



The Long Game: Examining the Relationship between Recruit Characteristics and Early Attrition

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ABSTRACT

Research Summary. In recent years, police agencies throughout the United States have been exploring ways to respond to the field's recruitment and retention crisis. However, very little is known about how to solve these problems and even less research has been conducted to understand how successful retention can be pinpointed as early as the recruit level. Drawing on 20 years of administrative data from one mid-sized midwestern agency, the current study explores the relationships among recruit characteristics, including professional history and demographics, and the likelihood of attrition.

Policy Implications. The study found that a recruit's age, educational level, and background all play a role in their success—as does departmental culture. These findings suggest that departments should focus on creating inclusive environments that better support recruits who are at risk of early attrition.

Keywords: policing, recruitment, attrition, HR, hiring



Introduction

Police agencies across the United States are facing a recruitment and retention crisis characterized by an increase in officer retirements and resignations (Adams et al., 2023; Mourtgos et al., O’Guinn et al., 2024). The Police Executive Research Forum (PERF), a nonprofit organization that focuses on research and policy in policing, wrote that “police agencies face no greater challenge today than recruiting and retaining enough qualified officers” (PERF, 2023, p. 1). PERF has surveyed its membership on the topic since 2018 and recently received responses from 266 agencies in 40 states, the District of Columbia, and Canada. PERF observed a more than 60% increase in resignations and retirements during the 2020-2022 period while applications for open positions also decreased by 65%. Staffing levels decreased 4.8% between January 2020 and January 2023 (PERF, 2023). Given these challenges, police agencies seek innovative ways to make their staffing processes more efficient and retain quality officers (Wilson & Grammich, 2024).

Although various studies have examined police recruitment, research is mixed regarding which key characteristics lead to success or failure in the law enforcement profession. This paper uses 20 years of administrative recruitment data from a mid-sized midwestern agency and uncovers the main determinants associated with retention. Research shows evidence of declining interest in the job market (PERF, 2023) and the need for new hiring practices “for the new millennium” (Wilson et al., 2010). For the purposes of this study, the authors define success as the candidate’s ability to maintain employment long enough to provide the police department with a return on their investment (ROI), essentially when the officer’s pay breaks even with the cost of recruitment and training recruits. Measuring the success of an officer’s contribution to a department is typically defined by traditional metrics such as tenure, performance evaluations, and community impact. However, this paper introduces a novel framework for evaluating officer success through the lens of “breaking even” on recruitment costs. Specifically, the concept of a “break-even point” refers to the moment when the cost of an officer’s training, recruitment, and associated investments is offset by their productivity and contributions to the department. By calculating this point, we can assess when the resources invested in an officer’s hiring and training realize value for the department.

This approach is not a common method for evaluating recruitment success, making it an innovative addition to the field. The rationale is grounded in the practical realities faced by police departments, where recruitment and training costs represent significant investments. Understanding when these investments start to yield returns is crucial for optimizing resource allocation, improving hiring practices, and enhancing departmental efficiency. Knowing ROI also offers a quantifiable measure of officer success, one that balances both the economic and operational aspects of policing (Orrick, 2002).

Notably, this approach may differ from conventional methods of assessing success, but by focusing on the “break-even” point, we can develop a more nuanced understanding of the long-term financial and operational value of each recruit. This is an important perspective because it offers a clear framework for departments to evaluate the efficiency and sustainability of their



recruitment investments, allowing more informed decision making in law enforcement hiring practices.

This paper answers the following question: What recruit characteristics determine recruit attrition in an agency? We will start by reviewing literature on the recruitment and retention crisis, followed by a review of research on how individual characteristics influence early attrition and the costs of recruitment. Then we will outline the study's data before presenting the findings from the binary logistic regression we used to answer the research question. Finally, the study outlines its contributions to the scholarly discussion on police recruitment and provides policy recommendations and suggestions for future research.

Recruitment and Retention in 21st Century Policing

To provide a foundation for this study, the first section presents a review of the existing literature on police recruitment and retention. By examining prior research, the review highlights key trends, challenges, and factors influencing workforce dynamics in law enforcement.

Systemic and Organizational Challenges

Police agencies' current staffing challenges affect law enforcement services, such as response times, and thus pose a public safety concern (Adam et al., 2023; Mourtgos et al., 2022b). Various factors may contribute to officer attrition, such as stress and inadequate compensation (Wilson et al., 2023). However, recent research has focused on systemic issues in the policing profession. For example, experts often cite the negative opinions about the police following the murder of George Floyd, which led to public calls for accountability measures and a growing awareness of racially biased policing practices (Adams et al., 2023; Mourtgos, 2022a). Another factor is growing concerns over officer health and well being; the outbreak of COVID-19 in 2020 likely contributed to a high level of officer attrition due to quarantines, illnesses, and general strain caused by public health protocols (Adams et al., 2023; Farshbafnadi et al., 2021, McLean et al., 2023; Mourtgos et al., 2022a). Studies have shown that such systemic factors contribute to levels of attrition.

Recent research on retention has also highlighted the importance of organizational factors (Linos & Riesch, 2020; Monk-Turner). In their research, Monk-Turner et al. (2010) found that officers viewed the job's "spirit of teamwork" as a positive quality (Monk-Turner, O'Leary, & Sumter, 2010). However, researchers also found concerns about organizational infrastructure and supervisory support (Monk-Turner et al., 2010). By examining telephone interviews with 143 candidates who withdrew from the hiring process at a large Northeastern U.S. agency, Gibbs (2020) suggested that agencies need to shorten their hiring processes, continuously hire strong applicants from other agencies, and provide better support to candidates throughout the hiring process. Scheer et al. (2024) looked at why officers might leave one law enforcement agency for another and suggested that recruits felt a need to find their organizational fit. Those who felt aligned with the



agency mostly referenced feeling valued by leadership, receiving positive messaging about what the organization values, being managed by well-trained supervisors, and receiving transparent feedback regarding promotions.

Individual Characteristics

Despite the importance of understanding the systemic and organizational factors that influence retention, it is also important to understand it at the individual level by reviewing which recruit characteristics, such as gender, age and race, are related to retention. Thus, this section reviews how individual officer traits are associated with success.

A comprehensive study on the determinants of retention was conducted by White et al. (2010), who surveyed NYPD police recruits prior to academy entrance and then again up to six years after graduation. They were particularly interested in seeing if recruits' motivations for becoming police officers would change over time. Their findings confirmed prior studies showing that individuals with low levels of commitment when they began their career expressed less satisfaction in future years. The study also found that recruits who enter the field with more education can more easily switch jobs if they choose to leave policing. The authors specifically cite individuals leaving for better paying jobs or jobs with less stressors. Wilson et al. (2023) performed a meta-analysis reviewing 82 journal articles published since 1973 on the issue of retention at U.S. police departments. They found the following positive associations with attrition: conflict and stressors, family stressors (particularly for parents and more acutely for female officers), and rotating shifts or inflexibility in their work shift. Wilson et al. (2023) further suggested that law enforcement should better quantify the resources used to hire, select, and train staff. They suggested that this would help guide decision making, establish benchmarks, and determine resource allocation in the future. They suggested "examining historical administrative data to identify patterns in applicant backgrounds" to forecast which candidates would choose to stay or leave departments (Wilson et al., 2023).

Gender and Police Retention

The findings on the role of gender in influencing officer retention are limited. However, researchers found that women face unique barriers to staying in the force, including family role expectations, the male-oriented police physical standards, and other forms of gender discrimination (Charman & Bennett, 2022; Kelesha, 2019; Rossler et al., 2020). Haarr (2005) explored the attrition of 113 officers from a group of 446 police recruits and found no statistically significant gender differences in the rates of attrition. During the qualitative follow-up interviews, however, she found gender discrimination factored into female recruits' resignations. Some authors found that both male and female officers saw co-workers' bias and harassment as sources of stress for female officers, and it influenced job satisfaction and decisions to resign (Brough & Frame, 2004; Morash et al., 2006). These researchers recommended that agencies better train supervisors to recognize and challenge implicit biases present that may affect female officers. Also, Charman and Bennett (2022)



also found that women were more likely to cite work hours and changes in their personal life as being central to their decision to leave.

Henson et al. (2010) compared officers' characteristics with successful police academy completion and performance on the street. They noted that gender did not predict success or failure in the academy. However, when officers received annual on-the-street evaluations, female officers received lower scores compared to their male counterparts. Henson et al. stated, "it appears the evaluation process may be biased against women" (Henson et al., 2010). Similarly, Kelesha (2019) looked at aspects of police recruits that predicted successful completion or failure at a police academy. A greater chance of success corresponded to high test scores on a civil service test, being sponsored by a law enforcement agency prior to joining the academy, and being male.

The issue of gendered stressors in policing requires further research; however, Morash et al. (2006) also suggested examining caretaking as a variable contributing to officer strain. For example, Tyson and Charman (2023) found that caregivers and officers returning from maternity leave were resigning due to the compounding incongruities with their identities as both caregivers and police officers. The authors suggest that policing organizations need to better care for the wellbeing of their officers, especially those with marginalized identities such as women. The authors suggest that policing organizations should better support officers by addressing work-related stressors, recognizing gender-specific challenges, and promoting a healthier balance between professional and personal life.

Race and Police Retention

Similar to gender, research about race as a determinant of retention is also scant. However, a study by Haarr (2005) showed significant differences among racial groups, finding that Native Americans dropped out of the police academy at a rate of 91.6%, while Hispanics dropped out at a rate of 38% and White recruits at 22%. Haar found that minority officers often experienced tokenism within their departments, meaning they were treated as symbolic representatives of their racial or ethnic group rather than as individuals. This tokenization led to several challenges. For example, Black and Hispanic officers were often expected to act as cultural liaisons between law enforcement and communities overrepresented by their racial group, even if they had no formal training or interest in that role. This placed additional, sometimes unfair, burdens on them.

Further, Henson et al. (2010) examined the relationship between officers' characteristics, successful police academy completion, and later field performance. They found that White recruits received the best scores and highest ratings from supervisors. However, the studies did not contextualize the reasons for these differences, which could be attributed to the structural and systemic racial barriers disadvantaging racial minority students and implicit biases in educational settings. These factors have been identified by education scholars (Campbell & Campbell, 2007; McClain & Perry, 2017; Settles et al., 2021), and police academies are not exempt from such realities. Further, Rossler et al. (2018) found that Black recruits saw their community as less likely to approve



of policing as a career than their White peers, and they were more likely to think the police engage in negative practices. The authors suggest high-quality mentorship programs for Black recruits and advised agencies to dedicate resources towards improving race-based policing practices and enhancing the Black community's view of the institution.

Age and Police Retention

As a recruit characteristic, age influences retention in various ways. Nevers (2019) found that older recruit candidates experienced higher failure rates. Similarly, Bloodgood, et al. (2021) found that older recruits tended to perform more poorly in physical fitness testing. They recommended individualized fitness preparation for older candidates, allowing them to develop the needed physical skills. However, despite additional physical barriers, older candidates tend to bring more mature perspectives. Meier et al. (2018) found that younger recruits were most often identified as needing cognitive skill improvement. Relatedly, Williams and Sondhi (2022) found that having supportive supervisors and mentors influenced the development and success of younger officers.

Recruitment Costs

Retention is important to mitigate public safety concerns but also because recruiting officers is a costly, lengthy, and labor-intensive process for both recruits and police departments (Aldarmaki & Kasim, 2019; Wright et al., 2011). The failure to choose the right candidates through poor recruitment practices has both social and economic costs (Sanders, 2007). One officer's misbehavior or abuse of authority could not only cost an agency millions of dollars in lawsuits but can also significantly erode community trust in the police. Turnover not only has negative effects on public safety and department finances, but it also affects organizational culture and negatively influences morale and thus retention (Harris & Baldwin, 1999; Saari et al., 2020). Thus, researchers and practitioners are seeking innovative ways to both recruit and retain officers.

Current Study

As demonstrated in the prior section, many studies argue that retention is influenced by social identities, although the influence happens in conflicting directions (Batton & Wright, 2019; Kochel, 2020; Morash et al., 2006). However, in their recent study on recruitment and retention, O'Guinn et al. (2024) found that officer demographics were not related to retention. The mixed results make it evident that further research is necessary. Thus, this study tests whether retention is affected by gender, race, and age.

Although researchers understand that there is a financial cost to recruitment, no studies have systematically evaluated the implications of those costs, particularly in terms of ROI, a key indicator of success in any organizational framework. This current study aims to correct this omission.

The current study adds to the literature by evaluating whether recruits' individual



characteristics (specifically gender, race, and age) relate to the likelihood of attrition and using a novel calculation for ROI for each officer to determine success. Study results could potentially help agencies improve on their ROI and better shape their recruitment strategies to facilitate retention.

The study gathered two decades of administrative recruitment data from a mid-sized Midwestern agency to examine whether recruitment classes' characteristics affect whether an officer remains in the agency until their break-even point.

Methods

Study Site

The department is in the Midwest, serving a city of 270,000 people. The population is highly educated, making the city a hub for political and social change. The police department tries to stay on the cutting edge of policing techniques, especially because the public regularly demands evidence of innovation. The department employs 492 commissioned personnel and 119 professional staff across the city. The department has a modern training center and a multitude of specialized positions. It has one of the largest populations of female officers in the country, averaging 25% when the national average of 12%.

Data

For data, this study used recruit biography sheets collected from 2002-2022 as well as information about when officers resigned. The biography template sheet was created by an administrative staff member at the agency. The form covered information about recruits' hometown, age, race, gender, educational background, and previous employment. The initial dataset contained 517 officers, and 439 observations were included in the final analysis.¹

Measures

Dependent Variable

Quitting before the breakeven point (attrition) represents the outcome variable of this study. We used the organization's recruitment costs per-recruit in the year 2022 and the officers' salaries to calculate the time in which the agency would receive their ROI. Table 1 demonstrates the calculations performed by the practitioner partner and agency staff to find the total investment—\$136,084.47—for each of the 38 recruits who attended the 2022 full academy. The total

1 The database had a total of 517 officer recruits, but the observations with missing data were dropped. Multiple Imputation methodology was conducted to mitigate the bias due to missingness; however, the issue of perfect prediction during imputation was encountered, which often leads to numerical instability and biased results due to the discrete nature of categorical data. Following (White et al. 2020), the decision was made to omit the variables rather than augmenting them and further manipulating the data.



cost of the 2022 full academy was \$5,171,210.04. Both numbers were comprised of data presented in Table 1.

We divided the cost per candidate by the bi-weekly wages and benefits of the salary schedule to determine the number of weeks before the candidate earned the cost of their training:

$$\begin{aligned} & \$136,084.47 / (2529.70 * 1.3932) = 38.61 \text{ bi-weekly periods} \\ & 38.61 \text{ bi-weekly periods} * 2 = 77.22 \text{ weeks} \end{aligned}$$

This puts the break-even point at slightly more than two years (2 years, 1 month and 27 days) from their start date (May 31, 2022) to their break-even date (July 27, 2024).² In our analysis, the outcome was coded as a binary variable to reflect whether the officer quit before the two-year break-even point (Yes = 1) and (No = 0).

TABLE 1. Return on Investment Calculations (2022)³

LINE ITEMS	TOTAL COST
Initial issue of equipment (excluding firearms)	\$ 147,200.00
Pay and benefits for training officers to teach at the academy	\$ 1,167,137.23
Pay and benefits for field training officers	\$ 1,044,450.90
Ammunition for training	\$ 34,500.00
Pay and benefits for officer while being trained	\$2,717,303.06
Recruitment costs (travel, materials, staff time)	\$ 22,250.00
Backgrounding costs (travel, staff time)	\$ 70,902.66
Opportunity cost of hosting academy at the training center ⁴	\$ 40,212.50
Total offsite fuel costs	\$ 1,692.52

2 This is done with the understanding that salaries and costs change overtime, thus the measure is an estimate. The authors considered using inflation as a factor over the time period studied, but found it problematic given varying academy lengths during that time and class sizes adding too much variability when considering the years since the “modern” academy length was put into place. As the authors further examined even this smaller group of academy classes the variability in weeks to ROI points varied greatly between 59.89 (2020) to 183.41 (2016), and the average was 2 years 7 months from the date of hire. However, this variability in class-size and the changes in academy training over time overall led us to be dubious of the value of these averages. Extrapolating the one year we are certain of the actual costs and inputs feels better than guessing with a smaller group.

3 The year 2022 had 38 recruits.

4 The rental value reflects the cost assigned to each room used during the academy, based on the rates charged to outside agencies. This total is calculated by multiplying the rental rate of each room by the number of days it was used for training a class of officers.



LINE ITEMS	TOTAL COST
Wear and tear on vehicles	\$ 28,144.06
Field trips/travel costs and site rental fees	\$ 6,758.00
HR onboarding per candidate (staff time, materials)	\$ 1,441.65
State reimbursement amount if they graduate	\$ (190,000.00)
Staff time spent scheduling the field training process	\$ 79,217.46
Grand Total	\$ 5,171,210.04
Cost per recruit making it to field training	\$ 136,084.47

^a While most departments cover the cost of purchasing firearms, this agency does not.

^b This is an example for one year, note that the authors used values considering inflation using May 2022 inflation CPI and class size in the final break even figure.

Independent Variables

The independent social identity variables that our model tested include two binary variables: **gender** (Male = 0) and (Female = 1), **race** (White = 1) and (Non-White = 0), and one continuous variable—**age**. Table 2 shows that the recruits were predominantly White (76.94%) and male (70.79%).

Education was another variable. We coded education in two ways. The first follows convention by capturing **level of education** (High School = 0, Some College⁵ = 1, College Degree⁶=2, and Graduate Degree⁷ = 3), and the other highlights their major in college (Criminal Justice Major = 1) and (Non-Criminal Justice Major = 0). We studied these variables for two main reasons. First, this is a highly educated department; more than 80% of the recruits had an undergraduate degree, and some had graduate degrees. Second, the department’s leadership had recruited outside of criminal justice majors, anecdotally providing more support to those individuals when they joined the department.

Similarly, the department had pushed to diversify their applicants, resulting in a wide array of employment backgrounds, including, but not limited to, people from educational, business, and social services backgrounds. To reflect the department’s variety of previous occupations, this study assigned **previous employment** to eight different categories: Military (1), Law Enforcement (2), Education (3), Social Services (4), Customer Service (5), Fitness (6), Criminal Justice (7), and Other (8). In the analysis, previous military employment was used as the reference category.

5 Those who have completed some college credits or earned a 2-year associates degree.

6 Those who have earned a 4-year bachelor’s degree.

7 Those who have completed a higher-level degree than a Bachelors (mainly Masters level studies or Law School).



Finally, we asked about recruit hometown location, measured using a variable called **long distance**. Following Carter and Swisher’s (2020) model, we measured the distance from the recruit’s hometown to the hiring agency. The variable was coded as follows (300 miles or more = 1) and (299 miles or less = 0).

Analytical Strategy

Due to the binary nature of the outcome, a logistic regression was conducted to analyze the administrative data (see, O’Guinn et al., 2024; Weisburd and Brit, 2014), which included their demographic characteristics, geographical information at time of hire, and previous educational and employment backgrounds. Recruits who remained for two years and above were successful, and those who did not make it to two years were found unsuccessful. When evaluating the relationship between recruit characteristics and lack of success (early attrition), various diagnostic tests were conducted on the logistic model and the bivariate correlation matrix, and variance inflation factors (VIF mean = 6.77) showed no serious signs of multicollinearity in the model.⁸

TABLE 2. Descriptive Statistics

VARIABLES	OBS	MEAN	STD. DEV.	MIN	MAX	%
Dependent variable						
Quit before breakeven (Attrition)	517	0.091	0.288	0	1	9.09
Independent variables						
White recruit	515	0.769	0.422	0	1	76.94
Female recruit	517	0.292	0.455	0	1	29.21
Age	500	27.322	5.631	20	57	
Control Variables						
<i>Education level</i>						
Highschool	517	0.004	0.062	0	3	0.39
Some College	517	0.161	0.367	0	3	16.05
College Degree	517	0.735	0.442	0	3	73.50

⁸ Variables for Age (VIF=29.74) and College Degree (30.50) had high levels for their VIF, however when the correlation matrix was conducted to further investigate correlations amongst variables-in the data, there were no abnormally high correlations found. The highest was between college degree and age at 34%. However, the overall VIF for the model was reasonable to continue with the analysis (Vittinghoff et al., 2005). Further, since these two variables are theoretically related and thus reasonably expected to be correlated, the high VIFs do not necessarily invalidate the model (John Fox, 2015).



VARIABLES	OBS	MEAN	STD. DEV.	MIN	MAX	%
Graduate Degree	517	0.101	0.301	0	3	10.06
Criminal Justice Major	506	0.443	0.497	0	1	44.27
Long Distance recruit	467	0.111	0.315	0	1	11.13
<i>Previous Employment</i>	510	4.506	2.236	1	8	
Military	510	0.071	0.256	0	1	7.06
Law Enforcement	510	0.214	0.41	0	1	21.37
Education	510	0.063	0.243	0	1	6.27
Social Services	510	0.096	0.295	0	1	9.61
Customer Service	510	0.318	0.466	0	1	31.76
Fitness	510	0.008	0.088	0	1	0.78
Criminal Justice	510	0.051	0.22	0	1	5.10
Other	510	0.18	0.385	0	1	18.04

TABLE 3. Logistic regression results of determinants of recruits leaving before the breakeven point

VARIABLES	COEF. (SE)	OR	ME
Long Distance recruit	-0.743 (0.686)	0.476 (0.327)	-0.051 (0.037)
White recruit	-0.471 (0.3866)	0.624 (0.241)	-0.043 (0.0)
Female recruit	0.280 (0.370)	1.322 (0.490)	0.0243 (0.033)
Age	0.071*** (0.031)	1.081*** (0.034)	0.007*** (0.003)
Criminal Justice Major	0.854** (0.3914)	2.351** (0.919)	0.073** (0.034)
Education Level			
Some College	-2.761* (1.548)	0.063* (0.098)	-0.509* (0.318)



VARIABLES	COEF. (SE)	OR	ME
College Degree	-3.260** (1.499)	0.038** (0.058)	-0.550* (0.315)
Graduate Degree	-1.601 (1.526)	0.202 (0.308)	-0.346 (0.323)
Previous employment			
Law Enforcement	-0.561 (0.660)	0.570 (0.377)	-0.051 (0.066)
Education	-0.887 (0.943)	0.412 (0.388)	-0.074 (0.0664)
Social Services	-1.070 (0.854)	0.343 (0.293)	-0.084 (0.070)
Customer Service	-0.364 (0.633)	0.694 (0.440)	-0.036 (0.066)
Fitness	0.037 (1.380)	1.038 (1.432)	0.004 (0.153)
Criminal Justice	-0.603 (0.963)	0.547 (0.527)	-0.055 (0.084)
Other	0.363 (0.759)	1.438 (1.0911)	0.044 (0.091)
Constant	-1.15 (1.901)	0.317 (0.603)	- -
Pseudo R ²	0.1082		
Observations	439	439	439

^aMilitary is the reference category for Previous Employment

^bOR = Odds Ratios

^cSE = Standard Errors

*** p<0.01

** p<0.05

* p<0.1

Results

Table 3 demonstrates the results from a binary logistic regression that tested the relationship between officer characteristics and their break-even retention at the agency. The findings reflect that older officers are approximately 0.7 percentage points more likely to leave before the break-even point (b= 0.078; OR= 1.081; ME= 0.007; P <0.01).

Also, the study found an effect regarding educational background—those who earned a



criminal justice degree or had completed criminal justice coursework⁹ were 7.3% more likely to leave early ($b = 0.854$; $OR = 2.351$; $P < 0.05$) ($ME = 0.073$; $P < 0.05$). This is to be expected given the department's history of prioritizing and investing in those with non-criminal justice backgrounds in an effort to diversify recruitment cohorts. Perhaps this leads to those with traditional criminal justice educations to perceive lower levels of support. The relationship between education level and recruit attrition was significant. Those with a college degree were 55% less likely to leave early when compared to those with only a high school education ($b = -3.260$; $OR = 0.038$; $P < 0.05$), ($ME = 0.540$; $P < 0.1$)¹⁰. This was also true with recruits with some college (those who have taken some college level credits, but not completed their bachelor's degree), who were 50.9% percentage points less likely to leave early than those with a high-school education ($b = -2.761$; $OR = 0.063$; $P < 0.1$), ($ME = 0.509$; $P < 0.1$).

Finally, results did not demonstrate that race, gender, or previous employment (previous military as a reference category) influenced officer retention.

Discussion

The current retention crisis in police departments has caught the attention of scholars due to the pressing public need for efficient and effective law enforcement agencies. This study examines how recruits' characteristics can influence their success in the early stages of their career, especially if they remain on the force until the agency breaks even on its investments. We recognize that "success" in law enforcement can be understood in a myriad of ways, but agencies should understand the financial costs associated with early attrition.

Despite the continued debate on the role of gender and race in retention, this study's results are in line with O'Guinn et al. (2024), who found that officer demographics such as gender and race did not influence attrition. In their study, they suggested that future research should be conducted in agencies with more minority and female officers. The agency in our study had a higher percentage of women than most agencies in the United States, and gender did not play a statistically significant role in attrition. Notwithstanding these findings, previous research has demonstrated through interviews that unique strains face women in the policing profession (Haarr, 2005).

Consistent with previous studies (Meier et al., 2018; Nevers, 2019), this study showed that older recruits were more likely to leave before two years. This may be due to the physical demands of policing, which can be more challenging for older individuals. Additionally, younger recruits may be more open to the evolving social and cultural expectations of modern policing, making them more adaptable to changes in law enforcement practices (McLean et al., 2023).

⁹ This includes recruits who indicated studying criminal justice related topics as a major focus in their coursework.

¹⁰ The Marginal Effects were only significant at a 0.1 significance threshold.



Further, the study found that hometown was a not statistically significant factor. Carter & Swisher (2020) studied hometown distance in relation to military duty stations and found that soldiers stationed within 300 miles of their home were 4 percent more likely to leave the Army, thus leading to less re-enlistment by those who had hometowns closer to the base. Conversely, they also theorized that soldiers who were stationed further from home formed stronger relationships within the organization due to the longer distance from their hometown, due to a relational vacuum felt by being far from social safety nets (Carter & Swisher, 2020). Although not statistically significant in this study, the authors suggest that more policing studies should incorporate this variable to further explore its effects.

Additionally, the results indicated that educational attainment played a significant role in the retention of police officers, which is in line with several studies on the topic. Specifically, individuals with some college credits or those who earned college degrees were less likely to leave their positions compared to those who completed high school. This trend may be attributed to the greater level of career contemplation and commitment that college-educated individuals typically engage in prior to entering the workforce and the potential for promotion and advancement in the agency. In contrast, those who enter the police force straight out of high school may be in the early stages of career exploration and could use the initial onboarding period to evaluate their fit within the profession. However, we should note that the results did not show that a graduate level education had a statistically significant effect on attrition.

Interestingly, the type of coursework completed during a degree program also appears to influence retention rates. Officers in the sample who studied criminal justice tended to leave their positions earlier than those with other educational backgrounds. This observation underscores the significance of department culture as a factor in officer retention (Quick & Wolff, 2024; Rief & Clinkinbeard, 2021). Anecdotal evidence suggested that there were department efforts to diversify their applicant pool by actively recruiting individuals without criminal justice degrees. While this initiative aimed to bring in fresh perspectives, it may have inadvertently created an environment where officers with traditional criminal justice backgrounds felt less supported. Such dynamics can significantly impact the department's overall culture and, in turn, affect retention rates (Debbaut & De Kimpe, 2023).

Limitations

This study is not without its limitations. First, a design was used where causation cannot be ascertained despite association found. Further, the ROI calculations were done for one recruitment year, while the analysis included recruits from previous years. Therefore, the outcome is an estimated figure that could change slightly over time. Also, there are limitations of the generalizability of the study results. The study site is a unique agency comprised of highly educated officers and a higher female population than most agencies, thus making it difficult to apply findings to dissimilar agencies. Additionally, we used non-White and White as the categories



for race. Although this is a common practice to ensure statistical power and to protect the privacy of minority groups in small samples, it can obscure important differences between specific racial or ethnic groups. Further, the sample size is relatively small for statistical purposes. Relatedly, the study suffered from missing data, which impacts the validity and reliability of the findings by introducing biases that can distort results. The absent data points may mean the sample inaccurately represented the population, thus affecting the generalizability of the results. The authors considered imputation techniques to mitigate this risk; however, deletion was selected since the assumptions for the imputation process were not met, thus potentially further skewing outcomes if used. The ability to generalize the findings is also influenced by the fact that the relationship between education and attrition is significant for this particular agency but may not extend to others. The agency's emphasis on hiring non-criminal justice majors could lead to distinct dynamics that are not reflective of other departments. The absent data points may mean the sample inaccurately represented the population, thus affecting the generalizability of the results. Finally, although the study results provided attrition trends, we do not know why they are happening. Conducting interviews would be a valuable next step in addressing this gap.

Implications

These results suggest that ROI calculations should be systematically calculated and recorded by law enforcement agencies, especially as the workforce continues to evolve and departments work on transforming their recruitment and retention models (Wilson et al., 2010). Departments could conceivably require that officers reimburse the money invested in recruitment and training if they leave before the break-even point; however, this could cause problems with debt and resentment for those who leave. It could also represent a barrier to entry for those who may wish to apply. Rather, departments' goal should be providing better support officers who are more susceptible to leaving. Departments should review the cost and benefits of introducing new policies for recruitment, which at times can hurt retention efforts. This is demonstrated by the success of the police department studied in recruiting non-criminal justice majors, however later losing those who were criminal justice majors. Leaders should understand the potential impacts of innovate strategies.

Williams and Sondhi (2022) found that supervisors played a major role in recruiting success; departments should dedicate training for first-line and second-line supervisors to teach them how to encourage the development of departmental bonds. Supportive supervisors can identify when their officers are facing challenges and respond by directing them to the right resources, encouraging them to stay in the agency.

Agencies should collect all recruitment data in standardized ways to conduct studies like this nationally. Also, more data about recruits could help researchers better understand the characteristics that drive retention (while taking care to avoid discrimination). Finally, agencies should invest in personnel who analyze department data. ROI calculations and merging records cannot be easily done without the institutional understanding and internal support of department



personnel. This kind of data analytics is well modeled by the college admissions industry, which leverages data not only for recruitment strategies but also to ensure students remain enrolled (Fullfabric, 2024).

Departments should provide strategic support for new older officers who may find it more difficult to be onboarded and recruits who have not yet completed their college education, who may need more advising early in their career. Using data, agencies can evaluate characteristics of recruits who are more vulnerable to attrition and create a more supportive environment to retain them. Further, the results suggest that departmental culture did play a role in attrition; however, understanding how culture affected officers would require officer reflections. Therefore, we suggest that departments make exit interviews a standard part of their process when officers choose to leave. This could help agencies assess if department culture is potentially leading to attrition.

Finally, this study shows the importance of research-practitioner partnerships. The institutional knowledge of a department practitioner partner led to the addition of college degree type as a potential variable. Researchers working with administrative data should actively communicate with police departments to understand what could be of importance.

Conclusions

Police agencies must find ways to minimize their losses by developing strong recruitment strategies and better supporting their officers. Each agency is unique, but the department studied does point to the benefits of collecting detailed information on recruits and of calculating ROI. This study focused on ROI to measure success rather than more common ways of analyzing success based on years in service and commendations or promotions, and this offers a novel way to look at recruit success, focusing on officers' early career decisions.

The results of this study suggest that age and education contribute to attrition. Additional research should be conducted about which educational backgrounds are more successful in the profession and how to better support those who come from less traditionally successful educational backgrounds. Relatedly, more research on police culture and its influence on officer attrition should also be conducted. Researchers should also study police academies to understand the learning environment and improve recruits' experiences.



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ACKNOWLEDGMENTS

We want to acknowledge the American Association of Evidence Based Policing (ASEBP) for fostering an environment for partitioners and researchers to interact and coproduce research that is both applicable for the scholarly community and practitioners. Our partnership would not have been possible without their Applied Criminology and Data Management Program. Also, thank you to the NIJ LEADS Scholars program for their support.

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