

Police Education: An Analysis of the Effects of Educational Requirements for Police
Officers On Citizen Complaints

by

Daniel Boss

Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Science in Criminal Justice

Youngstown State University

December 2019

Signature Page

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On Citizen Complaints

Daniel L. Boss

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Signature:

Daniel L. Boss, Student Date

Approvals:

Attorney Patricia B. Wagner, Thesis Advisor Date

Dr. Richard L. Rogers, Committee Member Date

Commander Edward J. Villone, Committee Member Date

Abstract

This study was conducted to assess the effects of educational requirements for police officers on the number of citizen complaints received by police departments.

Existing literature covers a number of ways in which education in general affects police behavior; however, very little pertains to the idea of measuring citizen complaints.

Analysis will show high correlations between the two; however, significance levels do not support evidence of this theory. Additionally, one of the control variables used was found to be indicative of a possible correlation, warranting further research.

Acknowledgements

This section will be used to pay respects and extend thanks to the many individuals without whom I would never have been able to complete this work. The constant motivation, encouragement, and assistance over the years have been invaluable and without them all, I would not be here.

To my loving wife;

You never stopped encouraging me and you never gave up on me finishing, no matter how much I procrastinated.

To my mother and father;

Without the support you provided and the values you instilled in me from such a young age, I never would have the self-discipline to have made such an achievement.

To my Thesis Chair Attorney Wagner;

Your advice and editing mastery were invaluable as I worked to complete this task, in addition to the other classes you have taught me.

To Dr. Richard L. Rogers;

Your statistical expertise and unique teaching style have been invaluable to creating my knowledge base of statistics.

To Commander Villone;

Your on-the-job take on my topic gave me a completely different perspective and provided a fresh look at the various aspects of my thesis.

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Chapter I

Introduction

College education has been seen by many in the last several decades in a variety of ways. Many see education as a way to get ahead in their career of choice, as an escape from a less than pleasant living situation, and even as a requirement to fit into their families. As the commonality of education has increased over the years, the question of how much education one needs has been debated more and more. The requirements for employment in nearly any field now mention some educational requirement in some way, although the level of education necessary differs between professions. Roberg and Bonn (2004) comment that “today, the high school diploma has essentially been replaced by a college degree as the above-average level of educational attainment in the USA.” One profession gaining a lot special attention in the past 40-50 years is that of a police officer sworn to protect the public. The question of how much education a police officer should have has been debated for over a hundred years with little to no agreement.

The question of what place higher education (education beyond a high school diploma) holds in the job of a police officer was first looked at as a topic of discussion by August Vollmer. Vollmer was the Chief of the Berkeley, CA police department starting in 1905 and was responsible for a great deal of change in the policing techniques used at the time (Gardinier, 2017). Being, arguably, one of the most influential American policing figures to date, it comes as no surprise that Vollmer’s opinion has sparked a debate that has lasted over a hundred years. Vollmer believed that all police officers should be constantly undergoing training as part of their employment. Vollmer also advocated for police officers to be educated beyond high school. This has been heavily

debated over the years with many supporting the general idea without any real proof that it would be helpful, and others believing it to be a waste of time. One of the major reasons why advocates were beginning to believe that officers needed further education was due to the relatively minimal status of the training of the time. Brereton (1935) writes that training for police officers at the time “usually lasted only a week or ten days, during which time the recruit was supposed to learn the ‘fundamentals of his work’” (pg. 247). This is a mistake given the nature of police work, especially considering the fact that in no other job are the new recruits expected to handle any situation thrown at them on day one. A unique aspect of police work is that when the public sees officers in uniform, they expect them to be able to completely fulfill the obligations and duties represented by it. Those who believed that officers should receive additional education began the process of requiring higher educational levels in the higher ranks of the police department. Ranks such as sergeant, lieutenant, detective, captain, etc. were among the first required to hold some sort of college degree prior to being hired or promoted. One of the first attempts to create an organized secondary form of education was through the creation of the Police College in Great Britain in 1948 (Harris, 1949). This college was designed to increase the education of the upper ranks of the police in England and Wales so that they in turn could teach those officers in their charge.

After many years of debate and only minor changes in the education of police officers, the 1960s came about, bringing with it civil unrest, race riots, and a great deal of scrutiny focused on the police on the part of the public. Carter and Sapp (1990) write that the reason why research started in earnest at this time was because “higher education *seemed* to be a good idea for the police; it *appeared* to be a logical evolutionary step for a

profession in its adolescence; many people *believed* that the college experience would make officers perform better” (pg. 60). This was in response to a number of factors including the aforementioned social issues as well as multiple Presidential Commissions over the years prior investigating the effectiveness of the police. The underlying issue was that a great many people held strong beliefs that education would benefit police officers, but no one had done the research to back up these beliefs.

In recent years the focus of policing has changed and we find ourselves in the age of community policing. Community policing is a term simply meaning utilizing the community to better police the public. What this means in practicality is that officers focus more attention on building relationships with the public they serve and on performing outreach programs, rather than focusing solely on patrol and crime fighting. This endears the officers to the public, thereby increasing the likelihood the public will provide officers with tips in relation to investigations, a technique police rely heavily on in the solving of most crimes. To this end police administrators, as well as public advocates, began looking for ways to improve the community relation skills of their officers. One way that seems to make logical sense is through college education. Education requires individuals to learn about cultures, work with other people, and meet certain academic standards. Carter and Sapp (1990) found a number of ways throughout the literature that police officers have benefitted from higher education. These include a lessening of rigidity, increased communication skills, and increased professionalism. Smith, Locke, and Walker (1968) also found results that supported the assumption that education decreases the authoritarian attitudes of police officers. Police officers with the

ability to empathize and understand the situation of individuals they come in contact with are more likely to receive cooperation when they ask for it.

Purpose of this study

This study is important to the literature in a couple of different ways. This study is intended to add to the literature concerning the question of whether or not police officers should be required to hold a higher degree before being hired. The intent of the author is to provide readers with clarification of the currently disputed results already found within the literature. The question still in many people's mind is: should police officers be required to hold a college degree as part of the pre-employment requirements for hiring? Since this question has not been fully resolved and many cite a lack of empirical evidence as the reason, this study will add to the literature by providing empirical evidence. Many still believe that police officers do not need college education and to require it would diminish the applicant pool, in addition to being a waste of time for the individuals attending college. Germann (1967), however, points to the standards of nearly every state and federal law enforcement agency requiring a higher degree of some sort (most often a bachelor's degree). In the mind of Germann, "municipal police service is far more complicated, technical, and of far greater importance" lending himself in support for education of police officers. The patrol officer is seen as the first line of defense in terms of law enforcement of any kind and in this regard their job is most important and each officer should be the best equipped he or she can be.

One way in which the effectiveness of community policing is judged is through the number of citizen complaints a department receives. Citizen complaints come in a variety of forms and at times can be frivolous; however, at times there is evidence backing the claim of the citizen. These complaints, if sustained, show an opportunity where an officer may have been able to handle the situation differently and perhaps would have known how, had they been educated. This has been debated as well; however, the question still remains: will hiring college graduates reduce the number of citizen complaints incurred by police officers? Many believe that with decreased citizen complaints and increased citizen trust in police officers, the officers will be able to better protect their charges and be able to focus more on the job they are tasked with. Since trust is an integral aspect of community policing, and citizen complaints are seen as an indicator of mistrust or the lack of trust, the study of the effects of various variables on the number of citizen complaints is a valid one. Manis, Archbold, and Hassell, K. (2008) found that “officers without four-year degrees were more likely to have a complaint sustained against them compared with officers who had earned four-year degrees” (pg. 519). In addition, Manis et al. and other researchers have found that officers with higher degrees are named in considerably fewer formal citizen complaints. This is one example of research that has shown that college education can indeed improve the community policing skills of police officers by way of measuring the number of citizen complaints received. In contrast, Villone (2010) found that “the expectation that higher education would lower chances of police officers getting complaints was not supported”, and even found that the opposite may be possible. This is an example of research that has shown that college education may have no effect or even detrimental effects on the number of

citizen complaints incurred by officers. These are prime examples of ways in which the literature conflicts in regards to the variables at hand.

This study is important because it provides research into two variables that are still under-represented in the literature. While research does exist concerning how educational levels can affect the number of citizen complaints received by an officer, the research is limited. Much of the literature pertaining to the effects of higher education on police is research into the effects on police behavior, arrests, use of force, abuse of power, etc. This study will provide topics of discussion for law enforcement administrators as well as policy-makers towards the goal of deciding whether to raise mandatory educational requirements for police officers to include college education of some level. By providing empirical research, the author hopes to help a general consensus to be reached. Considering the ever-changing nature of the job of a police officer, policy-makers consistently need to be searching for ways to improve the police force in order to keep up with the necessary changes. Things such as technological advancements can simply be a matter of training; however, changes such as racial stress in a community take a different kind of training. This can require the kind of long-term intensive training that education can provide, especially at a college level.

Summary

This chapter gives readers an inside look at a problem they may not necessarily be aware of given its specificity to the profession. This introduction is designed to give readers an idea of the underlying causes of the question referred to in this study. In addition, the importance of why this question is worthy of studying has been touched on.

The next chapter will focus on a review of the literature concerning the topic of education for police officers. This review will not be exhaustive but will provide readers with a good view of the current state of the debate regarding educational requirements for police officers.

Chapter II

Literature Review

This section will cover a review of the literature concerning the topics of education, citizen complaints, and police officers. This review will give readers an understanding of the literature regarding the question of what the effects are that college education has on police officers. The review will continue by giving readers an understanding of the literature regarding the effects of college education as well as the effects of this education on the number of citizen complaints received by police officers. Lastly, this review will provide readers with examples of how college education benefits the performance, etc. of a police officer, outside of the number of citizen complaints.

Education

College education has long been seen as the first step one undergoes when trying to obtain a job in their field or profession. With the exception of very few professions, college is where people go to further their general knowledge base and receive preliminary training in their field of interest. One major contributing factor to the research into education for police officers is the call for professionalism. Wilson (1951) strongly believed that the administration of personnel within police departments could not be improved until the professionalism was increased. This was necessary across the board in part due to the lack of standards when it came to police training across the country. While there was a good deal of similar information in training, there were also a lot of things that various police departments did differently. This lack of common ground caused many to see the police as lacking a professional air. This inhibited their ability to

do their job properly as it affected the way in which the public saw the police, thereby affecting the tips and information they passed on to the officers. In addition, as aforementioned, August Vollmer was another of the early voices to be heard speaking out and really being listened to regarding the need for college education for police officers (Gardinier, 2017). His efforts have continued well past his lifetime in the fight to help professionalize and optimize the police force serving the American public. He was one of the first advocates to see the “training” and the “education” of police officers as different matters. Even recently, policy-makers and law enforcement professionals struggle with the different definitions on this subject. At the Ninth Annual Meeting of the International Police Executive Symposium in 2002, the attendees believed that “in general, education was viewed as developing the ability to conceptualize and expand the theoretical and analytical learning process, while training involved gaining the skills needed to accomplish the immediate tasks and goals” of a police officers’ job (Kratcoski & Das, 2004). This shows that the training and education of police officers are both separate and necessarily combined. The question of how college education can be used to better the police force has been studied in many ways in the literature. Smith, Locke, and Walker (1968) looked at how college education affects the authoritarian attitude attributed to many police officers. This authoritarian attitude is a major drawback to the procedural way in which many officers are taught to deal with situations. This authoritarian attitude puts off a number of people and makes them react in a manner that counteracts cooperation. What Smith et al. (1968) found is that “college policeman tended to be less authoritarian than the non-college police” (pg. 440). The authority inherent in the nature of a police officer is such that some authoritarian attitude is expected, but that is not the

attitude spoken of here. The negative attitude meant here is the reputation that police officers have of being unforgiving, having no empathy, and being unnecessarily strict. The college experience is believed to increase the professionalism of the officer as well as equip them to address social issues in a more effective manner (Smith, Locke, & Walker, 1967). In this way, individuals hired to be police officers are prepared to adapt to their situation and their attitude comes across as being less authoritarian. Another way in which education has been studied is in the type of education that a potential police officer should pursue/receive. When the idea of a police officer attending college was first postulated, there were not any police science or criminal justice degrees. The first attempt at a college education pertaining to police procedure and the education of a future police officer was through the John Jay College of Criminal Justice (Loughrey & Freise Jr., 1969). This was the first college to dedicate resources towards the study and improvement of the criminal justice system. This brought up the question of whether college education was useful if it was not in a police science or criminal justice related field. Lankes (1970) found that “liberal arts and police science can mix, but liberal arts cannot be substituted for or supplant police science” which points to an answer of no. However, a possible cause of this opinion could be due to the low number of police science degrees available to candidates at that time. During the 1960s and 1970s the number of colleges with police science and criminal justice related degrees and course loads increased dramatically (Roberg & Bonn, 2004). This compounded with the findings of Aamodt (1997), show that in reality college education can be beneficial no matter the subject studied. In addition, the 1960s brought a number of social factors such as race riots and civil rights activism, prompting a number of different actions to be taken,

including the establishment of the President's Commission on Law Enforcement and Administration of Justice in 1967. This Commission found a number of things that could be improved upon in the entirety of the criminal justice system. The Commission (1967) recommended among other things that "the ultimate aim of all police departments should be that all personnel with general enforcement powers have baccalaureate degrees" (pg. 109). This was to be implemented by immediately raising educational requirements to a minimum of two years of college education. In addition, this was in response to findings that pointed to the fact that a large number of officers already had some college education. This led the task force to recommend the educational requirement changes.

More recently Roberg and Bonn (2004) found that "it appears as though enough evidence (both empirical and experiential) has been established to support a strong argument for a college degree requirement for entry-level police officers" (pg. 481). They base this off of an analysis of the data showing a growing trend in higher education in police departments, as well as finding no negative effects resulting from this trend. According to Jagiello (1971) there are those who disagree with the assessment that higher education is beneficial to police officers. The example given by Jagiello is that of the book written by Paul Chevigny which outlines the uselessness of college education for the patrol officer in a patrol setting. Jagiello, however, clearly disagrees with this assessment stating that "a Bachelor of Arts degree... should be encouraged as a pre-requisite to police employment as a patrol officer" (pg. 117-118). This was based off of the discretion exercised by police officers, the need to keep up with the public level of education, and the need for more than simple answers to problems, among other reasons. This is yet another example of how the literature conflicts on how education could affect a police officer.

Other recent research has been focused on very specific ways in which education has or could affect the job of a police officer. Applicable studies will be touched on regarding police educational levels and some of the discovered benefits of college education as well as citizen complaints. Lastly, this section will cover ways in which education has been either detrimental to the job of a police officer or has held no measurable effect on the job. This will assist readers in determining the necessity of the present study and also attempt to provide an accurate depiction of the present state of the literature.

Benefits

There have been many studies that have found direct and substantial correlations between college education and the life and performance of a police officer. These effects mainly surround the performance of the officers and their interactions with members of the public. Roberg and Bonn (2004) report many of these effects including decreases in authoritarianism, increased efficiency when applying discretion, better adaptation to the community the officers protect, as well as an increased level of community policing.

As aforementioned, police officers have the reputation of being unforgiving and exuding an extremely authoritarian attitude when dealing with the citizenry they protect. With the intent of drawing conclusions regarding the authoritarian attitudes seen in many police officers, and the effects that college education may have on those attitudes, Smith, Locke, and Walker (1967) performed a study to determine if college education would decrease this attitude. When controlling for various factors Smith, Locke, and Walker found that those officers attracted to and attending college, in general, “are significantly

less authoritarian than police who are not impelled to attend college” providing support for the theory. This was further explored when Smith, Locke, and Walker (1968) found that “the freshman police officer college students tend to be less authoritarian than the freshmen students who are not police officers” (pg. 442-443). This meant that as a whole, college educated police officers scored as less authoritarian than the average college student.

Germann (1967) advocated for an increase in the requirements of college education for police officers. This was based on Germann’s belief that the professional police officer was an officer with the training and education that college provides as opposed to an officer with practical-only training. In the opinion of Germann, “...he must exercise the greatest tact and diplomacy if he is to retain the confidence of the citizenry. No poorly educated officer can meet the strains of the service...” (pg. 604). This, combined with the fact that the federal police officers of the time (and still today) were required to hold a college education, led many to assert that police officers should be held to the same standard. Germann also advocated for a “broadly educated” individual to be hired as he believed that this would “... provide professional preparation” for the officer to integrate into their department. This was believed to help increase the professionalism of the department; by hiring individuals with a varied background, one could hire those able to learn the job of a police officer and would already be trained in how to be a professional. This has been debated thoroughly in the literature, with many studies agreeing with Germann (Harris, 1949; Loughry & Freise Jr. 1969; Ozel et al, 2009; Patterson, 2011).

Green and Linsdell (2010) advocate for increased levels of education for the purpose of education itself rather than trying to get officers trained in specific areas. What this means is that rather than advocating for a police-specific degree, Green and Linsdell advocate for higher education in any capacity. In their thinking, higher education increases skill in critical thinking, analysis, and research skills (pg. 156). These are arguably some of the most important skills used by police officers in the discharge of their daily duties. These findings have been corroborated by others (Jagiello, 1971; Loughry & Freise Jr.; 1969, Hallenberg & Cokroft, 2015; Bruns and Magnan, 2014) who also believe that the educated officer is better prepared for the job than the lesser educated officers who are given only a police academy training.

Another perceived benefit of higher education when applied to the police officer is the perception of police officers, both by fellow officers as well as members of the public. This applies to perceptions of the job they do, their job satisfaction, as well as usefulness of higher education itself. The majority of studies have shown little to no correlation between higher job satisfaction and overall opinion of the job and higher education. This will be touched on further in a later portion of this work. Telep (2008) determined during his study that college experience of any level “had a positive impact on attitudes [regarding use of force] when comparing these officers to those with just a high school diploma” (pg. 72). This held true for all levels of education measured, although at the associate’s level it was not found to be as statistically significant as the other levels. In addition, the results were not found to be statistically strong enough to fully support the hypothesis; however, the results were significant enough to measure. The author hypothesized this could be due to those who attended “some college” being

part of 4- year degrees. In addition, Telep found that officers with a bachelor's degree prior to hiring had no change in attitudes regarding the abuse of authority compared to officers without college education. This is in direct opposition in regards to the topic at hand as the hypothesis is that increased levels of education would decrease citizen complaints. Since common experience shows the average person that the majority of citizen complaints involve use of force and/or abuse of authority, this would provide refuting evidence against the idea of increasing educational levels.

Bruns and Magnan (2014) found that while a large portion of measured police organizations considered higher education to be important, many of the middle level leaders and officers therein did not truly hold this opinion. What this means is that upper leadership considered education to be of great importance for the organization and the future of policing, however, personal opinions of the benefits of higher education on the job held by police officers differed. Many agreed that education was unnecessary for job performance; while others believed it was vital, meanwhile still others believed that higher education was neither necessary nor a detriment. This shows the variety of opinions of police officers themselves in regards to the necessity of higher education, whether prior to service or during service. Edwards (2017) found that while very few police organizations required more than a high school diploma, a large number of police officers chose to attend college classes of their own choice, both prior to and during service. Edwards also found that educational level played an important role in the attitudes held by police officers towards higher education, causing many to advocate for the increasing of educational requirements for police officers. These results remained consistent when compared to a variety of factors including gender, age, and specific

agency police officers were employed at; with none of these factors affecting the aforementioned attitudes. These results support the theory that higher education could help police officers as well as decrease citizen complaints and should receive careful attention due to the fact that these results were found amongst police officers themselves. It should be noted that the results only held up with those officers with completed degrees, as opposed to those with no college or little college experience, but no degree completion. What the above mentioned results mean is that police officers with higher levels of degree completion feel that higher education is beneficial to the job of a police officer. Hilal and Zhao (2013) found similar results when measuring the attitudes of officers in Minnesota towards higher education as a standard for hire. Hilal and Zhao found that even though "...Minnesota already has the highest standards for initial hire in the nation... a third of Minnesota officers think it should be higher still..."(pg. 473). This shows us that officers do place value on the concept of higher education when applied to the police officer. The study found that 30% of officers believed that a Bachelor's degree should be the starting requirement, in addition to over 70% who would still have applied for the job if the requirement were already a reality. In addition, Hilal and Zhao found that these feelings were more likely to be held by lower level officers than high level administrators. This provides even stronger support for the positive value of higher education when trying to discern the effects of educational level at the patrol officer level.

Citizen complaints

Scarce literature exists pertaining to the effects of educational levels on the number of citizen complaints received by police officers. While a good deal of research has been dedicated to the study of citizen complaints received by police officers and possible causes of these complaints, little to no research has been performed looking into the idea that complaints could be prevented with higher educational requirements. The following examples were found attempting to study this point, with mixed results found therein.

Manis, Archbold, and Hassell (2008) found that “officers without four-year degrees were more likely to have a complaint sustained against them compared with officers who had earned four-year degrees” (pg. 519). What this means is that complaints received by officers without the degree were more likely to have those complaints sustained than by officers with the degrees. In addition, these results were matched when comparing the number and types of complaints received by the two groups of officers. Lastly, it should be mentioned that while these results held true for every aspect of formal complaints received by officers, there were no statistically significant differences in the same measurements of informal complaints received by officers of each group. This could be explained by the types of complaints regarded as informal versus formal; however no speculation or study was performed to determine the differences. Hickman (2006) studied the number of citizen complaints as related to use of force amongst a variety of agencies. The results found that “the majority of force complaints were received by large municipal police departments” (pg. 2). These results indicated that the larger the department or agency was, the higher the number of complaints. This also held

with regard to the rate of complaints per officer, indicating that it was not simply the number of complaints that increased but that the number per officer increased with increased numbers of officers. While this study did not look at the effects of education in any way, it provides direction for future research as well as possible complications for the topic at hand. Future research should be directed towards reasons why larger departments would have higher levels of citizen complaints beyond the obvious reason that there are increased numbers of officers.

Detrimental and neutral effects

No matter the subject of study, where support exists, there usually exists some refuting evidence as well. This topic is not without refuting evidence; however, the majority of findings are either beneficial or neutral when studying the effects of higher education on the performance of police officers as well as the number of citizen complaints received by officers. The neutral findings are such that they do not detract from the theory; however, they also do not fully prove the theory to be valid either.

Villone (2010), when studying the effects higher education has on police officer liability of a variety of kinds, found negative effects. Villone studied the criminal, civil, and administrative liability of officers with relation to their educational level by measuring the number of complaints from each type of liability. Villone found that the hypothesis that "...higher education related to less criminal liability, was not supported through the statistical analysis" (pg. 62). In addition, the author found similar results when measuring the number of civil and administrative complaints received by officers with a degree. The author summarized by saying "in this dataset complaints are not

related to education, if anything more education appears to be related to a greater likelihood of liability /complaints” which is in direct opposition to the findings mentioned above found by Manis, Archbold, and Hassell (2008).

Rydberg and Terrill (2010) found that officers were no more or less likely to search or arrest an individual based on the officer’s educational levels. In addition, the authors “found that college-educated officers use force less often than their less educated counterparts” (pg. 110). This is a prime example of how a majority of the literature concerning the topic of the effects of higher education on police officers have found results that are either beneficial or neutral. In addition, while studying Turkish police officers, Özel et al (2009) found that there was “no statistically significant relationship between the two variables” (pg. 362). This meant that while officers may be bored, complain about, and/or be generally dissatisfied with their job, there was no correlation between educational level and these feelings. In addition, professionalism levels were higher than in other countries. This could be due to cultural differences, or it could be due to unknown factors; however, these results are still worth mentioning as they are outside the norm. Paoline, Terrill, and Rossler (2015) studied the effects of higher education on police officers’ attitudes to their jobs. Their findings included “few statistical effects regarding the benefits of higher education on officers’ perceived job satisfaction, views of top management, or role orientations” (pg. 67). This supports what Özel et al found and, in addition, brings it closer to home due to Paoline, Terrill, and Rossler’s study being performed using United States data. Reasons for the lack of statistical evidence hypothesized by the authors were attributed to sample makeup, police culture, and unrelated demographic factors. In addition, numerous studies have attempted to

determine if the type of college education received by police officers has any effect on their performance, job satisfaction, overall attitude, etc. The theory studied is that police officers with degrees in criminal justice as opposed to other disciplines would have lower numbers of citizen complaints, higher job satisfaction, and better overall attitude and performance. The findings, however, were such that in reality the type of degree and discipline studied had no bearing on how a police officer does their job and their attitudes while doing it (Manis, Archbold, & Hassell 2008; Edwards 2017; Bruns & Mangan 2014).

Summary

This chapter gives readers an idea of the literature already in existence in regards to the relationship between higher education and police officers. This relationship has been studied at length both in ways similar to the topic at hand as well as in other ways. There is no strong overall consensus within the literature; however, many of the findings are consistent with the theory that higher education is beneficial for the police officer. In addition, nearly all the findings not found to be beneficial were neutral, meaning they did not necessarily advance the theory that higher education is good for police officers but also did not undermine the theory. The next chapter will cover the methodology of this study to explain the variables, measurements, and analysis used and their purpose.

Chapter III

Methodology

Design

The question of the effects of education on the job of a police officer is clearly highly debated due in part to the complex nature of the relationship, if a relationship exists at all. This study aims to clarify any relationship and provide policy-makers substantial evidence to use toward refining educational requirements for police officers. One way in which the job of a police department is evaluated is through the number of sustained complaints that department receives. The questions used will be as follows;

- Do the educational requirements of police officers have a negative effect on the number of sustained citizen complaints received by police officers?
- Does the specific level of educational requirement matter in the effect it has on the number of sustained citizen complaints?

By asking these questions, the author was expecting to find a negative correlation between increasing educational requirements of police officers and the number of sustained citizen complaints received by those officers. The author also expected to find that the higher the educational requirement, the lower the number of sustained complaints.

The data being used were collected by the Bureau of Justice Statistics as a part of the 2007 Law Enforcement Management and Administrative Statistics survey. These data were gathered to assist law enforcement management personnel in organizing their departments and to help establish best practices. These data were collected via survey

from a variety of state and local law enforcement agencies across the country. A total number of 2650 different agencies are represented in the data and the entire dataset was used for the performance of this study. These data were tested against each other in an effort to confirm or refute the proposed theory of increased levels of education causing lower numbers of sustained citizen complaints. This author used a version of the 2007 LEMAS survey set up by Professor Rogers and used in class. All analyses were performed using the PSPP program, version 1.0.1-g818227.

Variables

The variables used are as follows: NUMOFSUST, MINEDUC, FEMALEP, MINORITYP, SWNFTEMP, TOTACAD, TOTFIELD, and TOTINSRV. NUMOFSUST is a measure of the number of sustained citizen complaints reported by agencies within the dataset. The NUMOFSUST variable was the dependent variable used in the analyses as the measure of the effectiveness of increased higher education.

MINEDUC is a multi-variable measure of the minimum educational requirements for new officers reported by the agencies in the dataset. This variable was decoded and recoded into individual variables reflecting five different educational requirements set forth by reporting agencies. The MINEDUC variables were the independent variables that were the measure of the amount of education being measured against the sustained citizen complaints.

FEMALEP is the percentage of officers that are female. Similarly, MINORITYP is the reported percentage of officers that are members of a minority group. SWNFTEMP is the number of sworn personnel that are full time personnel. TOTACAD is the reported

number of required hours of academy training for new personnel. TOTFIELD is a measure of the total number of hours of required field training or hands on training required of new personnel. Lastly, TOTINSRV is a measure of the total number of in-service training hours required of all sworn personnel. FEMALEP and MINORITYP variables were control variables to ensure that reliability of results is not compromised due to either of the possible explanations of lowered sustained citizen complaints being due to increased or decreased levels of female or minority officers. SWNFTEMP was used to control for the theory that greater the number of sworn officers a department has, as opposed to part-time non-sworn officers, the fewer the sustained citizen complaints.

Lastly, the three variables preceded by TOT were used as control variables as well. The theory that increased training for officers contributes to lower levels of citizen discontent is gaining traction. To this end, the proposed analysis attempted to control for this possible correlation by utilizing these three variables to increase reliability of results found when considering the effects of increased educational requirements of officers on the number of sustained citizen complaints.

Measures

Measured analyses were univariate, bivariate, and multivariate in nature. All variables have had descriptive or frequency distribution analyses run on them to give readers a better understanding of each. Bivariate statistics include a one-way ANOVA test and Pearson r tests depending on the types of variables used. All bivariate statistics were run between the dependent variable and each individual and control variable. Multivariate analysis were conducted using an OLS regression Model.

A Pearson r test is designed to determine the strength of any correlation that exists between two variables. This is done by determining a center line of how the data points of each variable would align in a perfectly matched point-for-point correlation. The Pearson r figure is a measure of how far off that perfect center line the data points are. The thresholds for significant correlations are $>.10$ =weak, $>.30$ =moderate, and $>.50$ =strong. Therefore, any Pearson r correlation figures found exceeding the values listed will be attributed to the appropriate level of strength. The figure can reach as low as -1, indicating a perfect negative correlation, or as high as +1, indicating a perfect positive correlation. In this way, the closer the results are to one of the ends instead of 0, the stronger the correlation. In addition, a significance level is measured to determine how much the resulting correlations can be trusted. The measured p-value significance thresholds are listed in Table 2.1. This is a way for readers to measure how confident they can be in the correlation results. If the significance level is .05 then readers can be 95% confident in the results of the correlation measurements. Greater than .05 would mean that readers would have lower levels of confidence in the measured correlations (i.e. .10 would give readers 90% confidence in results etc.).

The one-way ANOVA test run between dependent variable NUMOFSUST and independent variable MINEDUC is run because there are more than three values included in MINEDUC. This test is designed to compare means between variables to determine whether the means of each group are the same within a population. The test then determines if the means of any of the groups are statistically significantly different from each other. The p-value is set the same as that of a Pearson r test described above and is used to determine the significance of results.

A linear regression analysis was used for the multivariate measurement between dependent variable NUMOFSUST and all independent and control variables. This test is designed to determine the effects of various independent variables on one dependent variable by plotting data points and determining if a linear correlation exists between variables. The multivariate analysis is used to control variables against each other and help to determine if correlations that exist are due to the variable in question or if they are explained by another reason or variable. By using the standardized beta and significance measurements from this test, we can interpret the findings in much the same way as that of the Pearson r test described above. The strength and direction are determined by the standardized beta figures and statistical significance is determined by p-values. In addition, we can use the R squared figure of a linear regression analysis to determine overall goodness of fit of the model as a whole.

Descriptive Univariate Statistics

As aforementioned, univariate descriptive statistics were run for each variable and will be discussed briefly here. This will give readers a better understanding of the measurement of each variable and assist in the explanation of findings. These statistics will also contribute to interpretation of results and findings. All Tables referred to in this work can be found in Appendix A.

NUMOFSUST is a measure of the number of sustained citizen complaints received by the agency in each observation. As readers will see in Table 1.1, the mean is extremely low while the standard deviation is extremely high. The frequency distribution table provided gives reader a better understanding of why this occurs. The number of

agencies with no sustained citizen complaints accounts for 82.49% while the highest number of complaints received by any agency is 264. This provides a very low mean while there is a substantial amount of variance due to drastically different amounts of complaints. The skewness and kurtosis are also extremely high, pointing to a very spread out dataset, indicating a significant distance between the largest and smallest numbers.

MINEDUC is a measure of the amount of education required prior to being hired by reporting agencies. The mean of this variable creates a number that makes no sense for our study as it is not one of the values listed in Table 1.1. The mode, however, shows us that the most commonly required form of educational requirement is that of a high school diploma or equivalent. There is also a nearly non-existent number of agencies that have no formal educational requirement. This requirement made up only .04% of observations and for this reason, when multivariate statistics are run, this variable will be used as the Constant in the analysis. Frequency statistics are laid out in Table 1.3.

FEMALEP is the measure of the percentage of sworn officers that are female in each reporting agency. The mean as seen in Table 1.1 is relatively low considering some of the reporting agencies have thousands of officers; however, this is could be due to the demographics of the individual areas of the reporting agencies.

MINORITYP shows us in Table 1.1 a much higher mean percentage overall of sworn officers that are members of a minority group. However, while the kurtosis and skewness numbers are much lower, they are still well outside the $+2/-2$ standard. This means that yet again, our variable shows strong variety across the reporting agencies with some agencies having large numbers of minority members while others have none.

SWNFTEMP shows readers in Table 1.1 a mean that is grossly different in size to standards of variance. The numbers of skewness and kurtosis are extremely high due to the fact that some of the reporting agencies have very low numbers of officers (as low as less than a hundred) while other agencies report having thousands of sworn personnel. This makes results difficult to interpret due to drastically different sized departments; however, the results (if proven significant) will be more easily generalized as they will reflect agencies of nearly every conceivable size.

TOTACAD, TOTFIELD, and TOTINSRV all show readers in Table 1.1 that the number of hours of training required for police officers varies greatly. The skewness for academy hours is below the $+2/-2$ threshold which leads the author to believe that there is a much more common number of hours of academy training required of new officers than field training and in-service training. This simply means that departments have similar requirements of initial training, but varied requirements for continuing training after exiting academies. This would explain why the kurtosis is so high as it would mean that while there is a much more stable number in the middle, the numbers on extreme ends of the spectrum are still quite varied. All in all, to the layman this means that the amount of training received by an officer of each reporting agency is different than the amount of training received by officers of other agencies. However, the most likely number of hours to match across agencies would be the amount of academy training required by agencies.

As mentioned in the description for each variable, the skewness for each variable is significantly high with the exception of TOTACAD. The level of skewness is such that it will affect the output of any regression analysis run. The reasons for the skewness are detailed in the descriptions for each variable; however the author will attempt to account

for this by transforming the variables. A square-root transformation will be performed on the dependent and each of the control variables. This transformation will allow the author to run analysis based on the square roots of the variables in question instead of the variables themselves, thereby lowering the extreme values and trying to bring the variables into a more normally distributed setting. Due to the fact that an OLS regression model assumes a normal distribution, if these transformations are not performed, the model will naturally be significantly off. All results of these transformations are detailed out in Table 1.2 and the transformed variables will be used for all analyses run.

Summary

This chapter focused on the methodology used by the author of this study and descriptions of the dataset, variables, and analyses used herein. This chapter gives readers an idea of the data being used, how it is studied, and some of the background entailed in each one. The next chapter will focus solely on results found by bivariate and multivariate analyses using aforementioned variables. Results will be presented and the following chapter will have a discussion of findings, future applications and directions for research, and of the study as a whole.

Chapter IV

Results

Bivariate

Bivariate statistics were run between the dependent variable and each of the independent and control variables. The independent variables of FEMALEP, MINORITYP, and SWNFTEMP were run against NUMOFSUST using a Pearson's r correlation simulation. The independent variable of MINEDUC was run against NUMOFSUST using a one-way ANOVA test.

The one-way ANOVA test run between our dependent variable NUMOFSUST and independent variable of MINEDUC found a statistically significant correlation between the two variables. The test found an F-value of 5.19 and a p-value of .00 which is within the accepted p-value of <.05 pointing to a statistically significant difference in means between the two variables.

The Pearson r test run between our dependent variable NUMOFSUST and control variable FEMALEP found a weak correlation between the two. The correlation was .13, which exceeds our .10 weak correlation threshold. In addition, the statistical significance of this correlation was found to be .00, which is within our p-value threshold of <.05. This means that there is a weak correlation between an increase in the percentage of female officers and number of sustained citizen complaints and that we can have strong confidence in this correlation.

The Pearson r test run between our dependent variable NUMOFSUST and control variable MINORITYP found a correlation value of .22 and a p-value significance of .00

which is within the accepted p-value range of $<.05$. This points to a weak correlation between the number of minority member sworn officers, and the number of sustained citizen complaints received by reporting agencies and that we can have strong confidence in this correlation.

The Pearson r test run between our dependent variable NUMOFSUST and control variable SWNFTEMP revealed no statistically probable correlation. The correlation value was .47 with a significance level of .00. This means there is a moderate (nearly strong) correlation between an increase in the number of sworn officers and the number of sustained citizen complaints received by reporting agencies and that we can have strong confidence in this correlation.

The Pearson r test between our dependent variable NUMOFSUST and control variable TOTACAD revealed a Pearson r correlation value of .13 and highly significant results. The significance value was .00 which is well within our accepted range of $<.05$ and gives us high confidence in any findings. The correlation is above our .10 threshold for a weak correlation as many of our variables have been. This means that we can have strong confidence in a positive correlation between an increase in the number of hours of academy training and the number of sustained citizen complaints received by reporting agencies.

The Pearson r test between our dependent variable NUMOFSUST and control variable TOTFIELD revealed additionally strong results. The statistical significance value was also .00 finding a very strong correlation. The correlation was .13, once again exceeding our .10 threshold and meaning we have a statistically significant weak

correlation between an increase in the number of field training hours and the number of sustained citizen complaints received by reporting agencies.

Lastly, our Pearson r test between our dependent variable NUMOFSUST and control variable TOTINSRV found a statistically insignificant negative correlation. The correlation was nearly nonexistent meaning that even if the significance measure supported it, the correlation would have been so low; it wouldn't have been significant enough to report. However, the significance level is .27 which is far outside of the .05 p-value acceptable range. This means there is no correlation between these two variables.

Multivariate

Multivariate analysis was conducted using a regression analysis model as there was an ordinal variable in the MINEDUC variable in addition to all the rest of the variables being nominal. The independent variable MINEDUC was broken up into dummy variables indicating each level of education, and the dummy variable MINEDUC_1 which indicated there was no educational requirement was left out to use as a reference category. All findings can be found in table 3.1.

Results found moderate correlations which were statistically insignificant between our dependent variable NUMOFSUST and several measured variables. The level of the correlation between dependent variable NUMOFSUST and MINEDUC variables 2-5 were discovered to be -.47, -.32, -.35, and -.12 respectively. However, the measure of significance levels for each were found to be .18, .18, .18, and .26 respectively. These are well outside our acceptable p-value range of 0.05. What this means is that with the first three educational requirements, we find a moderate negative correlation between the

variable and the number of sustained citizen complaints received by reporting agencies. However, the significance levels are too high and as a result, we can't have more than 82% confidence in the results. This is outside of the 95% confidence intervals usually associated with regression analysis. In addition, there is a weak negative correlation between our last measurement of educational requirement and the number of sustained citizen complaints received by reporting agencies. Again, however, the significance level is such that we can't have more than 74% confidence in our findings.

Results found that the control variables involving number of hours of certain types of training, TOTACAD, TOTFIELD, and TOTINSRV, found no statistically significant correlations in relation to the dependent variable of NUMOFSUST. The standardized beta coefficients were -.02, .00, and -.01 respectively, which means that, significance aside, there would not even be a correlation to speak of as they are all below our $>.10$ threshold for a weak correlation.

Results found that the control variables of FEMALEP and MINORITYP also found no statistically significant correlations when compared to the dependent variable of NUMOFSUST. The p-value significance level for FEMALEP was 0.66 which is again well outside our accepted range of .05. In addition, the standardized beta coefficient is -.01 which means that even if the significance measurement supported it, there would be no statistically worthwhile correlation found. The standardized beta coefficient for MINORITYP was found to be .06 which, while greater than that of FEMALEP, is still below our threshold $>.10$ for weak correlation. The significance level was found to be .00 so if there was a statistically significant correlation found we would be able to trust this correlation, however the data does not support a correlation. This author does note,

however, that this level is worth recognizing due to minority hiring being a significant push in today's department hiring initiatives. The theory is that a more well-rounded police force (usually to better reflect the demographics of the public) will be a better police force. While the numbers are too low to be even a weak correlation, they are positive which would provide itself as evidence to the contrary.

Additionally, results found that the control variables pertaining to number of sworn officers and percentage of minority officers, SWNFTEMP and MINORITYTP, showed moderate statistically significant correlation when compared to our dependent variable. The standardized beta coefficient is .46 which exceeds the threshold of $>.30$ for a moderate correlation and nearly meets the $>.50$ threshold for a strong correlation. The fact that the t-value of SWNFTEMP is so high concerns this author and could be due to unknown factors influencing the model, however the author has controlled for all possible factors he is aware of.

Finally, results found that the model as a whole was statistically significant in its explainable power. The R squared output is a measure of the explainable powers of the model as a whole and being at .23 means that 23% of the variance contained in the model can be explained. This is a strong indicator that results in this model can be found to be reliable with low chance for error. Lastly, the fact that the t-values for many of the measured variables measured are so high is significant. The t-value is a measure of how far off the null hypothesis the results are. The null hypothesis is that no correlation exists and since the t-values are so high, it means that for those variables measured with statistically significant results, the results are indicators of strong correlations.

Summary

This chapter gave readers results from a variety of both bivariate and multivariate analyses conducted upon our variables. Results are listed and explained for meaning to ensure the reader understands the numbers involved. The next chapter will focus on a discussion of; the results of this study, limitations of this study, and recommendations for future studies. This work will conclude with a references section and appendices with applicable tables.

Chapter V

Discussion

Findings

The model shows us a great many different conclusions that can be drawn from our data, some of which were unexpected. The major findings include results that provide evidence against our research questions and provide readers with a number of ways in which future research could be directed.

Results found that higher levels of required education have a statistically significant negative effect on the number of citizen complaints that departments received. The results listed above found negative correlations between all measured forms of educational requirements and the number of sustained citizen complaints received by reporting agencies. This means that as agencies requiring the levels of education increase, the number of sustained citizen complaints decreased and thereby answers our first research question. The results were strongest among the variables representing a requirement for a high school education, followed by a requirement for a two-year degree. Additionally, since all forms of measured educational levels showed a significant correlation, our second research question remains unanswered.

There are a couple things of note to mention in regards to the findings however. First, this author would like to point out that the number of agencies reporting only a high school education as a formal requirement makes up over 80% of the reporting agencies and the higher correlation could simply be due to increased data points. In regards to the second research question, the numbers would suggest that it does not matter and that all

forms of education have significant effect on the number of sustained citizen complaints, however this author would caution that these results could be a result of the data being distributed unevenly between the values pertaining to the levels of education required. In addition, it should be mentioned that the statistical significance of the correlations found is outside of normally accepted ranges. This author points out that the significance levels can still be considered with 82% confidence for three of the variables and that the 95% confidence level is an arbitrary number that is generally accepted as common practice in the statistical world. In summary, this author finds significant negative effects on the number of sustained citizen complaints, although readers must consider the confidence we can have in these results. Many would say that since the confidence levels are outside the normally accepted range 95%, the findings cannot be used as conclusive evidence, however this author finds them to be strong supporting evidence at the least and definitely worthy of further research. Due to this study being unique to the literature, these findings cannot be used as conclusive proof of the research questions studied. In addition, the findings must be confirmed; due to lower levels of confidence than normally accepted given the analyses used.

Results for our control variables revealed largely insignificant results and provide us with one possible topic for future study. Results for all control variables pertaining to training and the percentage of sworn officers that were female as well as percentage of minority officers were found to have no significant effects on the number of sustained citizen complaints received by departments. The variable regarding the total number of sworn officers, however, found a significant correlation by our model. This provides us with nothing more than possible support to perform further testing on this correlation.

Logic and common sense would also dictate that as an agency increases in size and number of personnel, so would the number of sustained citizen complaints. However, when looking more in depth at the actual reported numbers of sworn officers and complaints we can see disparities in the dataset. Some of the largest reporting agencies as measured by number of sworn officers have some of the lowest reported numbers of sustained citizen complaints. Due in part to the fact that this variable was used as a control variable instead of as an independent variable, this does not provide us with conclusive proof; however, it does provide us with support for a future theory.

In summary, our findings do provide support for our research questions; however, the confidence we can have in this support is lower than expected and desired. The theory should be tested further to more fully confirm or deny its validity and provide policymakers with the support or refuting evidence they require to make the decision. Upon completion of this study, this author finds statistical support for the idea that raising educational standards for police officers will reduce the number of citizen complaints received by a police department; however this author cannot confirm the results are due to direct correlation and are not influenced by other factors. That being said, this author stands by earlier recommendations made to increase educational requirements for police officers across the country. This is due in part to the above correlations but mostly to the findings contained in the above literature, in addition to numerous comments made by authors regarding the fact that other professions continue to increase educational requirements for their applicants. Also, many officers have voluntarily obtained a bachelors level education even when not required and studies have proven a common

theory, that higher education decreases police officer job satisfaction, to be false (Paoline, 2015; Hilal, Densley, & Zhao, 2013; Özel A, Bayindir, Inan, & Özel E, 2009).

Limitations

One way in which this study is limited is that the data have already been collected, and as such the author can make no adjustments to the survey or other collection tools to preclude bias. The author tried to control for this with numerous control variables, however the possibility is always there. One way in which this data set has controlled for a possible lack of generalization is through the departments studied. The reporting departments represent a very diverse group of departments in geographical location, demographic makeup, and overall size. This helps readers to be able to generalize the results found to a department of similar size.

Another limitation to this study is that there is no way to control for agencies other than state and local departments. The topic studied was the effects of educational requirements for police officers, however, as aforementioned, federal agencies require much higher levels of education. This fact should be studied to determine if it has a statistical effect and, if so, to determine why a statistically supported effect is found at the federal level and not the state level. This could provide policymakers with insight in other ways in which to improve policy and requirements for police officers.

Another major limitation is the fact that the data were not more regularly distributed causing severe skewness in all variables. By continuing to study this theory using different datasets, researchers could hopefully more fully explain the correlations

found by this author. In addition, other statistical analyses may be able to better control for skewness; however this author attempted to control as best as able.

The last limitation this author will mention is that of the measurement of the educational requirements. The measurement is that of the minimum requirements for entry level officers of each reporting agency, not the actual educational levels of those agencies. This could cause inaccurate results pertaining to our findings as the findings could be a result of the educational levels being higher than required by the agency. For example, while the most highly significant results were found at the level for a H.S. Diploma, these findings could be incorrect as the actual educational level of these departments may be significantly higher than a H.S. Diploma. Future research could be performed to determine if findings are due to educational requirements being set at a certain level, or if the officers of that particular agency are educated at an even higher level, thereby causing the findings.

One detriment that could come from this study pertains to the applications received by police departments. If policymakers were to utilize the findings of this or similar studies to raise the overall minimum educational requirements for agencies across the country, there could be a decrease in overall applications due to many applicants being disqualified by not meeting these new standards. This would come at an extremely inopportune time as decreasing numbers of applications is a problem facing nearly every department of basically every size. Recruiters are having a more and more difficult time bringing in new applicants as the political and social climate is turning against police more and more.

The main regret held by the author is that the data were not collected by independent study. This would allow the author to tailor the study to determine if effects can be found in other areas than those studied. There would be more versatility and while results may be more difficult to generalize, the results could be more helpful to policymakers as they would provide more specific ways in which educational requirements can benefit police departments. It should also be mentioned that the analyses run were run without weights and by weighting the data, different results could be found.

Future Recommendations

This author advocates strongly for further consideration to be paid to this topic, in addition to similar topics. The results may provide evidence supporting the theory studied; however, the results are not conclusive due to statistical significance issues and it is also possible that some of the control variables are providing bias that skews the results. In addition, there are a number of control variables that have not been factored in which could balance out the effects of the control variables used. This, combined with the fact that little to no research into this specific topic was found in the literature by the author, provide this author with the belief that the theory is still valid enough to continue studying. Lastly, this author finds that since the significance levels are still considerable (albeit outside normally accepted levels) the topic deserves further clarifying research. This author would recommend future researchers use a different data set to determine if the results of this study can be generalized or if the unique circumstances surrounding this data set are skewing the results. In addition, more recently gathered data should be used in an effort to determine how applicable these results are to modern policing.

This author would also advocate for research to be performed to determine the reasons why the control variable SWNFTEMP used in this study returned a correlation to the dependent variable studied. This provides researchers with another interesting question: whether increasing the number of officers in a department will inevitably increase the number of sustained citizen complaints. Studying this could inform policymakers on decisions pertaining to setting limits on number of officers a department can have or similar issues. As aforementioned in the discussion of results, common sense seems to dictate this to be inevitable; however, this author finds this is not supported when comparing the data point for point when looking at the dataset. For this reason, this author strongly recommends using the number of officers in a department as an independent variable in a similar study to this, as well as using it as a control variable in other similar studies to determine the actual effects of the size of an agency.

Next, this author would recommend future research be performed to determine the effects of specific levels of education required as well as specific majors studied in the education process. This would provide policymakers with direction on what exact level and what type of education should be required. This study seems to point to levels of education not mattering when comparing effects on number of sustained citizen complaints, however as aforementioned these results are not conclusive. While some studies have shown little to no effects of level of education and type of major studied (Paoline, Terrill, & Rossler, 2015; Loughrey, & Friese Jr., 1969; Lankes, 1970) the possibility remains that the actual level of education and/or actual major studied could play a bigger role as educational requirements evolve.

Additionally, this author would recommend similar studies be performed using the same or similar variables and using different analyses than those used. The OLS regression model is considered antiquated by some and there may be benefits to using a newer process such as a negative binomial model. This model is used to count the number of events and could be better applied to this study, or could at the very least present a different explanation of findings.

Next, the fact that the measurement of complaints used was that of the total for a department should also be considered. This could skew results as departments are so varied in size as mentioned before. This author would recommend that research be done using a ratio measurement of the ratio of complaints to officers to determine if this has any bearing on findings.

Lastly, this author would recommend future research into the topic of educational level requirements in the effects of other police matters. Some of the possible duties performed by police officers have been thoroughly studied (i.e. use of force, arrests, and job satisfaction) while others have barely been touched. It would behoove future researchers to determine areas in which the literature is lacking with regards to the effects of educational requirements on police officers and study this further.

Summary

This chapter provides readers with an overview of all findings and related interpretations of those findings. In addition, possible limitations as well as regrets of the author and future recommendations have been provided. This chapter is designed to summarize all major points of findings with regard to the study and wrap up all closing

comments. The final chapters will be made up of references used by the author as well as an appendix containing all applicable tables. This study adds to the literature by providing evidence to be used by researchers in determining the benefits of raising educational requirements for police officers. In addition, this work performs the important function of providing an up to date picture of the body of literature pertaining to the topic of the effects of education on police officers in general.

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Appendix A

Tables

Univariate

Table 1.1

Descriptive Statistics before Transformation

	Mean	SD	Skewness	Kurtosis
NUMOFSUST	1.20	10.08	17.82	372.32
FEMALEP	8.19	7.69	2.14	13.05
MINORITYP	12.92	17.98	2.41	6.82
SWNFTEMP	164.58	860.80	28.40	1069.99
TOTACAD	664.14	262.46	1.65	18.47
TOTFIELD	424.64	362.63	4.87	65.66
TOTINSRV	38.14	52.09	10.88	155.60

Table 1.2

Descriptive Statistics after Transformation

	Mean	SD	Skewness	Kurtosis
NUMOFSUST	.33	1.05	7.05	73.34
FEMALEP	2.38	1.58	-.20	-.45
MINORITYP	2.70	2.37	.66	.02
SWNFTEMP	8.64	9.48	5.62	65.99
TOTACAD	25.10	5.83	-1.36	6.93
TOTFIELD	18.69	8.67	.04	2.31
TOTINSRV	5.63	2.53	2.54	21.56

Table 1.3

Frequency of Educational Requirements of Department

Label		Valid %
None	Value	.04
H.S.	0	80.79
Diplom	1	8.00
a	2	9.81
Some	3	1.36
College	4	100.00
2 Year	N/A	
4 Year		
Total		

Bivariate

Table 2.1

Correlation Matrix

	NUMOFSUST
FEMALEP	.17**
MINORITYP	.22**
SWNFTEMP	.47**
TOTACAD	.13**
TOTFIELD	.13**
TOTINSRV	.02

Note: t p<.10 * p<.05 ** p<.01

Multivariate

Table 3.1

Multivariate Regression Analysis of NUMOFSUST, MINEDUC_2-5, FEMALEP, MINORITYP, and SWNFTEMP

Name	Standardized Beta	Significance	t Value
CONSTANT	.00	.21	1.24
H.S. Diploma	-.47	.18	-1.34
Some College	-.32	.18	-1.33
2 Year	-.35	.18	-1.34
4 Year	-.12	.26	-1.13
FEMALEP	-.01	.66	-.45
TOTACAD	-.01	.69	-.39
TOTFIELD	-.02	.21	-1.25
TOTINSRV	.00	1.00	.00
MINORITYP	.06	.00	3.11
SWNFTEMP	.46	.00	22.75
R2	.23	.00	

Appendix B

IRB Letter



One University Plaza, Youngstown, Ohio 44555
Office of Research
330.941.2377

December 3, 2019

Attorney Patricia Wagner, Principal Investigator
Mr. Daniel Boss, Co-investigator
Department of Criminal Justice
UNIVERSITY

RE: HSRC PROTOCOL NUMBER: 081-2020
TITLE: Master's Thesis: Police Education: An Analysis of the Effects of
Educational Requirements of Police Officers on Citizen Complaints

Dear Attorney Wagner and Mr. Boss:

The Institutional Review Board has reviewed the abovementioned protocol and determined that it meets the criteria of DHHS 45 CFR 46.104(d)(4)(iii) and therefore is exempt from full committee review and oversight. Your project is approved

Any changes in your research activity should be promptly reported to the Institutional Review Board and may not be initiated without IRB approval except where necessary to eliminate hazard to human subjects. Any unanticipated problems involving risks to subjects should also be promptly reported to the IRB.

The IRB would like to extend its best wishes to you in the conduct of this study.

Sincerely,

Dr. Severine Van Slambrouck
Director Research Services, Compliance and Initiatives
Authorized Institutional Official

SVS:cc

c: Dr. John Hazy, Chair
Department of Criminal Justice