the selection process and better identify candidates who are less suitable to police work. It may also provide identification for police psychologists or screening professionals to use more clinical interview questions or increased screening on candidates with higher scale level results. This study adds to the research that may support more standardization between the many different law enforcement agencies that are currently misaligned in their psychological pre-employment screening processes.

Summary

This chapter focused on social learning theory and the application of firearm use risk determination for law enforcement organizations screening candidates for employment. I introduced the central theme of evaluating candidate potential and identifying higher risk using the measures discussed. I also identified and explained the variables from the M-PULSE and MMPI-2RF measures. The focus for the quantitative analysis provides a framework that builds the body of knowledge in the processes of screening candidates for law enforcement positions.

Chapter 2: Literature Review

Introduction

Understanding the historical processes involved with law enforcement screening and finding new and different ways to interpret the existing data could help organizations and psychologists improve screening processes. Psychologists involved with law enforcement screening use many different screening measures to facilitate the psychological evaluation portion of a candidate's hiring process. These measures help to identify risk factors in personality traits or behaviors that may not align with the ideal personality of a law enforcement candidate. This study was focused on determining how the M-PULSE factors (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) and MMPI-2RF factors (aggression and antisocial behaviors) may relate to firearm use. The M-PULSE factors were for the direct correlation to firearm use and antisocial behaviors. The MMPI-2RF factors were selected as strong indicators of potential for misconduct and antisocial behaviors. To achieve an understanding of how this new information can be used, stakeholders must be able to understand the historical processes and importance of the factors involved with the measures being used as well as the context in which these factors apply in individual perception, experiences, and in social context.

This literature review details the methods used for establishing the gap in literature; the theoretical foundation used for the research; and the concept, framework, and conclusions drawn from the syntheses of all the articles collected on this area of study. This chapter addresses the strategies used to research relevant information,

concepts, and theories. I also expound on the databases and search criteria utilized to gather all pertinent information regarding this research.

Literature Review Search Strategies

The Walden University Library and Google Scholar were sources of research ranging from current application of Bandura's (1971) social learning theory to a focus on supporting articles written within the last 5 years. I used EBSCO databases: Academic Search Complete, PsychINFO, PsychARTICLES, PsychEXTRA Sage Premier, SocINDEX, and Thoreau. Individual and combinations of search word criteria provided a well-rounded and well-informed knowledge about the use of these two measures in law enforcement screening processes. Search keyword criteria were *MMPI-2RF*, *M-PULSE*, *matrix-predictive*, *law enforcement*, *aggression*, *firearm use*, *social learning theory*, *assessments*, *training*, *evaluations*, *firearm*, *police*, *screening*, and *Bandura*.

Specifics and technical information on the M-PULSE and MMPI-2RF were accessed from the aforementioned electronic library sources as well as first hand professional experience from examiners who work in this field in order to facilitate a deeper understanding of the measures, intent for use, and interpretation of resultant data.

Theoretical Foundation

Experiences shape how an individual will perceive events and actions (Bandura, 1971). Even many children will use toys to play and imagine adventures and interactions that help them to understand social interactions, morals, and consequences (Hart & Tannock, 2013). It is not unusual for children to play "cops and robbers" super heroes, villains, and other imaginary games that could be perceived as aggressive behaviors, but

this should also be considered a way of teaching socialization and acceptable behaviors (Hart & Tannock, 2013). As children grow into adolescence, their perceptions of social propriety, justice, and consequences will develop with them and mold them into adulthood (Bandura, 1971). It is for this understanding that an individual's behaviors are developed over time with experiences and observations that I selected social learning theory for use in this study (see Bandura, 1971).

The theoretical base for this study was social learning theory (Bandura, 1971). Social learning theory states that there are three factors that determine an individual's actions: personal factors, environmental factors, and behavior (Phillips & Orton, 1983). Social learning theory can be summarized into four processes: attention, retention, motivation, and reproduction (Bandura, 1978). These processes take shape when an individual witnesses behaviors, comprehends the behavioral effects on a situation, and then begins to employ and assimilate those same behaviors to effect change in their own lives (Bandura, 1971).

Bandura, Ross, and Ross (1961) showed how children demonstrate aggressive behaviors in their study involving Bobo Dolls. Bandura, Ross, and Ross' study was reviewed by Hayes, Rincover, and Volosin (1980) who demonstrated that behavioral changes in children have remained similar over time as it relates to aggression exposure. These studies support the position that children who are exposed to violence early may be more comfortable with aggression or violence as a method of problem solving or as acceptable during social interactions (Bandura et al., 1961; Hayes et al., 1980).

Bradshaw, Rodgers, Ghandour, and Garbarino. (2009) explored adolescent aggression responses to social situations using Crick and Dodge 's (1994) social information processing model. This model was reviewed for applicability to the current research with regard to the model's focus on adolescent or children's responses to ambiguous social situations and interactions. The social information processing model provides support for adolescent development, but does not necessarily address a law enforcement candidate's development into adulthood (Runions, Shapka, Dooley, & Modecki, 2013). It can be reasoned that without need or requirement to change behavioral patterns that an individual's predispositions to aggression or aggressive responses would continue into adulthood (Bradshaw et al., 2009). Therefore if individuals have been exposed to violence or aggression they may be more prone to use aggression or violence to address conflicts (Bradshaw et al., 2009).

Individual bias and prior experience shape reactions and abilities to assess threats or identify danger, real or perceived (Hart & Tannock, 2013; White, 2012). Bradshaw et al. (2009) summarized that individuals process situations and adapt responses based on context, experiences, and individual behaviors to determine how to respond or react to new or evolving situations. Bradshaw et al. (2009) discussed how exposure to violence during childhood increased the risk for aggressive behavior in children. It can be inferred that this type of exposure and learned behaviors from childhood would continue to influence an individual's actions throughout their adult life.

The above discussion on the development of aggression throughout childhood and into adulthood establishes the basis for the selection of the factors from the M-PULSE

and MMPI-2RF. Selecting antisocial, aggression, interpersonal difficulties, and unprofessional conduct as the major behavioral factors in this study established a baseline on behavioral issues or tendencies. The resultant scores in these areas may be attributed to a learned behavior that is described in Bandura's social learning theory (Bandura, 1971).

The additional factors correlated for this research (discharge of weapon and inappropriate use of weapon) provided some insight into an individual's willingness to use a weapon to resolve a conflict or issue. These factors can directly link to behaviors and provide critical insight into how an individual's aggression level may require further investigation by a psychological screening professional should relevant scores reach a specific threshold for each organization's requirements or standards (Bradshaw et al., 2009; Davis & Rostow, 2008; Malmin et al., 2013).

The results of this study could be helpful to psychological screening professionals to more accurately identify candidates who may be within standards for the organization but may require more oversight or training related to aggressive reactions or potential behavioral issues.

Conceptual Framework

Use of Force

An important concept each candidate must be able to adapt to is the guiding policies that will determine how an individual officer is authorized to react to a given law enforcement situation. The pre-employment psychological screening could be the first

indicator of whether a candidate can comply with an organization's use of force policy and be able to apply it in real-world scenarios.

Each law enforcement organization (federal, state, or local) has an established and promulgated use of force policy that outlines the appropriate level of force that should be used to enforce the appropriate laws with respect to organizational jurisdiction (Ridge, 2004). The Department of Homeland Security encompasses many suborganizations that have law enforcement authority in various jurisdictions and that require some variances in enforcement policies (Ridge, 2004). However, the overarching guidance for each of these Federal organizations states,

Law enforcement officers and agents of the Department of Homeland Security may use deadly force only when necessary, that is, when the officer has a reasonable belief that the subject of such force poses an imminent danger of death or serious physical injury to the officer or to another person" (Ridge, 2004, p. 2).

It is generally accepted across all law enforcement organizations that use of force should be limited to "only the force reasonable and necessary in any given situation" (U.S. Customs and Border Protection Agency, 2010, p. 22). The determination of "reasonableness" in a given situation will be based on the perspective of a "reasonable agent on the scene at the time of the incident" (Harris, 2015, p. 70). This flexibility in individual decision making allows officers/agents to use their training, experiences, and perceptions to apply the force they deem necessary to gain compliance as long as it is not exceeding the scope of the policy or what the situation would require in order to prevent physical harm to the officer/agent or others (Harris, 2015).

Pre-employment Screening

The Wickersham Commission Psychological first suggested screening for law enforcement candidates in 1931 by (Wickersham Commission Reports, 1931). Since then many different approaches and measures have been developed in order to identify characteristics and traits that would indicate an individual's suitability to law enforcement work (Dantzker, 2011). Mills (2018) discussed that many officers' personalities favored hierarchal systems and pyramid structure in organizational leadership. Mills (2018) also expounded on how officers support a more rigid and structured society, but not to a level that would create bias against any specific group of people. The pre-employment psychological screening provides indicators for antisocial behaviors that could demonstrate an officer's ability to achieve a balance between enforcing laws and personal beliefs.

The International Association of Police Chiefs (IACP) is an organization founded in 1893 that works to enhance the professionalism, skills, training, and communication between many different law enforcement entities and organizations (IACP.org, 2014a). This organization is heavily involved with research into the field of policing and law enforcement with a goal "to advance the science and art of police services" (IACP.org, 2014a). The IACP has worked to unify and standardize such practices across the span of law enforcement organizations globally (IACP, 2014a). One area that the IACP has been working with researchers is in the screening methods and procedures of law enforcement candidates to find ways to modify the screening processes based on the changing needs of law enforcement (IACP, 2014a).

One such area of adaption is in the measures being used for the psychological screening process of law enforcement candidates. The use of any psychological screening measure must only be utilized after a conditional offer of employment has been given to prevent discrimination within the United States (ADA, 1990). Some of the psychological measures used are the MMPI, M-PULSE, IPI, FFM, AIM, PAI, and the TAPAS. These measures share many characteristics, but each provides a unique aspect of the personality evaluation that could provide critical insight into a candidate's behaviors or tendencies.

Firearms (Experiences, Comfort, and Use)

Previously discussed was the concept of experiences shaping an individual's perception, beliefs, and actions in situations. This concept transfers over to an individual's historical exposure to firearm use and how they perceive the appropriate use of such tools. Prenzler, Porter, & Alpert (2013) discussed how officers are required to use the minimum amount of force to gain compliance. The use of a firearm is considered deadly force and should only be used in a situation demanding such a response (Prenzler, Porter, & Alpert, 2013). The speed with which an officer makes the decision to use deadly force will be based on their perception of the situation, experiences, and training. Their ability to process and react to a deadly force situation will be reliant on their reactions and training (Malmin et al., 2013).

Bandura's (1971) social learning theory provided a framework to understand how an individual who develops through childhood with exposure to firearms will likely be more comfortable with the handling and use. This does not assert that they are more likely to use the firearm, but only that they have increased familiarity with the devices. In

contrast, individuals who have never handled a firearm may feel apprehension or even fear of such an item. Rowhani-Rahbar, Lyons, Simonetti, Azrael, and Miller (n.d.) conducted a survey in 2015 identifying that 61% of United States firearm owners and 14% of non-owners had received some type of formalized training on firearms use, safety, and storage. Also found in this survey was that 15% of firearm owners had received some training in self-harm prevention during this training (Rowhani-Rahbar et al., n.d.). Stress responses are normal for individuals using firearms and can affect the accuracy and frequency an individual fires a weapon (Thomasson, Gorman, Lirgg, & Adams, 2014). Law enforcement organizations have adapted training to more effectively train officers in more realistic scenarios and with the use of role players (Malmin et al., 2013). The goal of this training is to better prepare officers to manage and adapt to situations that may not fit previously experienced situations or training evolutions (Deschênes et al., 2013).

Officers are a product of their training and therefore will likely revert to witnessed behaviors or training when confronted with a situation (Beighton, Poma, & Leonard, 2015). Building upon their own personal experiences, the actions/beliefs of their trainers, and the context of a situation officers may not have the necessary tools to accurately evaluate a situation and apply the use of force continuum in an effective manner (Beighton et al., 2015). It has been demonstrated over time how simulations and scenario based training have improved individual responses to stressors, but not necessarily to how a person will respond in an actual situation (Thomasson et al., 2014). Thomason et al. (2014) concluded that using more active training (e.g., force on force, simulations, or

active role players) can improve an individual's response to active shooting situations, but had not determined a frequency or interval that would provide an optimal training schedule. Law enforcement training has not identified the perfect training program that will prepare an officer for every eventuality, but by giving officers multiple tools (negotiation, less than lethal weapons, legal knowledge, etc.) they can more readily adapt to an evolving situation (Beighton et al., 2015; Thomasson et al., 2014). The officer will be required to select the most appropriate response to the situation, but will have the knowledge, training, and experience that will provide the best opportunity for a successful outcome. Pre-employment psychological screening could indicate if a candidate would require more intensive training in firearm use and application.

Law enforcement officers receive specific and potentially extensive training in the firearms they will be required to use in the course of their duties (Beighton et al., 2015; Thomasson et al., 2014). However, even this exposure does not guarantee that an individual will develop a high level of comfort with using firearms (Beighton et al., 2015). Candidates identified in pre-screening processes could benefit more from adaptive training that focused on firearm application and not just use. Traditionally much of the training conducted for law enforcement officers has been focused on fundamental shooting skills and less practical application (Taverniers & De Boeck, 2014). In more recent history, agencies have shifted focus to training firearm use in a safe manner using Force on Force training scenarios (Taverniers & De Boeck, 2014). This type of training allows officers to apply firearm and other measures in a more realistic and tactical environment in a practical application situation (Taverniers & De Boeck, 2014).

Aggression and Antisocial Behaviors

Law enforcement officers are often required to apply the use of force policy to de-escalate or resolve situations. Psychological prescreening candidates will indicate tendencies for aggressive behaviors or a willingness to use aggression to resolve conflict. Aggression is a normal human response based on external stimuli, which can provide the necessary emotional and physical responses necessary to facilitate survival or self-protection. Certain situations require officers to utilize more aggressive behavior in order to gain compliance or ensure personal or public safety (Jensen & Wrisberg, 2014). Aggression can be an overt action (verbal or physical) or behavior that attempts to exert force either physically or verbally over another individual to gain control (Watson & Sinha, 2008). Higher aggression levels have been seen from children who were exposed to some sort of abuse (Raine, 2002). Aggression may also have a social/cultural aspect as it relates to the concept of honor (Daly & Wilson, 1997). Daly and Wilson (1997) discuss how individuals raised in the southern United States are more likely conditioned to engage in retaliatory aggression when a perceived honor infraction has occurred.

In order to identify and analyze risk factors (e.g., aggression, antisocial behaviors, or other mental health concerns) of law enforcement candidates, psychologists use many of the measures discussed previously. For this study the M-PULSE and the MMPI-2RF will now be discussed.

M-PULSE. The M-PULSE was a measure developed by Rostow & Davis (2008) to identify risk factors for law enforcement candidates that focus on specific psychological characteristics that would most ideally align with law enforcement work

(Weiss & Weiss, 2011). The M-PULSE is a 455 forced choice questionnaire that only allows the subject to select from a four-choice Likert Scale with no neutral or “middle ground” answers (Davis & Rostow, 2008). This measure can be administered through a web based medium or via pencil and paper and generally takes 50 – 90 minutes to complete (Weiss & Weiss, 2011).

The measure was developed using data collected on 2,850 law enforcement officers (including post-test assessments, supervisor ratings, incident reports, reprimands, and civil complaints) to derive the most relevant areas of concern or desirability for law enforcement candidates (Davis & Rostow, 2008). The liability scales of the M-PULSE correctly predicted actual outcomes between 65% and 99.2% of the time and the average classification accuracy is 86% (Davis & Rostow, 2008; Williams, Davis, & Rostow, 2011).

MMPI-2RF. The MMPI-2RF is a widely used measure in the screening of law enforcement candidates (Tarescavage, Corey, et al., 2015). The RF measure was developed from the original MMPI with focus on law enforcement screening and identifying potential misconduct issues or risk areas (Ben-Porath, 2012; Tarescavage, Fischler, et al., 2015). Tarescavage et. al. (2015) reported that this measure has been widely researched with strong support of the measure’s validity and accuracy in identifying potential risk areas for law enforcement candidates.

Ben-Porath (2012) describes the MMPI-2RF as a 338-item “true” or “false” selection measure that was derived from the MMPI that includes nine Validity Scales (seven were modified from the original measure). This measure assess subject

dysfunctions including, but not limited to Emotional/Internalizing, Thought, and Behavioral/Externalizing (Tarescavage, Fischler, et al., 2015). This measure has been proven as an effective means of assessment regarding various nationalities, languages, cultures, and racial/ethnic groups (Ben-Porath, 2012).

Summary

In this chapter the historical research and factors were reviewed in order to better understand the concepts of aggression, screening processes, screening measures, and theoretical concepts for this research. By establishing this framework of historical research and theoretical application, this research project can be informing readers where the bases of the ideas surrounding the topic were derived from. Understanding the two different measures and the factors influencing individuals being evaluated will assist in the processing of information and data collected in this and future research in the law enforcement screening subject area.

Chapter 3: Methodology

Introduction

In this chapter I examine the participant selection, data collection, and data analysis for this project. For this quantitative study I utilized a correlation of the pre-employment psychological screening measures M-PULSE and MMPI-2RF factors as it applied to firearm use of law enforcement candidates. The purpose of this study was to determine if any relationships exist between M-PULSE factors (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) and MMPI-2RF factors (aggression and antisocial behaviors).

In this study I examined archival data collected from a pool of approximately 250 law enforcement candidates during their pre-employment psychological screening process in a midsized central California city. I selected a quantitative design to analyze pre-employment psychological screening archival data to determine if any relationships exist between the selected measure factors and firearm use.

Research Design and Rationale

Creswell (2014) explained that quantitative research is “an approach for testing objective theories by examining the relationship among the variables” (p. 4). This study utilized archival data to analyze relationships between the variables and applied Bandura’s (1971) social learning theory.

In this study I analyzed the collected archival data to determine if a relationship exists using M-PULSE data (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) and MMPI-2 RF data (aggression and anti-

social behaviors). I selected a quantitative study to reveal relationships by analyzing the prehire screening data of law enforcement candidates provided by a private practice in a midsized city in California.

Identifying commonly used assessment measures (M-PULSE and MMPI-2RF) with specific focus on aggression and antisocial factors as they relate to interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon was the basis for this research project. The research questions to be answered and hypotheses to be tested were:

RQ1: To what extent do the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance in the MMPI-2RF aggression subscale score?

H_01a : The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do not account for variance ($R = 0, p > .05$) in the MMPI-2RF aggression subscale score?

H_a1a : The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do account for variance ($R > 0, p < .05$) in the MMPI-2RF aggression subscale score?

H_01b : None of the unique effects (i.e., semi partial correlations [sr]) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional

conduct, discharge of weapon, and inappropriate use of weapon) account for variance (each $sr = 0, p > .05$) in the MMPI-2RF aggression subscale score?

H_{a1b} : At least one of the unique effects (i.e., sr) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance (at least one $sr > 0, p < .05$) in the MMPI-2RF aggression subscale score?

RQ2: To what extent do the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance in the MMPI-2RF antisocial behaviors subscale score?

H_{02a} : The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do not account for variance ($R = 0, p > .05$) in the MMPI-2RF antisocial behaviors subscale score?

H_{a2a} : The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do account for variance ($R > 0, p < .05$) in the MMPI-2RF antisocial behaviors subscale score?

H_{02b} : None of the unique effects (i.e., semi partial correlations [sr]) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance (each $sr = 0, p > .05$) in the MMPI-2RF antisocial behaviors subscale score?

H_{a2b} : At least one of the unique effects (i.e., sr) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance (at least one $sr > 0$, $p < .05$) in the MMPI-2RF antisocial behaviors subscale score?

G*Power

Faul, Erdfelder, Lang, and Buchner's (2007) G*Power software can assist researchers with determining sample size to detect population effect sizes at specified alpha and power levels. For a multiple regression, a sample size of 127 was needed to detect a medium-sized population predictor effect (semi partial $r^2 = .055$) in a medium-sized population model effect ($R^2 = .13$) with four predictors at alpha = .05 and power = .80. The final sample size took into consideration the data available from the organization at the time of the research.

Methodology

The target population was candidates who had been offered a conditional contract with a law enforcement agency and had participated in a psychological prescreening process that used the M-PULSE and MMPI-2RF measures. The total population of these individuals was unknown at the time of the research analysis. Using the data collected from historical hiring processes, I conducted regression analyses to evaluate relationships between the variables. Previous studies have shown how influential personality screening can be for determining the desired qualities of individuals in law enforcement (Bartone, Johnsen, Eid, Brun, & Laberg, 2002; Bartone, Roland, Picano, & Williams, 2008; Detrick & Chibnall, 2013; Kelly, Matthews, & Bartone, 2014).

Sampling and Sampling Procedures

The data utilized was archival data collected by a private business that provided psychological screening processes for multiple state and local law enforcement agencies in the central California area. I made a formal request for the necessary data to the private business with details on the study, scope, and intent of the research. The formal request outlined the process of data transfer from the organization to me as the researcher. I transferred a spreadsheet with the selected factors to the private business for the random selection of the necessary sample of data, thus ensuring anonymity of the participants. Upon receipt of the data, I validated that the data received had no identifiable information of the participants and that the appropriate sample size was met.

The candidates who completed the screening were all post offer individuals who signed agreements that their data could be used for research purposes. Any psychological measure used to screen a candidate must be only completed after a conditional offer of employment has been made in order to adhere to the Americans with Disabilities Act (Brennan et al., 2005). The candidates had various ethnic and educational backgrounds, but this type of breakdown of the data was not incorporated into this study. The results of 127 candidates were used to complete this research, which included data from the M-PULSE and MMPI-2RF. No recruitment was required for this research, as it was based on archival data.

Instrumentation

The instruments used in this study were the M-PULSE and MMPI-2RF. I did not administer or score the resultant data, only captured specific compiled data from the

aforementioned private business, and therefore no direct use of instrumentation was utilized. The two instruments, associated validity, and delivery methods are discussed below.

M-PULSE. Davis & Rostow (2008) developed the M-PULSE in order to evaluate risk levels for screening of law enforcement candidates. Davis & Rostow (2008) suggested using this measure in conjunction with other screening methods to ensure candidate suitability. This inventory, used by many U.S. law enforcement organizations (Federal, local, & state), identifies risk factors on a 4-point Likert scale (0- Low Risk, 1- Average, 2- Some Risk, 3- At Risk). The measure consists of 455 questions that force a respondent to select an answer that will not result in a median or “middle ground” answer, potentially revealing any inconsistencies with the candidate’s responses while inventorying responses (Davis & Rostow, 2008). The M-PULSE can be delivered either by paper or electronically and is written at a 6th grade reading level (Davis & Rostow, 2008).

The M-PULSE liability scales are broken down into the following categories: interpersonal difficulties, chemical abuse/dependency, off-duty misconduct, procedural and conduct mistakes, property damage, misuse of vehicle, motor vehicle accidents, discharge of weapon, inappropriate use of weapons, unprofessional conduct, excessive force, racially offensive conduct, sexually offensive conduct, lawsuit potential, criminal conduct, reprimands/suspensions, potential for resignation, and potential for termination (Davis & Rostow, 2008). The M-PULSE liability scales average an 86% accuracy rate in predicting the assessed behaviors of the candidates (Davis & Rostow, 2008). The M-

PULSE has multiple scales for which the related reliability, measured using Cronbach's Alpha, is as follows: negative self-issues = .97, negative perceptions related to law enforcement = .93, unethical behavior = .90, unpredictability = .82 (Davis & Rostow, 2008). This list composes the liability scales for the M-PULSE but does not encompass the entire measure's ability for assessment.

Interpersonal difficulties. This factor was designed to evaluate relationship strengths and weaknesses that can affect an individual's ability to communicate or interact with a group or individual (to include strangers, coworkers, friends, and family) (Malmin et al., 2013). According to the M-PULSE manual, the interpersonal difficulties factor has a $p < .0001$, $F(57)$, $R^2 = .26$ (Davis & Rostow, 2008).

Unprofessional conduct. This factor was designed to identify potential risk of compromising actions related to verbal altercations, aggressive behaviors, unethical behaviors, or other socially unacceptable actions (Malmin et al., 2013). According to the M-PULSE manual (2008) the unprofessional conduct factor has a $p < .0001$, $F(78)$, $R^2 = .37$.

Discharge of weapon. This factor was designed to identify the risk potential for discharging a firearm during the course of an individual's duties without regard to justification of such actions with the firearm (Malmin et al., 2013). According to the M-PULSE manual (2008) the discharge of weapon factor has a $p < .0001$, $F(49)$, $R^2 = .25$.

Inappropriate use of weapon. This factor is used to assess an individual's risk for using any type of weapon (lethal or non-lethal) in a way that is not in congruence with

policy, procedure, or ethical use (Malmin et al., 2013). According to the M-PULSE manual (2008) the inappropriate use of weapon factor has a $p < .0001$, $F(67), R^2 = .30$.

MMPI-2RF. The MMPI-2RF is 338-question “true” or “false” self-report inventory that provides relevant data on personality characteristics, behaviors, interpersonal functions, and interests (Ben-Porath & Tellegen, 2011). The RF form was updated in 2008 to better align with current clinical diagnostic criteria (Ben-Porath & Tellegen, 2011). This measure typically takes 35-50 minutes to administer (potentially less if completed online) (Tellegen & Ben-Porath, 2011). The selected factors are only a small portion of the areas the MMPI-RF assesses and are not meant to demonstrate a completed evaluation of a law enforcement candidate. The MMPI-2RF technical manual indicates an intercorrelation between AGG and RC-4 ($R^2 = .54$) (Tellegen & Ben-Porath, 2011).

Aggression. Ben-Porath (2012) described the AGG measure relating to physically aggressive or violent behaviors. This factor may also be associated with verbal aggression or intimidating behaviors/actions. It is broken down into three subscales in this measure; identified as Aggressive Attitude (AGG-A), Verbal Aggression (AGG-V), and Physical Aggression (AGG-P) (Malmin et al., 2013). This factor has a T-score of 42(6) (Tellegen & Ben-Porath, 2011). This factor is a part of the RC-9 (externalizing facet) of the subscale and is typically combined with the activation (ACT) factor to determine a subject’s externalizing factor measured by the MMPI-2RF (Tellegen & Ben-Porath, 2011). In the MMPI-2RF the AGG factor is compiled from nine different question items ($M = 1.96$, $SD = 1.69$) (Tellegen & Ben-Porath, 2011).

Antisocial behaviors. Ben-Porath (2012) described how the RC-4 measure indicates the following behaviors: rebellious actions, predication to lying, impulsiveness, and aggressive behaviors. This factor has a T-score of 45(7) (Tellegen & Ben-Porath, 2011). This factor also can indicate issues of substance abuse or a higher potential for substance abuse (Ben-Porath, 2012). In the MMPI-2RF the RC4 factor is compiled from twenty-two different question items (M= 4.63, SD= 3.42) (Tellegen & Ben-Porath, 2011).

Ethical Procedures

The law enforcement officer candidates taking the M-PULSE and MMPI-2RF provided a signed release that clearly identified how the information collected was for pre-employment screening purposes and completed an informed consent form stating that the data would be used for future research. This pre-employment psychological screening of law enforcement officer candidates' data was compiled into a single SPSS data file to allow for simplified processing during this research.

Each candidate was above the age of 18 at the time of assessment and able to give consent on the use of their data for research. This consent form was on file and available for review at the private business. The candidates were also aware of their ability to withdraw their consent at any time to the respective establishment if they no longer wished to participate in any type of further research. An objective third party, employed by the private business, was utilized to ensure anonymity would be maintained for each randomly selected candidate file.

Data Analysis Plan

Upon completion of the data collection and input into SPSS for statistical analysis, regression analyses was conducted to evaluate relationships and correlations between the selected variables in order to answer the research questions and test the hypotheses. The first analysis regressed the MMPI-2RF aggression subscale score on the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, & inappropriate use of weapon). The second analysis regressed the MMPI-2RF antisocial behaviors subscale score on the same four M-PULSE scale scores. Confidence intervals and probability values were reviewed to see the significance of any relationships between selected variables.

Prior to conducting the primary regressions, the data was reviewed by the researcher in the spreadsheet provided by the psychological screening organization to ensure that only complete data sets will be entered for analysis. Once the data sets were verified complete, they were transferred into SPSS for data analysis as outlined by the research questions. The data collected from the subjects' scores were assumed to be normal and within range as per the MMPI-2RF technical manual for administering the measure as each candidate has cleared pre-screening and has a conditional offer for employment.

Research Questions

The research questions that were answered and hypotheses tested were:

RQ1: To what extent do the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance in the MMPI-2RF aggression subscale score?

H₀1a: The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do not account for variance ($R = 0, p > .05$) in the MMPI-2RF aggression subscale score.

H_a1a: The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do account for variance ($R > 0, p < .05$) in the MMPI-2RF aggression subscale score.

H₀1b: None of the unique effects (i.e., semi partial correlations [*sr*]) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance (each $sr = 0, p > .05$) in the MMPI-2RF aggression subscale score.

H_a1b: At least one of the unique effects (i.e., *sr*) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance (at least one $sr > 0, p < .05$) in the MMPI-2RF aggression subscale score.

RQ2: To what extent do the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use

of weapon) account for variance in the MMPI-2RF antisocial behaviors subscale score?

H_{02a} : The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do not account for variance ($R = 0, p > .05$) in the MMPI-2RF antisocial behaviors subscale score.

H_{a2a} : The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do account for variance ($R > 0, p < .05$) in the MMPI-2RF antisocial behaviors subscale score.

H_{02b} : None of the unique effects (i.e., semi partial correlations [sr]) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance (each $sr = 0, p > .05$) in the MMPI-2RF antisocial behaviors subscale score.

H_{a2b} : At least one of the unique effects (i.e., sr) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance (at least one $sr > 0, p < .05$) in the MMPI-2RF antisocial behaviors subscale score.

Summary

This chapter provided the research questions, design method, participant selection process, data collection, and ethical considerations for this study. This quantitative study

helps further law enforcement pre-employment psychological screening processes and understanding as it relates to aggression, antisocial behaviors, and firearm use for law enforcement candidates.

Chapter 4: Results

Introduction

This chapter presents an analysis and explanation of results of the study that utilized M-PULSE (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) and MMPI-2RF factors (aggression and antisocial behaviors) to analyze the relationships between the selected factors. The purpose of this quantitative study was to examine the extent to which the four M-PULSE scale cores account for variances in the MMPI-2RF subscales. The goal of this research was to better understand if the selected factors of the M-PULSE are related to an increase in aggression or antisocial scores on the MMPI-2RF. This was achieved through the use of archival data provided by a private organization that performs psychological prescreening for law enforcement candidates in central California. The research questions answered in this study were as follows:

RQ1: To what extent do the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance in the MMPI-2RF aggression subscale score?

H_01a : The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do not account for variance ($R = 0, p > .05$) in the MMPI-2RF aggression subscale score.

H_a1a : The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of

weapon) do account for variance ($R > 0, p < .05$) in the MMPI-2RF aggression subscale score.

H_{01b} : None of the unique effects (i.e., semi partial correlations [sr]) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance (each $sr = 0, p > .05$) in the MMPI-2RF aggression subscale score.

H_{a1b} : At least one of the unique effects (i.e., sr) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance (at least one $sr > 0, p < .05$) in the MMPI-2RF aggression subscale score.

RQ2: To what extent do the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance in the MMPI-2RF antisocial behaviors subscale score?

H_{02a} : The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do not account for variance ($R = 0, p > .05$) in the MMPI-2RF antisocial behaviors subscale score.

H_{a2a} : The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do account for variance ($R > 0, p < .05$) in the MMPI-2RF antisocial behaviors subscale score.

H_{02b} : None of the unique effects (i.e., semi partial correlations [sr]) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance (each $sr = 0, p > .05$) in the MMPI-2RF antisocial behaviors subscale score.

H_{a2b} : At least one of the unique effects (i.e., sr) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance (at least one $sr > 0, p < .05$) in the MMPI-2RF antisocial behaviors subscale score.

Setting

The participants in this study were candidates for law enforcement positions with a conditional offer of employment with their respective organizations (local and state agencies). The measures administered were a normal part of their psychological prescreening process. Each candidate signed an informed consent for both the testing procedure and that the data may be used for research purposes. No personally identifiable information was provided by the private business to me during any part of the research process. The private business did not disclose when the participants took these measures.

Demographics

The private business provided me with the specific requested section scores for the M-PULSE and MMPI-2RF for 130 participants. Each candidate applied for either a state or local law enforcement agency; no data was collected on individual demographics. Candidate demographics such as sex, age, and other specific data were unknown to me.

Data Collection

Before conducting the research, I conducted a thorough literature review on the M-PULSE, MMPI-2RF, and the use of these measures as law enforcement psychological prescreening measures. To conduct a multiple regression, I completed a power analysis to determine an appropriate sample size using the G*Power program. A sample size of 127 was determined necessary to detect a medium-sized population predictor effect (semi partial $r^2 = .055$) in a medium-sized population model effect ($R^2 = .13$) with four predictors at alpha = .05 and power = .80.

A total of 130 participants' data was provided by the private business from the M-PULSE (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) and MMPI-2RF (aggression and antisocial behaviors) screening measure factors. The data was provided to me via a prebuilt MS Excel spreadsheet that was designed specifically for collecting the specific measure results for each individual from the private business. I did not access the private business' records and no personally identifiable information was provided or collected on the spreadsheet. This was done to assure anonymity of the participants and objectivity when the data sets were selected from the files of the business.

Data Analysis

To ensure the data collected from the participants are true and valid, both the M-PULSE and MMPI-2RF have deception detection factors built in. Each candidate had been successfully screened for hiring, suggesting that no fraud or deception in the

measure protocol was found. This mitigates any concern for deception or false answers by the participants as both measures have a proven history for reliability and validity.

Using the SPSS program, I completed two regression analyses to address the two research questions posed to determine the effect of the four M-PULSE subscales on the MMPI-2RF scales. The first regression focused on the MMPI-2RF (aggression) subscale and the M-PULSE (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) subscales. The second regression focused on MMPI-2RF (antisocial behaviors) subscale and the M-PULSE (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) subscales. Following these two regressions, I conducted an analysis of Cronbach's alpha to review reliability scores.

Results

MMPI-2RF (Aggression) & M-PULSE (IPD, UPC, DISC-R, IUW) Regression

A regression analysis of the MMPI-2RF (aggression) M-PULSE (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) subscales was completed using SPSS. The effect of the regression analysis rendered the following ($F(4, 122) = 1.63, p > .05, \eta^2 = .058$).

Table 1

ANOVA Aggression

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η^2
AGG	232.38	4.00	58.09	1.63	.172	58.1

RQ1: To what extent do the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance in the MMPI-2RF aggression subscale score?

Based on the results of this analysis the H_0 hypothesis must be accepted. The H_0 stated: The four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do not account for variance ($R = 0, p > .05$) in the MMPI-2RF aggression subscale score.

MMPI-2RF (Antisocial) & M-PULSE (IPD, UPC, DISC-R, IUW) Regression

I completed a regression analysis of the MMPI-2RF (antisocial) and M-PULSE (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) subscales using SPSS. The effect of the regression analysis rendered the following ($F(4, 122) = .598, p > .05, \eta^2 = 30.25$).

Table 2

ANOVA Antisocial

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η^2
RC-4	120.99	4.00	30.25	.598	.664	30.25

RQ2: To what extent do the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance in the MMPI-2RF antisocial behaviors subscale score?

Based on the results of this analysis the H_0 hypothesis must be accepted. The H_0 stated: None of the unique effects (i.e., semipartial correlations [sr]) of the four M-PULSE scale scores (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) account for variance (each $sr = 0$, $p > .05$) in the MMPI-2RF antisocial behaviors subscale score.

Cronbach's Alpha Results

Cronbach's alpha is the most common statistic used for assessing reliability. Alpha values above .70 indicate very good reliability, and values above .80 indicate excellent reliability. Using SPSS, two separate evaluations of Cronbach's Alpha were conducted to validate reliability based on the regression samples being used. MMPI-2RF (AGG) & M-PULSE (IPD, UPC, DISC-R, IUW) yielded an alpha of -.063. It was noted by SPSS that the value was negative due to a negative average of covariance among the items. The Cronbach's Alpha analysis of the MMPI-2RF (RC-4) & M-PULSE (IPD, UPC, DISC-R, IUW) yielded an alpha of -.020. It was noted again by SPSS that the value was negative due to a negative average of covariance among the items. Both negative results could be interpreted as being related to the negative association of the MMPI-2RF subscales where a standard evaluation of the M-PULSE Cronbach's Alpha has previously resulted in a positive manner.

Summary

This chapter displayed the data collection, analysis process, and resultant data. It was found that the four subscales of the M-PULSE (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) do not

account for variances on either of the MMPI-2RF subscales (aggression or antisocial behaviors). The following chapter provides insight into and interpretations of the research and resultant data with consideration for future research opportunities in this area of study.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this quantitative study was to analyze archival data of pre-employment psychological screening of law enforcement candidates to determine if a relationship was revealed between M-PULSE scales (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) and MMPI-2RF scales (aggression and antisocial behaviors; Davis & Rostow, 2008; Tarescavage, Fischler, et al., 2015). This study revealed that no significant relationship existed between the selected MMPI-2RF scales (aggression and antisocial behaviors) and M-PULSE scales (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) factors when a regression analysis was conducted.

Interpretation of the Findings

The findings of this study extend the knowledge of how various factors between the two measures (M-PULSE and MMPI-2RF) can be used together when conducting pre-employment psychological screening of law enforcement officers (Davis & Rostow, 2008; Tarescavage, Fischler, et al., 2015). The effects of the M-PULSE factors (interpersonal difficulties, unprofessional conduct, discharge of weapon, and inappropriate use of weapon) did not have any significant correlations to the effect of MMPI-2RF factors (aggression and antisocial behaviors; Davis & Rostow, 2008; Tarescavage, Fischler, et al., 2015). This result does provide an opportunity to expand the knowledge of how the two measures can provide supportive information on one another.

This strengthens the idea that usage of a single measure (as currently developed) to provide a well-rounded psychological assessment of a law enforcement candidate should be done so cautiously. Using multiple measures to validate and support findings only strengthens the evaluator's understanding of the psychological state and underlying issues that may be identified in a candidate.

Using Bandura's (1971) social learning theory as the framework, this study was focused on learned aggressive or antisocial behaviors of the law enforcement candidates. Social learning theory can be summarized as when an individual witnesses behaviors, comprehends the behavioral effects on a situation, and then begins to employ and assimilate those same behaviors to effect change in their own lives (Bandura, 1971). Because these candidates did not score in ranges that resulted in a higher risk category it can be assumed that any aggressive behaviors would be manageable or within a normal range for members of law enforcement to include their potential use of a firearm in the line of duty (Davis & Rostow, 2008; Tarescavage, Fischler, et al., 2015). This does not mean that through further experiences or exposures an officer's behavior could not change or adapt to environments, but only identifies this relationship at the time of screening where the psychological measures provided an assessment of behaviors or tendencies.

Limitation of the Study

Borum and Stock (1993) discuss how honesty is a cornerstone of desirable traits for a law enforcement officer. While I had no indications that a participant would intentionally be deceitful during psychological screening, the MMPI-2RF and M-PULSE

both have built in factors that could identify deception by the candidates (Davis & Rostow, 2008; Tarescavage, Fischler, et al., 2015). The limitations associated with this study centered on the candidates answering the psychological measures in an honest and true manner. The two measures do have built in deception detection that has proved reliable over time (Davis & Rostow, 2008; Tarescavage, Fischler, et al., 2015). This limitation was mitigated by the successful screening for hire of each of the selected participants for this study.

Recommendations

The M-PULSE was developed over time looking at officers psychologically during their time as a candidate and then at a future point in their law enforcement career. This provides a unique perspective and tool to gauge officers over time, to see how behaviors changed or if other incidents had occurred that would identify a higher risk evaluation. Other measures (e.g. MMPI-2RF, PAI, AIM, TAPAS) could potentially benefit by reevaluating officers who were screened with those measures as they progressed through their law enforcement careers to determine if the measures have predictive validity similar to the M-PULSE.

Future Research

Future studies could focus on other subscales of the M-PULSE and MMPI-2RF to determine if any other correlations exist. This would further the understanding of the two measures. Another potential area for further research would be to conduct a similar study with substituting a different measure used in law enforcement pre-hiring psychological screening.

Implications

This study did not provide any groundbreaking information that would change the way that organizations screen for candidates. This research will hopefully show that researchers are constantly looking for ways to improve or modify screening processes to reduce the number of candidates for law enforcement that would be identified as higher risk or would potentially act against the established rules and policies of the agency that they work for as an officer. Making better peace officers reduces anxiety for the population and the officers providing services to the citizens they serve.

Conclusions

This study adds to the growing body of information on law enforcement prehire psychological screening processes. The results of this study did not necessarily bring to light a glaring disparity or errors within the screening processes, but it highlights the need for further research on the measures being used to psychologically prescreen law enforcement candidates. Using a single measure may be sufficient in many circumstances, but using two or more as a redundant system to ensure the accuracy of evaluations and to provide multiple benchmarks in candidate behaviors may be a superior method. The use of two or more psychological measures is reasonably common with psychologists providing these assessments, but which measures are used is up to the individual psychologist's experience and knowledge of the available measures.

The Internet provides the world with raw and immediate imagery on law enforcement interactions. The public immediately scrutinizes the actions of officers and thus decisions (good or bad) are evaluated regardless of how much supporting context for

the situations is available. An officer firing upon a suspect is immediately judged and can instantly provide harsh scrutiny on the officer, their actions, and their organization.

Therefore it is critical for candidates to be adequately screened to ensure they are mentally prepared for the stresses and rigors of law enforcement work. Working together, psychologists and law enforcement can improve and refine screening processes to provide the best candidates for law enforcement positions to protect and serve the public.

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Appendix A: SPSS OUTPUT

```

REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10) CIN(95)
  /NOORIGIN
  /DEPENDENT AGGRESSION
  /METHOD=ENTER INTERPERSONALDIFF
UNPROFESSIONALCOND DISCHARGEOFWEAPON
INAPPROPRIATEUSE
  /SCATTERPLOT=(*ZPRED ,AGGRESSION)
  /SAVE ZPRED SEPRED MCIN ZRESID COVRATIO.

```

```

REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10) CIN(95)
  /NOORIGIN
  /DEPENDENT ANTISOCIAL
  /METHOD=ENTER INTERPERSONALDIFF
UNPROFESSIONALCOND DISCHARGEOFWEAPON
INAPPROPRIATEUSE
  /SCATTERPLOT=(*ZPRED ,ANTISOCIAL)
  /SAVE ZPRED SEPRED MCIN ZRESID COVRATIO.

```

```

RELIABILITY
  /VARIABLES=AGGRESSION INTERPERSONALDIFF
UNPROFESSIONALCOND DISCHARGEOFWEAPON
INAPPROPRIATEUSE
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=SCALE CORR
  /SUMMARY=TOTAL MEANS.

```

```
RELIABILITY
  /VARIABLES=ANTISOCIAL INTERPERSONALDIFF
UNPROFESSIONALCOND DISCHARGEOFWEAPON
INAPPROPRIATEUSE
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=SCALE CORR
  /SUMMARY=TOTAL MEANS.
```

Appendix B: Data

AGG	ANTI	IPD	UPC	DISC-R	IUF
45	49	0	0	0	0
		1	1	1	1
37	39	1	1	0	0
45	43	0	0	3	0
37	46	0	0	0	0
45	43	1	0	0	1
45	39	0	0	0	0
51	46	0	1	0	0
37	34	0	0	0	0
37	49	0	3	0	0
37	46	2	2	0	0
37	52	0	3	0	0
37	49	0	1	0	0
37	46	0	0	0	0
37	34	0	0	1	0
45	54	0	2	0	2
37	57	1	1	0	0
51	54	0	0	0	0
45	34	1	1	0	0
37	43	0	1	0	0
37	39	1	0	0	0
37	46	0	0	0	0
		0	1	0	0
51	54	1	1	0	0
37	43	0	0	0	0
37	43	2	2	0	0
37	46	1	1	0	0
45	49	0	0	0	0
51	46	0	0	0	0
37	39	0	1	0	0
45	39	0	0	0	0
37	54	0	0	2	0
37	49	0	0	0	0
45	52	0	1	1	0
45	57	0	0	0	1
37	39	0	1	0	0
45	52	0	0	0	0
45	34	0	1	0	0

51	43	1	0	0	0
51	57	1	1	0	0
45	68	0	0	0	0
37	43	0	2	2	0
37	49	0	1	0	0
37	39	0	1	0	0
51	52	0	1	0	0
56	52	1	1	0	0
37	39	0	0	0	0
45	39	0	0	0	0
37	52	0	0	1	0
56	46	1	0	0	0
45	62	0	1	0	0
37	46	0	0	0	0
37	39	0	1	0	0
37	43	0	1	0	0
37	39	1	1	0	0
45	43	0	1	0	0
45	49	3	0	0	1
37	49	0	0	0	0
37	43	0	0	0	0
37	39	0	0	0	0
37	43	0	2	0	0
37	39	0	0	0	1
37	43	1	2	0	0
37	49	0	1	0	1
45	43	0	0	0	0
37	43	1	1	0	0
45	34	0	1	0	0
37	39	1	0	0	0
45	52	0	0	3	0
37	39	0	1	0	0
37	43	3	1	3	0
37	39	0	2	0	0
37	39	1	1	0	0
51	43	1	0	0	0
45	59	0	0	0	0
51	49	0	0	0	0
37	46	1	1	0	0
45	43	0	0	0	0
37	52	1	0	0	0
37	54	1	0	0	0
45	52	0	0	0	0
37	54	0	1	0	0

37	49	0	0	0	0
45	49	0	0	0	0
37	54	1	1	0	0
37	34	0	0	0	0
51	59	1	1	0	1
37	43	1	1	0	0
45	54	0	0	1	0
45	52	0	2	0	0
37	46	0	0	0	0
		0	2	0	2
37	43	0	0	3	0
45	57	1	0	0	0
37	39	0	0	0	0
37	46	1	1	0	0
45	52	0	0	0	0
45	57	1	1	0	0
37	52	0	0	0	0
51	49	1	1	0	0
37	46	1	0	0	2
37	52	0	0	0	0
45	62	0	1	0	0
45	49	0	0	0	0
37	54	0	1	0	0
37	54	0	0	0	0
56	46	1	0	0	0
37	49	3	1	0	0
37	34	0	3	3	0
37	52	0	1	0	0
37	39	1	0	0	0
67	54	0	0	0	0
45	52	0	1	0	0
45	52	0	0	0	0
56	46	1	0	0	0
37	49	0	0	0	0
37	34	0	0	0	0
37	57	0	0	0	0
37	43	0	1	0	0
37	54	0	1	0	0
37	39	1	1	0	0
37	39	0	1	0	0
45	39	0	0	0	0
37	43	0	1	0	0
45	49	0	0	0	0
37	46	0	1	0	0

51	62	0	1	0	0
51	49	0	0	1	0
37	39	1	1	1	0
37	39	0	1	0	0

Appendix C: Data use permission



September 12, 2018 Re: Pre-employment data

Dear Jesse Stout:

Thank you about your inquiry regarding the use of the pre-employment data from my agency. You are welcome to use the data under the following restrictions. Someone from my agency will choose files randomly and provide you data that has been stripped of any identifying information. You will need to come to our office and work with the data at the office and develop your own data set. You will not be allowed to take any data off the premises. I would ask that you provide my company with the results of your findings. Please do not use any identifying information about this agency in your dissertation, because to do so would identify the agencies that the data was drawn from. I look forward to reading your results.

Sincerely,

A handwritten signature in black ink that reads 'Jana Price-Sharps'. The signature is written in a cursive style and is positioned above a horizontal line.

Jana Price-Sharps,
EdD CEO, California Forensic Institute, Inc. Police and First
Responder Psychologist

CA Psy17911