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Law Enforcement Officer Performance, Education, and Risk for Suicide

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Walden University
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Abstract

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MA, Argosy University, 2011

BS, University of Memphis, 2009

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Psychology

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Abstract

Police suicide has been a largely under-researched topic with a small number of quantitative studies- that limit the exploration of potential causals models in the literature. This restricts current scholarly explanations behind officer suicide, furtheradding barriers to adequate prevention and detection. This study was focused on possible explanations behind police suicide, using Zhang's strain theory of suicide and Joiner's interpersonal-psychological theory of suicide to explain the variables used in the model. Using a moderation model, the research question asked to what extent an officer's education level affects the relationship between levels of police officer misconduct and risk for suicide. This study used archival data collected in a national study on law enforcement officers, partially funded by the National Institute of Justice and published in 1997($N=412$). Logistic regression was used to analyze significance of the model, ultimately being unable to detect significance between the variables, neither individually on an officer's risk for suicide (officer misconduct= $p>.05$; officer education= $p>.05$) nor combined as an interaction to an officer's risk for suicide ($p>.05$). Recommendations for future research include utilizing a research design that better controls officer risk for suicide by equally weighing suicidal and nonsuicidal groups of officers. This will allow for a researcher to more validly compare the influence of the variables by viewing the effect on both groups (suicidal vs. non-suicidal). Implications for social change include contributing to the under-researched literature base of police suicide, increasing awareness of police suicide through scholarly publication and presentations, and advocating for better educated officers.

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Dedication

This is dedicated to our beloved Captain, whom I had the honor of calling a father-in-law. For the men and women you served alongside that made up a special kind of family, I hope this dissertation can bring some sort of peace to law enforcement officers.

Acknowledgments

There are so many people to thank. First and foremost, thank you to Dr. James Herndon for always having positive comments and critiques. Your conciseness in feedback and diligent work habits has forced me to think deeper, harder, and better than ever before. I could not have crafted this dissertation without your guidance. Secondly, thank you to Dr. Anthony Napoli for being critical of my design from day one. Your skepticism was realistic and forced me to uncover other methods. Defending my rationale has made me more knowledgeable and, I think, more professional overall.

To my wonderful husband, Steele, thank you for your constant support. You listened to me rattle on about methodological details and literary discoveries, most of the time pretending to be interested. You always listened though, even when you were not particularly interested. You gave me insight in a different way, by just explaining the dissertation to you, and were gracious in the countless times you entertained Abigail while I worked. Thank you for being my rock.

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Chapter 1: Introduction to the Study

Suicidology is the overall study of suicide; ranging from discussions of causation, trends and patterns to various sociological, psychological, and economic consequences that succeed a suicide completion (Brancaccio, Engstrom, & Lederer, 2013). In any population, suicide is an enigmatic problem that has sequential effects on other persons, careers, and society (Cerel, Jordan, & Duberstein, 2008; Durkeim, Spaulding, & Simpson, 2010). I focused on suicide within a specific population and followed a trend in scholarship that sheds light into a much protected group of people -- police officers.

While some occupations have been linked to causing subsequent psychological reactions, police officers have not garnered publicity similar to that of deployed military or other emergency response workers (such as EMS, Clohessy & Elders, 1999; McCammon & Allison, 1995). I intended to provide a background of suicide in law enforcement, and to reflect an accurate representation of whether it is truly an epidemic in blue as some researchers call it (Violanti, 2009), in order to delve into the potential causes of officers taking their own lives. I emphasized contradictions and weaknesses in previous studies, and discussed implications for social change.

Background of the Study

Suicide can be described in many words, rarely being positive. Previous viewpoints of suicide derive condemnation from religious beliefs or develop perceptions because there is a lack of understanding. From a religious standpoint, societal viewpoints stood to view suicide as a mortal sin, without much desire to try and research and understand the phenomena or how to prevent it (Boldt, 1982; Cvinar, 2005; Gearing &

Lizardi, 2009). Suicide is one of the leading causes of death in the United States (10th leading cause), and one of the most preventable form of deaths (Rutz, 2001). Suicide is a perplexing occurrence that has never received a definitive theoretical or conceptual explanation. According to the American Foundation for Suicide Prevention (2013), the Centers of Disease Control reported 38,364 deaths from suicide in 2010 alone. While each completed and attempted suicide have one thing in common (being the act or behavioral intention), each case is different in respect not only the individual, but also the circumstances surrounding their action.

Human beings are one of the only known species with the capacity to intentionally take their own life (Malkesman et al., 2009). While humans differ from other mammals in a number of ways, all living things are innately born with the instinctual predisposition to survive and avoid harm (Malkesman et al., 2009). Possibly the most important difference is the cognitive superiority of humans to other mammalian counterparts (Haslam, Kashima, Loughnan, Shi, & Suitner, 2008). Suicide involves intentional self-harm, which contradicts previous research findings that behaviors are often initiated in pursuit of self-preservation (Leach & Campling, 1994; Phillips, Ruth, & Wagner, 1993).

Some researchers have noted law enforcement in particular is afflicted by a higher suicide rate when compared with other occupations (Larned, 2010). As a population, law enforcement does not favor outside influences which causes police suicide to also be under-researched and potentially under-reported for a variety of reasons (Crank, 2010). Current researchers have typically analyzed postmortem suicides in attempts to correlate

a pre-existing mental illness or the onset of trauma; however, few researchers focused on

preventative measures by establishing causal relationships (Kapusta et al., 2010; Mishara

& Martin, 2012). Although there is a modest amount of literature indicating police

suicide is within normal limits of other comparable populations, a considerable amount of

critiques have also been published addressing methodological errors of those studies. The

chief criticism from these articles focus on the under-representation of ethnic minorities

and females in law enforcement; thus, preventing a generalization to be made when

comparing rates with those of the general public (Clark, White & Violanti, 2012). Other

researchers focused on the presence of occupational stress and potential inadequacies in

officer coping mechanisms (Shane, 2010; Violanti et al., 2009).

Preliminary evidence on police suicide includes the possibility that law

enforcement officers are at a heightened risk for suicide, and that occupational and legal

problems have been identified as a possible catalyst of self-harm in previous qualitative

studies (Aamodt &Stalnaker, 2001; Violanti et al., 2009). For this study, police suicide

was analyzed in terms of potential causation, and draws one variable from qualitative

studies such as Kapusta et al. (2010) and Aamodt and Stalnaker (2001). Aamodt and

Stalnaker's correlation of discipline and suicide in officers found that a

disproportionately large percentage of postmortem officer suicides indicated legal and

occupational problems as the primary catalyst, nearly one-fourth of the sample.

Occupational problems primarily included issues with misconduct and other disciplinary

concerns related to occupational performance. Kapusta et al. also found similar findings

in completed suicides of Austrian federal officers, supporting the theory that it is not an

isolated incidence found in the Aamodt and Stalnaker study. Ultimately, the question is whether there is a variable that will in any way alter or influence this relationship between occupational performance/misconduct and suicide.

In attempts to identify an answer to this question, literature specific to police misconduct was reviewed. Previous researchers have found that education has an inverse relationship with officer performance, particularly discipline and misconduct (Rydberg & Terrill, 2010). Other researchers have found that officers who have higher education levels, particularly a 4-year collegiate degree, have significantly lower totals of disciplinary reports, misconduct, and corruption (Manis, Archbold, & Hassell, 2008). An officer's education level may have an effect on the relationship between misconduct and suicide.

This chapter is a foundation for establishing variables used in the study, as well as the study's overall purpose and significance as it relates to positive social change. Including specific theoretical constructs, these theories are briefly introduced within the Framework section, and later elaborated upon in the literature review chapter. Terms used in the study are defined in the Definition of Terms section. Research questions and hypotheses are introduced, including directional, null, and alternative hypotheses. Assumptions of the study are discussed, as well as limitations that are observed by planning the study. In attempts to strengthen the study, all limitations are addressed in the delimitations section of the chapter. The chapter ends with a brief summary that provides a transition into the second chapter, as well as previews the purpose and layout of the third chapter in this proposal. It is the ultimate purpose of the study to contribute to the

literature on police suicide, where more informed policies and procedures can potentially lead to a better quality of life for officers.

Purpose of Study

The purpose of this study was to quantitatively address the question of whether an officer's education level has any effect on the relationship between misconduct and suicide. I operationalized officers' education level, performance, and levels of suicidal ideations in order to perform multiple regression analysis. I addressed the relationship using a moderation model, and applied statistical analyses that ultimately refuted the current model application using the chosen variables. The incorporation of variables is substantiated by previous works that produced a logical argument grounded in scholarly works. Moreover, the purpose was to analyze a complex variable relationship to add to the scholarly literature and further research in the area of police suicide.

Significance

There are several significant problems within this area. The ultimate problem is negative consequences of police work, chiefly negative psychological reactions that may lead or precipitate suicide. The onset of misconduct and poor misconduct causes subsequent financial costs and contributes to poor community-officer relationships (Fyfe & Kane, 2006; King, 2009). Since there have been few researchers who isolated education level and misconduct in relation to an officer's mental health (Clark et al., 2012; Larned, 2010; Manis, Archbold, & Hassell, 2008), pertinent information regarding this variable relationship is void from current policies and procedures. I intended to address a gap in police suicide research by establishing an alternative explanation of the

compounding effect between education and the personality traits predictive of officer misconduct. It also served to better elaborate on the causal relationship in which the outcome is risk for suicide, suicidal ideations, and other self-harmful behaviors.

Previous researchers have been reactive to suicides, and many times research post mortem deaths that force researchers to project causes and occurrences (Herndon, 2001; Kapusta et al., 2010; Mishara & Martin, 2012). I focused on proactive variable identification, chiefly the advocacy of higher education for law enforcement as a practical and potentially life-saving avenue. If study results prove significant, this would further advocate higher education within law enforcement and can influence policy in local police agencies throughout the country. Likewise, if the study indicated an effect on risk for suicidal ideations through the chosen variables, this could be incorporated into police suicide prevention programs or influence changes related to officer mental health. More informed policies and evidence-based preventative programs may eventually contribute to a decrease in suicide within this population. Any decrease in loss of life is a positive social change. Alternate consequences of higher education advocacy are decreases in police misconduct and an overall improvement in police-community relations, providing a pro-social ripple effect.

The study itself will not save lives; however, significant results can render insight into this complexity and help inform preventative programs. It is apparent that current programs may be nonexistent or inadequate in preventing or detecting suicidal behaviors in officers (Mishara & Martin, 2012). Mishara and Martin (2012) evidenced this in an evaluative look into one specific prevention program, Together for Life. Mishara and

Martin deduced that there was actually an increase in individually-inflicted deaths after the program implementation. The inherent strengths of the study include voluntary participation and longitudinal data. While the preprogram data outweighed the post, results remained that the adequacy of the prevention program itself is low. Without equal amounts of data, Mishara and Martin could not be conclusive if an increase is valid or representative of an abnormality or specific catalyst of that year (natural disaster, increased number of trauma or critical incidents, economic recession, etc.). However, it does insinuate that traditional awareness programs may not be the most appropriate procedure, and infers that nontraditional courses may be more effective in attributing to why police complete suicide in an increased fashion (Mishara & Martin, 2012). This study could potentially add a vital element in this fight regarding social change.

Framework

Several theoretical frameworks can explain suicide. For example, a number of researchers have used Zhang's (2001) strain theory of suicide with various populations (Zhang & Lester, 2008). Zhang proposed that each suicide is caused by a strain that is alleviated by the individual taking their life. For this study's purpose, the ultimate strain is performance, or misconduct, in law enforcement officers. It is proposed that an officer's education level affects levels of suicidal ideations when performance/ misconduct are also analyzed. The theory allows for a moderation model to be used in attempts to explain under which circumstances education level may have an impact on suicidal ideations, further elaborating on the complexity of suicide and Zhang's theoretical application in police suicide.

Zhang and Lester (2008) implemented a psychosocial approach to suicide and surmise such that each suicide (attempted or completed) has an evident strain (or stress) that precipitates suicidality; resting on four strain types (value, aspiration, deprivation, and coping). Each stress was researched using content analysis of forty suicides, twenty completed and twenty attempted. Zhang and Lester found support of the theory, indicating a significant number of both groups exhibited aspiration and coping strains versus a low incidence of value and deprivation. There was also no significant difference found between those who attempted and those who succeeded in suicide.

Since completed suicide poses a pronounced barrier in observation and/or surveying the individual, the methods in this article are fairly strong. There is equal representation from both groups and each of the categories is identified in the methods portion of the study. Inherent weaknesses include content analysis and discrepancies between raters. The researchers must project a category for each of the completed suicides. Strengths of the study include a strong theoretical basis and operationalization of the variables (Zhang & Lester, 2008).

Zhang & Lester applied the traditional strain theories (general strain theory and strain theory of deviance) to a specific population that had not previously been researched under this theoretical perspective. By finding a significant correlation between strain and both groups, Zhang and Lester expanded the previous literature on suicide. It also provides a theoretical basis for this research, allowing the independent variable (misconduct) to be labeled as a type of strain that may induce suicidal behavior. However, additional quantitative research should be conducted using this approach.

Likewise, Joiner's (2005) interpersonal-psychological theory of suicidal behavior asserts that individuals must have both the desire and ability to successfully complete suicide. The desire in this theory is the most applicable, and is dual-componential: "perceived burdensomeness and low sense of belonging or social isolation" (Joiner, 2005, p. 294). Law enforcement officers that deviate from ethical or legal standards may experience both components simultaneously, particularly the latter. In cases where the officer experiences organizational stress in terms of denied promotions, psychological coping components can include perceived alienation. Whether due to misconduct, intentional or unintentional, psychological symptoms of burdensomeness and isolation may become intrusive and exacerbate cognitive distortions. This can include effects on suicidality and overall psychological acuity.

Nature of Study

I proposed a moderation model to explain and demonstrate the relationship between the chosen variables. The design was logically derived from consulting research manuals which demonstrate variable relationships. Moderation was used as a potential explanation of how an officer's education level (moderating variable) could impact the relationship between misconduct (independent variable) and risk for suicidal ideations (dependent variable). This model was also chosen because the relationship between education and suicide is not solely attributable for police suicide, nor was it originally suggested that this study would replicate findings contingent on misconduct and suicide. This allowed for two separate ideas to be integrated and for the researcher to find potential correlations and effects that present from all three variables.

Data were collected using pre-established survey instruments that have high validity within the field. A different instrument was proposed for each of the variables. From these measurements data were input into a multiple regression model where effects and effect sizes can be determined. More detailed information concerning instrument validity and specific model fit will be discussed in Chapter 3 of the proposal.

Definitions of Terms

Misconduct: Unfavorable behaviors or actions in which law enforcement officers or officials demonstrate while in the course of their job duties (Fyfe & White, 2006). Nonoccupational misconduct will not be considered as an element of the variable.

Misconduct: A spectrum of occupational aptitude within the law enforcement profession. It is inferred that the higher the misconduct level, the more favorable and idealistic the officer's behavior is (Manis et al., 2008). Consequently, the lower an officer's misconduct indicates the less favorable his/her behavior. This includes misconduct as a secondary component, rationalized that misconduct will inevitably affect an officer's performance.

Strain: Any source of stress interpreted by an individual to cause extreme discomfort and/or warrant other negative reactions (Agnew, 2014).

Suicidal ideations: "Thinking about, considering, or planning for suicide" (CDC, 2013, p. 11).

Suicide: "Death caused by self-directed injurious behavior with any intent to die as a result of the behavior" (CDC, 2013, p. 11). It will be preceded by *completed* rather

than *committed* due to the inferred connotation that is associated with the word (commit crime and commit sin, Navy and Marine Corps Public Health Center, 2013).

Research Questions and Hypotheses

Research Question

To what extent will a police officer's education moderate the relationship between an officer's performance/misconduct and risk for suicidal ideations?

Directional Hypothesis

It is hypothesized that as an officer's misconduct level decreases, indicating an increase in misconduct, the education level will decrease, and cause an increase in suicidal ideations. Since higher levels of misconduct do not correspond with higher levels of performance, misconduct will be analyzed on a reversed scale that mirrors misconduct (good misconduct reflects high rates and low rates of misconduct; poor misconduct reflects low rates and high rates of misconduct).

Null and Alternative Hypotheses:

H_0: The effect of an officer's misconduct will not be moderated by levels of education on levels of suicidal ideations.

H_1: The effect of an officer's misconduct will be moderated by levels of education on levels of suicidal ideations.

Assumptions

Assumptions of this study rely heavily on the validity of responses. Law enforcement does not traditionally favor outside researchers, particularly when the researcher is not law enforcement (Horn, 1997). Inferential validity is contingent on

officers providing honest answers to the surveys. Without truthful responses, any significance found between the variables and covariate will be questionable. The sample must trust the researcher, which will increase the likelihood that participants will give valid responses to the survey questions (Creswell, 2010).

Other assumptions rely on the validity of the survey instruments. If instruments are not valid, even the most honest responses from participants will not render wholly representative results. The selected instruments are assumed to use in a manner congruent with the developers' intentions, limiting applications of the instruments to variables where validity is already established. This also extends to appropriate population application (Creswell, 2010).

Limitations

If I were independently collecting data there would be three strong limitations to this study, including me not being law enforcement and potential defensiveness or reservation to survey questions. Since this population is largely guarded, officers may feel reservations to truthfully answering research questions if s/he participates at all (Vallano & Compo, 2011). This can negatively affect officer responses, likewise affecting the validity of the study, and is compounded by the fact that the researcher is not professionally or formally affiliated with the participative agencies (Horn, 1997).

Horn (1997) documented an additional limitation when female researchers analyze police, citing the traditional male dominance of the law enforcement profession. Horn reported present difficulties when female researchers approach officers, and that this difficulty is compounded when the female researcher is not law enforcement. Citing

the "code of silence," Horn found that researchers experienced more difficulties obtaining

participants and participant follow-through when the researcher was female and not

professionally affiliated with law enforcement. This is relevant to this study because the

researcher is a woman and not professionally affiliated with any particular law

enforcement agency.

Even if officers are receptive to participating in the study, stigmatization of

mental illness can also prevent valid answers from being rendered. In traditional studies

focusing on depressive and suicidal symptomology, researchers must recognize potential

effects of social desirability (King & Bruner, 2000). Mental health is a largely

stigmatized topic, which can contribute to participants answering in a less-than-truthful or

false manner. With law enforcement, the potential may be arguably greater because of

perceived risk to their employment (Follette, Polusny, & Milbeck, 1994). Since the topic

is primarily suicidality, officers may feel their job or right to carry may be in jeopardy if

they report depressive or suicidal feelings (Follette et al., 1994). Lastly, the study is

limited by its sample and unrepresentativeness of cross-national police agencies. The

sample was drawn from cooperative police agencies in West Tennessee; thus, this

prevents generalizability to police across Tennessee, and particularly across the nation.

Scope and Delimitations

Many of the limitations in this study are avoided by using archival data. All data

was already collected by police psychologists and other law enforcement personnel

specifically trained to administer psychological assessments. This helped ensure that the

psychological component of this dataset is congruent with the researchers' and

instrument publishers' intentions. Anonymity ensured that no identity was compromised and no negative repercussions can occur solely from participation in this research study. The study's largest delimitation was that the data collected in this previous study directly align with data variables in this model. This ultimately allowed me to use the research in a different manner, but still using the pre-collected data validly.

Moreover, the viability of the personality instrument was delimited by high validity results in various other studies (Abdel-Khalek, 2001; Davis & Carey, 2010; Osman et al., 2001). The reputability and proven replication of the survey increased the solidity of the study. The MMPI is also indicated for adult populations, indicating appropriateness for this application. Specific rates of validity and reliability are discussed in Chapter 3.

By using archival data that spans the country, the sample for the study will be able to generalize more readily than if I had collected information herself. This contributed to the representativeness of the sample, and indicate more universal findings that cover more than one specific jurisdictional region (such as the South or West) if the study's hypotheses were found significant.

Summary

While there is abundance of scholarly literature that individually addresses suicide, law enforcement performance, and effects of a collegiate education, literature addressing all three is relatively non-existent. This presented both strengths and weaknesses for this study. Strengths included the existing literature base that details theoretical constructs that explain the phenomena, and the existing literature pertaining

specifically to police suicide (Aamodt & Stalnaker, 2001; Joiner, 2005; Kapusta et al., 2010; Violanti, 2009; Zhang & Lester, 2010). This allowed me to identify that previous researchers have not analyzed this particular causal relationship, or in the manner it is being proposed to be explained. The lack of literature addressing this unique relationship is a weakness in some ways purely because it has never been researched in this population. While the independent studies link together in the moderation model, only data collection and analysis will allow the study to infer whether this relationship was pertinent for future studies.

Chapter 2 is organized in five main parts: police suicide, police misconduct and performance, formal academic education, strain theory of suicide, and interpersonal-psychological theory of suicidal behaviors. The literature review will present existing literature concerning police suicide, a brief historical overview of the police profession, and current rates and possible causations of police suicide. Police misconduct and misconduct will present current literature on the ambiguous nature of misconduct, and how these relate to gaining accurate representations of an officer's delinquency. It elaborates on consequences of misconduct and provides ties to suicidal behavior in support of the independent and dependent variables. The academic education section synthesizes literature on ties between misconduct and education in law enforcement officers, intelligence levels and suicide, and current rates of collegiate degrees within American law enforcement. Both theoretical sections provide an in-depth explanation of theoretical assumptions and applications, citing specific studies where law enforcement officers were studied.

Chapter 3 will serve as a methodological guide to the proposed procedures, operational definitions, and models used to explain and test a relationship between misconduct and suicidal ideations when moderated by education level. The section will include information about inclusion criteria for participants and instrumentation. In discussing instrumentation, this section will provide additional information about each instrument's validity and reliability within previous studies and a justification that supports using multiple regression to test the moderation model. Finally, the section closes with ethical concerns of the study and measures proposed to minimize potential harm to the participants.

Chapter 4 will present statistical analyses as it pertains to the data in this study. It will report significance values, as well as model fit and collinearity. Other important values will be presented visually in tables and discussed as it relates to implications for this research. Finally, Chapter 5 will present closing remarks, including implications for future research and possible explanations behind specific findings of this dataset. It will also present how this research can actively contribute to social change.

Chapter 2: Literature Review

Introduction

The ultimate problem is law enforcement officers completing suicide or suffering other negative consequences as a potential result from their occupational choice (Violanti, 2007). The problem is compounded by the fact that there are few researchers who proactively investigated police suicide in a quantitative manner (Violanti, 1996; 2007). Moreover, previous researchers such as Oquendo et al. (2004) and Saulny and Rhimer (2007) have limited variables to focus specifically on aspects of police work, which can be beneficial but also stifling when attempting to formulate a holistic idea of stressors in an officer's life.

The purpose of the study was to use pre-identified variables that have been linked to officer suicides (Aamodt & Stalnaker, 2001; Kapusta et al., 2010), and build upon that link by incorporating a moderation model (Mania, Archbold, & Hassell, 2008; Rydberg & Terrill, 2010). The purpose of this chapter is to present an exhaustive and culminating review of literature as it relates to not only the topic of police suicide, but also the separate variables in the moderation model used in this study (officer misconduct and officer education).

Police suicide is a relevant problem within law enforcement (Violanti, 1996; 2007). In accessing articles specifically on police suicide, several trends emerged, including high levels of occupational stress, trauma, and mental illness (Kaplan et al, 2013; Longhinrichson-Rohling et al., 2011; Kapusta et al., 2010; Malach-Pines & Keinan. 2007; McCreary & Thompson, 2006). Several researchers focused on the

phenomenological occurrence by either studying postmortem suicides or performing an

overall evaluation of the law enforcement profession (Aamodt & Stalnaker, 2001;

Herndon, 2001; Kapusta et al., 2010). The one common theme that was emphasized

throughout the literature was that police officers are at a higher risk of suicide, and

complete suicide more frequently than officers who are killed in the line of duty.

Demographically, the average officer is male, has served on the police force for sixteen

years, and completes suicide with a firearm while off duty (Aamodt & Stalnaker, 2001).

More than one study introduced a link between officer occupational misconduct and

suicide (Aamodt & Stalnaker, 2001; Kapusta et al., 2010). In previous studies such as

Manis et al. (2008) and Rydberg and Terrill (2010), occupational misconduct was found

to be affected by education level of law enforcement officers.

This chapter presents a wide array of scholarly literature as applied to police

suicide, misconduct in officers, and effects of education. Throughout the chapter points

will be reiterated, specifically how the topics intersect and apply to this particular study.

The chapter is broken into four major sections: theoretical foundations, police suicide,

police misconduct and performance, and formal academic education. The chapter opens

with discussions of theories used in the study to explain the connections between

variables, further substantiating inclusion of all identified variables. Police suicide

includes current and historical trends, and potential reasons why police officers complete

suicide as identified through previous literature. Misconduct gives an overview of what

constitutes police misconduct, how often misconduct is believed to occur, and

consequences of poor misconduct and misconduct in officers. Lastly, a section on formal

academic education provides an overview of general effects of education on the labor force and individual lives. It also includes information regarding the link between education and police, specifically detailing the link between officer education and performance.

Literature Search Strategy

The topic of police suicide is not a widely-researched topic that there are entire journals devoted to this population, yet continues to show an immediate trend within law enforcement departments nationwide and forensic studies. PsycARTICLES and Psychology: A SAGE Full-Text Collection were searched using keywords of *police suicide, law enforcement suicide, police mental health, law enforcement mental health*, limited within the past 10 years (2003-2013). Google Scholar was used as an alternative search engine, using the same key terms and limiting results to the past ten years. Google Scholar was used because of its potential to draw from nationally-funded and approved websites, such as the National Institute of Mental Health and Department of Justice. Other databases utilized include Academic Search Complete, EBSCO Books, Expanded Academic ASAP, and PsycINFO. All searches were limited to scholarly, peer-reviewed articles. This ensures that all information obtained from these resources have been previously reviewed by the academic community and deemed credible in its presentation of facts or ideas.

While reviewing results, several researchers mentioned a national conference on the topic in the late 1990s at Quantico, Virginia. The Federal Bureau of Investigations hosted one of the first conferences on police suicide in 1999, out of which over 60

academic papers were published (FBI, 1999; 2001). Although this conference produced a large amount of research, the research that predicated the conference was minimal.

Theoretical Foundations

Theoretical constructs are important for any study, particularly in quantitative studies that utilize a theoretical framework to explain a particular experiment, study, or variable interaction (Creswell, 2010). Theories illuminate potential reasons why occurrences or phenomenon emerge, or present rationale behind why a course of action can or is a plausible solution to the identified problem. Suicide is a puzzling phenomenon, which has invited theories to be used in a number of ways. I found two theories particularly beneficial in discussing the variable: the strain theory of suicide and the interpersonal-psychological theory of suicidal behaviors. Both can be used to explain the occurrence of suicide and anchor the rationale that underlies the study.

Strain Theory of Suicide

The strain theory of suicide deviates from general strain theory, which is essentially an elaboration of Émile Durkheim's constructs of anomie and strain (Morris & Huck, 2014). General strain theory has been elaborated to explain crime by such theorists as Merton, Dubin, and Agnew (Agnew, 2014; Morris & Huck, 2014). Agnew's theory is the most recent strain theory and is in any respect an elaborated application of cause-and-effect. General strain theory states that crime will be pursued in order to alleviate some type of strain, and leaves the interpretation of strain open to apply to many types of stressors that transcend time and society (Eitle & Eitle, 2013). Financial strains caused by poverty or unemployment may precipitate a criminal act where the end result alleviates

that financial hardship. Likewise, social inadequacies (real or imagined) may motivate a

person to act criminally to obtain a socially-coveted item (Ganem, 2010). Crimes related

to drug use or possession can be linked to drug addiction, with the physical and

psychological addiction symptoms causing strain on an individual that is alleviated, or

diminished, by the attainment of an illegal substance (Eitle & Eitle, 2013; Ganem, 2010).

In the absence of previous strain theories omitting suicide as a target behavior,

Zhang's (DATE) strain theory of suicide applies this traditionally criminological

construct to suicide and relates the end result to intentional self-deprivation of life rather

than crime (Zhang, 2005; Zhang, Dong, Delprino, & Zhou, 2009). The theory was

originally developed in response to suicide rates within the Chinese population, but has

since been applied to trans-continental populations in order to seek answers to why

individuals seek and complete suicide (Zhang, 2005). According to Zhang et al., (2009),

> The strain theory of suicide postulates that strain, resulting from conflicting and
>
> competing pressures (or stresses) in an individual's life, usually precedes a
>
> suicidal behavior. The assumption of the theory is that strain, in the form of
>
> psychological suffering due to conflicting pressures of which the victim may or
>
> may not be consciously aware, is so unbearable that the victim has to find a
>
> solution to release or stop it. (p. 67)

The central theme of strain is further delineated by type, and discussed in its

severity. Zhang et al. (2009) differentiated strain from stress in that "strain is a

psychological frustration or suffering that one has to find a solution to reduce or do away

with" (p. 68).While everyone inevitably experiences stress, strain in this respect may be a type of stress, but stress is not automatically a source of strain.

According to this theory, strain can be characterized as problems with (a) conflicting values, (b) aspiration and reality, (c) relative deprivation, or (d) coping deficiency (Zhang & Lester, 2009). For police officers, repercussions caused by misconduct or poor misconduct can cause inexplicable strain in any of the four areas (Rydberg & Terrill, 2010). Conflicting values can apply to the values of the law enforcement profession and how these professional ethics conflict with an officer prone to act unethically.

Strain can also apply to a corrupt officer or officer who has exercised misconduct being confronted with the social and professional standards from which s/he has deviated. Aspiration strain can be defined as "strain from the discrepancy between aspiration and reality" where the officer's aspiration and goals are no mirrored or appear unachievable in reality (Zhang & Lester, 2008, p. 67). This can be devastating to officers, particularly officers who are overlooked for promotions or perceive to have their career stifled. Especially in law enforcement, educated officers are typically promoted before an officer who has not matriculated, citing a collegiate degree as an attainment when coupled with satisfactory misconduct (Johnson, 2012).

While officers lacking a degree are nonetheless promoted, these officers are often faced with barriers that are absent from educated counterparts (Manis et al., 2008). The realization that hard work and determination may only take an officer so far in an agency, or within their career, can conflict with unrealistic expectations or aspirations (Johnson,

2012). Particularly with officers who are dismissed for cause, an officer may be faced with the inability to acquire any other form of law enforcement employment because of previous transgressions (Fyfe & Kane, 2006; Kane & White, 2009). This can cause great strain within the person, contributing to depression, alcohol and drug problems, and suicide.

Strain can also manifest as coping deficiencies in officers. Kaplan et al. (2013) stated males are often "locked into fairly rigid gender role positions, typified by a stoic resistance to adversity and a rigid individualism that discourages help-seeking behavior" (p. 71). This is relevant to both male and female law enforcement officers because of society's overall perception of police. Society places officers on a higher pedestal of stoicism and masculinity as it opines for police to be protectors and unflinchingly stable (Cooper, 2008; Rabe-Hemp, 2009). Seeking help requires the officer to admit a problem or inability to cope, which opposes this societal perception and may cause internal identity crises. In respect to strain from poor misconduct or misconduct, officers may recognize their behavior as unethical or lacking but may further suffer from their inadequacies in healthy coping (Siu, Cheung, & Lui, 2014; Violanti, 2007). This is only compounded by the fact that law enforcement officers are not traditionally taught about healthy coping, voicing advocacy for techniques such as Emotional Self-Care (ESC) as a potential preventative avenues (Siu et al., 2014).

Relative deprivation may not be as obviously applicable to law enforcement. The terminology is typically used to describe a lack of resources, such as basic needs (food, water, etc.), or socially-oppressive constructs that contribute to a person or persons being

deprived of a right. However, a secondary definition of relative deprivation is the depriving of a good for which a person perceives entitlement. In the application of misconduct officers essentially abuse their power, whether intentionally or unintentionally (Kingshott, Bailey, & Wolfe, 2004). With intentional misconduct and corruption, it is an individual assumption that the officer can behave in a chosen manner because their authority entitles them to do so (Fyfe & Kane, 2006; Kane & White, 2009). Entitlement can manifest itself in the form of passed promotions, especially if the officer is passed up based on education (Kingshott et al., 2004).

Violanti's (2009) work on police suicide is potentially one of the most elaborate applications of a strain theory to police suicide, posited primarily in the application of police roles. Corresponding with the second and fourth categories of strain (aspirations versus reality and coping deficiencies), Violanti stated that the "acquisition and maintenance of the police role restricts cognitive flexibility and the use of other life roles by police officers, thus impairing their ability to deal with psychological distress" (p. 27). So not only does strain present itself from conflicts between professional and personal roles, it also manifests itself from deficits in coping.

Zhang's (2001) theory has been used in law enforcement populations in studies such as Chae and Boyle (2013), which provides a rationale for applying this theoretical framework for this study. Although this is traditionally a sociological theory, the applicability to this study trumps a strict exclusion based on semantics related to the academic discipline. Applicable to this study, it is hypothesized that psychological

suffering is caused by problems associated with an officer's misconduct or poor

misconduct that is in some way affected by their educational level.

Interpersonal-Psychological Theory of Suicidal Behavior

A secondary theory used to ground this study is Joiner's (2005) interpersonal-

psychological theory of suicidal behaviors. Just as Zhang's (DATE) strain theory of

suicide delineated four groups or sources of strain that may precipitate suicidal ideations

or completions, Joiner's (2005) theory views suicidal behaviors as resulting from two

different elements occurring simultaneously (Van Orden et al., 2008; 2010). Joiner

described suicidal behavior when an individual's (a) "perceptions of burdening others

and of social alienation combine to instill the desire for death" (p. 634) and that (b) the

individual "will not act on the desire for suicide unless they have developed the capability

to do so" (p. 634).

The first component can be used to describe the initial relationship that the study

builds upon: the relationship between misconduct and suicidal ideations. Stigmatization

of poor-performing officers, or internal processes (such as guilt) associated with

misconduct/poor performance, can cause "perceptions of burdening others" (Joiner, 2005,

p. 634). This is evident in suicide notes left by officers whom completed suicide. While

many officers (alike the general population of suicide completers) do not leave notes

(Pestian et al., 2012), a recurring theme that has emerged in qualitative studies of post-

mortem suicide analysis is burdensomeness (Violanti, 2009). These officers did not want

to be a burden on their families or other officers, for whatever reason they felt they were

burdening them (Joiner et al., 2002). While it is rationalized that suicide in itself would

cause a burden in a host of ways (emotional and financial just to name a few), it is ironically also this reason why some completers of suicide cite their attempt/completion. They have presumed their burdensomeness on their loved ones and do not, many times, contemplate the repercussions of their actions (Joiner, 2005).

Joiner's (DATE) second criterion relates to two elements related to this study- the moderating variable, education level, and the occupational population, police officers. Capability is addressed vaguely by Joiner in many of his studies in which he either coauthored or contributed. Joiner describes a generalized capability for suicide as developing "from exposure and this habituation to painful and/or fearsome experiences" that become so strong they are "necessary for overcoming powerful self-preservation pressures" (Joiner, 2005, p. 632). The latter portion of Joiner's statement is important, since the reaction overcomes these self-preservation pressures. This implies the level of emotional fatigue and desperation that motivates the capability to attempt or complete suicide (Orbach, 1997).

Particularly for law enforcement officers, the mix between stoicism and a machinist, automated emotional reaction contribute to the level of desperation that subsequently affects the willingness to seeking help, whether personally or professionally (Kaplan et al., 2013). Stoicism is compounded by the already existent stigmatization of mental illness (Larned, 2010). According to Kapusta et al. (2010), access to firearms was positively linked to suicide rates in their population of Austrian federal officers. The link to firearm accessibility resonates with other studies, such as (Brent, 2001; Kaplan, McFarland, Huguet, & Valenstein, 2013; Miller, Azrael, & Hemenway, 2013). This link

is important because it adds to the individual's capability to attempt or complete suicide by specifically giving officers a means in which to complete suicide. When stressing factors culminate in an officer, the accessibility to firearms (as evidenced in these studies) increases the second element in Joiner's theoretical proposal.

Police Suicide

In order to comprehensively discuss suicide in a population identified by its occupation, the occupation itself must in some ways be discussed to provide the foundation of what officers have historically and currently face in their job duties. If drawing generalizations or inferences from the nature of police work that nature must dually be addressed. The concept of *police* can be traced as far back as 1000s with the first truly uniformed police force was also in Boston in 1712. Yet, law enforcement practices have evolved exponentially and follow the progression of technology and society that have been introduced since that time. Always charged with protection of citizens and enforcement of regional laws, modern police officers vary in a number of specializations and demographics that rarely mirror their historical counterparts in the seventeenth and eighteenth centuries (Johnson, 1981).

Historically, the profession was limited to only Caucasian males; however, throughout the history of law enforcement racial and gender equality struggles have led gender and racial inequality gaps to be reduced (Heidensohn, 1992; Johnson, 1981). Still, despite equality guarantees there remains a disproportionately high representation of Caucasian males within United States law enforcement. To become a police officer, general requirements include being at least 21 years of age and a history of good moral

character (Johnson, 1981). Officers must also successfully undergo a physical and psychological examination before formal hiring, free from serious physical or psychological impairments or illnesses that would impede the ability to do police work (Reaves, 2012). However, when law enforcement officers exhibit maladaptive psychological reactions to occupational work, it is even more perplexing because of their existing good health prehire (Kapusta et al., 2010). In this sense, psychological well-being of police officers has become an area of concern and study for psychologists, sociologists, and criminologists alike.

Police suicide is not a new topic of interest, citing research studies as far as 1970 by Nelson and Smith (1970) which focused on high rates of suicide in law enforcement. Since that time, the following decades produced a seemingly small number of studies on the topic (Violanti, 2010). While there was research being conducted, the Federal Bureau of Investigation hosted the first conference focusing solely on police suicide in 1999 to draw upon current field research based in some part on highly publicized police suicides completed by New York Police Department officers (Behavioral Science Unit, 1999). Comparatively, there is only a relatively recent interest in this topic considering the almost three hundred years of the profession. The interest is motivated by the fact that police suicide is actually a rare, yet nevertheless important, occurrence in modern law enforcement (Aamodt & Stalnaker, 2001). Lack of homogeneous reports contribute to the overall vast nature of the topic, lending to numerous explanations tested and proposed; all without one definitive answer as to why law enforcement officers are at a heightened risk (Honig & White, 2009).

Current Prevalence

Current studies focus on either the prevalence or causations of police suicide; while other scholarly articles contend to simply present the information in an exploratory fashion. Clark, White, and Violanti (2012), Larned (2010), and Loo (2003) provide general syntheses of current literature on police suicide, including a moderate rate as an overall profession. Larned elaborated on the higher risk for suicide based on a host of different reasons, both occupational and non-occupational.

Clark et al. (2012) addressed the issue of police suicide prevalence by analyzing existing literature and critiquing research methodologies to shed more accurate light on a true representation. The authors intended to address the highly misconstrued and misused statistic that police officers are two to three times more likely to die their own hand than in the line of duty (Violanti, 1996). The authors wrongly concluded that police suicide is higher than the general population, but did not have enough information to support it being between two and three more times than the general population.

Clark et al. provided some analytical critique of previous research articles that report a normalizing amount of police suicide by addressing the unequal representation of females and ethnic minorities in law enforcement (Clark et al., 2012). This provides rationale to dispute some of the facts that previous studies report, while citing reasons why the rate of suicide for police officers cannot be equally compared to those suicide rates of the general public as is a common approach. When discussing the justification for researching police suicide, this article supports a more critical take on articles that refute a higher occupational rate.

Police suicide research is oftentimes biased and sensationalized by poorly-performed studies or miscalculated statistics that inflate the occurrences. One such study is Larned (2010, para 1), which stated that a "peace" officer ends his/her own life every 17 hours. While the article compiled data from officer deaths and used statistical analysis to determine time, the methodological information given for the reader left no definitive means to replicate this finding. This article did, however, address police suicide with biological and psychological considerations, and identifies the overall police culture as problematic in promoting self-help or discussion. This article did not incorporate any experimental data, but introduced an overall view of varying influences that have been evidenced as influences.

Larned expanded physical, psychological, and societal stresses that include depression and anxiety as well as the heroic and quasi-military structure of law enforcement. The law enforcement culture is discussed in terms of heroism and a continued stigmatization of mental health. Physiological symptoms can mimic adrenaline withdrawal and be overlooked by officers, providing biological occurrences that may be tied into subsequent psychological manifestations (Larned, 2010). This ultimately means that an officer can be suffering from a negative psychological reaction, such as an adjustment disorder or symptoms of depression that can predicate suicidal ideations but overlook these symptoms because they associate them with other things (Larned 2010).

Aamodt and Stalnker (2001) best estimated police suicide to end 18.1 lives per 100,000 and reported a 52% higher rate when compared to suicide rates of the general public for 1997. Despite a distinctively higher percentage from the general public, the

authors report that rates were normal, and even lower (27% lower compared to Caucasian males between 25 and 54), when compared to similar demographic rates (age, race, socioeconomic, geographic) (Aamodt & Stalnaker, 2001). Clark et al. (2012) addressed discrepancies that would otherwise indicate that officers are not at a higher risk than their comparable demographic groups by critiquing critiques the typical method used in many studies on police suicide. Aamodt and Stalnaker (2001) reported a 27% lower rate of suicide in law enforcement that comparable groups, indicated by the authors as Caucasian males between 25 and 52 years of age. Using the Clark et al. critique, it is questionable to compare suicide rates of officers to only one demographic group even if the identified group is the majority of the American police force. Moreover, even though law enforcement has a traditional under-representation of females and ethnic minorities that does not mean that there is no representation (Clark et al., 2012); thus, confounding the Aamodt and Stalnaker (2001) results even more.

Potentially one of the most beneficial areas to draw upon is suicide studies of comparable populations, specifically international police agencies and military personnel from around the world. Kapusta et al. (2010) analyzed post mortem suicides of Austrian federal officers, utilizing a qualitative method that employed similarities between deaths and finding depression, alcoholism, and disciplinary or work-related incidents rendered significant patterns. The authors obtained files from staff psychologists that were recorded between 1996 and 2006 of officers whom completed suicide (also recorded in the officer's psychological file). Specific factors studied were characteristics of suicide, demographics, and service record. The authors surmised that the Austrian police corps

did not have significantly higher rates of suicide when compared to the general population; however, incorporated the *healthy worker effect* theory to substantiate a continual risk (Kapusta et al., 2010).

The healthy worker effect stated that the healthier the employee is at the time of hire, the less likely that individual is to incur negative psychological and physical effects from a particular occupation (Choi, 1992; Dahl, 1993). While there are various aspects of a person's health, such as socioeconomic status, pre-existing mental and physical health conditions, and so forth, the premise with this theory ties these aspects to the occupation and how a person's occupational choice can affect a person's health (Choi, 1992; Dahl, 1993). Simply, the health of a person is correlated with their subsequent health effects from their occupational choice. Given the healthy worker effect, the authors conclude that this population is not at a substantial risk for suicide since they are physically and psychologically healthy when beginning this career (Kapusta et al., 2010).

Similarly, Malach-Pines and Keinan (2007) studied Israeli suicide and burnout in law enforcement, finding an extremely high level of stress within this population. The authors explored the relationship between stress and negative psychological reactions (suicidal ideations); chiefly that there were significant patterns of suicidal ideations with burnout and anxiety symptoms. Similarly, Paton, Smith, and Violanti (2000) and Lanhinrichsen-Rohling, Snarr, Smith Heyman, and Foran, (2011) isolated two different populations similar to law enforcement (first responders and military soldiers) and analyzed suicidality trends. In both studies researchers drew upon populations which mimicked the comparable occupational demands and trauma exposure as law

enforcement. First responders and military personnel have gained a significant amount of focus as increased reports of traumatic responses, specifically Post-Traumatic Stress Disorder. This allowed the authors to link the populations and compare similar rates of suicide and/or suicidal ideations. In both studies persistent and chronic trauma exposure were significantly linked

Inconsistent Suicide Reports

A large barrier in police suicide research is locating consistent figures. Dependent on the variables used to analyze, and the comparative methodology of the study, some studies report a disproportionately high rate of suicide in law enforcement officers; whilst, other studies report a comparable rate with little fluctuation. Understanding the police culture is vital to analyzing possible reasons behind discrepancies.

Inconsistent reporting of officer suicides is a potential cause for discrepancies. Religiously, suicide can be viewed as a mortal sin in many faiths (Beaton, Foster, & Maple, 2013) or officers may choose to not code a colleague's suicide as such out of respect (Violanti, 2007). Religious affiliation, as well as a public stigmatization of suicide, can help motivate this occurrence. Aside from stigmatization and professional respect, suicides may be miscoded in order to maintain the eligibility of survivor benefits (Corden & Hirst, 2013). The intentional taking of one's life violates life insurance policies and other benefits available to widows/widowers and descendants.

Suicide-by-cop (SBC) completed by a police officer is still another rare, yet viable, occurrence that would skew results. Suicide by cop is a preferred way by many because it can be rationalized that the individual is not taking their own life because

another person is actually the lethal agent (Arias, Schlesinger, Pinizzotto, Davis, Fava & Dewey, 2008). Officers who are suicidal may also choose this option. While is it rare, it is nonetheless still evident. Aria et al. (2008) analyzed two such cases where officers selected this method of death, primarily voiding the necessity for them to inflict lethal harm on themselves. Moreover, although the statistics of suicide-by-cop have been standardized into more representative facts, statistics concerning law enforcement officers continue to be skewed. In Arias et al.'s (2008) research both cases were originally coded differently and can reflect undue influence of the officer's law enforcement status.

Emphasizing inconsistent reports in suicide rates is important because it infers that suicide rates are not as accurate in reflecting how many officers complete this behavior, and how prevalent a social problem. This is compounded by researchers using sensationalized phrases, such as *epidemic in blue,* to attach emotional appeal to the phenomena (Violanti, 2009). It is phrases such as these that mislead the general public or incite fear that every law enforcement officer will attempt or contemplate suicide. If law enforcement officers are not at a heightened risk, there is minimal justification for a study into the causal factors behind police suicide. The need for research falls in between these two extremes.

Inconsistent reports combined with methodological flaws of studies that normalize rates provide a strong inferential basis to justify a study on this topic. Moreover, the numbers in themselves (whether marginally higher or significantly higher than the general population) provide a strong argument for not only the survivors, but

also those whose own actions ended their livelihood. Inconsistent reporting is simply one aspect that is inevitable of newly-arise topics.

Factors Contributing to Police Suicide

Since this study focuses on a possible correlation, contributing factors to police suicide must be incorporated into the literature. Police suicide studies are relatively scarce in comparison to general suicidology; however, literature specifically concerning law enforcement share recurring patterns and cross-population trends. Of the possible causations, researchers have found legal troubles, officer demographic differences, and previous mental illness as precipitators of suicide (Aamodt & Stalnaker, 2001; Oquendo et al., 2004; Saulny & Rhimer, 2007; Violanti et al., 2009). While the topic has benefitted from various explanations of causation, there is still need for additional explanations, particularly studies that identify variables that have not been studied in conjunction with the others. This applies to this study's proposed relationship between performance, education, and suicidal ideations.

I relied heavily on Aamodt and Stalnaker (2001), chiefly for its catalyst identification analyzing completed police suicides. Authors compiled data from a representative portion of the American police force through Fraternal Order of Police lodges in 26 different states, reporting the chief catalyst of almost one-fourth of the sample as legal and occupational problems (Aamodt & Stalnaker, 2001). Aamodt and Stalnaker's (2001) article focused on the broad arena of police suicide, attempting to determine how prevalent the phenomenon is and possible profiles for officers who completed suicide using a meta-analysis. Postmortem suicides were researched using

published literature (*N*=396) and unpublished sources (*N*=299), and then coded into apparent trends or reasons. The suicides were compared to those of similar demographics using the Proportionate Mortality Ratio (PMR). Although the authors found that the rate of police suicide was not higher than that of comparable demographics, they did find that 21.6% of the indicated suicides were precipitation by legal trouble or work-related stress. Moreover, the study includes comparative analysis of gender, race, and region. This helps account for difficulties in regional and ethnic differences in suicide within the general population, pointing out the fact that most officer suicides were Caucasian males which have a higher rate of suicide.

This study is important in its identification of a catalyst that differs from the general public, being legal trouble. While many of the tenets comparatively debunked the abnormally high rate of suicide reported by some authors, it did indicate a factor that was significant in this population (Aamodt & Stalnaker, 2001). Since law enforcement officers are more likely to encounter legal trouble as a consequence for problematic or illegal performance, this provides a rationale to researching an additional influence on discipline/officer performance. This study provides the logical basis to connect the variables used in this model.

One of the more encompassing works on police suicide is found in Violanti et al. (2010), which examined potential influences of police suicide by questioning randomly sampled officers from a midsized urban police department (*N*=115). Questionnaires focused on depressive symptoms, suicide ideation, and demographic/lifestyle characteristics. Depressive symptoms and demographic/lifestyle characteristics were

measured on a Likert-scale, whereas suicide ideation was a dichotomous response. Authors cite depression, gender, and marital status as significant factors in officer suicidal ideations, finding different levels within male and female participants (Violanti et al., 2010). Violanti also used the *healthy worker effect* as a theoretical basis.

Strengths of Violanti include a well-detailed methods section, using a computer-generated random number table that increases the representativeness of the random sample. Random sampling increases the validity of the study as well as the over-sampling of women in the validity of female officer attributes. The study lacked inherent weaknesses by using random sampling and using gender as preliminary variable. This allowed an overall level of depression and suicide to be rendered for the overall sample, as well as each specific gender. Gender proves to be an important differentiation within the sample and is supported well within the literature discussion.

This article contrasts several previous studies because it finds a marginally significant relationship (p=0.059) between education and depression, finding an inverse relationship as education increases depression levels decrease (Violanti et al., 2010). Education has not been included in previous research endeavors, primarily identifying demographic (age, gender, race); thus allowing this article to contribute to the literature by introducing an additional variable of potential influence.

Another contributing factor listed by researchers in terms of correlation is exposure to trauma (Cross & Ashley, 2004). Law enforcement officers are charged with protecting and serving citizens, and upholding laws posed as keeping and maintaining

peace. In that pursuit officers encounter various potentially traumatic occurrences. Whether it be responding to a vehicular accident where there are casualties, critical incidents that require the officer to take a life, or child abuse and neglect cases, there is undeniable evidence that officers are exposed to some of the most horrific sights within their community.

Reactions to traumatic events range from both health and unhealthy mechanisms, and can be experienced to even the best-suited and prepared officer (Cross & Ashley, 2004). In terms of coping mechanisms, however, an area that has potential benefits is education. Regardless of performance, officers who have a college degree are exposed to a general variety of behavioral sciences. Every collegiate graduate must successfully complete an introductory psychology course where s/he is exposed to general theories and principles. Welle and Graf (2011) studied stress in college students (N=459). Authors found that, while college students experienced a higher level of stress than non-college students, their stress level and ability to cope in healthy ways increased as their years of college increased. Similarly, those who successfully who successfully completed degree exhibited a significantly lower level of stress (Welle & Graf, 2011)

According to Cross and Ashley (2004), a primary barrier for officers is general recognition of symptoms of trauma reaction, which is linked to formal educational level. Officers who are collegiately educated are perhaps more knowledgeable of these symptoms because of formal training (Cross & Ashley, 2004; Welle & Graf, 2011). In

that respect, education can have an effect on the reactions officers have to chronic and persistent trauma exposure.

Compassion fatigue is also provided in the literature as a potential reaction to trauma. Similar to cynicism, compassion fatigue is a general atrophy and decline of the ability to empathize with others (Violanti & Gehrke, 2003). Consequences of this type of fatigue are similar to depression, particularly isolation. If taking Joiner's interpersonal-psychological theory of suicidal behavior, this type of isolation can exacerbate and even precipitate suicidal ideations and actions (Joiner, 2005; Violanti & Gehrke, 2003). Moreover, availability to firearms is recurrent in literature specific to law enforcement, and also in the comparable international police populations (Kapusta et al., 2010; Violanti et al., 2009).

Other explanations include Violanti et al. (2009) also analyzed demographic trends with officer depression, reporting a marginally significant ($p=0.059$) effect of education and depression that depression decreases as education increases. Saulny (2006) and Rhimer (2007) linked depression and suicidality, providing the inclusion of the secondary dependent variable. Oquendo.et al. (2004) expands to include mood disorders rather than limiting to depression/depressive disorders. While there is a plethora of different interpretations to why officers complete suicide, it is evident that there is unlikely one definitive reason why suicide is completed. The complexity of each suicide is immense, and can be a combination of all of the aforementioned factors. It is, however, evident that the literature is not exhaustive and even small research contributions can provide inclusion or exclusion of additional variables and occurrences.

Current Preventative Campaigns and Protocols

As the psychological, psychiatric, and criminological professions have progressed, so too have the specificities of the respective profession. An example of this is the link between trauma and negative psychological reactions, or identifying a certain profession with an increased risk of trauma exposure (such as law enforcement) (Chae & Boyle, 2013). Current protocols that have become common practice include psychological screenings before being hired, and brief mandatory trainings on crisis intervention and de-escalation (Chae & Boyle, 2013).

As the area of police suicide research has grown, preventative campaigns have been initiated. The majority of campaigns rely heavily on educating officers and managerial staff on various issues related to coping, mental health, and recognition (Chae & Boyle, 2013). One such training includes making supervisory officers capable in identifying risk factors and warning signs of mental health and executing brief interventions. However, the main intervention is removal of the officer's service weapon. As prominent a symbol as a badge, this has obvious conflicts and potentially will be a factor in an officer not being open with superiors (Pinals & Price, 2014; Swedler, Kercher, Simmons, & Pollack, 2014). As part as preventative work, several campaigns increased the availability of a mental health professional under their respective Employee Assistance Program (Boccio & Macari, 2014).

One of the first structured research endeavors in police suicide was the Badge of Life program in 2008, which rendered a realistic account of how many officers complete suicide with less than 150 officers out of almost a million (Lewinski, 2013). In response

to this study, the most current recommendation for suicide prevention is known as the Emotional Self-Care (ESC) program. The program focuses on frequent monitoring an officer's psychological health through an annual mental health checkup. Lewinski (2013) lists the following as potential outcomes from the ESC program: officer deaths from shootings and accidents, lawsuits, complaints, sick leave, alcoholism, substance abuse, criminal/other behaviors, on and off-job injuries, divorces, grievances, resignations, and morale problems. Packaged similarly to the importance of a dental exam, appointments are completely voluntary. Many officers have not participated in the routine monitoring due to it not being mandatory (Lewinski, 2013). Another distinct disadvantage of the ESC program is lack of evaluative research. While the description of the approach is justifiable and logical, the efficacy of this approach is questionable with no statistical support.

However, there is no formal protocol that requires precincts to provide preventative training on suicide or personal mental health (Chae & Boyle, 2013). Preventative campaigns are largely individually performed, and data is extremely scarce concerning program validity. As one study reports, there was actually an increase in suicide after a ten-year program implementation (Mishara & Martin, 2012). While there are certain validity concerns with the study, the literature is void from substantial research to substantiate the effectiveness or structure of current police suicide prevention. Moreover, law enforcement officers are not required any frequent psychological screening except typically in response to a critical incident. This is grave cause for concern when discussing traumatic exposure, alcohol use, and access to firearms.

Preventative campaigns are important for this study because it indicates that officers are not periodically screened for psychological reactions or in response to less severe misconduct infractions. Specifically for this study, current protocols fail to address the relationship of poor officer misconduct and risk for suicide, offering strong advocacy for this research.

Police Misconduct

Types of Misconduct

The terms "police misconduct" have been associated by well-publicized accounts of law enforcement officers behaving unprofessionally, unethically, and/or illegally (Weitzer, 2002). Cinematic representations oftentimes contribute to the general public's perception of officers, and are seldom shown in a positive or minimally-condemning light. Illustrative accounts of cinematic perceptions include *Training Day*, which included a veteran detective that smuggles drugs, takes sexual bribes, and abuses his authority as a police officer (Newmyer, Silver, & Fuqua, 2001). Although there are numerous movies and television shows that showcase officers in a negative light, a common theme in many promotes distrust or skepticism of officers. And although real events rarely mirror the severity and frequency of these glamorized portrayals, media nevertheless contributes to a potentially negative viewpoint of officers (Chermack, McGarrell, & Gruenewald, 2006).

Misconduct has an overwhelmingly negative connotation, which contributes to a stigmatization and stereotypical response when reading or hearing the word, specifically when discussing police (Wason & Jones, 1963). In terms of police misconduct, the

overarching majority of law enforcement officers are indeed upstanding professionals

who enforce the law judiciously and fairly to the best of their ability (Fyfe & Kane,

2006). Corrupt officers give the profession a bad name; or exaggerated personal accounts

spread to influence the public's perception (Callanan & Roseberger, 2011). These

findings have been replicated in various law enforcement agencies across the country in

different types of agencies, and studied longitudinally as well to minimize any argument

that findings were isolated to a certain time period when officers were less corrupt

(Seron, Pereira, & Kovath, 2004). However, misconduct can apply to a number of

different things within the law enforcement profession, each equally contributing to the

stress of an officer.

The more common types of misconduct are faults in judgment or practice; such as

failure to Mirandize a suspect or insufficient probable cause to make an arrest (Covey,

2013; Fitch, 2013). In this case, the overarching majority of common police misconduct

is not necessarily ill intentioned or sinisterly carried out (Fyfe & Kane, 2006). Police

work must intersect the judicial system, either at the arraignment or trial stage. While

police officers are trained in practices, officers have a large amount of discretion and

often rely on their interpretation of the law as guidance (Logan, 2012). An officer's

interpretations of the law and legal standards do not always align. Officers who fail to

Mirandize a suspect, for example, risk losing a valid confession or warrant rights. It is

imperative that the independent variable not automatically insinuate corruption or

unlawfulness in officers.

The most recurring patterns of misconduct involve procedural flaws in daily interactions; especially traffic stops (Fyfe & Kane, 2006). Racial and ethnic profiling and excessive force are commonly listed as disciplinary problems, particularly of young officers. O'Reilly (2002) emphasizes the need for sound police work, utilizing intuition and training; however, evidences seven multi-jurisdictional cases involving racial profiling to illustrate the large number of cases within the United States. In a large number of cases, officer age and inexperience were cited as a contributing factor to profiling (O'Reilly, 2002).

Potentially the most important aspect concerning misconduct is the quite ambiguous nature. Fyfe and Kane (2006) explored comparative differences between definitions of misconduct and recorded incidents of misconduct. In response to a high rate of misconduct amongst officers of the New York Police Department, the department and mayor allowed the researchers to analyze 1,543 cases of involuntary dismissal from 1975 to 1996 and in-depth employment files of the cases. The authors used the existing misconduct codes to analyze a randomly selected number of cases. The existing misconduct codes covered one hundred-thirty one different actions that could be administratively reprimanded (Fyfe & Kane, 2006).

Fyfe and Kane (2006) found that the cumbersome coding system used by NYPD was ultimately inadequate in representing officer misconduct, as an extremely large proportion of the dismissals for cause utilized vague codes (such as Code 022 Official Misconduct or Code 370 Miscellaneous Administrative). While an inherent weakness of the article is that researchers did not obtain any information from the dismissed officer,

the article lends strong support of adverse array of police misconduct that can vary as instrumentally as the various types of crimes police are responsible for maintaining order (Fyfe & Kane, 2006).

The authors condensed the 131 codes into eight categorizations that included all of the previously documented behaviors but simplified the labeling process (Fyfe & Kane, 2006; Kane & White, 2009). Fyfe and Kane's (2006) categorizations included behaviors that were considered:

1. Profit-motivated

2. Off-duty crimes against persons

3. Off-duty public order crimes

4. Drugs

5. On-duty abuse

6. Obstruction of justice

7. Administrative/failure to perform

8. Conduct-related and/or probationary failures.

Likewise, misconduct is a complicated process that has a number of contributing factors. King (2009) used an anecdotal comparison of "bad apples" (corrupt officers) to being a product of "bad orchards" and "bad barrels;" ultimately listing three factors for each incidence of corruption: individual officer attributes, community or ecological factors, and organizational factors. King (2009) utilized misconduct in a multi-faceted manner, emphasizing that corrupt officers do not simply become corrupt but have a history of deviant personality traits prior to corruption. According to King (2009), serious

misconduct follows a history of less severe crimes; ultimately evidencing that officers progress in their misconduct starting with more minor actions that culminate into a serious crime (i.e. drug use, embezzlement, accepting bribes).

Most importantly to this study are the numerous types of misconduct and how it applies to measuring it in an officer. Many of the actions are similar to status offenses in juveniles- the behavior is not inherently illegal but is criminalized because of the offender's age. With police officers, some of the behaviors are not inherently punishable, but are characterized as a type of misconduct because of the officer's occupation (King, 2009). When attempting to measure such a variable, it is important to consider instruments specifically indicated for this population. Moreover, an adequate instrument will also reflect the numerous areas in which an officer can be characterized as misconducting themselves. This point will play in to instrument selection later on in Chapter 3 of the study.

Consequences of Misconduct

Misconduct is a serious issue that cost the United States nearly 20 billion dollars annually amongst government sectors (Wistrich & Guthrie, 2013). Financial costs extend from the federal government to the actual police agencies, which must provide physical and psychological screenings to ever officer before hiring. Agencies must appropriate funds for training purposes, including police academy. Not only are officers paid during academy, but there is also a probationary period before the officer is allowed to perform duties independently. This prevents agencies from maximizing their available officers. When officers are dismissed for cause, this investment is void because the officer is not

utilizing it within the precinct and community (Fyfe & Kane, 2006; Kane & White, 2009; King, 2009).

Other financial costs involve court systems in two ways. The first is the mitigation of crimes. When officers take bribes or allow crimes to go uncharged, revenue from the charging and restitution of those crimes is prevented from being absorbed into the judicial system as well (Fyfe & Kane, 2006; Kane & White, 2010). Secondly, because of the nature of police work, misconduct in a professional capacity can extend from suspension and dismissal to actual criminal and/or civil charges. The judicial system encounters costs to charge and try the officer, often mandated to have a lengthy internal investigation prior to (and following) a criminal trial (Fyfe & Kane; Kane & White, 2010). If a superior officer was aware of misconduct occurring from which a fatality or serious injury resulted, families or victims can pursue a civil trial against both the officer and the agency for damages. This also results in large financial costs. Professional misconduct and corruption can include shifts and duties that must be reassigned, resulting in new officers needing to be hired or currently employed officers working increased responsibilities or changing job titles (Fyfe & Kane, 2006; Kane & White, 2010).

There exists a moderate amount of literature regarding social learning aspects of misconduct and corruption. King (2009) evidenced not only an organizational influence, but also pointed to collaboration between the officer's working environment and co-workers that affected the onset of misconduct. The "bad barrels" that King (2009) referred to include whether the officer was assigned to narcotics investigation versus patrol or clerical work, as well as whether the officer's partner or close supervisory

officer was corrupt. The article also compares the seriousness of the behavior to the

length and severity of prior infractions; further surmising that officers learn minor bad

behaviors from other officers that then may evolve into more serious felonious

misconduct patterns. In this way, Fyfe and Kane (2006) and King (2009) report that there

are subsequent patterns of misconduct after a "bad apple" is dismissed.

One of the most potentially vital consequences for this study involves personal

reactions to misconduct. Officers whom are dismissed for cause are likely to experience

an array of consequences, including decreased employability, embarrassment, shame,

regret, isolation, and depression (Fyfe & Kane, 2006; Kane & White, 2009; King, 2009).

Marital problems can also result from misconduct that invites disciplinary repercussions,

particularly for crimes that involve adulterous behaviors. While there is a documented

"blue wall of silence" amongst officers, this does not definitively prevent officers from

isolating colleagues that have been dismissed. Moreover, psychological reactions (such as

shame and depression) can be caused by personal factors as well as societal. For

publicized accounts of misconduct the pressure and stigmatization may be compounded

and lead to more serious emotional reactions and or being ostracized socially (Fyfe &

Kane, 2006; Kane & White, 2009).

The Police Personality

Police officers have long been stated to have a certain personality disposition,

primarily resting on the necessity to be in control at all times. The term *police personality*

applies to a range of qualities that researchers have discovered pattern or thematic

emergence over the course of several decades, and has been academically researched for

several decades. Balch (1972) formally posed this topic, in attempts to define the police personality and whether it had developed from factual occurrences and trends or was in response to fictional and/or exaggerated stories. Similarly revered literature paralleled Balch's tentative definition, offering symptoms to include "suspicion, conventionality, cynicism, prejudice, and distrust of the unusual" (Balch, 1972, p. 106).

Laguna, Linn, Ward, and Rupslaukyte (2010) applied the concept of police personality to authoritarian personality traits, measuring authoritarianism in relation to years of experience. Authoritarianism was described in this article as an inflexible personality in recurrent need to be in control at all times, and typically unaccepting of others which differed from their own qualities or beliefs. Supported by literature correlating authoritarian personality with police corruption and disciplinary infractions, researchers elaborated on the role of experience on the possible development of the police personality and largely pointed to aggression and cynicism as two dispositional components (Laguna et al., 2010). Prejudice was cited as the primary component of authoritarianism, which has obvious problematic consequences in terms of police work and ethicality of that work.

Although the authors ultimately deduced that experience did not significantly correlate with the emergence or a heightened presence of this personality type (or traits indicative of the type), experience was significantly correlated with patterns of antisocial behavior and emotional reactions to stress (Laguna et al., 2010). Authors found that as experience increased, antisocial behaviors and emotional reactions to stress decreased.

Emotional reactions to stress can include a numbing, detached occurrence and an overwhelming cynical presence in and outside of occupational duties (Chae & Boyle, 2013; Deahl, 2013). In discussion of the findings, the authors included previously gathered data that indicated authoritarian tendencies in police and police-related professions (i.e. jail staff/correctional officer, security guard) when compared to non-police related professions. While there is no explanation of a causal relationship (whether individuals higher in authoritarian personality traits are drawn to police work, police work contributes to the development of authoritarian traits, or there is an interaction of both), there is a strong link between a heightened presence of authoritarianism in police officers compared to the general public (Laguna et al., 2010). This can help explain portions of the police personality, as traits used to describe this phenomenon parallel many authoritarian personality traits (Laguna et al., 2010).

The police personality is vitally important for this study because of the focus on a population-specific phenomena. If the study were discussing suicide in the general population, the applicability of the police personality would be absent, and minimally (if at all) relevant for inclusion. However, since the study focuses on suicide specifically within law enforcement officers, providing the reader with a literature review that omitted this well-documented concept would be a disservice and would not exhaustively include the necessary academic research that can contribute to scholarly discussions of suicide in law enforcement. Moreover, since there is a moderate amount of literature to support the police personality concept, this applies to measurement tools. It helps validate the need for an instrument specific for law enforcement, or a general instrument that has

been studied and replicated within police, to garner valid conclusions and generalizations. The instruments that are used in this study are discussed in chapter 3, including an instrument specific for measuring attitudes of law enforcement officers.

Formal Academic Education

Police and Education

The American educational system has evolved with the creation and integration of advanced technology. Once a privilege reserved for the wealthy, collegiate enrollment and matriculation has increased over the past few decades (Spring, 2013; Thelin, 2011). However, there remains a profession that does not necessitate applicants to have an earned college degree, with the law enforcement profession being one. While a college degree is required for some agencies, it is not a federally-mandated requirement and can be required on an individual agency basis (Bostrom, 2005).

Finding an accurate representation of how many officers have degrees is somewhat difficult. The majority of scholarly articles use samples not representative of the entire police population. Hilal and Densley (2013), for example, report that 88% of their sample had associate's degree but that the number is likely so high because the agency state requires two-years of education after high school. Burns (2009) reported that roughly only one percent of all American law enforcement agencies require a four-year degree for new officers, comparing incoming officers with degrees as "diamonds in the rough." Moreover, some agencies that do not have degree requirements for new hires do require degrees for promotions and supervisory positions, causing some benefits for collegiately educated officers (Hilal & Denseley, 2013).

In analyzing agencies that have degree requirements, most agencies are larger and located in metropolitan areas. There are also correlations with degree requirements and salaries. Although the mean office salary in the United States is approximately $55,000, salaries can range as low as $20,000 (Bruns, 2009). Departments located in rural areas may have limited officer positions, offer non-competitive salaries, and do not require degrees. Other agencies may be in densely populated areas and, because of the increased amount of people, simply have more crimes which warrant a more competitive applicant pool and higher salaries (Bruns, 2013; Hilal & Densely, 2013).

Hilal and Densely (2013) used a two state randomly selected sample of certified law enforcement officers in Minnesota and Arizona, finding that forty-eight percent of their sample reported having a 4-year degree or higher. According to the United States Census of 2010, this is nearly twenty percent higher than the general public (Hilal & Densely, 2013). However, it is noteworthy that one state has a mandated two years of education requirement, with much of the sample representing this state. A more general consensus amongst the literature is between one-quarter and one-third of officers have 4-year degrees (Hilal & Densely, 2013).

While there are tuition assistance programs for law enforcement, many of the officers pay out of pocket for college expenses which average around $15,000 annually for a university (Kuh, Kinzie, Schuh, & Whitt, 2010). While there are certain advantages for the educated officer (performance, promotion, etc.), many officers do not see the potential benefits outweighing financial costs, time and production demands of attending college, and decreased family/down time (Kuh et al., 2010; Whetstone, 2001). The

overarching majority of law enforcement agencies around the country are not large

metropolitan precincts, and degrees are not required for promotions. In this case, having a

degree will make an officer more eligible but is not always the case. Officers who enter

the force at the minimum age have 1-2 years of service when a college graduate enters

after graduation. Moreover, seniority can play into promotional candidacy if a degree is

not required. All of these factors play into why officers may choose not to pursue a 4-

year degree (Whetstone, 2001).

Effects of Education

In terms of causal relationships, an officer's formal education level has been

incorporated by many researchers in relation to other aspects of law enforcement.

Various interdisciplinary studies have established a link between education and

performance, including levels of misconduct as a primary indicator of misconduct

(Kappeler, Sapp, and Carter, 1992; Manis, Archbold, & Hassell, 2008; Roberg & Bonn,

2004; Shane, 2010). A few of these notable studies include Rydberg and Terrill (2010)

and Paoline and Terrill (2007) who used education al level to determine effects in officer

arrests, searches, and use of force and linking these behaviors to common areas of police

misconduct. This study found significant results in all three areas that the higher an

officer's education level the lower their incidents of misconduct. College educated

officers demonstrate better insight into fact-finding investigations and identifications of

underlying psychological problems in suspects (Carter & Sapp, 1990). Moreover, there

was also a link between officer education and the amount of sick leave taken by officers,

indicating the higher amount of education an officer had, the less likely s/he was to abuse

sick leave or have unexcused absences (Hilal & Densley, 2013).

Manis, Archbold, and Hassell (2008) found that a four year college degree

(regardless of major) reduced disciplinary and misconduct reports in officers in four

areas: frequency, nature, outcome, and type. Shane (2010), Roberg and Bonn (2004), and

Kappeler, Sapp, and Carter (1992) integrate education with organizational stress,

specifically citizen and administrative complaints which further the literature on types of

misconduct and disciplinary actions; while this article continues to support high

education with low complaints.

Moreover, subsequent educational effects are not solely misconduct related

(Burke, 1994). College-educated officers appear more eligible for promotion as compared

to an officer without a conferred degree. Increased promotional ability decreases the

likelihood of sustained shift work, which has been linked to increased psychological

consequences (Burke, 1994). In describing shift work, crime patterns also expose officers

to more deaths and vehicular manslaughters during night shifts, amongst other crimes

that can contribute to vicarious traumatization (Burke, 1994; Villa, Morrison, & Kenny,

2002). While this study is not intending to make a blanket statement that education may

have an effect on suicidality and depression, the study integrates education as a

componential variable to misconduct and suicidality in this unique population.

Manis, Archbold, and Hassell (2008) found that a four year college degree

(regardless of major) reduced disciplinary and misconduct reports in officers. This article

focuses on education and officer misconduct, specifically if the type of college degree has

an effect on disciplinary reports. The study's four dependent variables are frequency, nature, outcome, and type of discipline/misconduct, with the independent variable being the type of degree earned (criminal justice degree or other concentration), age, and years of experience. The dependent variables were each categorized into three groups (no complaints, one complaint, or two or more).The article finds that a four-year degree has a significant relationship with the quantity and severity of disciplinary complaints; while the type of degree did not indicate any significant results. While age was not significant with complaints, years of experience did indicate significance in both severity and frequency of officer complaints (Manis et al., 2008).

Authors surveyed a mid-western police agency that lists 129 sworn officers from which the sample was derived (*N*=105), and found an inverse link between education and disciplinary reports or complaints (Manis et al., 2008). It differs from previous articles by exploring the relationship of the type of degree. Although degree type did not indicate significance, it adds to the literary body. It also supports a specific level of education that affects misconduct. Moreover, the authors expand on previous studies by looking at not only the frequency of complaints, but the article also looks at the severity (Manis et al., 2008). Although the study confirmed the link between education and misconduct, the particular police agency has a large number of officers who have undergraduate or advanced degrees and agency has minimum education requirement beyond a high school diploma. This does not reflect the normal standards of law enforcement across the country, and inevitably prevents generalization since many agencies do not have that same educational requirement (Manis et al., 2008).

Rydberg and Terrill (2010) studied the effect of officer education on three aspects of policing: arrest, search, and use of force. Basing quantitative coding on observational data, the authors identify two medium-sized cities. Incorporating historical background of the push for officer education (including the Wickersham Commission and the Presidential Commission on Law Enforcement), the article compiled a sample of N=3,356 officers from 12 *beats* (specified patrol areas) within each Indianapolis, Indiana and St. Petersburg, Missouri. Observational data followed the systematic social observation which promoted an observer-participant role. Results indicated a significant relationship with use of force (b=-0.49, p<.001 and b=-0.68, p<.001), but non-significant findings with arrests (X^2=1.66, p=.441) and/or searches (b=-0.04, p=.777) (Rydberg & Terrill, 2010).

Strengths include a high response rate (between 95-97%) and a large sample which increases the generalizability of any findings (Rydberg & Terrill, 2010). A multivariate analysis using binary logistic regression is also a strength in the allowance of individual variable computation. The strongest application for this study is the significance between education and an element of officer performance. It differs from previous articles by incorporating three different elements of responsibility that falls under the larger umbrella of police performance. It also identifies two areas where education is not significantly related (arrests and searches), while further refining areas in which education influences this population. Additionally, it reports the strengths of these relationships, indicating a strong significance between education and use of force (p<.001) (Rydberg & Terrill, 2010).

Shane (2010), Roberg and Bonn (2004), and Kappeler, Sapp, and Carter (1992) integrate education with specific elements of officer misconduct and psychological reactions. Studies such as Shane (2010) approached the topic of officer education in respect to the type of stress experienced by officers, focusing of differences between organizational and operational stress in police officers and the relation of stress to officer performance. Using interactive theory, the authors proposed that the different types of stress will be an interaction of both the individual and their setting (Shane, 2010). Authors cite broad rules, specializations, and the hierarchical nature of law enforcement as potential catalysts of stress. Using a cross-sectional design (N= 461), two large urban police departments were identified to complete surveys, and analyzed using multiple regression. The results initially rendered a significant relationship between education and two variables; however, did not produce an overall significant relationship with all variables. The two variables were citizen complaints (p<.05) and administrative complaints (p<.05) (Shane, 2010).

Although the cross-sectional design prohibits any causal predictions, the study used the Police Stress Questionnaire (PSQ) to measure stress levels and is a pre-validated Likert-scale measurement tool, which adds validity to the officer responses (Shane, 2010). This article continues to identify areas where education has a significant impact in law enforcement, in this study indicative of citizen and administrative complaints. While education did not prove significant for the entire selection of prospective variables, the medium-effect size [R=.475, adjusted R^2=.446, F (12, 144) =39.281, p<.01] indicates the strength of the study's design and supports the significance between education and these

two variables. It informs this particular study purpose by supporting the link between education and some form of officer misconduct measure (Shane, 2010).

In all, education is vastly influential on an officer's career and occupational performance. Not only influential in respect to performance, other negative consequences of occupational problems include subsequent relational conflicts and a snowball effect from inability to advance in their chosen career. Moreover, it is vital that education is not taken as an ultimate indicator of mental health stability. Intelligence is not an absolute predication of a mental illness. Numerous factors play into psychological health, including (but not limited to) familial history, socioeconomic factors, and substance use. The contingency of education in this research is through the vehicle of performance; which as seen, poses an empirically-supported link.

Causal Factors of Education

Some of the more obvious consequences of education include greater financial stability through better salaries and typically a less labor-intensive career, such as managerial and supervisory positions (Carnevale, Javasundera & Cheah, 2012; Ross & Reskin, 1992; Tampieri, 2010). Not only are college graduates eligible for better salaries, degreed workers were in large part resilient to the economic upheaval of the economic recession that affected the United States in December 2007 (Carnevale, Jayasundera, & Cheah, 2012). Additionally, there are other correlations with education level as well.

Reviewing the literature of academic education, subsequent correlations, and effects, several disciplines overlap and intersect; ultimately, general trends and other

patterns emerge. However, there is a common lack of literature about why education has pronounced effects on marital and job satisfaction, among other indicated relationships. One of the more commonly used theoretical foundations in literature involves the *locus of control*, a psychological theory focusing on the effects of an individual's perceived amount of control over aspects in their lives (Ross & Mirowsky, 2013).

Ross and Reskin (1992) framed their research using the locus of control in relation to any relationship between education level and control at work, job satisfaction, and occupational expectations. Although the study is near twenty years old, it is consistent with other studies in the area (Ross & Mirowsky, 2013; Tampieri, 2010). Using a representative sample of workers in Illinois (N=557), participants were asked to participate in a phone interview concerning the study's variables. There are some general weaknesses in this study such as not including the interview questions or specifying the number of "well-educated" to "not well-educated" participants. Lest, the study deduced that well-educated persons (as operationally defined as a person with an undergraduate degree or higher) were more likely to experience higher work expectations and control over their work. Using the locus of control theory, this explains that educated persons exercise more mental acuity and stability because they have more control over their environment. In this application is helps explain the type of work for which persons with a formal education are more eligible, such as managerial or supervisory positions. A formal education is also required in many non-entry level careers that involve a higher level of responsibility or control. Although the study ultimately did not find significance

between education level and job satisfaction (Ross & Reskin, 1992), other studies have

found correlations between education level and job satisfaction (Ross & Mirowsy, 2013).

Tampieri (2010) found significance not only between education and job

satisfaction, but also significance between education and marital satisfaction. Using

previously collected data from the British Household Panel Survey (BHPS), over five

thousand couples were used in a multiple regression model (N=10,812). Tampieri (2010)

grounded this study by emphasizing previous literature, primarily that advantages of

higher education include "better kind of job, a better salary, more bargaining power in the

job market… expressed by a greater job satisfaction." The study ultimately found that as

education level increased, job satisfaction increased due to better job opportunities and

the type of jobs for which workers were eligible. Marital satisfaction was also found to be

affected by education due to increased chances of meeting educated partners (Tampieri,

2010).

Study strengths include the continuity of the data collection. The BHPS is an

established national survey that has been used since the early 1990s. A strong weakness

of the article is minimal consideration for other explanations, such as divorce or

socioeconomic trends (unemployment or recession) (Tampieri, 2010). Additional

weaknesses for the article are not necessarily related to the actual article, but more so in

the application for this research study. Since the population is British, one cannot

automatically generalize trends to American persons. However, since British and

American cultures are highly similar, a generalization can be taken to some extent.

Aside from opportunities associated with education, such as better employment opportunities or the higher likelihood of meeting a similarly-educated partner, literature posited on *why* education has subsequent life effects are varied and delve into the merits of an accredited education. Persons pursuing an undergraduate degree are, by virtue, required a certain diversity of disciplines. Some examples include introductory psychology, humanities, and social sciences (Vincent & Foch, 2011). Basic psychological tenets include an overview of psychological health and rudimentary warning signs of psychopathology. When discussing the link between education and satisfaction, the tenets of an education can be analyzed. Furthermore, some of the basic concepts on which suicide prevention campaigns are built on are also incorporated into a collegiate education. Warning signs of depression and the importance of an overall healthy lifestyle are incorporated into many suicide prevention programs through psycho-education. According to Bostrom (2005) an undergraduate degree "emphasizes problem-solving from a variety of viewpoints, develops understanding of how perceptions influence behavior, increases a person's comfort level with ambiguity, and assumes that the things going on in the world are fluid and interrelated."

However, there is an overwhelming gap of literature incorporating job satisfaction, education, and law enforcement. This omission is important because, while there are many explanations about why education can have different repercussions, the literature does not specifically address police or any subsequent effects of the interaction of education.

Intelligence and Suicide

Intelligence is not a new concept and, like any socially-constructed entity, has gained certain stereotypes and assumptions (Prestrides, Furnham & Martin, 2004). Cognitive functioning relates to a person's intelligence, in many ways allowing a person to build upon or benefit from a certain intellectual level. This can translate into effects in many functions, such as personality development and aptitude (Blas & Carraro, 2011). Previous studies have viewed persons with high intelligence levels as being "eccentric and neurotic," and have evidenced those personality qualities to increased suicidality. While there are examples of highly intelligent persons who are the "Woody Allen" type and whom may be at an increased likelihood of depression or anxiety impairments, the preconception is more myth than fact (Rattan, Savani, Naidu, & Dweck, 2012).

Intelligence in any sense is multivariate and researched in many different ways, using various theory-based definitions or operationalization. IQ (intelligent quotient) is a mathematical prediction of a person's intelligence level, measured on a scale of 0 to 175. Created by French psychologist Alfred Binet, this concept (chronological age divided by conceptual age), has been a preferred formulaic concept since its creation in the early 1900s (Nicolas & Levine, 2012; Schlinger, 2012). Other theorists differentiated between types of intelligence, such as emotional intelligence and practical intelligence (similar to common sense). However, academic intelligence is the frequently referenced types.

Literature within this area is notably controversial to some sociologists and other researchers (Brackett, Bertoli, Elbertson, Bausseron, Castillo, & Salovey, 2013). However, intelligence has been significantly linked in several studies to suicidal

ideations, suicide attempts, and suicide completions (Brackett, Rivers, & Salovey, 2011;

Carter & Gordon, 2013). Batty, Kivimäki and Deary (2010) analyzed intelligence in

young adult males, intending to relate intelligence levels to effects in suicidal ideations.

This study analyzed a sample of 1.1 million Swedish male military recruits.

　　　The authors found strong evidence that as IQ levels declined, suicidal ideations,

attempts, and completions rose significantly. This article hosts strengths and weaknesses

that are of significant interest to this research study. First, the sample that was studied

was quite large, with slightly more than one million participants. All intelligence levels

were also standardized against a previously validated instrument, and scored by a trained

professional qualified in psychometrics. In this respect the measurement of intelligence

was highly standardized and possible bias or misinterpretation was minimized. The

weaknesses of the article are inherent to the sample used. All participants were not only

male, but also between the ages of 16 and 25. This leaves a very specific population that

does not necessarily allow generalizations to females and various age groups.

　　　The findings in this study are interesting because of its magnitude and population

similarity to American police force demographics. Batty et al. (2010) performed an odds

ratio on individual age versus suicidality, finding that those participants with the lowest

intelligence scores were nine times more likely to take their life than participants with

high intelligence ratings. To account for extraneous factors that are documented to effect

suicidality (socioeconomics and education being two primary variables used), the

researchers still found a 3.5 times increase from participants with low IQs compared to

their higher IQ counterparts. In both cases there is substantial effect on suicidality when compared with intelligence levels.

Moreover, while one of the study's weaknesses is the specific population, the population is highly similar to this study's population. American police force has historically been Caucasian male officers. While there has been significant strides in employing minorities and female officers, the vast number of uniformed officers are of a similar demographic. Thus, findings in this study can be used to substantiate not only an evidenced link between intelligence and suicidality, but can also support a generalization that can apply to this study's indicated population. Since the American police force is of similar demographics and various educational levels, the levels of intelligence also vary greatly. This can help support the large variability in explanations of police suicide by education and intelligence typically not being linked to a completed suicide or suicide attempt by an officer.

While education and depression may not be related on face value, the link between occupational stress and law enforcement provides a significant concept that bridges the two separate ideas. An officer's education has been shown to have a negative effect on disciplinary reports. The higher an officer's education level the lower the rate of critical incident reports and disciplinary actions (Paoline & Terrill, 2007). A relevant finding is that none of the reviewed articles associated education with depression or suicidality. Kapusta et al. (2010) included various demographic categories but omitted education level. Malach-Pines and Keinan (2007) also omitted education level, as did Herndon (2001). Although education is associated with elements that hint at mental

health, such as coping and resiliency (Langhinrichson-Rohling et al., 2011), the full link between the two ideas is absent.

Summary

The literature presented within this chapter supports the study in several ways. As seen in this beginning of the chapter, police suicide is a prevalent issue. Despite discrepancies in how many officers actually complete suicide, the literature irrefutably supports that police officers completing suicide is an event that occurs. There have not been many studies that research causal factors behind the phenomena; primarily existing theories build upon traditional research concerning suicide. Violanti (2009) is one of the more recognizable works that provides an in-depth analysis of occupation-specific stressors that could contribute to suicide. This, however, is projective and theoretical in nature. This supports additional research in the field, particularly a quantitative approach that strays from the vastly qualitative literary base as related to the topic, and a literal interpretation of data rather than theoretical.

The connection between suicide in international law enforcement populations, alike similar populations such as military, supports the argument that suicide in this population is not an erroneous act separate from the individual's occupational choice (Bryan, Morrow, Anestis, & Joiner, 2010). Moreover, the literature indicates that this particular variable model has not been researched before, which aids in the originality and potential benefit of the study.

Secondly, the ambiguous nature of misconduct and poor occupational misconduct poses difficulty when identifying strain. As seen in this chapter, poor misconduct and

misconduct can be classified using various hermeneutic strategies and approaches, yet fail to consolidate the vast array of behaviors into an all-encompassing definition. Studies have successfully linked poor misconduct and misconduct to suicide completion, which can logically be interpreted that it would also become a predictor of suicidal ideations (Aamodt & Stalnaker, 2001; Kapusta et al., 2010). Aside from suicide and other self-destructive behaviors, this chapters also presented a holistic view of misconduct and its far-reaching implications that affects other persons and society as a whole (Fyfe and Kane (2006; Kane & White, 2010; O'Reilley, 2002). One of the strongest points of this chapter included the police personality, and the long-standing research basis that supports this unique personality feature. Not only does the police personality run a higher risk for insubordination and misconduct through its high level of authoritarian personality traits, but also indicates a lower level of healthy coping skills (Laguna, Linn, Ward, & Rupslaukyte, 2010). This is vital when discussing the model used in this study because it illustrates an important psychological component that is shared by many officers (Chae & Boyle, 2013; Deahl, 2013; Laguna et al., 2010).

Consequently, the chapter provided an in-depth discussion of education, and how this can act as a moderating variable between misconduct and suicidal ideations. The link between officer education and misconduct has been substantiated and replicated in valid studies (Carter & Sapp, 1990; Manis et al., 2008; Roberg & Bonn, 2004; Shane, 2010), allowing the link to be used judiciously within the study. Intelligence as it relates to education and on its own was also explored within the chapter, providing explanations of coping and insight to elaborate on why education level and a person's intelligence may

impact their psychological health. While it is not claimed that intelligence level is a variable within the study, and should not be confused that the subsection assumes both concepts are the same. Intelligence can, however, be linked to collegiate-level education in that college-level courses require a certain level of intelligence (whether it be academic or common-typed intelligences) to successfully complete a degree (Batty, Kivimäki & Deary, 2010; Brackett, Rivers, & Salovey, 2011; Carter & Gordon, 2013).

This study can fill the gap in literature of whether an officer's education can affect the relationship between officer misconduct and misconduct and risk for suicide. If the study results present little to no significance in officers' risk for suicide or depression, the study can preliminarily rule out future use of a moderation model using these same variables. Consequently, if the study produced significance results it can motivate subsequent studies that study similar models or variables. It can also serve as a foundation for longitudinal studies that assess officer risk for suicide using these variables. Longitudinal studies can provide a stronger support in this model, and should be pursued if results are significant.

The following chapter will present the methodological design of the study and incorporate scholarly findings, while identifying variables and approaches previously used in the field. The chapter will include the fit of models used, as well as previous operationalization of variables and current operationalization used in this study.

Chapter 3: Research Method

Introduction

The purpose of the study was to determine whether there was a correlation

between a law enforcement officer's risk for suicide, their misconduct level and their

education level. This chapter is a discussion of the methodology of the study, starting

with rationale behind the study's design and the approach to the topic. It includes a

specific section on methodology that includes the population, sample size and recruitment

strategies, data sources and instrumentation, and how the data were analyzed. The chapter

will close with a section addressing threats to validity, ethical concerns and issues, and

summary of the chapter.

Research Design and Rationale

The independent variable in this study was an officer's risk for suicide, with a

dependent variable of occupational misconduct and a moderating variable of education

level. This research question was best be answered using a quantitative methodology,

specifically using surveys in a quasi-experimental approach. A qualitative approach

would be ineffective in deducing the effect size or significance within the measured

dependent variables because it generally lacks numerical results. Although a qualitative

researcher can count certain codes or trends within their interviews or case studies

(Creswell, 2014), this research rests on numerical analyses that would indicate a

relational strength, if any, that exists between these variables. Moreover, there have been

relatively few quantitative studies within the arena of police suicide (Violanti et al.,

2009). Straying from the qualitative majority of literature will also justify the need of this type of quantitative research proposal.

I emphasized a moderation model, where "a third variable (X_2) in an analysis can change our understanding of the nature of the relationship between a predictor (X_1) and an outcome (Y). These included moderation or interaction between X_1 and X_2 as predictors of Y" (Moderation, n.d., p. 611). For this study it is proposed that X_1 corresponds with an officer's performance, X_2 corresponds with education level, and Y correlate with an officer's risk for suicidal ideations. Moderation is justified when there is an existent relationship between the independent and dependent variables supported in the literature by Aamodt and Stalnaker (2001) and Kapusta et al. (2010) that link officer misconduct to completed suicides. A moderator can be any variable that may affect the independent or dependent variable. Since there is also a pre-existent relationship between misconduct and education (Manis et al., 2008; Paoline & Terril, 2007; Rydberg & Terrill, 2010), the proposed relationship is justified.

Using this explanation, I proposed that the officer's education level will alter or in some way modify the pre-existing effect that an officer's misconduct has on risk for suicidal ideations. The below model provides a diagram of the rationale, where the moderator (education level) affects (either increase or decrease) the relationship of an officer's misconduct and risk for suicidal ideations.

Figure 1

Moderation Model
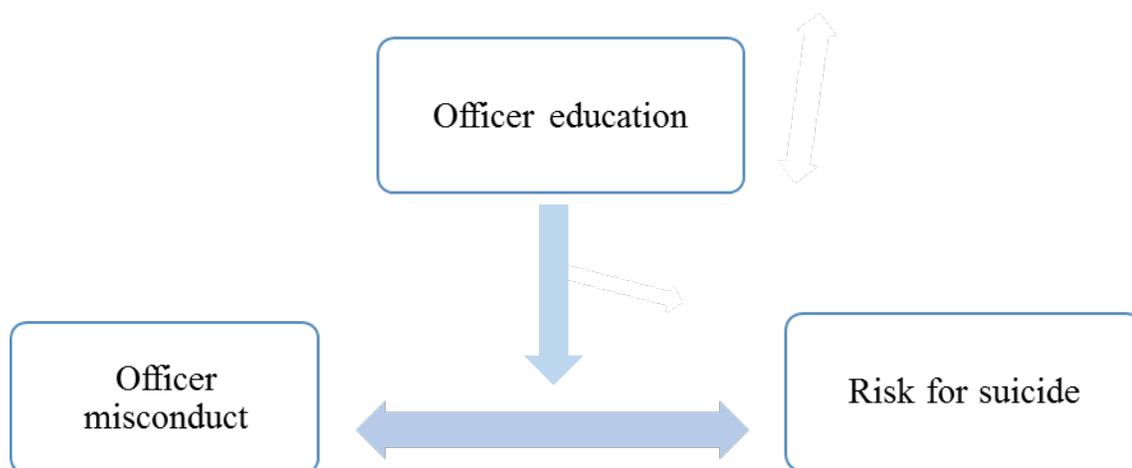
Figure 1. Visual representation of moderation model used in study.

When discussing the variable of misconduct, there are large concerns that officers will not accurately report misconduct to a researcher (Crank, 2010). Despite any guarantees of confidentiality or anonymity, the police culture and the reservation to outside research make it difficult to operationalize misconduct as a simple self-reported variable. Moreover, it is not feasibly accessible to obtain personnel records at this time in order to gain a more accurate representation. In a predictive fashion, population-specific instruments were researched and proposed to be used. The primary instrument (M-PULSE) predicts misconduct using eighteen identified areas associated with poor officer misconduct (Davis & Rostow, 2010). Risk for suicidal ideations and depression will also be measured using pre-established scales that render high validity and reliability within the population. It is the intent to use pre-established tools to maximize the study's validity and minimize ethical and methodological weaknesses.

Previous studies on police suicide have largely been qualitative, and have coded suicidality as to whether an officer either (a) completed a suicide and the case is being studied post mortem, or (b) a documented or admitted suicide attempt (Aamodt & Stalnaker, 2001; Violanti et al., 2009). Manis et al. (2008) documented education level using three levels: no college degree, some college but no degree, and four year degree. The degree categorization was also subdivided into noncriminal justice or criminal justice. Discipline in this study was also been measured using a similar categorization: no complaints, one complaint, and two or more complaints (Manis et al., 2008). Violanti et al. (2009) measured depression with an independently created Likert-scale that used a dichotomous response for suicidal ideation.

Time and resource restraints associated with this study were relatively minimal. The most difficult resource to access was obtaining the actual dataset used in the Boes et al. (1997) study and converting the text files into a SPSS file. After receiving the dataset, each scale was identified and converted into a SPSS data file from which multiple regressions could be run. There were no other time or resource constraints in this study.

Methodology

Population

The population for this study was active duty law enforcement officers in the United States. It spans all titles within the law enforcement agency, hierarchically from the top of sheriffs and captains to the bottom of patrol officers. According to Federal Bureau of Investigation (FBI) (2010), there were 706,886 uniformed police officers in the United States as of 2009. This accounts to less than 1% of the total population of

289,417,471 for that year in the United States (FBI, 2010). Of this total, 88.3% were male and 11.7% female officers (FBI, 2010).

Sample

I intended to use archival data compiled in the National Institute of Justice database from a Boes, Chandler, and Hamm (1997) who analyzed personality traits associated with misconduct. The sample included case from 460 active duty law enforcement officers volunteered anonymously from 69 police agencies from 29 different states (Boes et al., 1997).

In order to use the G*Power program effect size, alpha level, power, and number of predictor are necessary in addition to the type of test and number of tails used. Using this system of sample size calculation, the following parameters were input into the system: effect size (0.15) was used as a default, α error probability (0.08), power (0.95), and number of predictors (3). The sample size calculated was 79, with an actual power of 0.9511641. For this study, a sample of 460 far exceeds the minimum of 79 officers and helped to ensure statistical validity.

A .08 alpha level was for the ability to generalize to officers across the region and for the general acceptability in the social sciences. An alpha level of .001 raised concerns that the higher power will not render significant results and possibly lead to a Type II error where one perceives there to not be a relationship where there really is. A .08 alpha level allowed the study to accept an 8% chance of error. Following Trochim's (2006) suggested power; the .80 power was used.

Procedures for Recruitment

The archival data were derived from Boes et al. (1997) who sent questionnaires to 4,235 police departments across the United States over a 4 year time period. Of the total asked to participate, 52.5% participated (Boes et al., 1997). Many departments that were asked did not meet study criteria, which included having administered a formal psychological personality assessment and formally recording incidences of misconduct. Original questionnaires included officer demographic information, violation information (type, punishment, and motivation), and psychological assessment data. Convenience sampling was used in this study to obtain the maximum participation possible from cooperating agencies across the United States (Boes et al., 1997). All data will be destroyed one calendar year after the study is officially approved by the university.

Instrumentation and Operationalization of Constructs

All data was derived from an archival dataset, which included an officer demographic inquiry, the MMPI, and a post hire misconduct scale created by Boes et al. researchers. The following information specifies the variable that each tool will measure and statistical information concerning each instrument's validity.

Demographic Inquiry

Self-reported demographic information was collected by Boes et al. (1997) in their initial inquiry of cooperating law enforcement agencies; and included age, gender, race, and education level. Boes et al. (1997) used the following categorization that mirrored later studies studying effects of an officer's education level on misconduct, such as Manis, Archbold, and Hassell (2008) nominally categorized education using three

levels (diploma/GED, some college but no degree, and 4 year degree and higher).

Education level was differentiated into the following by the original study:

1.   High school equivalency

2.   High school diploma

3.   Some college

4.   Bachelor's degree or higher

5.   Some graduate school

Post-hire Misconduct Scale

Boes et al. (1997) utilized a post-hire misconduct scale that was a cumulative

representation of incidences of misconduct presented in relation to the number of years

an officer had been employed with the agency. The researchers asked points of contacts

in each respective agency to donate demographic information which included the number

of incidences of misconduct and the amount of time employed with the agency.

Instrumentation (MMPI)

The MMPI is one of the most widely recognized and used personality

assessments. Originally created in 1943, the instrument was created to give patients more

objective diagnostic labels (Duckworth & Anderson, 1995). The MMPI-1 is designed at a

sixth grade reading level, which helps ensure that the population understands the various

questions. The MMPI-1 was used in this dataset, which was the most recent version of

the instrument at the time data was collected (Boes et al., 1997). The MMPI-1 used 566

questions to detect personality maladaptation using clinical scales designed to measure

specific psychopathology (Duckworth & Anderson, 1995). It serves as one of the longest

used personality inventories and has served as the model for numerous subsequent instruments (Duckworth & Anderson, 1995). It also incorporates five validity scales that includes a scale designed to detect falsification or intentional deception of responses. The subscale used by this proposal will be the Suicidal Ideations (SUI) subscale that consists of five question designed to measure the presence of any suicidal ideations (desire to attempt or favorable attitudes towards suicide, including contemplation) or any history of attempts (Duckworth & Anderson, 1995). According to the MMPI technical manual, a score of 1 is "sufficient enough" to place a respondent at risk (Ben-Porath & Tellegan, 2011).

Operationalization

Each variable was defined as follows:

Education level was measured using information reported for each officer's file based on their various demographic elements and measured categorically based on the category each participant's education level falls. It was condensed from 5 categories into 3 to increase manageability for this study. Education level was differentiated into the following categories:

1. High school equivalency (accomplishment of high school equivalency certificate) or high school diploma (completion of a high school diploma)

2. Some college: officers whom have attended some collegiate education without having a conferred degree.

3. Bachelor's degree or higher: successful completion of a bachelor's degree, master's degree, or doctoral degree

Misconduct was measured using the "post-hire misconduct" scale used by Boes et al.

(1997) based on the total number of post-hire misconduct formally recorded for

each officer.

Risk for suicide was measured using the *Suicidal Ideation* (SUI) sub-scale of the

Minnesota Multiphasic Personality Inventory (MMPI) that defines it as "direct

reports of suicidal ideation and recent suicide attempts."-Depending on the

participant's scores, s/he will be placed as either:

1. An officer will be at risk for suicide using a cutoff score of 1 and

    higher (Ben-Porath & Tellegan, 2011).

2. An officer will not be at risk for suicide using a cutoff score of 0 (Ben-

    Porath & Tellegan, 2011).

Data Analysis Plan

Path analysis was used to explain the variable model. Using logistic regression

techniques, this method allowed calculation of both direct and indirect effects on the

dependent variable (Fields, 2009). Regression techniques were used for its ability to

know the strength of variable relationships by "classifying outcomes" and used to analyze

the strength of the model (Morrow, n.d.). This allowed the moderating variable to be

tested both separately and combined with the other independent variable, lending

statistical data to support or reject the model.

The variable relationship will be hierarchal based on education affecting

discipline, and discipline affecting suicidal ideations, as well as a traditional *Enter*

method. Education will be the base element, then discipline and the highest variable

being suicidality. Statistics reported are the *p* values (indicating significance), chi square (indicating model fit), Cronbach's alpha (internal consistency), and effect size (extent of relationship, Field, 2009).

Threats to Validity

Internal validity threats are "experimental procedures, treatments, or experiences of the participants that threaten the researcher's ability to draw correct inferences from the data about the population in an experiment" (Creswell, 2008, p. 162). Types of internal validity threats for this study include mortality, testing, and selection. Mortality is best described as when participants discontinue their participation in the study (Creswell, 2008). Since the data is already collected, mortality is not a largely pressing issue.

Testing concerns refer to the participant becoming "familiar with the outcome measure and remember responses for later testing" (Creswell, 2008, p. 164). While there will not be repeat collection, the concern that participants will be affected by social desirability is present. Liberman et al. (2002) researched police reactions to psychological distress in relation to categorically normal occupation stress, finding a large concern with socially-influenced responses. Social desirability refers to when participants answer a survey or other research measure with responses that are driven by what they think is desirable or how they "should" respond (Van de Mortel, 2008)**.** This is especially important because this study rests on correlations between self-reported data measures. To help combat this, the MMPI instrument has an internal consistency measure that helps indicate whether a respondent is attempting to deceive the test (Davis & Rostow, 2010;

Topchyan, Leark, & Skidmore, 2013**).** This helps minimize the culpability of each instrument, causing the end results to be more valid.

Selection refers to choosing participants based on qualities, and how that selection may "predispose them to certain outcomes" (Creswell, 2008, p. 163). The convenience sampling used in the Boes et al. (1997) study attempted inquiries from over 4,00 agencies, which helps maximize the representativeness of the sample. Because of the wide initial inquire and variability of 29 different states, this will help ensure that there is a representative sample and an accurate representation of officers from which the study can generalize (Creswell, 2008).

As compared to internal threats, there are not many external types of validity threats for this study. According to Creswell (2008), there are three types of external validity threats: interaction of selection and treatment, interaction of setting and treatment, and interaction of history and treatment. Interaction of selection and treatment refers to the characteristics of the participants (Creswell, 2008). If the characteristics are too narrow the results cannot be generalized to a different population or others that do not exhibit those specified qualities (Creswell, 2008). This study minimizes this threat by using secondary data that matched both "corrupt" and "non-corrupt" officers; therefore, mitigating any validity concern of studying only one type of officer. Education level will be an automatic quality of this profession, either that the individual has a high school diploma (or equivalency) or higher. Moreover, the study results are not intended to generalize to those outside of the police culture, further minimizing this particular threat.

Secondly, interaction of setting and treatment refers to treatment, or study, outcomes that are observed or collected in a certain environment and if those outcomes can be generalized to others in different settings (Creswell, 2004; Frankfort-Nachmias & Nachimias, 2008). Since the study will analyze data collected at the individual precincts, there are some concerns that officers would be more truthful if being surveyed in an environment that was not their workplace. However, all data was collected retroactively after the psychological evaluation was done, and this information was already gathered by police agencies.

Lastly, the interaction between history and treatment is fairly minimal. According to Creswell (2008), "because the results of an experiment are time-bound, a researcher cannot generalize to results of past or future situations" (p. 165). Although this study intends to use predictions to discover correlations between the variables, it does not intend to predict which officer will or will not complete or attempt suicide. In any event, since there is not an intervention taking place within the study, this type of concern is minimized. However, the study should be followed up longitudinally with the participants to see if time plays a factor in this model.

Ethical Procedures

Since study used archival data, there are minimal ethical concerns regarding the data or data collection methods. All data was voluntarily given to the original researchers, and had already been collected without any respect to the study's purposes. All participant identities were kept anonymous, so there are no ethical concerns regarding confidentiality or subsequent effects of officer identity.

Data was sent electronically to the researcher and stored in the researcher's personal office within a locked filing cabinet in which the researcher had sole access. Data was entered into SPSS at the researcher's discretion and locked in the filing cabinet at all other times. Data will be kept for one calendar year after the official approval of the dissertation. At that time, all participant files will be destroyed by being shredded.

There are no conflicts of interest present in the study. There are no financial sponsors or any other incentive to produce a certain statistical finding. The main purpose of this study was to simply determine if there is a correlational significance using this moderation model. Likewise, there are neither power differentials in the study nor was the study being conducted in the researcher's work environment. There are also no incentives, financial or otherwise, involved in the study.

Institutional Review Board approval was granted to address any subsequent ethical concerns present before data was received and analyzed.

Summary

In closing, this chapter presented the methodological design of my study. A moderation model was utilized in explaining the hypothesis of an increased risk for police suicide. It was proposed that an officer's education level will in some way affect the pre-existing relationship between an officer's occupational misconduct and disciplinary problems to their risk of suicide. The design was implemented by survey collection, and computed survey results with multiple regression techniques using SPSS. Chapter 4 will present the study's findings, including various graphs illustrating findings from each of the statistical procedures. Chapter 5 will build on chapter 4 in discussing

these findings and how they support or refute the model's explanation as applicable to

police suicide.

Chapter 4: Results

Introduction

This study was designed to examine the effects of education and misconduct on risk for suicide in law enforcement officers.

The research question is:

To what extent will a police officer's education moderate the relationship between an officer's performance/misconduct and risk for suicidal ideations?

The hypotheses for this study are:

$H1_0$: The effect of an officer's misconduct will not be moderated by levels of education on levels of suicidal ideations.

$H1_1$: The effect of an officer's misconduct will be moderated by levels of education on levels of suicidal ideations.

The following chapter is a description of the statistical findings using regression analysis of the effect that education has on the relationship between misconduct and suicidal ideations in law enforcement officers using the Boes et al. (1998) dataset. The chapter is comprised of three sections: data collection, results, and summary. Data collection will detail original and secondary collection methods. Results will present specific values calculated by the regression analysis, accompanied by tables and figures, where appropriate. Lastly, the summary section is an answer to the original research question and transition into Chapter 5.

Data Collection

Boes et al. (1998) solicited 4,235 law enforcement agencies in the United States over a span of four years in attempts of identifying personality characteristics as predictors of police misconduct. The requirements for participation were that agencies formally kept a record of misconduct complaints against officers, as well as psychological assessments on each corresponding officer. The psychological assessment had to be one of the following: MMPI, California Psychological Inventory (CPI), Inwald Personality Inventory (IPI), or the 16 Personality Factor Questionnaire (16PF), Boes et al, 1998). Just over half of the agencies responded (52.5%); however, the majority either did not keep formal records of misconduct or did not have the desired psychological data necessary for the research study.

The entire sample was 878 officers from 69 agencies spanning 29 different states, and the original design differentiated participants by misconduct (either in a "violator" or "nonviolator" group). Of the sample, over half (438) of the officers had corresponding data from the MMPI. Nearly three-fourths of the sample (74.1%) was from municipal agencies, 9.8% from county sheriff departments, 13.1% from state troopers, and the remaining 3% from special districts (such as school and campus police, etc.). The sample was 92.1% male (7.9% female), 53.5% Caucasian, 33.1% African American, 11.7% Hispanic, and the remainder Asian or "Other" (Boes et al, 1998). Educationally, one-third of the officers (30.5%) had a high school diploma (approximately 3% had high school equivalency), half (49.5%) had some college, and slightly over 16% had a conferred collegiate degree. The smallest percentage (less than 1%) had some graduate degree

(Boes et al, 1998). According to Boes et al. (1998), average age of a corrupt officer was 31 years old (at the time of the violation), with the average of nearly five years on the force for misconduct.

To obtain the dataset, I first began with the statement within the research article reporting that the dataset could be obtained by contacting the National Institutes of Justice. Due to complications with the NIJ archives, the dataset was not accessible. Secondly, the researcher extended the search by emailing PERSEREC, who helped fund and carry out the study. The dataset was freely and publicly obtained by emailing PERSEREC. After the dataset was obtained, the files were converted from a text file into a data file within SPSS. Participant identifications were cross- referenced with the file that contained the psychological scales, from which the suicidal ideation scale from the (MMPI) was identified and imported. The sample used for this study consisted of 412 participants from the group whom completed the MMPI. Twenty-six cases were omitted due to missing data in one of the three variables. The final SPSS data file contained the participant ID, education level, misconduct scale, and suicidal ideation.

Officers were coded as "nonviolator" (n=256) or "violator" (n=156) based on their history of misconduct, from which the number of prior infractions was used to operationalize the misconduct variable. All participants had completed the Minnesota Multiphasic Personality Inventory, from which the score on the suicidal ideation scale was used as the categorical dependent variable. Risk for suicide in officers was coded 1 for "suicidal" (n=26) and 2 for "not suicidal" (n=386). Education was coded 2 for "high school diploma/equivalency" (n=135), 3 for "some college" (n=216), and 4 for

"Bachelor's degree or higher" (n=61). Preliminary analyses indicated that education and misconduct were not significantly related to an officer's risk for suicide.

Results

Variables were tested both independently and as an interaction (Education x Misconduct) to determine significant effects in officers' suicidal ideations. First, t-tests were used to test each variable independently. Using this method, mean comparisons of the two predictor variables indicated that education level did not significantly affect risk for suicide in officers (t(410) = .507, p > .05, d = .103). Likewise, t tests also revealed that misconduct level did not significantly affect risk for suicide in officers (t(410) = -.947, p > .05, d = .024).

Table 1 presents standard deviations and means identified by variable, which can assist in the simplest way in showing differences in respect to the individual variables between officers in the suicidal group versus officers in the nonsuicidal group. Accordingly, the mean education level varied from 2.81 in the suicidal group to 2.89 in the not suicidal group, with less than a tenth of a difference. The mean misconduct level varied only .24 from .50 in the suicidal group to .74 in the not suicidal group, also less than a significant difference.

Table 1

Summary Statistics by Group and t *Test Results*

	Total Sample		Suicidal		Not Suicidal		t test		
Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*	*t*	*df*	*d*
Education	2.85	.66	2.89	.65	2.81	.67	.507	410	.103
Misconduct	.62	1.03	.50	.76	.74	1.29	-.947	410	.024

These results ultimately mean that the two separate correlations for which this designed rested were not supported by this particular study, and that neither variable independently affected an officer's risk for suicide in a manner that could be deemed significant by research standards. These results could not support significant relationships that other studies have validly determined, such as Manis et al. (2008) which provided strong correlations between education and misconduct. Likewise, the relationship between misconduct and suicide could not be replicated as in studies like Aamodt & Stalnaker (2001).

A logistical regression analysis was conducted to examine the direct effect of both predictor variables on officer's risk for suicide. In this regression, education level and misconduct were the predictor variables, and suicidal ideations (coded 1 for suicidal and 2 for not suicidal) was the outcome measure. The results for the full model were also not statistically significant, $\chi^2(3, N = 412) = 1.58$, $p > .05$, indicating that the set of predictor variables did not reliably affect an officer's risk for suicide.

The model accounted for a very small variance in suicidal ideations and (Nagelkerke R^2) = .10, explaining only 10% of the officers who had elevated suicidal ideations using their level of misconduct and education as cause. This leaves the vast majority of officers with elevated risk for suicide to be unexplained by these variables and accounted for by unknown factors that are unaddressed by this study. With this large amount of variability, this model and/or research design is unsuccessful in identifying variables that would explain variances in officers' risk for suicide.

Table 2 presents statistical calculations from which the interaction effect was analyzed, including regression coefficients (β), Wald statistics (W), odds ratios (OR), and 95% confidence intervals for odds ratios for each of the predictors. The results indicated that education (β = -.045, W = 3.48, p > .05, OR = .96), and misconduct (β = .692, W = .545, p > .05, OR = 1.99) were both not significantly related to suicidal ideations of law enforcement officers. This further reiterates results in Table 1 that indicated neither variable is a reliable predictor or influence of officer risk for suicide. Because there were no significant findings, positive or negative correlations cannot be assumed or expanded upon to address the directional hypothesis I previously presented.

Table 2

Logistical Regression Results

	B	S.E.	Wald	Df	p	OR
Misconduct x Education	-.177	.311	.324	1	.569	.84
Misconduct	.692	.938	.545	1	.460	1.99
Education	-.045	.348	.016	1	.898	.956
Constant	2.714	1.017	7.124	1	.008	15.08

Summary of Findings

In the present study, neither main effect of education level and misconduct nor their interaction significantly affected an officer's risk for suicide. The mean misconduct level contradicts the assumed pattern presented by previous literature that the higher level of misconduct an officer has, the higher his risk for suicide; however, the results are not significant which prevent the researcher from drawing a conclusion concerning misconduct and risk for suicide. Results from a logistical regression analysis indicated that increased levels of education and misconduct are not related to decreased likelihoods of suicidal ideations in officers.

The following chapter will provide interpretations of the findings, as well as discussing limitations of the study. It will close by providing recommendations of how to

strengthen or extended future studies in this area, as well as discussing implications of social change.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

This study was conducted to determine whether or not a police officer's education level would in any way affect the relationship between misconduct and risk for suicide. It was a quantitative inquiry using secondary data that were comprised of a national sample of over 800 active duty officers. Key findings in this study failed to accept the alternative hypothesis that education level would moderate this relationship. This chapter presents important information concerning how these findings should be interpreted, as well as addressing limitations of the study that potentially affected these findings. It will also address recommendations and social implications that can be drawn from these results.

Interpretation of the Findings

Overall, the proposed model did not indicate significance, and this could be attributed to the lack of officers who revealed a heightened risk for suicide on the SUI. Of the sample used, only 6% ($n=26$) of officers were suicidal, leaving only a small proportion of the sample to represent maladaptation of the dependent variable. The *healthy worker effect*, as discussed in Chapter 2, can be used to discuss the relatively low number of officers who indicated they were at a higher risk for suicide (as indicated by a 1 on the SUI scale). The *healthy worker effect* suggests that the health of a person is correlated with his/her occupational choice and health associated with one's chosen career (Kapusta et al, 2010). In this case, since police officers are tested both physically and psychologically to ensure high standards are met before entrusting the individual with this type of public service, it is suggested that this population is healthy and would

suffer less from maladaptive psychological reactions. Consequently, though the theoretical explanation is valid in this interpretation, it does not change the fact that the results were not significant.

In terms of theoretical frameworks, Zhang's (2005) strain theory of suicide cannot be appropriately used to explain the higher levels of misconduct in non-suicidal officers than in suicidal officers (Zhang, 2005; Zhang et al, 2009). Misconduct in this study was used as a possible strain that would increase risk for suicide, which assumes a positive relationship. However, misconduct was neither determined to be significant on its own, nor in interaction with education level. The caveat in this instance is that misconduct was also not clearly controlled for in the Boes et al. (1998) research. Misconduct cannot irrefutably be interpreted as a cause of strain; but can arguably be considered strain towards risk for suicide in this population from a theoretical standpoint. This too is supported by prior research, such as Violanti (2005) that supports this claim.

Limitations of the Study

There are several limitations in this study, the most important being the low percentage of officers who indicated suicidality. With there being such a small amount of the sample that actually indicated suicidality, the chances of uncovering an effect proposed by this model were low. Limitations of police officers reporting suicidality was discussed at length in the second chapter, and it is thought that some of these reasons could have played a role in such a low number of officers indicating any risk for suicide (such as fear of job loss or loss of firearm, stigmatization) (Violanti et al, 2010).

The nature of the original study joined equal numbers of officers who had history of misconduct and officers who had no history of misconduct. This limits the true reflection of officer misconduct since every one out of two officers are not corrupt (Rydberg & Terrill, 2010). While this dataset was on face value a good match for this study, the facts that there was a very low percentage of the sample that indicated suicidality and there was a non-proportional representation of misconduct (as compared to measures reflected in Chapter 2) could contribute to the lack of significant findings from regression analysis.

The data were limited to acts of misconduct of which the police agency was aware. Because the Boes et al. (1998) study operationalized misconduct as formal documentation, there is still the possibility that officers from the nonviolator group actually had acts of misconduct of which the agency was simply not aware, or in which were not documented. Moreover, officers who were violators in the Boes et al. (1998) study were more likely to be fired than nonviolators, which automatically omitted them from inclusion as an active duty officer. Boes et al. also did not attempt to contact officers who had been dismissed for cause (Boes et al., 1998).The study was limited to the information provided by the dataset, and can only interpret predictions based on the information provided. Although the dataset contains all the necessary variables for this study, a limitation of using secondary data includes not having personal knowledge of specific recruitment activities or data collection, coding, or other practices associated with data collection.

Recommendations

This study derived strength from accessing secondary data that spanned a large geographic area, and was much larger than the researcher would have been able to access on her own. However, analyses were limited by several factors. Recommendations for future research include employing a research design that requires an equally representative sample of suicidal versus non-suicidal officers. Independently-collected data may also include a specialized assessment that indicates predictive validity for police misconduct. In the original drafting of this study, independent data collection was sought. However, several problems emerged that posed validity concerns on their own, which included barriers to accessing active duty officers, concerns of response validity in terms of reporting suicidality, and lack of time-conservative misconduct measures. In searching for misconduct scales that were both specific to law enforcement officers and indicated validity, one of the most desirable ones would have required approximately an hour to complete.

If independent data were collected, a predictive survey would be beneficial in capturing potential patterns of misconduct that were not caught by the police agency. Moreover, using a valid psychological assessment that is shorter than the MMPI, possibly that only focuses on suicidal ideations, can minimize the time requirements such data collection would require and would minimize the concern of response validity. Boes et al. (1998) utilized a lengthy psychological assessment because it was already used in the psychological screening of officers; thus, the entire MMPI was a valid fit for their research purposes in detecting personality characteristics.

Implications

Potential positive social change from this study can be promoted on several different levels, primarily on organizational and societal levels that include or overlap law enforcement officers and their families. Although this study did not find significant results using the proposed model, it contributes to the literature by proposing a model that could be re-visited in the future using more refined methodologies. This model has not, to the researcher's knowledge, been proposed before. This can be used in scholarly conferences to elaborate on the field of police suicide. In effect, the largest positive social change this research study can promote is discussing and emphasizing the difficulties in studying police suicide. Suicide in police officers is even more so repressed due to masculine (machismo) and stoic overtones that pervade the entire police culture. Misconduct is also an equally taboo topic that is protected by many officers by a shared professional code of silence (Larned, 2010). Uncovering significant results in either one of these topics is difficult, but uncovering significant results in both of these areas simultaneously necessitates that the researcher understand the delicate nature of a police culture (Larned, 2010). This can be used to discuss the difficulties to promote police organizations recognizing that there may be a link between these areas, and that suicide is a rare but still relevant topic in police work.

Potentially the largest positive social change that can come from this study is raising awareness of police suicide. Violanti (2005) would like to sensationalize police suicide as an epidemic in blue; however, scholarly research into police suicide continually refutes the phenomena as an epidemic (Aamodt & Stalnaker, 2001; Herndon,

2001). Moreover, even though the phenomena is not an epidemic in blue (Violanti, 2005), it nonetheless affects individuals, families, and precincts/agencies. Publication and presentation of this material in scholarly journals and professional conference can invite academic discussions about police suicide and continue the discussion with police professionals and police psychologists. By sharing information between professionals, and particularly other researchers in police psychology or police suicide, the hopes of this research is that police suicide will continue to be researched and furthered as an overall research area. By raising awareness of police suicide, it is hopeful that agencies, both local and national, may implement more awareness programs focusing on mental health and the prevention of misconduct.

Conclusion

Police suicide is not a rampant issue that plagues a large number of officers each year. In fact, it is a rare occurrence when compared to the total number of officers annually employed within the United States (Gearing & Lizardi, 2009). However, the small quantity of officers who die by their own hand should not overshadow the quality of life that is taken from the officers, their families, and their precincts when a suicide is completed. Research into police suicide is an altogether complex topic because of the nature, as well as the population, that is involved. Despite this research not garnering significant results, it is still crucial to continue researching potential causal explanations behind this phenomenon. It is hopeful that similar models will resolve methodological weaknesses this study encountered, while elaborating on any results that may be found using this particular model.

Verghese (n.d., p. 4) surmised it appropriately that, "The flip side of suicide is that is leaves a lingering question in the minds of the people who survived. It's like a cancer that's metastasized. The suicide is the cancer and the metastasis is all these people saying, why?"

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Appendix A: IRB approval

Dear Ms. McCommon,

This email is to notify you that the Institutional Review Board (IRB) confirms that your doctoral capstone entitled, "Law enforcement misconduct, education, and risk for suicide," meets Walden University's ethical standards. Since this project will serve as a Walden doctoral capstone, the Walden IRB will oversee your capstone data analysis and results reporting. Your IRB approval number is 11-11-14-0362255.

This confirmation is contingent upon your adherence to the exact procedures described in the final version of the documents that have been submitted to IRB@waldenu.edu as of this date. This includes maintaining your current status with the university and the oversight relationship is only valid while you are an actively enrolled student at Walden University. If you need to take a leave of absence or are otherwise unable to remain actively enrolled, this is suspended.

If you need to make any changes to the project staff or procedures, you must obtain IRB approval by submitting the IRB Request for Change in Procedures Form. You will receive confirmation with a status update of the request within 10 business days of submitting the change request form and are not permitted to implement changes prior to receiving approval. Please note that Walden University does not accept responsibility or liability for research activities conducted without the IRB's approval, and the University will not accept or grant credit for student work that fails to comply with the policies and procedures related to ethical standards in research.

When you submitted your IRB materials, you made a commitment to communicate both discrete adverse events and general problems to the IRB within 1 week of their occurrence/realization. Failure to do so may result in invalidation of data, loss of academic credit, and/or loss of legal protections otherwise available to the researcher.

Both the Adverse Event Reporting form and Request for Change in Procedures form can be obtained at the IRB section of the Walden website: http://academicguides.waldenu.edu/researchcenter/orec

You are expected to keep detailed records of your capstone activities for the same period of time you retain the original data. If, in the future, you require copies of the originally submitted IRB materials, you may request them from Institutional Review Board.

Both students and faculty are invited to provide feedback on this IRB experience at the link below:

http://www.surveymonkey.com/s.aspx?sm=qHBJzkJMUx43pZegKlmdiQ_3d _3d

Sincerely,
Libby Munson
Research Ethics Support Specialist
Office of Research Ethics and Compliance
Email: irb@waldenu.edu
Fax: 626-605-0472
Phone: 612-312-1283

Office address for Walden University:
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Minneapolis, MN 55401

Information about the Walden University Institutional Review Board, including instructions for application, may be found at this link:http://academicguides.waldenu.edu/researchcenter/orec

Appendix B: Correspondence

April McCommon **<april.mccommon@waldenu.edu>**   9/9/14

to perserec

Hello,

My name is April McCommon and I am a doctoral student with Walden University. I am finishing my dissertation and found a dataset that would be of great interest to my research. I would like to use the archival data collected to test a moderation model between police officer misconduct, education, and risk for suicide. The study says the dataset is within the NIJ archives, but I have been unsuccessful in finding it. I have tried contacting NIJ but have also been unsuccessful. I was hoping since PERESEC was involved in this study you would be able to point me in the right direction. The grant number is #96-IJ-CX-A056,

Reed, Susan C CIV DODHRA DMDC (US) **<susan.c.reed.civ@mail.mil>**   9/11/14

to me

Greetings,

The data set you requested is attached (COPASCI.ZIP).

Susan Reed
Social Science Analyst
Defense Personnel and Security Research Center (PERSEREC)
Defense Manpower Data Center (DMDC)
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831-583-2811

Curriculum Vitae

April J. McCommon
April.mccommon@yahoo.com

Education:

PhD Forensic Psychology, PhD   YEAR 2015
    Walden University, Minneapolis, Minnesota
    Dissertation Topic: *Police suicide: Education, discipline, and suicide.*
    GPA: 4.0

Master of Arts Forensic Psychology   YEAR 2011
    Argosy University, Phoenix, Arizona
    GPA: 3.9

Bachelor of Science Criminology, minor in Legal Thought   YEAR 2009
    University of Memphis, Memphis, Tennessee
    GPA: 3.6

Relevant Professional Experience:

<u>Pre-sentence Investigator</u>   Feb. 2014 to Present

    Tennessee Department of Corrections, Probation and Parole
        1661 Hollywood Dr., Jackson, TN
        731-984-9801

<u>Instructor of Psychology</u>   2011 to 2014

    University Tennessee at Martin (Ripley),
        315 South Washington St., Ripley, Tennessee 38063
        731-221-8778

<u>Clinical Therapist</u>   2009-2012
    Professional Care Services of West Tennessee, Covington, Tennessee
    1997 Highway 51 South, Covington, TN 38019
    901-476-8967

Community Service:

Anti-Drug Coalition of Tipton County (ACT), Covington, Tennessee (Member)

        President   2012-2014
        Secretary   2011-2012

Professional Presentations and Papers:

Synthesizing Synthetics

        Hardeman County Child Protective Investigative Team
        Tipton County Child Protective Investigative Team
        Lauderdale County Child Protective Investigative Team
        West Tennessee Women's Police Association
        Tipton County Carl Perkin's Center/Department of Children's Services
        Tipton County Sheriff's Office
        Tipton County Board of Education

I am sole contributor of a psycho-educational presentation focusing on synthetics drugs, warning signs, physiological, neurological, and psychological side effects, and trends in home manufacturing. It is an extension of the *Legal Highs* presentation, furthering research on the topic while omitting the prescription drug abuse focus.

Legal Highs

NAADAC National Conference (Miami, FL) (Invited) 2012
TASA Conference (Nashville, TN) May 2011
Tennessee Department of Prevention Services (JACOA Jackson, TN) 2011

I am primary contributor to a clinically-focused presentation on synthetic drugs, current trends, effects and treatment efficacy. The presentation focuses on emerging laws that criminalize promotion, use, and possession, and was one of the first in the state to focus specifically on this topic.