Does higher education matter in policing? An examination of the promotional process to sergeant

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ABSTRACT

The police sergeant is often regarded as the most influential position in any law enforcement agency, given their direct effect on officer behaviour. As the gateway to police management, the promotion to sergeant offers an opportunity to examine the importance of the growing role of higher education in policing. In analysing the relationship between different levels of higher education and the sergeant promotional examinations, this study found that those with graduate degrees are more likely to become sergeants. While this relationship is striking, the most crucial predictor of the promotion to sergeant belongs to the dominant ethnic group in the agency. Whether in the written exam or interview components of the sergeant’s promotion process, police agencies do not appear to have captured the benefits of higher education in the first rung of the promotion to senior management. Policy implications and avenues for future research are discussed.

INTRODUCTION

In past studies, a lack of supervisory control has been associated with a decline in police attentiveness (Tengpongsthorn, 2017), corruption (Birzer, 1996; Umbach, 2022), and improper training (Cordner, 2022; Engel et al., 2022; O’Guinn, 2022). Well-publicized scandals involving police interactions with civilians, such as the Eric Garner, Philando Castile, and Freddie Gray incidents, demonstrated poor supervision. These cases have all sustained a need for reform, specifically in police communications and officer–civilian interactions. Law enforcement agencies only function as well as having well-trained and educated first-line supervisors. Therefore, it is critical how agencies select their sergeants. They are tasked with leading, training, mentoring, and reprimanding their subordinates. Nonetheless, the characteristics that predict supervisory performance to the rank of sergeant are commonly not examined.

The sergeant is often portrayed as the essential rank and position influencing officer behaviour in any law enforcement agency (Werder, 1996). Sergeants directly supervise uniformed patrol officers and are the first step in the management ranks of American police agencies. Sergeants are crucial to law enforcement organizations because (1) they are responsible for the supervision of at least 85% of an agency’s personnel, (2) they are considered the ‘Eyes and Ears’ of their subordinates, (3) they are responsible for training and mentoring their subordinates, and (4) they can make or break new policies (Wexler, 2018).

Gardiner (2017) led a pioneering survey on the role of higher education concerning police policies and practices but did not examine the relationship between higher education and promotion board results. Gardiner (2017) found that college degrees were not required for police officers. However, other research does suggest that college degrees are critical for promotions, especially in the rank of lieutenants or middle management (Bishopp, 2013). In addition, scholars have found that higher education is associated with leadership development (Fischer et al., 2015). For example, Menges and Austin (2001) found that critical thinking, problem-solving, communication, and interpersonal skills are essential for effective leaders. This was supported by Chan’s (2016) finding that post-secondary students display better cognitive skills and focus on job tasks while engaging more often in community-based activities.

From a practical standpoint, the literature also questions whether there are benefits regarding officers with post-secondary education and job performance. Rydberg and Terrill’s (2010) study found that having a post-secondary education correlates to a decreased use of force compared with officers with a high school degree but did not affect arrests or searches. Similarly, Terrill and Ingram’s (2016) study on citizen complaints against police officers did not find that having a post-secondary degree impacted whether a citizen complaint was filed against an officer. However, neither of these studies looked at the different levels of higher education.
Currently, a gap exists in the literature regarding the impact of post-secondary degrees and their implications for the promotional process to the rank of sergeant. The focus of this study is to shed light on the potential role of higher education and officer promotion. This analysis aims to investigate the correlation between officers’ level of education and their raw scores in the Sergeant of Police Promotional Exams (SPPE) in a major city Police Department with over 1,000 police officers. For anonymity purposes, we will refer to the sample frame as ‘City PD’. The study will cover the last four promotion lists in the southeastern region of the USA.

LITERATURE REVIEW

Historical background of police higher education

The requirement of higher education for police officers has been deliberated over the past century to professionalize the work of police officers. This section starts with a chronology of literature relevant to police higher education. In the early 1900s, police officers in the USA were viewed as immature drunks engaged in unethical and corrupt enterprises such as gambling and prostitution, often using excessive force. With only a 3rd finishing grade school and a 10th of officers graduating from high school, many law enforcement personnel were undertrained, undereducated, and incompetent (Ryberg and Terrill, 2010). As part of early efforts to professionalize, the police in the late 1950s and early 1960s began to require a minimum of a high school or high school equivalency as part of their hiring process.

Considered the father of policing, Chief August Vollmer of Berkeley, California’s Police Department, was an early pioneer in hiring college graduates for the police and a pivotal contributor to President Hoover’s Wickersham Commission in 1929. The commission’s report argued that most police were unsuitable based on temperament, training, or education, and more highly educated police officers were needed (Swan, 1986). However, it would not be until the 1960s that national attention would return to the role of higher education in enhancing police professionalism (Pope, 1987; Roberg and Bonn, 2004). President Lyndon B. Johnson established the President’s Commission on Law Enforcement and the Administration of Justice in 1965 to fight a new war on crime. The President’s Commission (1967) noted, ‘The ultimate aim of all police departments should be that all personnel with general enforcement powers have baccalaureate degrees’ (p. 109). In addition, the authors argued that as police work advanced, there was a need for ‘a higher degree of intelligence, education, tact, sound management, physical courage, emotional stability, impartiality, and honesty’ (President’s Commission, 1967, p. 125).

After the commission’s report release, Congress enacted the Omnibus Crime Control and Safe Streets Act of 1968, which established the Law Enforcement Assistance Administration and, for the first time, funded police education through the Law Enforcement Education Program. This was in line with the findings of the National Advisory Commission on Criminal Justice Standards and Goals (1973), which drafted national standards to decrease crime and improve state criminal agencies. The Commission argued for a minimum educational requirement as a condition of employment with the requirement that all police officers have a bachelor’s degree within an agreed time frame at hiring (Swan, 1986).

Impact of higher education on policing

The value of education in the law enforcement profession has been long debated. While many agencies have historically required little to no college coursework for entry-level positions, past research suggests a positive correlation between education and job performance at all levels of law enforcement. Goldin and Katz (1999) coincide with August Vollmer’s advocacy of formal education for police officers. A review of criminal justice research suggests higher education benefits include the development of skills needed to address difficult situations, such as using more extraordinary ingenuity, lower use of police deadly force, fewer citizen complaints, better written and oral communication skills, reflecting more professionalism, ability to analyse problems, and showing increased self-confidence, tend to be less authoritative, appear to be more flexible, are more optimistic about community policing, and are more intelligent and more motivated (Alpert and Dumhan, 1988; Breci, 1997; Carlan and Byxbe, 2000; Carter and Sapp, 1990; Cascarino, 1977; Finkenauer, 1975; Kakar, 1998; Roberg and Bonn, 2004; Scott, 1986; Sherman et al., 1978; Sherwood, 1992; Smith, 1978). From a practical standpoint, college-educated officers reduce police department costs. Research shows they take fewer sick days, have fewer on-the-job injuries and accidents, and have fewer liability cases (Carter et al., 1989; Cascarino, 1977; Cohen and Chaiken, 1972).

Officers with bachelor’s degrees or higher scored better in almost all performance indicator categories (Krimmel, 1996). This study utilized a self-reporting questionnaire distributed to 205 police officers with diverse levels of education. Officers were grouped into two groups and asked to report on 45 individual performance indicators. These indicators included: arrest report quality, quality of written work, quality of oral presentations, problem-solving ability, and knowledge of the law. The results indicated that officers having a bachelor’s degree or higher exceeded those not having a degree. This past research certainly was influential in the decision of police departments to provide their officers with incentives to pursue higher education.

More recently, higher education has been viewed as a critical contributor to police success and failure in integrating the problem-solving concepts of the community policing approach to policing. Community policing is defined as ‘a philosophy that promotes organizational strategies that support the systematic use of partnerships and problem-solving techniques to proactively address the immediate conditions that give rise to public safety issues such as crime, social disorder, and fear of crime’ (United States Department of Justice Office of Community Oriented Policing Services, 2014). According to the Department of Justice, 81% of the nation’s population is served by law enforcement agencies with some formal community policing plan (Ashcroft et al., 2003). The Police Executive Research Forum (PERF) (1988) noted that community policing increased the need for officers to be better decision-makers, innovative, and tolerant. Therefore, the PERF Report included findings that college education for police officers was critical to progress towards implementing community policing (Carter and Sapp, 1992). In a national study, Carter et al. (1989) found that college-educated
police officers were better communicators, more flexible and adaptive, and performed their work at a higher level.

Policing officers are often tasked with extemporaneous problem-solving by diagnosing situations through investigative methods and analyzing them to determine a conclusion. Comiskey et al. (2021) agreed that critical thinking is an essential competency for seven (7) knowledge domains: law and policy, communication, professionalism, decision-making, diversity, research, and analytical methods, and, finally, technological literacy. The American Association of Colleges and Universities (2009) defines critical thinking as 'Critical thinking is a habit of mind characterized by the comprehensive exploration of issues, ideas, artefacts, and events before accepting or formulating an opinion or conclusion' (p. 1). Critical thinking will result in a constructive outcome (Sereni-Massinger and Wood, 2016).

While most literature supports college-educated police officers, some research has associated higher education with less favourable outcomes, including job dissatisfaction. Specifically, scholars have found that higher education in officers can predict higher levels of stress and complaints about low pay (Varricchio, 1998). On the other hand, Escridge (1989) reported that higher-educated officers were more likely to suffer from job boredom and experience resentment from less educated, higher-ranking officers (Escridge, 1989). Finally, some scholars argue that work experience matters far more to police work than a college education (White and Escobar, 2008).

Federal programs to promote law enforcement education were developed around the consensus in police scholarship that a better-educated officer would deliver more enhanced police services, such as increased responsiveness and comprehension. In the long term, as college-educated officers rose into police leadership positions, they would explore new approaches with more creativity and better planning (Carter et al., 1989). The Federal effort spurred the growth of degree-granting programs for personnel in law enforcement. By 1976, over 1,070 institutions offered criminal justice programs compared with 184 colleges and universities that provided such programs in 1966 (Sherman, 1978). By 1974, the proportion of officers holding bachelor's degrees increased from 9% to 3% in 1960 (National Planning Association, 1978). As of 2017, roughly a third of police officers (30.2%) had successfully obtained a bachelor's degree or higher, while over half (51.8%) had completed at least 2 years of post-secondary education (Gardiner, 2017).

Despite the dramatic rise in higher-education officers over the last four decades, few police departments require a 4-year college education, with only 10% requiring a 2-year post-secondary degree (Marciniak and Elattrache, 2020; Reaves, 2015). Though not requiring a degree, some incentive-based programs in police departments offering pay increases to degree-holding officers are likely contributing to the rise in police officers holding a post-secondary degree.

The promotion process in policing

While police agencies may not require recruits to have a post-secondary degree, higher education is associated with the motivation of officers to pursue the promotional process to obtain supervisory positions (Scarborough et al., 1999). Policing scholars have compared motivation for educational attainment to motivation for promotion (Truxillo et al., 1998). Nevertheless, there have been limited studies on how higher education determines promotions.

Research suggests a correlation between higher education among police officers and achieving promotions (Cohen and Chaiken, 1972; Polk and Armstrong, 2001; Sanderson, 1977; Whetstone, 2000). In a 10-year study, Truxillo et al. (1998) investigated the relationship between education and job performance measures such as promotions and supervisory ratings of knowledge. Truxillo et al. (1998) found that college education correlated significantly with promotions because (1) college-educated officers applied the same motivation they had in college to seeking a promotion, and (2) college-educated officers were able to utilize the test-taking skills from college in seeking to be promoted, and (3) that those with a college education possess more outstanding professionalism and maturity that is applicable at the higher levels of police work.

Higher education may provide candidates with a more significant set of study skills than officers who do not have a post-secondary degree. Whetstone (2000) found that college-educated officers had an advantage over 72 officers taking the written portion of a promotional exam for a sergeant's rank. Irrespective of this finding, different studying methods appeared to be the most substantial factor impacting the ultimate score. Gau et al. (2013) conducted a study on promotional aspirations using a sample of 2,100 officers from seven medium to large police departments in different states. In analysing six officer variables (female, non-white, education, experience, military experience, and marital status), education was significantly related to promotions. In contrast, experience had a minimal influence on officers seeking promotions.

Even though the literature correlates higher education to promotions, most police departments are not incentivizing the pursuit of higher education by offering promotional opportunities based on levels of educational attainment (Whetstone, 2001). The 2013 Bureau of Justice Statistics report on local police departments reflects that 84% of departments only required a high school diploma for hiring, with 10% requiring an associate degree and 1% requiring a bachelor's degree (Marciniak and Elattrache, 2020; Reaves, 2015). Despite the minimal importance of a college education during the hiring process, many departments encourage officers to pursue higher education by offering tuition reimbursement, with pay incentives based on the level of post-secondary degree attained. However, there is little research on whether higher education improves officers' ability to advance in their agency.

Selecting police sergeants

The current study will focus on the case study of the selection process of police sergeants at the City PD. The first hurdle for any officer is their eligibility. This is usually governed by an officer’s years of experience (sometimes measured by tenure and educational attainment) and civil service or departmental procedures (Van Maanen, 1984). The City PD combines time-in-grade and specific educational attainment to determine eligibility to take the promotional exam for sergeant. The City’s civil service rules include the following requirements: (1) 36 months as a police officer and a high school diploma or equivalent, (2) 32 months
as a police officer and an associate degree, (3) 28 months as a police officer and a bachelor’s degree, or (4) 24 months as a police officer and Master’s, Doctoral or Law Degree.

The City PD is also similar to many police agencies in defining what higher education will be included in considering sergeant exam eligibility. Most notably, all post-secondary degrees must be related to police science, police administration, public administration, business administration, criminology, psychology, sociology, or a law degree. However, the City Manager and the Director of Human Resources may also approve degrees in similar fields not included in the list.

Upon reviewing all applications submitted, a department will notify the applicants of their eligibility to proceed to the promotional examination. In addition, it is typical for the department or its contracted testing vendor to publish a list of study materials an officer should study to prepare for the promotional examination and its design framework. Though the written test component of a sergeant promotion process differs from most academic work, the focus is usually on agency policies and procedures. A strong argument could be made that officers with higher education degrees are helped by their experience studying written materials and taking exams under pressure.

The City PD’s promotional examination comprises two consecutive elements. First, the officer will take two written exams: the Situational Judgement Test (SJT) and In-Out Basket (IOB). Officers who pass the SJT and IOB receive notification of their advancement to the second component, the Oral Board and Writing Exercises (OBWE). Military veterans’ points are awarded and applied to those qualifying applicants upon completing both examination components before issuing the examination registry ranking the top finishers by their raw scores. The registry remains valid for at least two years or until the subsequent promotional exam. The officer’s placement on the registry does not guarantee a promotion. Promotions are contingent on whether there is position availability during the lifespan of the registry. As a position is vacated, the first person at the top of the registry would be promoted. If the officer is not among those promoted over the registry period, the officer will have to apply for a future examination and repeat the process.

Who conducts the examination process?
The City PD contracts out its selection exam process. First, a committee with most members from outside the police department recommends the winning bidder to the city’s procurement office. Then, the contracted vendor, the city’s testing and validation unit will determine if the job analysis report supports the recommended reading materials list. The testing and validation unit to review and recommend related readings to help shape the basis of the exam questions, including the Fraternal Order of Police bargaining unit. Once the committee has completed its job analysis and compiled an approved list of reading materials, the major over the personnel unit submits a memorandum for approval to the police chief. Once the chief approves, it is forwarded to the human resources director, who has the testing and validation unit to review the job analysis and recommended reading materials list. The testing and validation unit will determine if the job analysis report supports the suggested reading material list. Once the human resources director signs off, the list of readings will be released to the potential candidates, and an exam will be constructed from those readings.

Sergeant promotion decision framework
As previously mentioned, the candidate evaluation process has two components: (1) the SJT and IOB, and (2) the OBWE. The SJT component contains multiple-choice technical knowledge questions derived from the department’s orders, regulations, and other accepted police practices and procedures. These test items are straightforward and often taken verbatim from the assigned source reading materials. The IOB is an assessment centre exercise with multiple issues based on forms, letters, e-mails, memos, notes, and other documents typically found in an in-basket/box for the target position. The IOB portion, candidates write their responses, handling and delegating the issues.

The highest performers in the first component then move on to the OBWE component, which consists of three types of role-playing exercises: subordinate conference, incident supervision/command, and a group meeting. Before the OBWE, assessors (who also act as role players) for this exam portion are selected from police departments outside of Florida and must be Sergeant or above. Each panel of Assessors is comprised of a diverse group to mimic the diversity of the City PD’s sworn officers, with at least one Hispanic, one Black, and one White or Asian Assessor. Additionally, one of the assessors per panel must be female. Assessors will be trained and familiarize themselves with City PD sergeants’ job duties and responsibilities as determined by the vendor and City PD SMEs. Assessors will review the exercises and be trained to observe, record, and evaluate candidate behaviour concerning the assessed performance areas. During training, assessors will also practice evaluating a candidate’s behaviour by participating in mock OBWE. The candidate is provided with pre-exercise background reading on each case's community incident or personnel issue. In the subordinate conference exercise, the candidate meets with the subordinate (an assessor acts as the subordinate role player) to devise a plan to resolve the problem(s). In the incident supervision/command
exercise, the candidates orally respond to how they would command and supervise an incident based primarily on dispatch information. Finally, the group meeting usually centres around customer service or community issues, and the candidate will meet with a group of citizens. The candidate usually completes a written report following the meeting.

THE CURRENT STUDY
The limited research associating higher education with police promotions treated all levels of education as equal and did not focus on the critical first step to management being promoted to sergeant. This quantitative study aims to shed light on the potential role of higher education in the outcomes of the sergeant promotion process. Specifically, this analysis will examine the relationship between officers’ higher education levels and their respective raw scores on the City PD promotional lists for 2006, 2009, 2015, and 2017 from the last four examinations administered by the City for the position of police sergeant. The study aims to advance knowledge on the relationship between a police officer’s higher educational attainment and their placement on the promotional list.

DATA AND METHODOLOGY
Data for the current analysis is derived from two unique sources within the City for 2006, 2009, 2015, and 2017. First, the novel dataset combines information from the promotional examinations housed in the Human Resources Department with official academic achievement training certification records within the City PD. It is important to note that City PD’s records failed to include complete a priori educational attainment information for all officers who undertook the Sergeant’s promotional examination. As a result, units with missing data for this essential indicator underwent listwise deletion from the study. Given this point, the final sample resulted in 239 officers who completed the two components of the Sergeant’s promotional examination. Among the officers, 114 held a post-secondary degree, and 125 had a high school diploma.

Since the current analysis aims to empirically test a hypothesis based on educational attainment and the ranking on a promotional exam, we conducted a power analysis to plan the analytical strategy effectively. The power analysis underwent two unique phases to tease out any realistic alternatives to the null hypothesis (Cohen and Cohen, 1983). The first phase tested the power that $R^2$ will significantly deviate from zero. The parameters of the power analysis include Cohen's $F^2$ to determine the effect size (0.15), the alpha threshold to 0.05, and the power threshold set to the standard of 0.80 (see Cohen and Cohen, 1983, p. 61). Conclusively, the first stage of the analysis revealed that to sustain a significant change in the coefficient of determination, at least 92 units of analysis should appear in the study sample.

The second segment of the analysis tests the power of a fixed regression model. After holding all the above parameters static, a two-tailed test suggested a sample of at least 55 to draw inferential conclusions from the empirical model. Since the current analysis has a sample size of 239, any potential conclusions from the statistical model maintain sufficient power against alternative explanations to the null hypothesis (see Cohen and Cohen, 1983, p. 167).

Dependent variable
The outcome variable in the current analysis represents the raw score earned by a police officer on the City Police Department’s Sergeant’s promotional exam. The variable represents a continuous measure where the score of 37.82 is the minimum, and 99.24 is the maximum. A two-tailed Kolmogorov–Smirnov test revealed that the raw scores fall into an orthogonal distribution as we fail to reject the null hypothesis when the test distribution specifies as normal. See Fig. 1 for a histogram of the outcome measure.

Explanatory variables
The primary independent variable of interest in the analysis is a police officer’s formal higher educational attainment. As the minimum requirement to become a police officer in the City is a high school diploma, formal higher education conceptualizes as any completed tertiary degree. Therefore, three unique nominal measures appear in the statistical analysis to accurately measure the empirical differences in formal education levels while holding high school education as the reference category. These measures indicate whether a police officer has earned an associate’s, Bachelor’s, or graduate degree. Due to limited variability in the data, we operationalize graduate degrees as any individual who completed a master’s or doctoral program, as only two officers in the sample held terminal degrees.

Control variables
According to the literature on test-taking, numerous factors may influence an individual’s performance on an exam (Neisser et al., 1996). Some of these measures are included in the analysis to ensure that the association between academic achievement and the raw test score is not spurious. The variables we use to control for this excess variation are the officer’s race and biological sex. Prior empirical analyses show that race is a salient predictor of test performance, particularly in high-stakes exams such as the Sergeant’s placement exam (Helms, 1992). The race variable has three polytomous outcomes: Black, White, and Hispanic. According to the literature, there is a historical trend of a score gap between Blacks and Whites in high-stakes exams similar to the instrument under investigation in the current study (Bobko and Roth, 2013; Rushton and Jensen, 2005).

The multinomial race variable holds Black as the reference category, while White and Hispanic appear in the analysis with dummy encoding. It is important to note that the Hispanic attribute appears as an indicator of race rather than ethnicity due to the police administration’s encoding schema. Biological sex (1 = male; 0 = female) appears in the analysis due to the multidimensional aspects of the Sergeant’s exam. Historically, research displays that females are more proficient than men in critical thinking, writing, and argument articulation, which are some of the main components of the Sergeant’s exam (Neisser et al., 1996). The encoding scheme of all variables included in the analysis appear in Table 1.

Does higher education matter in policing?
Analytical strategy

Since the outcome measure in the current analysis falls into a Gaussian distribution, we regress the raw test scores on educational attainment, race, and biological sex using ordinary least squares regression. We conduct a three-pronged stepwise procedure to ensure a direct observation of the explanatory factors in the analysis. This process allows us to ensure that the demographic covariates do not consume all the explanatory power. Model 1 represents the baseline model and includes the demographic covariates. Model 2 then includes the undergraduate education variables. Lastly, Model 3 includes the graduate degrees to parse out the differences between the two tertiary educational attainment levels.

As a final measure of the analytical strategy, we conduct a supplementary regression analysis to include an officer’s awarded veteran points. We do not include this in the initial analysis because we are interested solely in the outcome of an officer’s raw score. The supplemental analysis allows us to empirically observe any changes in explanatory power by adding an immediate increase to the officer’s final score. The outcome measure for this equation includes the increases from the veteran’s points where the initial model does not. For simplicity, we add the supplemental regression equation in the main regression table as an additional step (Model 4).

RESULTS

Table 2 reports the results of the stepwise linear regression models. Model 1, which includes the variables representative of the officer demographics, reveals that biological sex and race are significantly associated with an officer’s raw score. Males, on average, earn four points less than females. When an individual is Hispanic, they will earn approximately five more points than a Black officer. The officer sex and race variables contribute 4% to the $R^2$ coefficient, and the change is statistically significant. Model 2 reveals that Associate and Bachelor’s degrees return no salient relationship with an officer’s raw score. The two explanatory variables increase the $R^2$ by only 0.005%, and the change is not statistically significant.
When the graduate degrees, however, are added in Model 3, the change in $R^2$ is statistically significant and increases by approximately 2%, bringing the total $R^2$ coefficient to 6%. A visual examination of Model 3, which represents the complete regression equation with all statistical controls, displays a salient positive relationship between officers who hold graduate degrees and their raw test scores. Consistent with the central thesis in the current study, graduate degrees maintain a marked relationship with an officer’s raw test score on the Sergeant exam. More precisely, when officers have a graduate degree, they earn approximately five more points on their raw score than those with only a high school diploma.

Model 4 displays the results of the supplemental analysis with the alternative outcome measure, which includes the bonus dummy variable representative of awarded veteran points. Model 4 shows the change in $R^2$ significantly increases by approximately 2%, which brings the overall $R^2$ up to 8%. Though an officer’s final score increases by approximately 1.32 points per veteran point, the main explanatory and control variables’ relationships remain consistent in size and direction with Models 1–3, notwithstanding sundry model specifications. Additionally, it is important to note that all explanatory variables are standardized to observe the effect sizes, and collinearity diagnostics reveal no problematic multicollinearity.

### DISCUSSION

The extant criminal justice literature supports a positive relationship between higher education status and the promotion of officers. However, the current study found that higher education as a predictor of promotion to sergeant is only statistically significant for those with a graduate degree. This study suggests a few explanations for this discrepancy.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1 Demographics</th>
<th>Model 2 Undergraduate</th>
<th>Model 3 Graduate</th>
<th>Model 4 Vet. Points</th>
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<tbody>
<tr>
<td>Hispanic</td>
<td>4.71**</td>
<td>4.81**</td>
<td>4.93**</td>
<td>4.89*</td>
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<td>White</td>
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<td>Vet. points</td>
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<td>0.044*</td>
<td>0.003</td>
<td>0.020*</td>
<td>0.016*</td>
</tr>
</tbody>
</table>

$N = 239$ in Models 1 and 3. $N = 213$ in Model 2 to adjust to the reference category for educational attainment. Model 4 displays the results of the supplemental analysis. *$p < 0.05$. **$p < 0.01$. ***$p < 0.001$ (Two-tailed test).

Was it always graduate degrees?

This study utilizes three separate models representing progressive education levels to measure their impact on the raw scores. Past scholars did not test each level of higher education; however, this study examines the individual levels of educational attainment. Most undergraduate curriculums focus on broad and general knowledge of specific topics requiring memorization of information and simply understanding general concepts (Kuednl, 2022). A master’s degree program makes the general knowledge attained during the bachelor’s coursework even more profound, requiring students to engage in more critical thinking and discussion. These added skills utilized in graduate-level coursework help improve students’ ability to use them in other aspects of their lives, such as the workplace. Therefore, those officers who have attained a graduate degree are more apt to perform better on the first component of the exam because they are more equipped to handle the IOB, which requires them to be better critical thinkers.

Similarly, the second component of the SPPE requires candidates to perform skills consistent with those acquired at the graduate level, such as planning, analysing information, and formulating a response to the situation, written or oral. Kuednl (2022) indicated a difference between graduate and undergraduate schools. In contrast, graduate schools emphasize how you construct your arguments, analyse different sources of information, and apply what you learned to resolve an actual situation. In looking at the differences between what skills are enhanced and developed within a bachelor’s or master’s degree, possible future research could include analysing each component of the exam, the SJT, and the OBWE, and looking at them regarding education in comparison to the activity.

Another aspect of higher education’s impact is whether the increased frequency of associate’s and bachelor’s degrees has become the standard for educational attainment. Half of the individuals between 25 and 34 in the USA now have an associate degree or higher, potentially reducing the statistical impact found in past studies when higher education was rare in policing and society (United States Census Bureau, 2023). Specifically, Nietzel (2021) identified an increase from 39% to 50% of the

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1A brief observation of the effect sizes among the predictors in Models 3 and 4 reveals that adding the veteran points variable does not reduce the impact of the relationship between graduate degrees and the raw test scores.
age group mentioned above getting a post-secondary degree between the years 2000 and 2019. The author posits whether the greater share of those with any degree reduces the significance (perhaps always residing largely among those with a graduate degree) of higher education on the test results of those seeking supervisor positions.

Majority cultural bias

The policing literature has long demonstrated a bias in police supervisor promotion favouring majority ethnic populations over minority officers in departments. The Hispanic variable showed a statistically significant relationship with higher test score results in the study. Hispanic candidates earned approximately five more points than non-Hispanic candidates on the SPPE (see Table 2). The other control variable of sex showed females scored four points higher than males on the sergeant’s exam, which indicates the literature’s findings discussing critical thinking, writing, and other skills measured on the sergeant’s exam (Neisser et al., 1996). As such, the authors continue to focus on areas that were not indicative of previous literature or studies.

The question is how race might impact the results in the City PD’s city and other cities with third-party implemented civil service promotion processes. The process overview explained that during the exam’s development, the vendor utilizes a stratified random sample to select 40–70 sergeants as SMEs based on sex, race, assignment location, and work shift. Given that the predominant race of sergeants in the City is 63% Hispanic, most sergeants serving as SMEs likely would be Hispanic. However, the SME’s role within the promotional process is confined to the interactions with the vendor regarding establishing the City PD sergeant’s job duties and responsibilities.

The examination process further attempts to eliminate bias by selecting exam assessors (sworn police personnel) from sergeant or above from police departments nationwide, barring any Florida assessor from participating. For each OBWE, assessors receive specific training in the role and evaluation process. The vendor is also responsible for acquiring assessors for the OBWE. The vendor will send out notifications to chiefs of police across the country soliciting assessors to partake in the OBWE component of the exam. The vendor provides a list of requirements for the chiefs to vet their personnel during selection. Once the vendor compiles a pool of possible assessors, they again have bias measures to ensure those selected reflect a diverse group of assessors for each OBWE panel (E. Kraus, personal communication, 10 May 2022).

While there were attempts to limit the amount of racial or cultural bias, the unintended consequences of those actions to ensure representation might have resulted in favouring Hispanic test takers over other races as Hispanics comprise the majority of the City PD and, as a result, comprise the majority of the SMEs and at least one-third of the assessors. Through the SME’s guidance, the vendor develops a job analysis of KSAs for the sergeant position. The assessors utilize these guidelines to determine how the candidate performs in the situational panel interview. Furthermore, the literature about majority race or cultural bias in situational panel interviews and standardized tests confirms this as a possible explanation of the outcome of this study. Prewett-Livingston et al. (1996) found that a majority-race rating effect occurs within situational panel interviews. Ultimately, the study above showed that the majority race of the assessor panel rated candidates with similar racial backgrounds higher. Additionally, within standardized testing, such as the written portion of the City PD’s sergeant exam, studies show a cultural bias that can lead to performance gaps between the majority racial group and the minority group (Kim and Zabelina, 2015). Therefore, this study raises several questions. Do organizational advantages outside the promotion process favour Hispanic officers over other races in gaining the skills and experiences necessary to succeed on the sergeant’s exam? Does the racial makeup of the SME and assessor teams contribute to the difference in performance on the written exam and the situational interview scores? Future research should focus on additional variables outside this study to analyse why Hispanics perform better on the examination within a majority-Hispanic police department and if this carries into other majority–minority police departments.

LIMITATIONS

During this study, several limitations were identified and worth noting. First, since this study was limited exclusively to this specific City PD, we recommend generalizing our results with a certain degree of caution. While the results are generalizable to departments with over a thousand officers and adhere to a similar design and format, all departments will vary significantly with their majority race. Additionally, each majority group may glean different relationships with testing outcomes based on how and by whom the designs the promotional exams. Dominant groups, however, tend to mirror each other in the hierarchical culture of policing. As of the authorship of this study, not enough cumulative knowledge exists for these claims to be veridical.

Additionally, it is worth noting that the City is one of a handful of major cities, a minority–majority populated city, with the predominant minority as Hispanic. The City PD reflects this within the makeup of its officers, and this study’s results could be affected by the inherent makeup of the population. Future analyses should attempt to disentangle the between-group differences in promotion based on the majority race. In addition, the data used in the current analysis upheld heavy restrictions. As observed in Table 2, our R-squared coefficient did not exceed 6%. Future analyses should aim to collect primary data to capture broader and more diverse explanatory factors that impact the officer’s test scores. One key indicator that future studies should address is the officer’s years of service. Other such controls should include intrinsic factors such as the test-taker’s grit (Duckworth and Gross, 2014) and mindset (Yeager and Dweck, 2014) and external factors such as socioeconomic status (Sackett et al., 2009), to list just a few.

Similarly, our limited data could not account for officers who failed, did not attend one or more required exams, or took the exam multiple times. As a result, the study’s analysis may not include other factors relating to incomplete records or failed test results that also influence the relationship between attaining higher education and promotion to sergeant. Future studies should address this limitation as it is possible that when an officer fails the exam and retakes it, they will have a more
nunanced understanding of the test content and structure, thus increasing their likelihood of a higher score. Conversely, failing the exam may add an amplified degree of pressure on the officer, decreasing their overall performance.

Lastly, while we could capture a stratified range of post-secondary education completed by officers, we could not measure the gap between those with high school diplomas and associate degrees. Officers with some college credits (e.g. a student with 30 credits) may perform better than those with only a high school diploma. Future research should attempt to add one more rung of education that includes ‘some college’ or measure the amount of credits each officer earns towards their post-secondary education as a continuous variable.

CONCLUSION

Rebuilding public confidence and trust in law enforcement will require national and local efforts. These efforts include promoting officers possessing the strong leadership skills necessary to rectify the current police-community rift. In a law enforcement agency, the sergeant is the first line of supervision and sets the standards for the officers who engage the community daily. Therefore, since the promotional process is the method by which officers ascend to the rank of sergeant, researchers would benefit by expanding the scope of this study to similar-sized departments municipally, regionally, and nationally for future research.

While this study suggests that officers with a graduate degree fared better in the promotional exam, future research should also expound on independent variables such as years of service, officer complaints, or officer reprimands to see the correlations between their scores on the promotion list. An officer’s years of service could correlate to performance on the promotional exam because they attain more on-the-job training and are exposed to more situations. Additionally, the longer they serve at a law enforcement agency, allow benefiting from multiple role models with different leadership styles. They also become more familiar with departmental policies and procedures. External complaints measure an officer’s ability to communicate effectively and interact appropriately with the community. Complaints commonly stem from a situation where a community member does not feel heard, believes they are not being treated fairly, or thinks an officer is acting inappropriately. Internal reprimands deem an officer is not following proper procedure or protocol and may affect their job performance. These are just a few variables that could compete with higher education in predicting an officer’s scores regarding the KSAs that the promotion exams measure.

The other statistically significant result is that Hispanic candidates score higher on the promotion exam than non-Hispanic. The Human Resources Department attempted to incorporate measures to prevent bias in its examination process because the city is a majority–minority community, and the City PD reflects its demographics. There are many reasons that a majority population may score higher in promotion processes, and future scholars should continue to evaluate how education and race interact in predicting police supervisory selection.

The current study looked at officers’ educational attainment levels before taking the SPPE to see if there would be any correlation between their post-secondary degrees, their raw scores, and how they were placed on the promotional list. The statistically significant variables found within the study added to the current literature by bringing up questions regarding the difference in associate’s, bachelor’s, and graduate degrees. The study also showed that the officers of the majority race of the city and the police department attained higher scores, which was also a significant factor. Another significant finding is that females scored four points higher than males. These findings contribute to the gap in the literature regarding law enforcement agencies’ first-line supervision and the promotional process and open other areas to examine possible measurable variables for future research. In addition, studies that explore the validity and elements of promotional exams further the cause of creating internal procedural justice for law enforcement agencies by increasing the transparency and fairness of these exams. Increased internal procedural justice leads to increased external procedural justice for the communities that the law enforcement agency serves (Sunshine and Tyler, 2003).

REFERENCES