Satisfaction with Police in Peru: The Decisive Role of Victimization Experiences

Joanna Kámiche-Zegarra

Universidad del Pacífico

Abstract

Police satisfaction fundamentally shapes citizen cooperation and legal compliance, yet Peru faces significant challenges in this domain. This study examines how victimization experiences and socio-demographic factors—including age, sex, education, socioeconomic status, geographic location, and district crime rates—influence citizens' perceptions of police services. Analyzing 95,381 observations from Peru's Instituto Nacional de Estadística e Informática (INEI) survey of urban residents aged 14 or above, we measured satisfaction with police on a 4-point scale. Results demonstrate that crime victimization emerges as the strongest predictor of police dissatisfaction: victims are 6.3 percentage points more likely to give "Poor" ratings and 9.5 percentage points less likely to provide "Good" ratings ($p < 0.001$ for both). These findings suggest that implementing targeted victim support services could significantly enhance police-community relations in Peru, potentially improving cooperation in law enforcement efforts and strengthening institutional legitimacy across diverse urban communities.

1 Introduction

Latin America has emerged as the world's most violent region (Goh & Law, 2023; Hernández & Heimark, 2023), exhibiting robbery rates that double those in Africa and are nine times higher than in Asia (Hernández, 2019). Since the 1990s, crime has become an inescapable element of Latin American daily life, profoundly shaping public agendas and dominating citizen concerns (Dammert, 2019). This troubling regional context is further exacerbated by widespread reluctance among victims to report crimes to authorities (Hernández & Heimark, 2023), perpetuating a cycle where criminal behavior continues unchecked by formal institutions. Within this concerning landscape, Peru distinguishes itself with the highest robbery victimization rate in the Americas (Hernández & Heimark, 2023), despite isolated evidence suggesting marginal decreases in victimization—though rates remain at critically high levels (Dammert et al., 2017).

This pervasive security crisis has fundamentally transformed Peru's social priorities, with citizen concern regarding public safety escalating dramatically from 12% to 55% between 2002 and 2017, supplanting unemployment and poverty as the nation's primary perceived problem (Cozzubo et al., 2021). Recent data reveals that 25.8% of urban Peruvians experienced crime victimization or attempted victimization in 2023, with rates varying geographically across coastal regions (23.51%), highland areas (26.7%), and amazon territories (18.58%) (INEI, 2023). Despite this widespread victimization, a mere 15.6% of victims formally reported crimes to authorities (INEI, 2023), reflecting a profound disconnect between citizens and law enforcement institutions. This institutional distrust has reached alarming proportions, with 68% of Peruvians expressing minimal or no confidence in police and an even more concerning 84% distrusting the judiciary system (Latinobarómetro, 2018). Empirical research by Cozzubo et al. (2021) demonstrates that each victimization experience further erodes institutional trust, reducing confidence in police by 2.7 percentage points. These challenges are compounded by Peru's structurally deficient law enforcement apparatus—characterized by an overextended, underpaid, and inadequately trained police force—which maintains just 241 officers per 100,000 inhabitants, significantly below the global average of 300 (Instituto de Defensa Legal, 2018).

These systemic deficiencies in Peru's law enforcement infrastructure are directly reflected in citizens' satisfaction with police services. According to INEI (2023), on a 4-point scale where 1 represents the lowest satisfaction and 4 the highest, Peru's national average stands at a mere 2.32, with distinct regional variations that mirror the country's complex geography. The Amazon region demonstrates relatively higher satisfaction levels (2.50) compared to the highlands (2.33) and coastal areas (2.30), yet all regions exhibit concerning levels of dissatisfaction. As illustrated in Figure 1, these satisfaction metrics vary not only by geographic department but also significantly between crime victims and non-victims, highlighting how direct experiences with crime fundamentally shape citizens' perceptions. Notably, crime victims report lower average satisfaction (2.20) compared to non-victims (2.37), with substantial variations across departments potentially linked to how effectively police forces represent and understand community-specific needs.

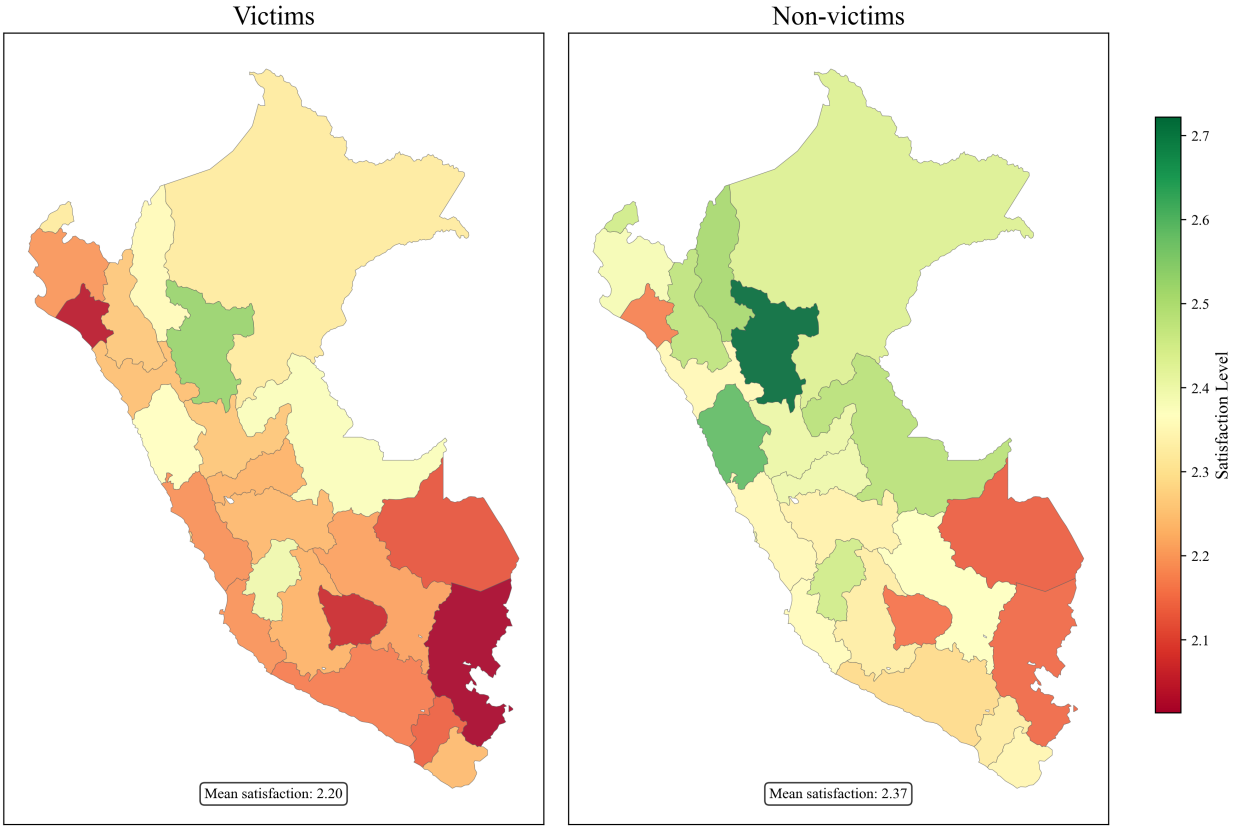

Figure 1: Representative Average Satisfaction with Local Police by Department: Comparison Between Victims and Non-victims. Data from "Encuesta Nacional de Programas Estratégicos" by Instituto Nacional de Estadística e Informática (INEI), 2023.

Considering this problematic context, our study makes several significant contributions to the literature on victimization and satisfaction with police services. First, to the best of our knowledge, this research constitutes the first comprehensive examination of victimization's influence on police satisfaction in Peru, addressing a critical gap in Latin American criminal justice literature. Second, our methodological approach offers distinctive analytical advantages through its innovative integration of Propensity Score Matching (PSM) with a multinomial probit framework, capturing nuanced variations across satisfaction categories and representing a substantial advancement over conventional methodologies. The PSM implementation directly addresses Corbacho et al.'s (2015) emphasis on minimizing overt bias by creating a quasi-counterfactual scenario to victimization, enabling us to draw inferences with reduced susceptibility to systematic biases. Third, we employ a sophisticated multilevel analytical framework that seamlessly integrates both district-level and individual-level variables, directly responding to Wu et al.'s (2009) assertion that neighborhood characteristics fundamentally shape citizens' evaluations of police services. This multidimensional approach yields more robust and contextually-grounded findings compared to the single-level analyses that dominate existing literature. By synthesizing these three methodological innovations, our study not only enhances theoretical understanding of victimization dynamics but also provides actionable insights for policymakers seeking to rebuild fractured police-citizen relationships.

This study examines a primary hypothesis and several secondary hypotheses regarding the determinants of police satisfaction in Peru. As our primary hypothesis, we proposed that direct crime victimization would significantly decrease satisfaction with police services, as victims may perceive inadequate institutional responses to their experiences—a relationship documented across multiple international contexts. Additionally, we formulated five secondary hypotheses based on global empirical evidence: First, we expected educational attainment to influence evaluations of police, with more educated citizens potentially exhibiting more critical assessments, as shown in studies across diverse national settings. Second, we anticipated some degree of socioeconomic stratification in police satisfaction, though the directionality remained uncertain given competing results from international research. Third, we considered that geographic location might influence satisfaction levels across Peru's diverse regions, anticipating potentially higher satisfaction in amazon areas. Fourth, we hypothesized that district-level crime rates might affect satisfaction, a relationship examined in neighborhood-level studies worldwide though requiring contextual verification. Fifth, we hypothesized that demographic factors—including age, gender, partnership status, and homeownership—would significantly determine police satisfaction perceptions through distinct social experiences and expectations, reflecting patterns observed in cross-national research.

Our multinomial probit analysis provides substantial support for most of these hypotheses, revealing nuanced patterns in police satisfaction determinants. Victimization emerges as a powerful predictor of dissatisfaction, with victims being 9.5 percentage points less likely to rate police as "Good" ($p < .001$). Educational attainment demonstrates a notable gradient effect: postgraduate degree holders are 14.2 percentage points less likely to provide "Good" ratings ($p < .001$) compared to those without formal education—a more pronounced effect than initially anticipated. Socioeconomic differences are evident, with Class A (highest level) citizens 8.6 percentage points more likely to give "Good" ratings ($p < .001$) than those in the lowest class, confirming socioeconomic stratification but revealing stronger effects than expected. Geographic variations show significant influence, with Amazon region residents expressing more positive views, being 6.5 percentage points less likely to give "Very Poor" ratings ($p < .001$) compared to coastal residents, aligning with our regional hypothesis. Neighborhood safety conditions demonstrate meaningful impact, as each additional crime per $1,000$ inhabitants decreases "Good" ratings by 0.2 percentage points ($p < .001$)—a modest but statistically significant effect. Demographic patterns also emerge clearly across multiple dimensions: age exhibits statistically significant effects across all satisfaction categories ($p < .05$ to $p < .001$), though with modest coefficients; males report slightly higher satisfaction (2.5 percentage points more likely to give "Good" ratings, $p < .001$); while partnered individuals (6.6 percentage points less likely to give "Good" ratings, $p < .001$) and homeowners (2.1 percentage points less likely to give "Good" ratings, $p < .001$) consistently demonstrate more critical assessments. These findings illuminate systematic variations in how police services are experienced across different population segments in Peru, providing crucial insights for targeted policy interventions.

2 Literature Review

Our literature review systematically examines the multifaceted dynamics of police-community relations through four interconnected dimensions that fundamentally shape law enforcement effectiveness—a particularly salient issue in Peru's challenging institutional landscape (Instituto de Defensa, 2018). Contemporary research consistently demonstrates that successful policing outcomes hinge critically on public cooperation, which in turn derives primarily from citizens' satisfaction with police services (Abdi & Hashi, 2023). Our analytical framework investigates the intricate relationships between victimization experiences, sociodemographic characteristics, and police satisfaction, synthesizing evidence from diverse international contexts while acknowledging that findings from varied sociocultural settings must be thoughtfully contextualized within Peru's distinct institutional environment. This understanding carries particular significance in the Peruvian context, where enhanced citizen satisfaction with law enforcement represents a crucial catalyst for fostering the public cooperation necessary to address the nation's acute security challenges.

2.1 Cooperation with Police

The evolution of police-community relations research reveals an increasingly sophisticated understanding of collaborative mechanisms in community-oriented policing (Braga, 2015; Fisher-Stewart, 2016; Gill et al., 2014). Research has established that effective collaboration fundamentally depends on the public's voluntary recognition and acceptance of police authority, which subsequently promotes enhanced compliance with legal frameworks and active participation in crime prevention strategies (Tyler & Jackson, 2014; Sunshine & Tyler, 2003; Tyler & Fagan, 2008; Chenane & Wright, 2018; Mazerolle et al., 2013). Other studies, employing diverse methodological approaches, reveal distinct perspectives on the determinants of effective police-community relationships.

Through a three-cycle cross-sectional study in the United States, Griffith and Foley (2020) demonstrate a significant negative effect of biased conduct in shaping public collaborative efforts, suggesting that discriminatory practices severely undermine community engagement. While these findings emphasize behavioral aspects, Bradford and Jackson's (2024) contemporary review in England and Wales points in a different direction, highlighting that operational success transcends mere performance metrics to include institutional transparency, accountability, and governance. This contrast in findings suggests that the foundations of police-community relationships may vary significantly across cultural and institutional contexts. Adding to this complex picture, Ho and McKean's (2004) empirical investigation in North Carolina, using multiple regression analysis, reveals a particular situation: even when police meet or exceed standard performance benchmarks, elevated public fear can significantly undermine police-community collaboration. This finding directly challenges traditional performance-based approaches and suggests the critical importance of psychological factors and other operational metrics.

Bolger et al.'s (2021) comprehensive meta-analysis of 66 studies across multiple locations reveals that improving relationships with dissatisfied community members could lead to increased willingness to report crimes and higher levels of compliance with law enforcement, suggesting that negative perceptions can be reversed through targeted interventions. Despite these seemingly conflicting perspectives on citizen-police interactions, the literature consistently converges on one critical point: community satisfaction with police services is an inherently subjective concept that encompasses the majority of previously identified drivers of successful police-community partnerships, though measurement approaches vary significantly across studies (Tewksbury & West, 2001; Lai & Zhao, 2018; Jansen et al., 2024; Hinds & Murphy, 2007; Merenda et al., 2020; Abdi & Hashi, 2024; Howes et al., 2022; Ferdik et al., 2022).

2.2 Satisfaction with Police

The conceptualization of police satisfaction has evolved significantly over time, reflecting changing societal expectations and research methodologies. Cao (2015, p. 241) defines satisfaction as an "internal state of mind" when one is "gratified for something perceived", while Bernard (2014, p. 206) broadens this perspective by describing it as "the overall evaluation of living conditions by inhabitants". In the context of law enforcement, elevated public satisfaction levels serve as a critical indicator that police services are meeting or surpassing community expectations, functioning as a fundamental metric for assessing criminal justice system effectiveness (Jansen et al., 2024).

Some scholars have explored alternative constructs such as confidence (Sahapattana & Cobkit, 2016; Ren et al., 2022; Frimpong et al., 2019) and trust (Corbacho et al., 2015; Kulachai & Cheurprakobkit, 2023; Melkamu & Teshome, 2023). Nevertheless, while these measures differ from satisfaction, they are not invalid; rather, they capture distinct dimensions of police-community relations. As highlighted in Cao's (2015) systematic review, both confidence and trust come with risks, such as betrayal or relying on someone who may not be dependable. In contrast, satisfaction offers a more comprehensive, integral, and immediate assessment of police-community interactions, although the development of standardized measurement tools remains an ongoing challenge.

The manifestation of satisfaction occurs through a sophisticated cognitive evaluation process where citizens assess the alignment between received police services and their expectations (Cao, 2015). Larsen and Blair (2009) advance this understanding by positioning satisfaction as a quantifiable measure of public contentment with police duty fulfillment, where performance serves as a crucial component within the broader satisfaction framework. Li et al. (2016) further refine this conceptualization by focusing on satisfaction as citizens' subjective assessment of two critical dimensions: direct police-citizen encounters and responses to reported disorder incidents. Abdi and Hashi's (2023) empirical findings from Somalia demonstrate that satisfaction levels function as a significant direct predictor of both public trust and cooperation, thereby establishing satisfaction as the foundational element in fostering effective police-community relations.

2.3 Victimization

Victimization experiences can significantly impact citizen-police relationships, as demonstrated by Corbacho et al. (2015). Their research shows that when citizens become crime victims, subsequent police interactions may create distance rather than cooperation, potentially reducing community welfare. This strained relationship is particularly evident in developing regions, where negative perceptions of law enforcement can result in "mutual ill feelings, lack of respect, disorder and inefficient police functioning" (Radelet, 1986, p. 280). The research evidence on this topic is detailed but shows varying results depending on geographical context and research methods. A comprehensive study in Latin America by Corbacho et al. (2015) found that crime victims were approximately 10% less likely to trust their local police compared to non-victims. This finding is supported by several regional studies that consistently show negative relationships between crime victimization and satisfaction with law enforcement (Fernandez & Kuenzi, 2010; Carreras, 2013; Cenabou et al., 2011).

Recent empirical studies in Ecuador have contributed additional perspectives to this discourse through ordinal logistic regression analyses. Anrango (2022) investigated the relationship between victimization and police confidence, finding that while crime victims demonstrated, on average, lower levels of trust in the Ecuadorian police, the results did not achieve statistical significance. Caicedo (2022) similarly reported no statistically significant correlation between victimization experiences and police trust in their analytical models. These findings suggest that the relationship between victimization and police satisfaction may be moderated by various contextual factors, a perspective supported by multiple scholars (Cao et al., 1996; Nix et al., 2015; Jackson & Bradford, 2009; Payne & Gainey, 2007). While these studies provide valuable insights into the Ecuadorian context, they also highlight a significant research gap, as similar empirical investigations are notably absent in other Latin American countries (Dammert et al., 2021).

The relationship between victimization and police satisfaction demonstrates significant variation across cultural and geographical contexts, particularly when comparing North American findings with those from other regions. Research from Canada provides strong evidence of this relationship, as demonstrated by Hu et al.'s (2020) study in Edmonton, which found that both fear of crime and victimization significantly influence public satisfaction with law enforcement. These findings align with broader Canadian research trends that consistently support this association (O'Connor, 2008; Cao, 2011; Cheng, 2015). Similarly, studies in the United States consistently report that assault and theft victims express diminished satisfaction with police services (Dowler & Sparks, 2008). However, research from other global regions presents contrasting patterns. For instance, a Thai study found no significant correlation between victimization experiences and police trust (Kulachai & Cheurprakobkit, 2023), likewise research in Chile revealed that victimization had no substantial impact on police satisfaction levels (Dammert et al., 2021). These divergent findings across regions suggest that the relationship between victimization and police satisfaction is mediated by broader cultural, social, and institutional factors specific to each context.

A few studies have expanded beyond basic victimization metrics to investigate the multifaceted dimensions of victim experiences and their implications for mental health. In a comprehensive analysis of Missouri crime victims, Avery et al. (2020) established a significant inverse relationship between victim distress levels and perceived police effectiveness, with victims of violent crimes experiencing moderate to severe distress consistently reporting lower satisfaction ratings compared to those with mild or no distress. These findings substantiate the earlier theoretical framework proposed by Posick and Policastro (2013), which established a robust correlation between emotional distress and diminished police satisfaction.

2.4 Socio-demographics

Research on police satisfaction has extensively examined various demographic characteristics, including ethnicity, gender, age, education, and socioeconomic status (Bolger et al., 2021). Among these factors, age consistently emerges as a reliable predictor, with Bolger et al.'s (2015) meta-analysis revealing that older citizens generally express more favorable attitudes toward police than younger individuals. This age-related pattern may stem from younger people's higher likelihood of experiencing police contact and confrontational interactions (Skogan, 2005). Education and gender effects show less consistency across studies. While some researchers report higher satisfaction among females (Cao et al., 1996; Karakus et al., 2011), others find no significant gender differences or contradictory results (Janses et al., 2024; Dammert et al., 2021; Lai & Zhao, 2010; Merenda et al., 2020).

Socioeconomic status, commonly measured through individual income, has been regularly included as a control variable but rarely demonstrates statistical significance in police satisfaction studies (Wu et al., 2009), with only a few studies finding meaningful correlations (Piatkowska, 2015; Solakoglu, 2016). Importantly, Cao (2005) argues that certain demographic variables, particularly race, may not translate effectively across different cultural contexts. Specifically, Cao (2005) notes that while race is a crucial variable in North American police satisfaction studies, its application in Latin American contexts may be problematic due to fundamentally different historical, social, and cultural constructions of racial categories in these regions. This highlights the importance of adapting research frameworks to local contexts rather than directly importing methodologies from other regions. The influence of other demographic factors extends to marital status and property ownership, with Dammert et al. (2021) finding that single individuals and renters report lower satisfaction levels than married property owners, potentially attributable to differences in community attachment and social integration.

Beyond individual characteristics, contextual factors play a crucial role in shaping police satisfaction. Multilevel analyses have consistently revealed significant associations between district-level crime rates and public satisfaction with police services across various geographical contexts (McNeeley & Grothoff, 2016; Wu et al., 2009). This relationship is particularly evident in US-based research, which demonstrates strong correlations between public assessment of police performance and local crime rates (Reisig & Parks, 2000; Sampson & Jeglum-Bartusch, 1998). Supporting these findings, Jang, Joo and Zhao (2010) identified

significant relationships between homicide rates and public confidence in law enforcement, while Karakus's (2017) research in Turkey revealed that crime rates and public safety exerted greater influence on satisfaction than procedural factors or community cohesion measures.

The literature reviewed reveals consistent empirical patterns within the complex landscape of police-community relations while highlighting critical contextual variations across research settings. Meta-analytic and empirical studies demonstrate that cooperation with police fundamentally depends on public acceptance of police authority, with satisfaction functioning as both outcome and predictor in this relationship. Empirical investigations of victimization effects show pronounced geographical heterogeneity, with North American studies consistently reporting significant negative causal effects of victimization on satisfaction, while research from Latin America, Asia, and parts of Europe frequently yields non-significant associations, suggesting important cultural and institutional moderating factors. Quantitative analyses of socio-demographic influences reveal age as the most consistent predictor, while gender and education demonstrate inconsistent effects; multilevel models further indicate that community-level variables, particularly crime rates and social cohesion measures, often explain greater variance in police attitudes than individual characteristics. These empirical findings collectively underscore several critical implications: the necessity of developing contextually sensitive approaches that account for local institutional dynamics rather than universally applying frameworks developed in specific settings and the importance of employing multilevel analytical strategies that can effectively capture both individual and community-level determinants of satisfaction.

3 Methodology

3.1 Data

Research on crime in Latin America faces substantial empirical challenges due to relatively limited data availability (Corbacho et al., 2015; Cao, 2005). These constraints introduce methodological concerns including measurement error, endogeneity, and omitted variable bias that potentially undermine causal inference (Corbacho et al., 2015). This study minimizes these challenges through Propensity Score Matching (PSM) methodology.

Our analysis uses the 2023 Encuesta Nacional de Programas Presupuestales (ENAPRES), administered by Peru's Instituto Nacional de Estadística e Informática (INEI). This survey employs a probabilistic, stratified, two-stage sampling design. Clusters of households were initially selected using probability proportional to size (PPS) sampling within each department, followed by systematic selection of households within these clusters. Data collection occurred through structured face-to-face interviews conducted at respondents' residences.

Drawing from this national survey data, our study concentrated on urban residents aged 14 years and above. Our analytical sample comprises 26,958 households corresponding to 95,381 individual-level observations. With the application of appropriate sampling weights, this sur-

vey sample constitutes a statistically representative depiction of Peru's urban population aged 14 or more. The dataset provides extensive information regarding respondents' experiences with victimization, their satisfaction with police services, and essential sociodemographic variables including gender, age, educational attainment, and socioeconomic status.

To enrich our contextual understanding of crime patterns, we integrated district-level crime statistics from DataCrim, Peru's integrated system for crime and citizen security statistics. For districts with unavailable 2023 crime data (approximately 12% of all Peruvian districts), we implemented a methodological approach that imputed values based on the district's historical crime reporting average from 2018-2022. Additionally, we incorporated district-level demographic projections for 2023 from INEI to establish appropriate population denominators for crime rate calculations.

For missing data management, we implemented a complete case analysis by removing observations with missing values in the dependent variable. This decision follows methodological guidance from Little (1992), who notes that imputing dependent variables typically adds sampling variability without meaningful analytical advantages. Allison (2001) similarly suggests that cases with missing dependent variables should be excluded before considering imputation for other variables. In accordance with these recommendations, we removed observations with missing dependent variable values, including non-responses and "I do not know" responses, resulting in a working sample of 58,219 observations. After removing these observations, we verified that there were no missing values in any of the independent variables in our working sample. While this represents a reduction from our original dataset, the sample size remains adequate for statistical analysis with acceptable precision. Table A1 in the Appendix presents the distributions before and after the removal of observations with missing values in the dependent variable, demonstrating that the proportional distribution of observations across departments remains approximately the same.

3.2 Dependent Variable

Our analysis focuses on satisfaction with police as the main outcome of interest. We measured this variable through survey responses where participants rated their satisfaction on a 4-point scale. The response options represented distinct satisfaction levels: 1 (Very poor) indicating the lowest satisfaction, 2 (Poor) representing below-average satisfaction, 3 (Good) denoting above-average satisfaction, and 4 (Very good) representing the highest satisfaction level. The survey also included a fifth option, 5 (Do not know), which we excluded from our analysis along with any missing values to maintain analytical clarity and data integrity. This approach ensured that our dependent variable captured only substantive evaluations of police services from respondents who felt qualified to provide such assessments.

3.3 Independent Variables

Victimization was operationalized through a dummy variable that captures a comprehensive measure of criminal victimization. The primary victimization variable (victim) was coded as 1 for respondents who had experienced any type of crime within the past 12 months, and 0 otherwise. This definition encompasses both completed offenses (where the crime was successfully carried out) and attempted crimes (where the perpetrator initiated but did not complete the criminal act). By including attempted crimes, our measure acknowledges that even unsuccessful criminal attempts can significantly impact citizens' perceptions of safety and their evaluations of police performance.

We incorporated several demographic variables in our analysis. Age was measured as a continuous variable representing years. Sex was a dummy variable coded 1 for male respondents and 0 for female respondents. Education was captured through a series of dummy variables representing the highest level achieved or currently being pursued: Postgraduate (1 if highest education was postgraduate, 0 otherwise), Graduate (1 if undergraduate, 0 otherwise), High School (1 if high school education, 0 otherwise), and Elementary (1 if elementary education, 0 otherwise), with No Education serving as the reference category in our model. For each educational category, the value of 1 includes both individuals who have completed that level and those who are currently enrolled in that level of education. Socioeconomic status was measured through dummy variables representing different classes: Socioeconomic Class A (1 if highest socioeconomic class, 0 otherwise), Socioeconomic Class B (1 if upper-middle class, 0 otherwise), Socioeconomic Class C (1 if lower-middle class, 0 otherwise), and Socioeconomic Class D (1 if low class, 0 otherwise), with Socioeconomic Class E (the lowest socioeconomic class) functioning as the base category for comparison. Relationship status was represented by Has partner, coded 1 if the respondent was married or had a partner, and 0 otherwise. Housing status was captured by Owned home, coded 1 if the respondent owned their residence, and 0 otherwise.

We also included Crimes as a contextual variable measuring the crime rate per 1,000 inhabitants in the respondent's district, providing an objective measure of local crime conditions. To account for Peru's distinct geographical regions, we incorporated binary indicators for highlands and amazon. Peru consists of three main geographic regions: coast, highlands, and amazon. The highlands variable equals one if the individual resides in that region, while the amazon variable equals one if the individual resides in that region, with the coastal region serving as the reference category. These regional controls account for systematic differences in institutional presence, security infrastructure, and sociocultural factors that might influence both victimization risk and satisfaction with police services across Peru's diverse geographical zones.

Table 1 presents descriptive statistics and detailed definitions for all variables included in our analysis. For each variable, we report the mean and standard error. The descriptive statistics reveal several notable patterns. First, the average satisfaction with police (2.325) falls slightly below the midpoint of our 4-point scale, suggesting a generally negative perception of police services. Second, approximately 25.8% of respondents reported being victims of

crime in the previous year. The sample is relatively balanced in terms of gender (47.9% male) and relationship status (47.4% partnered), with a mean age of 41.84 years. Educational attainment is concentrated at the high school (42.5%) and undergraduate (39.7%) levels, while socioeconomic status shows a roughly normal distribution across classes, with Class D (28.6%) and Class C (27.0%) being the most prevalent.

Table 1: Summary Statistics and Variable Descriptions

Variable	Description	Mean	Std. Err.
Dependent Variable			
Satisfaction with police	Measured on a 4-point scale: 1 = Very poor 2 = Poor 3 = Good 4 = Very good	2.325	0.004
Independent Variables			
Victimization			
Victim	Victim of any crime in past 12 months (1 = Yes, 0 = No)	0.258	0.003
Demographic Characteristics			
Age	Years (continuous)	41.840	0.117
Sex	Male (1 = Yes, 0 = No)	0.479	0.003
Has partner	Married or has partner (1 = Yes, 0 = No)	0.474	0.003
Owned home	Home ownership (1 = Yes, 0 = No)	0.714	0.003
Educational Level *(Base category: No Education)*			
Postgraduate	Highest: postgraduate (1 = Yes, 0 = No)	0.031	0.001
Graduate	Highest: undergraduate (1 = Yes, 0 = No)	0.397	0.003
High School	Highest: high school (1 = Yes, 0 = No)	0.425	0.003
Elementary	Highest: elementary (1 = Yes, 0 = No)	0.126	0.002
Socioeconomic Class *(Base category: Socioeconomic Class E, lowest)*			
Socioeconomic Class A	Highest socioeconomic level (1 = Yes, 0 = No)	0.077	0.002
Socioeconomic Class B	Upper-middle socioeconomic level (1 = Yes, 0 = No)	0.184	0.003
Socioeconomic Class C	Lower-middle socioeconomic level (1 = Yes, 0 = No)	0.270	0.003
Socioeconomic Class D	Low socioeconomic level (1 = Yes, 0 = No)	0.286	0.003
Geographic and Crime Indicators			
Crimes	Crime rate per 1,000 inhabitants in district (continuous)	19.601	0.081
Highlands	Highland region residence (1 = Yes, 0 = No)	0.272	0.002
Amazon	Jungle region residence (1 = Yes, 0 = No)	0.077	0.001

3.4 Analytic approach

The core methodological challenge in our analysis stems from potential endogeneity in the victimization variable—a critical issue that could compromise the validity of our findings. This endogeneity arises because unobserved factors might simultaneously influence both an individual's likelihood of being victimized and their satisfaction with police services. For instance, people living in areas with weak police presence might face higher victimization risk while also reporting lower satisfaction, regardless of personal experience with crime. Without addressing this selection bias, standard probit or OLS estimation methods would produce biased results that fail to capture the true relationship between victimization and police satisfaction.

To minimize these potential biases and approximate causal relationships as closely as possible, we employed Propensity Score Matching (PSM), a robust statistical technique that enables methodologically sound comparisons between treatment groups (victims) and control groups (non-victims) by creating matched pairs based on similar observable characteristics (Rosenbaum & Rubin, 1983; Imbens, 2004). While PSM cannot fully replicate the conditions of a randomized experiment, it represents one of the most rigorous approaches available for establishing causality in observational studies. Our PSM approach systematically pairs victims and non-victims who share equivalent characteristics across selected variables, ensuring that victimization status remains the only meaningful observable difference between groups, thus allowing us to isolate its effect on satisfaction with police services as accurately as possible.

When selecting covariates for calculating the propensity score, we followed two key principles. First, we included variables that previous research has established as predictors of both victimization risk and police satisfaction. Second, we carefully excluded any potential intermediate outcome variables or factors that might be influenced by victimization itself. This approach enhanced the accuracy of our propensity score estimates and improved the overall balance between treatment and control groups (Caliendo & Kopeinig, 2008; Imbens & Rubin, 2015). The complete results of the logistic regression model used to estimate these propensity scores are presented in Table A2 in the Appendix. The model reveals significant predictors of victimization, with age and home ownership reducing victimization probability, while higher educational attainment shows substantial positive effects, particularly for postgraduate and graduate levels, suggesting that more educated individuals face higher victimization risks.

To establish the common support region, we implemented the Minima and Maxima Comparison method. Following the methodology proposed by Caliendo and Kopeinig (2008), we refined our sample by removing observations with propensity scores that fell outside the range of scores observed in the opposing treatment group. This trimming process resulted in the exclusion of 14 observations that lay beyond the common support region, thereby ensuring a sufficient overlap in propensity score distributions between the treated and control groups. Figure 2 illustrates the distribution of propensity scores for victims (treated) and non-victims (control), showing substantial overlap between both groups. The histogram reveals that while both groups share similar probabilistic patterns of victimization, there are sufficient comparable observations across the entire range of propensity scores.

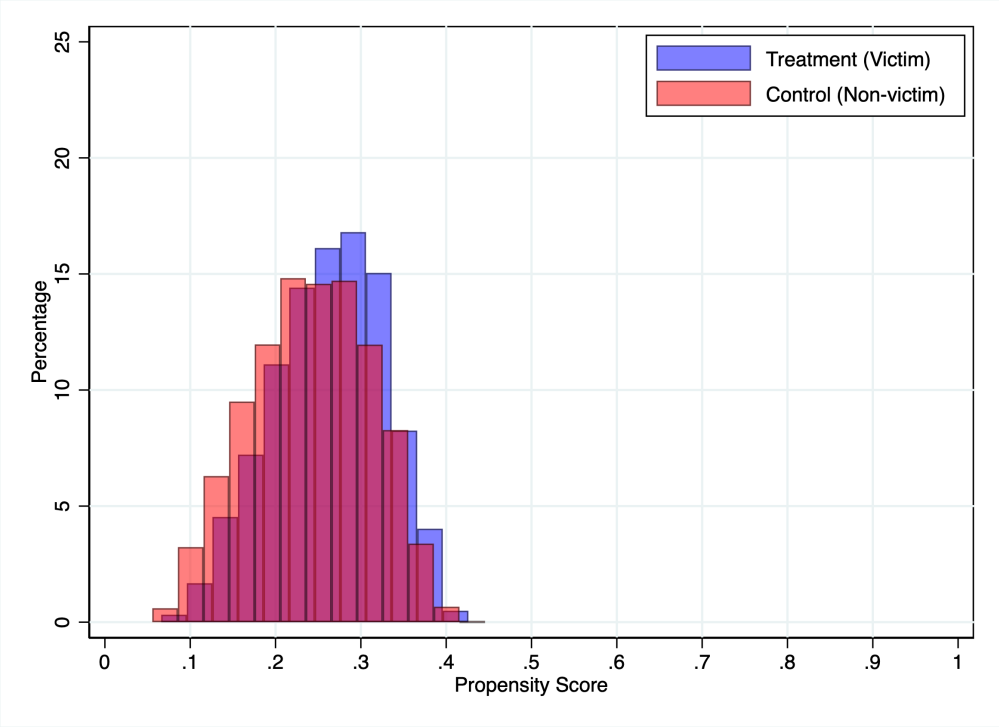

Figure 2: Distribution of Propensity Scores by Victimization Status. The histogram shows the overlap in propensity scores between victims (treated group) and non-victims (control group), demonstrating the common support region for matching.

Subsequently, we implemented a comprehensive matching analysis utilizing three distinct methodological approaches: nearest neighbor matching, radius caliper matching, and kernel matching. Following Austin's (2011) empirical recommendations, we employed a caliper width of 0.2 standard deviations of the propensity score across all methods. This specification has been widely demonstrated to achieve an optimal balance between bias reduction and statistical efficiency in propensity score matching applications. Table 2 presents the comparative performance of our matching methods, with all approaches achieving satisfactory balance as indicated by Rubin's B values well below the threshold of 25 and Rubin's R values within the acceptable range of 0.5-2. The nearest neighbor variants (particularly 1:5 and 1:7) exhibited slightly lower mean bias percentages (1.6%) compared to radius caliper and kernel methods (2.1%), though all methods showed substantial improvement from the unmatched sample's initial imbalance (B = 32.9, R = 0.72). Notably, while the 1:1 nearest neighbor matching retained fewer paired observations (23,817), the radius caliper and kernel methods maximized sample size by utilizing nearly all observations (58,204), suggesting a trade-off between sample size and matching precision.

We selected radius caliper matching as our primary methodology based on two key advantages: its ability to pair all units in our dataset and the negligible differences in balance quality compared to alternative methods. The larger number of matched observations afforded by this approach ($n = 58,204$) enhances the precision of our estimates without compromising matching quality. As Dehejia and Wahba (2002, p. 154) explain, radius caliper matching

Table 2: Matching Methods Comparison

Method	Paired Observations	Mean Bias (%)	Rubin's B	Rubin's R
Radius Caliper				
	58,204	2.1	9.2	1.00
Kernel				
	58,204	2.1	9.9	0.98
Nearest Neighbors				
1:1	23,817	2.0	8.5	1.03
1:3	37,733	1.9	8.2	0.98
1:5	45,791	1.6	7.6	0.98
1:7	50,534	1.6	7.5	1.00

Note: All matching methods show adequate balance with Rubin's B < 25 and Rubin's R between 0.5 and 2. Unmatched sample had B $= 32.9$ and R $= 0.72$.

provides the flexibility to utilize "extra (fewer) units when good matches are (not) available", thereby incorporating the benefits of oversampling while simultaneously mitigating the risk of poor matches—a crucial consideration highlighted by Caliendo and Kopeinig (2008). The effectiveness of our matching strategy is demonstrated in Tables A3 and A4 in the Appendix, where the resultant balance statistics reveal perfect or near-perfect balance across almost all covariates.

To examine the relationship between victimization and police satisfaction, we employed a multinomial probit model incorporating the analytical weights derived from our radius caliper matching procedure. This model accounts for the categorical nature of our dependent variable while allowing for differentiated effects across satisfaction levels. Unlike ordered probability models, the multinomial probit specification relaxes the proportional odds assumption, enabling us to capture potentially heterogeneous effects of victimization on different satisfaction categories rather than assuming uniform distributional shifts (Cameron & Trivedi, 2005). Table 3 presents coefficient estimates with robust standard errors clustered at the district level, while Table 4 provides the average marginal effects that quantify the change in probability for each satisfaction category associated with each covariate.

Our methodological choice is particularly appropriate as it relaxes the independence of irrelevant alternatives (IIA) assumption present in multinomial logit specifications, allowing for more flexible substitution patterns across unordered categorical outcomes. This flexibility is crucial when examining victimization effects that may manifest differently across satisfaction thresholds—potentially increasing certain negative response categories while simultaneously decreasing specific positive categories.

Table 3: Multinomial Probit Coefficient Estimates of Police Satisfaction Determinants

	Very Poor	Poor	Good	Very Good
Victim	—	-0.197***	-0.527***	-0.517***
		(0.031)	(0.033)	(0.052)
Age	—	0.004***	-0.002*	-0.006***
		(0.001)	(0.001)	(0.002)
Sex	—	-0.029	0.070**	0.089*
		(0.026)	(0.026)	(0.048)
Postgraduate	—	-0.282*	-0.785***	-1.008***
		(0.162)	(0.155)	(0.269)
Graduate	—	-0.227	-0.701***	-0.770***
		(0.145)	(0.139)	(0.225)
High School	—	-0.121	-0.374**	-0.285
		(0.144)	(0.138)	(0.216)
Elementary	—	0.007	-0.093	0.084
		(0.138)	(0.140)	(0.227)
Socioeconomic Class A	—	0.051	0.367**	0.305*
		(0.105)	(0.125)	(0.158)
Socioeconomic Class B	—	-0.010	0.103	0.195*
		(0.070)	(0.082)	(0.112)
Socioeconomic Class C	—	-0.092*	-0.084	-0.021
		(0.055)	(0.068)	(0.090)
Socioeconomic Class D	—	0.018	0.066	0.074
		(0.055)	(0.061)	(0.073)
Has Partner	—	-0.107***	-0.340***	-0.339***
		(0.030)	(0.035)	(0.049)
Owned Home	—	0.015	-0.070*	-0.153**
		(0.032)	(0.036)	(0.056)
Crimes	—	0.001	-0.008*	-0.009*
		(0.003)	(0.004)	(0.005)
Highlands	—	0.056	0.032	-0.135
		(0.059)	(0.079)	(0.084)
Amazon	—	0.545***	0.687***	0.480**
		(0.081)	(0.166)	(0.147)
Constant	—	1.557***	2.082***	0.226
		(0.161)	(0.166)	(0.251)
Observations		58,204		
Wald $\chi^2(48)$		1,786.15		
Log pseudolikelihood		-24,458.444		
Clustered SE		Yes (570 clusters)		

Note. Standard errors in parentheses are clustered at district level. "Very Poor" is the base outcome category. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 4: Average Marginal Effects on Satisfaction with Police

Variable	Satisfaction Level			
	Very poor	Poor	Good	Very good
Victim	0.036***	0.063***	-0.095***	-0.005***
	(0.004)	(0.006)	(0.006)	(0.001)
Age	-0.000*	0.002***	-0.001***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Sex	-0.001	-0.025***	0.025***	0.002
	(0.003)	(0.005)	(0.005)	(0.001)
Postgraduate	0.054***	0.100***	-0.142***	-0.012*
	(0.016)	(0.031)	(0.027)	(0.006)
Graduate	0.046**	0.095***	-0.133***	-0.008
	(0.015)	(0.024)	(0.020)	(0.005)
High School	0.024	0.050*	-0.072***	-0.002
	(0.015)	(0.023)	(0.020)	(0.005)
Elementary	0.003	0.022	-0.027	0.003
	(0.014)	(0.022)	(0.021)	(0.005)
Socioeconomic Class A	-0.020	-0.069**	0.086***	0.003
	(0.012)	(0.022)	(0.023)	(0.002)
Socioeconomic Class B	-0.004	-0.028	0.028	0.003
	(0.008)	(0.015)	(0.016)	(0.002)
Socioeconomic Class C	0.009	-0.008	-0.002	0.001
	(0.006)	(0.012)	(0.013)	(0.002)
Socioeconomic Class D	-0.004	-0.010	0.013	0.001
	(0.006)	(0.011)	(0.011)	(0.001)
Has partner	0.022***	0.047***	-0.066***	-0.003**
	(0.003)	(0.005)	(0.006)	(0.001)
Owned home	0.002	0.021***	-0.021***	-0.003**
	(0.003)	(0.006)	(0.006)	(0.001)
Crimes	0.000	0.002***	-0.002***	-0.000*
	(0.000)	(0.001)	(0.001)	(0.000)
Highlands	-0.005	0.011	-0.002	-0.004**
	(0.007)	(0.013)	(0.015)	(0.001)
Amazon	-0.065***	0.004	0.062	-0.001
	(0.008)	(0.051)	(0.053)	(0.003)

Note. $N = 58,204$. Standard errors in parentheses are clustered at district level.
* $p < .05$, ** $p < .01$, *** $p < .001$

4 Discussion

Our findings establish victimization as the decisive factor shaping police satisfaction in Peru, with its impact surpassing all other variables in both magnitude and statistical robustness. When Peruvians experience crime directly, their perception of law enforcement undergoes a profound transformation, as satisfaction diminishes, criticism intensifies, and the likelihood of positive assessment plummets. This pattern manifests across the entire satisfaction spectrum: victims become significantly more inclined to show low satisfaction levels (3.6 percentage points more likely for "Very Poor" and 6.3 percentage points more likely for "Poor" ratings), while simultaneously becoming substantially less willing to provide favorable evaluations (9.5 percentage points less likely for "Good" ratings), all with the highest statistical confidence ($p < .001$). This relationship contradicts regional patterns found in Ecuador (Anrango, 2022; Caicedo, 2022) and Chile (Dammert et al., 2021) where researchers identified no significant victimization-satisfaction connection, yet aligns remarkably with North American contexts. Studies from Canada (Hu et al., 2020; O'Connor, 2008; Cao, 2011; Cheng, 2015) and the United States (Dowler & Sparks, 2008) consistently demonstrate that victimization significantly diminishes satisfaction with police services. Notably, while Corbacho et al. (2015) found that Latin American crime victims were approximately 10% less likely to trust police than non-victims using binary trust measures, our more nuanced four-category satisfaction scale reveals comparable effects (-9.5 percentage points for "Good" ratings) suggesting this relationship remains consistent across different measurement approaches. With 25.8% of Peruvians reporting victimization in the past 12 months, this effect represents a substantial challenge to police legitimacy in Peru.

Our analysis reveals a striking education gradient in police satisfaction, where higher education consistently predicts more critical assessments of law enforcement relative to those without formal education (the base category). This pattern manifests as a progressive intensification of negative perceptions that strengthens with each additional education level. Those with postgraduate education—including current students, partial completers, and degree holders—demonstrate the strongest effects, being 14.2 percentage points less likely to give "Good" ratings, 10.0 percentage points more likely to provide "Poor" evaluations and 5.4 percentage points more likely to rate police as "Very Poor" (all $p < .001$). Individuals with graduate-level education—encompassing those currently pursuing undergraduate studies, those who initiated but did not complete their programs, and those who attained their degrees—show significant but slightly reduced effects (13.3 percentage points less likely to give "Good" ratings, $p < .001$). Respondents with high school education demonstrate smaller but still significant effects (7.2 percentage points less likely for "Good" ratings, $p < .001$), while those with elementary education show no significant impact relative to the base category. This educational effect operates independently of other sociodemographic factors and contradicts the inconsistent impacts noted in Bolger et al.'s (2021) meta-analysis. Given that 39.7% of Peruvians have some form of undergraduate education and an additional 3.1% have engaged with postgraduate studies, this education gradient represents a substantial challenge for police institutions seeking to build trust among Peru's educated population segments.

Socioeconomic status and geography reveal concerning disparities in how different communities experience policing across Peru's diverse landscape. Compared to Socioeconomic Class E (the lowest level and reference category), Class A inhabitants (highest level, comprising 7.7% of Peruvians) demonstrate significantly more positive perceptions, being 8.6 percentage points more likely to give "Good" ratings ($p < .001$) and 6.9 percentage points less likely to provide "Poor" evaluations ($p < .01$). Interestingly, Classes B (18.4% of Peruvians), C (27.0%), and D (28.6%) show no statistically significant differences from the lowest class, suggesting a threshold effect where only the wealthiest Peruvians experience substantially different police service quality or hold markedly different expectations. This results highlight Wu et al.'s (2009) observation that socioeconomic status rarely impacts police satisfaction significantly. Regional variations prove equally importance, with Amazon residents (7.7% of Peruvians) 6.5 percentage points less likely to give "Very Poor" ratings ($p < .001$) compared to coastal areas (the reference region). Highland residents (27.2% of Peruvians) differ significantly from coastal residents only in the "Very Good" category (-0.4 percentage points, $p < .01$). District crime rates demonstrate consistent negative effects, with each additional crime per 1,000 inhabitants increasing "Poor" ratings by 0.2 percentage points and decreasing "Good" ratings by the same magnitude (both $p < .001$)—a meaningful effect given that the average crime rate in our sample is 19.6 crimes per 1,000 inhabitants with substantial variation across districts.

Demographic characteristics further influence police perceptions in ways that challenge established findings in the international literature. Males report significantly higher satisfaction than females (the reference category), being 2.5 percentage points more likely to provide "Good" ratings and 2.5 percentage points less likely to give "Poor" evaluations (both $p < .001$), though no significant gender differences appear for the extreme categories. This results contradict more recent studies reporting no gender differences (Jansen et al., 2024; Merenda et al., 2020; Lai & Zhao, 2010) and higher satisfaction among females (Cao, 1996; Karakus et al., 2011). Partnership status emerges as a surprisingly strong predictor, with partnered individuals (47.4% of Peruvians) 6.6 percentage points less likely to give "Good" ratings, 4.7 percentage points more likely to provide "Poor" evaluations, and 2.2 percentage points more likely to rate police as "Very Poor" compared to single respondents (all $p < .001$). Homeowners (71.4% of Peruvians) demonstrate consistently more critical assessments than renters, being 2.1 percentage points more likely to provide "Poor" ratings and 2.1 percentage points less likely to give "Good" evaluations (both $p < .001$). These findings regarding partnership status and homeownership present a striking contrast to recent evidence from Chile, where Dammert et al. (2021) found that single individuals and renters—not married property owners—report lower satisfaction levels with police services. Age has a statistically significant though practically small effect, with each additional year increasing "Poor" ratings by 0.2 percentage points and decreasing "Good" evaluations by 0.1 percentage points (both $p < .001$)—effects that directly contradict Bolger et al.'s (2015) meta-analysis findings that older citizens typically express more favorable attitudes toward police.

Several important limitations contextualize our findings and suggest directions for future research. First, our study uses a cross-sectional design, which prevent us from examining how victimization experiences influence police satisfaction over time. Second, while our

large sample ($N = 58,204$) provides statistical power, response biases may affect results, particularly if those most dissatisfied with police were less likely to answer related questions. Third, unmeasured variables like employment status, media consumption, political ideology and corruption—factors that Choi et al. (2020), Kulachai and Cheurprakobkit (2023), and Caicedo (2022) highlighted as important influences—could affect our findings. Finally, our satisfaction measure, while comprehensive, does not distinguish between different police functions, potentially masking important nuances in citizen evaluations of specific police services.

Our findings yield clear policy implications for Peru's security sector reform efforts. First, targeted interventions for crime victims should be prioritized, as victimization emerged as the strongest predictor of dissatisfaction—establishing comprehensive victim support services could disrupt the negative feedback loop between victimization and reduced police cooperation that Bolger et al. (2021) identified as critical. Second, police communication strategies require adaptation across educational contexts, with more sophisticated and transparent engagement approaches needed for highly educated populations whose assessment standards appear substantially more demanding. Third, the socioeconomic and geographic disparities we identified call for equitable resource distribution across communities to address the significant satisfaction gaps between wealthy and disadvantaged populations. Fourth, tailored community policing initiatives addressing the specific concerns of homeowners and partnered individuals could improve satisfaction among these surprisingly critical demographic segments. Finally, police academies should integrate these findings into training curricula, especially regarding gender disparities in satisfaction, to build awareness of how different population segments experience police services. Implementing these evidence-based reforms could significantly strengthen Peru's police-community relationships, potentially improving security outcomes through enhanced citizen cooperation with law enforcement.

5 Bibliography

Abdi, A. N. M., & Hashi, M. B. (2024). Impact of police effectiveness on public trust and public cooperation with the Somalia police service: exploring the mediating role of citizen satisfaction. Cogent Social Sciences, 10(1), 2327137.

Allison, P. D. (2009). Missing data. The SAGE handbook of quantitative methods in psychology, 23, 72-89.

Anrango Narváez, D., & Medina Sarmiento, J. E. (2022). Percepciones ciudadanas sobre la Policía de Ecuador: Estudio de los factores que influyen sobre la confianza en la institución policial. Política criminal, 17(34), 474-505.

Austin, P. C. (2011). Optimal caliper widths for propensity-score matching when estimating differences in means and differences in proportions in observational studies. Pharmaceutical statistics, 10(2), 150-161.

Avery, E. E., Hermsen, J. M., & Towne, K. (2020). Crime victimization distress, neighbourhood social cohesion and perceived police effectiveness. Journal of Community & Applied Social Psychology, 30(6), 581-592.

Bernard, J. (2015). Community satisfaction in Czech rural communities: A multilevel model. Sociologia Ruralis, 55(2), 205-226.

Bolger, M. A., Lytle, D. J., & Bolger, P. C. (2021). What matters in citizen satisfaction with police: A meta-analysis. Journal of criminal justice, 72, 101760.

Bradford, B. and Jackson, J. (2024), Trust in the Police: What is to be Done?. The Political Quarterly, 95: 442-449. https://doi.org/10.1111/1467-923X.13424

Braga, A. A. (2015). Crime and policing revisited. US Department of Justice, Office of Justice Programs, National Institute of Justice.

Caicedo, J. M. (2022). Autoridad y privilegio: confianza en la policía en Latinoamérica. Colombia Internacional, (110), 145-171.

Caliendo, M., & Kopeinig, S. (2008). Some practical guidance for the implementation of propensity score matching. Journal of economic surveys, 22(1), 31-72.

Cameron, A. C., & Trivedi, P. K. (2005). Microeconometrics: methods and applications. Cambridge university press.

Cao, L., Frank, J., & Cullen, F. T. (1996). Race, community context and confidence in the police. American journal of police, 15(1), 3-22.

Cao, L., & Zhao, J. S. (2005). Confidence in the police in Latin America. Journal of criminal justice, 33(5), 403-412.

Cao, L. (2011). Visible minorities and confidence in the police. Canadian Journal of Criminology and Criminal Justice, 53(1), 1-26.

Cao, L. (2015). Differentiating confidence in the police, trust in the police, and satisfaction with the police. Policing: An International Journal of Police Strategies & Management,

38(2), 239-249.

Carreras, M. (2013). The impact of criminal violence on regime legitimacy in Latin America. Latin American research review, 48(3), 85-107.

Ceobanu, A. M., Wood, C. H., & Ribeiro, L. (2011). Crime victimization and public support for democracy: Evidence from Latin America. International Journal of Public Opinion Research, 23(1), 56-78.

Chenane, J. L., & Wright, E. M. (2021). The role of police officer race/ethnicity on crime rates in immigrant communities. Race and justice, 11(1), 3-27.

Cheng, H. (2015). Factors influencing public satisfaction with the local police: A study in Saskatoon, Canada. Policing: An International Journal of Police Strategies & Management, 38(4), 690-704.

Choi, J., Yim, H., & Hicks, R. D. (2020). Direct and indirect effects of crime-related media consumption on public confidence in the police. International journal of police science & management, 22(1), 38-49.

Corbacho, A., Philipp, J., & Ruiz-Vega, M. (2015). Crime and erosion of trust: Evidence for Latin America. World development, 70, 400-415.

Cozzubo, A., Amaya, E., & Cueto, J. (2021). The social costs of crime: the erosion of trust between citizens and public institutions. Economics of Governance, 22(2), 93-11

Dammert, L., Mujica, J., & Zeballos, N. (2017). Seguridad ciudadana: Balance en la investigacion en polıticas publicas 2011–2016 y Agenda de Investigacion 2017–2021. In Consorcio de Investigacion Economica y Social (Ed.), Balance en la investigacion en polıticas publicas 2011–2016 y Agenda de investigacion 2017–2021 (pp. 74–120).

Dammert, L. (2019). Challenges of police reform in Latin America. In Routledge handbook of law and society in Latin America (pp. 259-277). Routledge.

Dammert, L., Elorrieta, F., & Alda, E. (2021). Satisfaction with the police in Chile: The importance of legitimacy and fair treatment. Latin American politics and society, 63(4), 124-145.

Dehejia, R. H., & Wahba, S. (2002). Propensity score-matching methods for nonexperimental causal studies. Review of Economics and statistics, 84(1), 151-161.

Dowler, K., & Sparks, R. (2008). Victimization, contact with police, and neighborhood conditions: Reconsidering African American and Hispanic attitudes toward the police. Police Practice and Research: An International Journal, 9(5), 395-415.

Ferdik, F., Frogge, G., & Cooney, M. (2022). Exploring further determinants of citizen satisfaction with the police: The role of strain. Journal of criminal justice, 81, 101931.

Fernandez, K. E., & Kuenzi, M. (2010). Crime and support for democracy in Africa and Latin America. Political Studies, 58(3), 450-471.

Fisher-Stewart, G. (2016). Community policing explained: A guide for local governments.

Frimpong, L. K., Oteng-Ababio, M., Owusu, G., & Wrigley-Asante, C. (2019). Public

confidence in the police: Tests of instrumental and expressive models in a developing country city. Police Practice and Research, 20(2), 139-155.

Gill, C., Weisburd, D., Telep, C. W., Vitter, Z., & Bennett, T. (2014). Community-oriented policing to reduce crime, disorder and fear and increase satisfaction and legitimacy among citizens: A systematic review. Journal of experimental criminology, 10, 399-428.

Goh, L. T., & Law, S. H. (2023). The crime rate of five Latin American countries: Does income inequality matter?. International Review of Economics & Finance, 86, 745-763.

Griffith, C. E., & Foley, A. J. (2020). The relationship between global perceptions of police in the United States and citizen satisfaction with local police. Sociation, 19(2), 37-47.

Hernández, W. (2019). Costos sociales de la victimización en América Latina: Percepción de inseguridad, capital social y percepción de la democracia. Latin American Research Review, 54(4), 835-853.

Hernández, W., & Heimark, K. R. (2023). Does context matter? Examining robbery reporting in a high crime country. Criminology & criminal justice, 23(2), 218-236.

Hinds, L., & Murphy, K. (2007). Public satisfaction with police: Using procedural justice to improve police legitimacy. Australian & New Zealand journal of criminology, 40(1), 27-42.

Ho, T., & McKean, J. (2004). Confidence in the police and perceptions of risk. W. Criminology Rev., 5, 108.

Howes, L. M., Watson, D., Ryan, V., Rivera, J. J., & McNinch-Su, R. L. (2022). Community satisfaction with policing on Guam. Journal of Contemporary Criminal Justice, 38(3), 311-329.

Hu, X., Dai, M., DeValve, M. J., & Lejeune, A. (2020). Understanding public attitudes towards the police: Co-variates of satisfaction, trust, and confidence. Canadian Journal of Criminology and Criminal Justice, 62(1), 26-49.

Imbens, G. W. (2004). Nonparametric estimation of average treatment effects under exogeneity: A review. Review of Economics and statistics, 86(1), 4-29.

Imbens, G. W., & Rubin, D. B. (2015). Causal inference in statistics, social, and biomedical sciences. Cambridge university press.

Instituto de Defensa Legal (2018) Seguridad Ciudadana Informe Anual 2018. Lima: IDL.

Instituto Nacional de Estadística e Informática (INEI) (2023) Encuesta Nacional de Programas Estratégicos. Lima: INEI.

Jackson, J., & Bradford, B. (2009). Crime, policing and social order: On the expressive nature of public confidence in policing. The British journal of sociology, 60(3), 493-521.

Jang, H., Joo, H. J., & Zhao, J. S. (2010). Determinants of public confidence in police: An international perspective. Journal of criminal justice, 38(1), 57-68.

Jansen, R. P., Ruiter, S., & van Steden, R. (2024). Crime reporting and victim satisfaction with the police: a large-scale study among victims of crime in the Netherlands. Crime

Science, 13(1), 30.

Karakus, O., McGarrell, E. F., & Basibuyuk, O. (2011). Public satisfaction with law enforcement in Turkey. Policing: An International Journal of Police Strategies & Management, 34(2), 304-325.

Kulachai, W., & Cheurprakobkit, S. (2023). Why do people trust the police? A case study of Thailand. Sustainability, 15(4), 3249.

Lai, Y. L., & Zhao, R. (2018). The impacts of neighborhood context on residents' satisfaction with police services in metropolitan Taipei: A multilevel approach. Policing: An International Journal, 41(2), 276-291.

Larsen, J. E., & Blair, J. P. (2009). The importance of police performance as a determinant of satisfaction with police. American Journal of Economics and Business Administration, 1(1), 1.

Latinobarómetro (2018) Informe Latinobarómetro 2018. Latinobarómetro Database.

Li, Y., Ren, L., & Luo, F. (2016). Is bad stronger than good? The impact of police-citizen encounters on public satisfaction with police. Policing: An International Journal of Police Strategies & Management, 39(1), 109-126.

Little, R. J. (1992). Regression with missing X's: a review. Journal of the American statistical association, 87(420), 1227-1237.

Mazerolle, L., Antrobus, E., Bennett, S., & Tyler, T. R. (2013). Shaping citizen perceptions of police legitimacy: A randomized field trial of procedural justice. Criminology, 51(1), 33-63.

McNeeley, S., & Grothoff, G. (2016). A multilevel examination of the relationship between racial tension and attitudes toward the police. American journal of criminal justice, 41, 383-401.

Melkamu, M. T., & Teshome, W. (2023). Public trust in the police: Investigating the influence of police performance, procedural fairness, and police-community relations in Addis Ababa, Ethiopia. Cogent Social Sciences, 9(1), 2199559.

Merenda, F., Trent, J., Rinke, C. R., & Buchanan, M. (2021). Understanding citizen satisfaction with the police: Results from a community survey. Police Practice and Research, 22(1), 692-710.

Nix, J., Wolfe, S. E., Rojek, J., & Kaminski, R. J. (2015). Trust in the police: The influence of procedural justice and perceived collective efficacy. Crime & Delinquency, 61(4), 610-640.

O'Connor, C. D. (2008). Citizen attitudes toward the police in Canada. Policing: An international journal of police strategies & management, 31(4), 578-595.

Payne, B. K., & Gainey, R. R. (2007). Attitudes about the police and neighborhood safety in disadvantaged neighborhoods: The influence of criminal victimization and perceptions of a drug problem. Criminal Justice Review, 32(2), 142-155.

Piatkowska, S. J. (2015). Immigrants' confidence in police: do country-level characteristics matter?. International journal of comparative and applied criminal justice, 39(1), 1-30.

Posick, C., & Policastro, C. (2013). Victim injury, emotional distress, and satisfaction with the police: evidence for a victim-centered, emotionally-based police response. JIJIS, 13, 185.

Radelet, L. (1986), The Police and the Community, Macmillan, New York, NY.

Reisig, M. D., & Parks, R. B. (2000). Experience, quality of life, and neighborhood context: A hierarchical analysis of satisfaction with police. Justice quarterly, 17(3), 607-630.

Ren, L., Luo, F., & Nielson, K. (2022). Racial/ethnic connection with confidence in the police: Equal treatment matters. Canadian Journal of Criminology and Criminal Justice, 64(3), 49-70.

Rosenbaum, P. R., & Rubin, D. B. (1983). The central role of the propensity score in observational studies for causal effects. Biometrika, 70(1), 41-55.

Sahapattana, P., & Cobkit, S. (2016). The relationships between police performance and public confidence: a case study of Thailand. Police Practice and research, 17(2), 171-182.

Sampson, R. J., & Bartusch, D. J. (1998). Legal cynicism and (subcultural?) tolerance of deviance: The neighborhood context of racial differences. Law & society review, 32(4), 777-804.

Sindall, K., McCarthy, D. J., & Brunton-Smith, I. (2017). Young people and the formation of attitudes towards the police. European Journal of Criminology, 14(3), 344-364.

Skogan, W. G. (2005). Citizen satisfaction with police encounters. Police quarterly, 8(3), 298-321.

Solakoglu, O. (2016). Trust in police: A comparative study of Belgium and The Netherlands. International Journal of Criminal Justice Sciences, 11(1).

Sunshine, J., & Tyler, T. R. (2003). The role of procedural justice and legitimacy in shaping public support for policing. Law & society review, 37(3), 513-547.

Tewksbury, R., & West, A. (2001). Crime victims' satisfaction with police services: An assessment in one urban community. Criminal Justice Studies, 14(4), 271-285.

Tyler, T. R., & Fagan, J. (2008). Legitimacy and cooperation: Why do people help the police fight crime in their communities. Ohio St. J. Crim. L., 6, 231.

Tyler, T. R., & Jackson, J. (2014). Popular legitimacy and the exercise of legal authority: Motivating compliance, cooperation, and engagement. Psychology, public policy, and law, 20(1), 78.

Wu, Y., Sun, I. Y., & Triplett, R. A. (2009). Race, class or neighborhood context: which matters more in measuring satisfaction with police?. Justice quarterly, 26(1), 125-156.

6 Appendix

Table A1: Distribution of Sample Across Departments Before and After Missing Values Deletion

Department	Sample Distribution	
	Before Deletion (%)	After Deletion (%)
Amazonas	3.19	3.31
Ancash	3.75	4.06
Apurimac	3.06	3.47
Arequipa	3.48	3.39
Ayacucho	4.00	3.78
Cajamarca	3.04	3.34
Callao	6.86	6.97
Cusco	3.03	2.90
Huancavelica	2.93	2.54
Huanuco	3.06	3.33
Ica	3.53	3.26
Junin	3.22	3.31
La Libertad	4.41	4.01
Lambayeque	3.83	4.17
Lima	12.83	12.22
Loreto	4.34	4.23
Madre de Dios	3.41	3.37
Moquegua	2.81	2.87
Pasco	3.11	2.93
Piura	4.62	4.89
Puno	3.34	3.17
San Martin	4.82	5.16
Tacna	2.79	2.97
Tumbes	2.89	2.88
Ucayali	3.67	3.47
Total observations	95,381	58,219

Note. Percentages represent the proportion of observations in each department before and after deletion of missing values in the dependent variable.

Table A2: Logistic Regression Results for Victimization Probability

Variable	Coefficient	SE	p-value	95% CI
Demographic characteristics				
Age	-0.013***	0.001	0.000	[-0.015, -0.010]
Sex (Male = 1)	-0.021	0.031	0.490	[-0.082, 0.039]
Has partner	-0.019	0.038	0.625	[-0.094, 0.056]
Owned home	-0.106**	0.031	0.001	[-0.167, -0.044]
Educational level				
Postgraduate	0.881***	0.185	0.000	[0.518, 1.244]
Graduate	0.857***	0.127	0.000	[0.607, 1.106]
High School	0.593***	0.126	0.000	[0.346, 0.839]
Elementary School	0.357**	0.133	0.007	[0.096, 0.618]
Socioeconomic class				
Socioeconomic Class A	-0.228*	0.090	0.012	[-0.405, -0.051]
Socioeconomic Class B	-0.072	0.074	0.334	[-0.217, 0.074]
Socioeconomic Class C	-0.113*	0.055	0.040	[-0.221, -0.005]
Socioeconomic Class D	-0.053	0.058	0.360	[-0.166, 0.060]
Geographic indicators				
Crimes	-0.002	0.003	0.392	[-0.007, 0.003]
Highlands	-0.232**	0.077	0.003	[-0.383, -0.081]
Amazon	-0.518***	0.091	0.000	[-0.696, -0.341]
Constant	-0.911***	0.152	0.000	[-1.208, -0.614]
Observations	58,219			
Wald $\chi^2(15)$	433.98***			
Pseudo R^2	0.023			

Note: SE = Robust standard errors (clustered at district level, n = 570). CI = Confidence interval. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table A3: Covariate Balance Before and After Matching

Variable	Status	Mean		Standardized		t	$p > \|t\|$
		Treated	Control	Bias (%)	Red (%)		
Demographic characteristics							
Age	Unmatched	37.34	41.57	-24.2	98.8	-23.56	.000***
	Matched	37.34	37.39	-0.3		-0.26	.795
Sex	Unmatched	0.49	0.48	3.0	22.1	3.05	.002**
	Matched	0.49	0.48	2.3		1.91	.056
Has partner	Unmatched	0.44	0.50	-11.2	71.5	-11.38	.000***
	Matched	0.44	0.46	-3.2		-2.63	.009**
Owned home	Unmatched	0.70	0.73	-6.3	94.2	-6.40	.000***
	Matched	0.70	0.71	-0.4		-0.29	.771
Educational level							
Postgraduate	Unmatched	0.03	0.03	1.8	52.8	1.90	.057
	Matched	0.03	0.03	0.9		0.70	.482
Graduate	Unmatched	0.42	0.34	15.9	80.7	16.30	.000***
	Matched	0.42	0.41	3.1		2.47	.014*
High School	Unmatched	0.44	0.44	0.3	-383.8	0.32	.747
	Matched	0.44	0.45	-1.5		-1.26	.209
Elementary School	Unmatched	0.10	0.16	-18.5	87.3	-17.89	.000***
	Matched	0.10	0.11	-2.4		-2.13	.033*
Socioeconomic class							
Socioeconomic Class A	Unmatched	0.06	0.07	-2.1	96.5	-2.13	.033*
	Matched	0.06	0.06	0.1		0.06	.950
Socioeconomic Class B	Unmatched	0.15	0.15	1.7	40.2	1.74	.081
	Matched	0.15	0.15	1.0		0.83	.404
Socioeconomic Class C	Unmatched	0.24	0.24	0.2	-858.4	0.20	.839
	Matched	0.24	0.23	1.9		1.58	.114
Socioeconomic Class D	Unmatched	0.29	0.29	0.5	89.8	0.50	.618
	Matched	0.29	0.29	-0.1		-0.04	.967
Geographic indicators							
Crimes	Unmatched	19.08	19.18	-0.8	27.4	-0.77	.441
	Matched	19.08	19.15	-0.6		-0.46	.649
Highlands	Unmatched	0.38	0.40	-4.8	59.6	-4.84	.000***
	Matched	0.38	0.39	-1.9		-1.59	.112
Amazon	Unmatched	0.14	0.17	-7.1	44.0	-7.08	.000***
	Matched	0.14	0.13	4.0		3.44	.001**

Note. Standardized bias is the percentage difference of the sample means in the treated and control groups divided by the square root of the average of the sample variances in both groups.

Table A4: Overall Matching Quality Statistics

Status	Pseudo-R^2	LR χ^2	Mean Bias	Median Bias	Rubin's B	Rubin's R
Unmatched	0.017	1076.86	6.6	3.0	32.9	0.72
Matched	0.001	37.61	1.6	1.5	7.5	1.00

Note. Both χ^2 tests significant at $p < .001$. Rubin's B < 25 and Rubin's R between 0.5 and 2 indicate sufficient balance.