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Perceptions of Police Scale (POPS): Measuring Attitudes towards Law Enforcement and Beliefs about Police Bias

Kevin L. Nadal¹ & Kristin C. Davidoff²

Abstract

The current study provides data supporting the Perceptions of Police Scale (POPS), an instrument designed to measure perceptions of police and police bias. Three hundred and twenty-six participants completed a demographics questionnaire, the POPS, and POPS Evaluation. The Perceptions of Police Scale (POPS) included twelve statements that measure an individual's attitudes toward police. The POPS Evaluation asked participants for feedback on the content and clarity of the questions. In Study 1, an exploratory principal components analysis ($N = 162$) revealed two factors: (1) *General Attitudes toward Police*, and (2) *Perceptions of Bias*, explaining 64.95% of the variance. The POPS produced a Cronbach's alpha of .92 overall, and .91 for Subscale 1 and .87 for Subscale 2. Study 2 utilized a confirmatory factor analysis ($N = 162$) to verify the two subscales. The two-factor solution accounted for 70.44% of the variance, supporting the results of Study 1. The POPS overall resulted in a Cronbach's alpha of .94, with .93 for Subscale 1 and .88 for Subscale 2. Using the POPS, future researchers can assess community perceptions of the police succinctly, particularly examining views of individuals from historically marginalized groups and impacts of police interaction on psychological processes and mental health outcomes.

Introduction

There is a long, documented history of the complicated relationship between law enforcement and the communities they serve. Since the 1960s, researchers have detailed a spectrum of factors that may contribute to negative perceptions of law enforcement, focusing largely on demographic and community variables (Callanan and Rosenberger, 2011; MacAlister, 2011). While some literature has cited that citizens generally have positive perceptions of police (Benedict et al., 2000; Chermak et al., 2001), there is an abundance of literature that has reported that the public perception of police tends to be generally negative and that many people perceive police to be unfair and sometimes abusive (Callanan and Rosenberger, 2011; Fratello et al 2013; MacAlister, 2011).

Some research has revealed that citizens' perceptions of law enforcement continue to influence willingness to cooperate or report crimes (Bennett and Wiegand, 1994; Silver and Miller, 2004; Warner, 2007), particularly for victims who belong to racial/ethnic minority groups (Brown and Benedict, 2002; Hueber et al., 2004). In a recent large-scale survey of young adults, only 40% of respondents reported that they would be comfortable going to the police if they were victim of a crime, and the vast majority believed that others in their neighborhood did not trust the police (Fratello et al. 2013). Past literature has also cited that many victims of sexual assault have experienced a secondary victimization when reporting crime to the police, which often heightens the risk of underreporting (Campbell and Raja, 1999, 2005). Given these, understanding community members' perceptions of police, as well as the ways that these perceptions influence individuals' behaviors and overall well-being, can be helpful in improving the relationship between police officers and the communities they protect and serve.

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In order to understand how people view the police and the legal system in general, it is necessary to first review the literature on procedural justice. Procedural justice is the notion that all aspects of the legal processes are fair and unbiased; these include individuals' perceptions of laws, law enforcement, judges, trials, and every other aspect of the criminal justice system (Tyler, 1988, 2006). Previous literature has found that when individuals have lower levels of procedural justice (i.e., they do not view the legal system as fair), they are likely to report negative mental health symptoms and will be less likely to trust the legal system in the future (Tyler, 1988, 2006). Other literature has found that when individuals have higher levels of procedural justice (i.e., they view the legal system as fair and just), they are more likely to obey the law and even be supportive of the police (Sunshine and Tyler, 2003; Tyler and Wakslak, 2004).

One major reason for lower levels of procedural justice is due to past incidents of police misconduct against marginalized groups. While there have been many highly publicized cases of police brutality towards people of color (e.g., Rodney King, Oscar Grant, Michael Brown), myriad studies over the past thirty years have highlighted differential perceptions of police based on race. For instance, an earlier study reported two alarming findings: (a) young adults and people of color felt they were being targeted by police; and (b) although White participants generally viewed the police in a way that was consistent with how the police viewed themselves, White participants were less confident in the equitable treatment of people of color by police (Hadarand Snortum, 1975). Another earlier study comparing objective data (e.g., response time, patrol coverage) versus subjective data (e.g., citizen attitudes about police efficacy) found that there were three factors that were correlated with overall satisfaction with the police: response time, perceptions about how the police treated people in the community, and perceived fairness of service delivery (Brown and Coulter, 1983).

A comprehensive review of research over a twenty-year span, examined over 100 previous studies on public perceptions of the police; the authors found that race, age, contact with police, and neighborhood were the most consistent variables found to impact or predict perceptions of the police (Brown and Benedict, 2002). Research has consistently found that Black participants report lower satisfaction with the police when compared to White participants (Brown and Benedict, 2002; Hueber et al., 2004) and that Blacks and Latinos have much lower faith and confidence in the police than their White counterparts (Huggins, 2012). People of color tend to have less trust in the police because of racial profiling and racial disparities in police behavior (Cochran and Warren, 2012). Another study found that African Americans are much less likely than Whites to report proper police behavior (Huggins, 2012). A study with Vietnamese and Chinese American citizens found that participants tended to report crimes less, experienced slower response times, and felt police needed to be more culturally sensitive to their communities (Song, 1992).

In addition to race, emerging research has also focused on police perceptions by sexual minority groups. In a study focusing on the intersection of sexual orientation and age, one study found that lesbian, gay, bisexual, and transgender (LGBT) youth experience policing much differently than their heterosexual peers (Dwyer, 2011). In this study, participants reported the use of slurs and hateful rhetoric by police, being fined as a result of engaging in public affection, and being harassed by the police less when they were dressed in a heteronormative manner, or "passing" as heterosexual. A different study focusing on transgender people found that experiences of discrimination within the criminal justice system were common (Nadal et al., 2012), while another study found that police officers to respond differently to incidents involving LGBT couples than to incidents involving heterosexual couples (Younglove et al., 2002). Similarly, underreporting in hate crimes against LGBT-identified individuals has long been noted as a serious issue (Herek, 1989). In fact, one study revealed that in cases where LGBT-identified people choose not to report a bias-related crime, 68% cite concerns about police prejudice and secondary victimization as a contributing factor in their decision to not report (Herek et al., 2002). Findings from a recent study found that LGBT youth participants were more likely to have reported a negative experience with police officers than heterosexual youth (Stoudt et al., 2012). Furthermore, when LGBT youth report police harassment, the likelihood that they will seek police help decreases significantly, even after they are victimized (Stoudt et al., 2012). Experiencing discrimination from law enforcement may prevent people from various marginalized groups (e.g., LGBT people, people of color, and others) from trusting in the criminal justice system and seeking help when they are victimized.

Although there has been a decent amount of literature describing citizens' perceptions of police, as well as few measures that have assessed public perceptions of the police (see Brown and Benedict, 2002 for a review), the variable has been quantified differentially.

First, while some may argue that police perceptions are best conceptualized as a unidimensional construct (Maguire and Johnson, 2010), others have argued that the variable is more multidimensional, in that individuals may have varying views of police based on specific types of interactions (Brown and Benedict, 2002; Worrall, 1999). For instance, Worrall (1999) argued that support for the police could be divided into two dimensions: efficacy and image. Efficacy involves citizens' perceptions of the effectiveness of the police in their job roles of crime-prevention and crime-solving, where image was defined as a broader view of the police as approachable and fair (Worrall, 1999). Similarly, researchers have found that individuals rate specific functions served by police with generally lower ratings, while broad support for the police as an organization tend to have higher ratings (Brown and Benedict, 2002).

Furthermore, despite the many ways that citizens' perceptions of police have been measured in the past, these scales tend not to focus on the various ways in which police may be biased or discriminatory towards certain historically oppressed groups (e.g., racial/ ethnic minority groups, LGBTQ people, etc.). So despite the abundant amount of aforementioned research that has found that these groups have much more negative perceptions of law enforcement, there are no known constructs that specifically examine how individuals view police bias and discriminatory behaviors. Accordingly, new measures that evaluate public attitudes toward police are necessary, in order to empirically investigate how different groups may feel about law enforcement, how discrimination may affect various groups in unique ways, or both.

The purpose of the current study was to develop a new survey instrument to assess broad perceptions of the police, as well as public attitudes about police bias and discriminatory behaviors. We aimed to create a measure that could be quickly and efficiently administered to diverse groups of individuals, in order to assess broad perceptions of the trustworthiness and fairness of police officers by community members. A brief, concise measure would also assist in collecting data from larger samples, particularly from groups that are less accessible or have been historically under researched. We also aimed to collect data from a large sample of participants, in order to create a measure that had strong reliability coefficients and was conceptually valid.

Method

Development of initial pool of items

A team of 5 researchers gathered to create an initial pool of items that would measure an individual's perceptions of police. First, the researchers worked independently, with the task of producing as many items as they could. They then convened as a group and shared their respective lists of items, which a recorder documented. After discussing the entire list, the group removed items that were redundant and added items that the group agreed were missing. The group then went through each item and discussed the grammatical structure and word choice of each. The final list consisted of 12 items, which will henceforth be referred to as the Perceptions of Police Scale (POPS).

Participants

Three hundred and twenty-six participants were recruited for this study. There were 229 females (70.2%) and 93 males (28.5%). Participants ranged in age from 17 to 67 ($M = 24.59$, $SD = 9.24$). One hundred and one participants identified as Latina/o (31.7%), followed by 78 White participants (23.9%), 69 Asian Americans/ Pacific Islanders (21.2%), 48 African Americans (14.7%), 23 multiracial participants (7.1%), and 7 who did not identify with any of these categories or skipped the question (2.1%). The majority of the participants self-identified as heterosexual ($n = 294$, 90.2%); 7 identified as gay/lesbian (2.1%); 12 as bisexual (3.7%); and 13 as "other" or unreported (4%). Majority of the participants ($n = 186$) had a high school diploma (57.1%), 74 had a college degree (22.7%), 47 had a graduate degree (24.4%); the remaining 2.8% did not report their educational level. Majority of participants ($n = 176$) identified as middle class (54.0%), while 103 participants identified as working class (31.6%), 11 participants as upper or upper middle class (3.4%), 3 as lower middle class (.9%), and 10 participants as lower class or poor (3.1%).

Recruitment

A convenience sample was recruited in three primary ways. First, undergraduate students enrolled in introductory psychology classes at a large Northeastern Latino-serving university were given research credit for their participation. Second, participants were recruited from the general community by sending emails to various community organizations (e.g., college student clubs) and listserves (e.g., professional organizations).

Finally, a snowball sampling method was encouraged, in that participants were encouraged to publicize the survey to their networks of friends and colleagues who may be interested in sharing their views on law enforcement.

Measures

Demographic Questionnaire. Participants completed an open-ended demographic form that was originally described in Nadal (2011), which allowed them to openly self-identify their race, ethnicity, sexual orientation, gender, age, religion, occupation, highest educational level completed, place of birth, and years spent in the US. A team of 3 researchers coded responses independently into appropriate categories (e.g., participants who listed their "race" as "Hispanic," "Latino," or "Dominican" would be coded into the "Latino" category, while participants who listed "race" as "Black," "African American" or "Nigerian" would be coded into the "Black" category). Previous authors have argued that collecting demographic data in this way is a culturally sensitive way of allowing participants to self-identify, instead of forcing them to choose prescribed categories, which can be perceived as discriminatory (Nadal, 2011).

Perceptions of Police Survey (POPS). The POPS included twelve statements that measure an individual's perceptions of police. Participants were asked to rate the degree to which they agree with each statement (on a Likert scale from 1- 5, with a score of 1 being "I strongly agree" and a score of 5 being "I strongly disagree"). Sample items included: "Police protect me"; "Police are friendly"; "Police treat people fairly"; and "Police do not discriminate." Items are all written in positive language; thus, higher scores indicate more favorable perceptions of the police, while lower scores indicate less favorable perceptions of the police.

POPS Evaluation. At the conclusion of the POPS, participants were asked three open-ended questions. These questions included the following:

1. Describe what you believe these questions were trying to measure.
2. Write three keywords or key phrases that can be used to label the various experiences that are described above.
3. Do you remember any questions or experiences that were not written in a clear or concise manner? If so, please list them.

Procedure

Approval to conduct the study was obtained by the principal investigators' Institutional Review Board (IRB). All of the measures in this study were administered online through the website www.SurveyMonkey.com. First, participants were presented with an informed consent form, which described an overview of the study and discussed the risks and benefits of the study. By continuing on to the next page of the survey, participants indicated their comprehension of the form and granted their consent to participate in the study. Second, participants were given the instruments in the following order: the open-ended demographic questionnaire, the Perceptions of Police Scale (POPS), and the POPS-Evaluation. Each research session lasted 10-15 minutes and participants were presented with a debriefing statement after completing their session.

Data Splitting for Cross-Validation

With a sample of over 300 participants, we decided to use a data-splitting technique, in order to conduct both an exploratory and confirmatory principal components analysis. In this method, we randomly split a large sample into two subsamples; we used the first subsample for exploratory purposes and the second subsample for confirming the findings from the first subsample. Data splitting has been found to be effective because one portion of the data is used to develop a predictive model, while the other portion is used to evaluate the model's performance (Picard and Berk, 1990).

In the first study, we describe the development of items for a measure on perceptions of police, which includes an exploratory principal components analysis, as well as initial reliability of the measure. We also describe ways that validity was tested, namely through participants' evaluations.

Results

Study 1: Principal Components Analysis, Initial Reliability, and Validity

Principal components analysis (PCA) with a Varimax rotation with Kaiser Normalization was conducted on data gathered from 162 participants to test the POPS items and reveal underlying subscale structure. A PCA was selected a priori because our variables were highly correlated and because we aimed to reduce the number of observed variables to a smaller number of principal components, which would then account for most of the variance of the observed variables. The factorability of the 12 POPS items was addressed using the Kaiser-Meyer-Olkin measure of sampling adequacy and resulted in a value of .927 (well above the recommended .50), and Bartlett's test of sphericity was significant, χ^2 of 1428.23 ($df = 66$, $p > 0.00$). Additionally, all communalities were above 0.45, suggesting that individual items shared common variance with other items in the scale (see Table A). Thus, factor analysis was judged to be appropriate with all 12 items.

Initial eigenvalues indicated that 52.59% and 12.36% of the variance was explained by the first two factors, respectively. The two-factor solution was selected on the basis that the eigenvalues of the first two factors were greater than 1, and because it explains 64.96% of the variance. The initial eigenvalues of the subsequent components were less than 1, and explained a negligible amount of variance. The two factors were labeled Component 1: General Attitudes toward Police, and Component 2: Perceptions of Bias. All items demonstrated adequate factor loadings, as depicted in Table 1, and were retained. For sample 1 ($N = 162$), the POPS demonstrated high internal consistency overall with a Cronbach's alpha of .92, and within each component: .91 for General Attitudes toward Police (9 items) and .87 for Perceptions of Police Bias (3 items). Subscale scores were created for each component: (a) Higher scores on Component 1 (General Attitudes toward Police) were more indicative of more positive opinions about police, and (b) Higher scores on Component 2 (Perceptions of Police Bias) demonstrate participants' views of police egalitarian treatment.

To test for construct validity (i.e., whether the scale is accurately measuring perceptions of police), we used the REMS Evaluation to collect qualitative data. Participants were asked to describe what they thought the questions were trying to measure, as well as three keywords that represented the items that were listed. Using a content analysis method (see Hsieh and Shannon, 2005, for a review), a team of two researchers worked to describe common themes or descriptions that were based on keywords or ideas). In the current sample, only seventeen participants did not answer these questions. Of the 145 participants that did reply, all but one participant replied that the measure was about perceptions of the police. Interestingly, although there were no questions that specifically mentioned "race," when asked what they believed these questions were trying to measure, 11 participants described that the measure was used to describe police officers' racial biases or racial profiling. Similarly, when asked for three keywords, 12 participants replied that the survey was about race, racism, or racial profiling, suggesting that participants could identify that the POPS could be used to examine police bias and discrimination.

Study 2: Confirmatory Principal Components Analysis, Reliability, and Validity

A principal components analysis was conducted with 162 participants to verify the two subscales of the POPS. Similar to the first study, a Varimax rotation was utilized, but this time with a fixed number of two factors. The Kaiser-Meyer-Olkin value was .895 (which again was well above the recommended .50) and significance with Bartlett's test of sphericity, χ^2 of 1125.31 ($df = 66$, $p > 0.00$). Thus, the sample was deemed factorable. Initial eigenvalues confirmed the two-factor structure of the POPS, with Component 1 (General Attitudes toward Police) and Component 2 (Perceptions of Police Bias) accounting for 60.52% and 9.93% of the variance, respectively. Overall, 70.44% of the variance was explained by the two-factor solution. Factor loadings for each item are displayed in Table 2, confirming the contribution of each item to the POPS and individual subscales. The POPS overall ($N = 162$) resulted in a Cronbach's alpha of .94, indicative of high internal consistency. Each subscale demonstrated high internal consistency as well, with .93 for General Perceptions (9 items) and .88 for Perceptions of Bias (3 items).

Discussion

The goal of the present study was to create a succinct empirical measure that evaluated the public perceptions of the police. Specifically, we were interested in creating an instrument that included general views of the police, as well as beliefs about police bias and discriminatory behavior. The overall scale and the subscales support previous measures that have described general perceptions of police based on interactions, performance, efficacy and image (Brown and Benedict, 2002; Worrall, 1999).

Concurrently, the emergence of a subscale focusing on perceptions of police bias support that understanding attitudes about police discriminatory behavior is a concept that needs to be captured (and evaluated) separately. Given that previous studies have found that police tend to be viewed more negatively by people of color (Brown and Benedict, 2002; Cochran and Warren, 2012; Fratello et al., 2013; Hueberet al., 2004; Huggins, 2012) and LGBT people (Dwyer, 2011; Hereket al., 2002; Nadal, et al, 2012; Stoudt et al., 2012; Youngloveet al., 2002), results from the POPS demonstrated that researchers can measure general views about police and perceptions of police bias independently.

As evidenced by robust internal consistency estimates for two randomly split samples, results demonstrated that the POPS is a highly reliable scale. Through participants' accurate descriptions of the purpose of the measure, we were also able to establish that the POPS is a valid measure of individuals' attitudes towards police. Furthermore, through exploratory principal components analyses, we were able to identify two components with eigenvalues over 1. Each item conceptually made sense under either subscale, and a confirmatory factor analysis with the second sample supported that a two-factor structure was appropriate. The subscales for both samples produced high coefficient alphas (i.e., from .87 to .94), suggesting that each subscale is strongly reliable as well.

There are many ways that the POPS can be used in future research. Given the increase in research involving police profiling, the POPS can be used to investigate how perceptions of police can influence outcome variables like mental health, wellbeing, or help-seeking behaviors. Research studies with current samples can examine older constructs like how attitudes toward the police can affect one's willingness to cooperate or report crime. Perhaps the most important potential use of the POPS is to measure how different minority groups may perceive the police, specifically measuring differences in general attitudes toward the police and beliefs about police bias and discriminatory behaviors. Racial/ethnic groups like Asian Americans, Latinos, and Arab Americans are particularly underrepresented in studies examining perceptions of police, while LGBT people (particularly transgender people) are especially underrepresented in this field. Given that the POPS is brief and concise, there would be a potential for data collection from these harder-to-reach populations to be much less difficult and much more expedient.

Future research involving the POPS also has the potential to make an impact on systemic and institutional levels. While there has been a general lack of interest on the part of police officials to use survey research to improve policies and procedures, there have been some attempts to approve public perceptions (Brown, and Benedict, 2002), resulting in the possibility for police to use research as a basis for institutional change. For example, given that police officers have historically had some difficulties in managing people with mental illness, programs have been created in order to improve police training and sensitivity (Rock, 2002). Similarly, if police officers are aware that there are certain groups that are dissatisfied with police performance or who believe police officers to be discriminatory or biased, there is a potential for similar training programs to be created and institutionalized. Perhaps such programs can then lead to a more benevolent relationship between law enforcement and the citizens they protect and serve.

Limitations

Despite these findings, there are a few limitations to the present study. First, some individuals may argue that an Exploratory Factor Analysis (EFA) would be more appropriate than a Principal Components Analysis because an EFA estimates factors and produces constructs that cannot be measured directly. However, we selected PCA a priori because our original goal was to create a succinct measure with as few variables as possible and did not intend to yield many factors. Given that the Confirmatory Principal Components Analysis supported our findings with a different sample, we deemed our method was acceptable and statistically significant. Secondly, the two samples may not be representative of all individuals, as many of the participants were college students that were conveniently recruited through introductory psychology classes at a specific metropolitan, urban institution in the US.

Furthermore, while the sample was racially diverse, less than one-tenth of the participants identified as LGBT. Thus, while the scale may be appropriate for a heterosexual population, it would be important for the POPS to be tested with a non-heterosexual population, as well as in other countries outside of the US. Similarly, while online recruitment and data collection can be quick and efficient, there is always a possibility for data to be tampered with (e.g., a participant may try to take the survey more than once or may attempt to falsify their answers). Despite these limitations, results from the study support that the POPS is a reliable and valid tool in measuring attitudes toward law enforcement, with the potential of increasing the understanding of how people's perceptions of police affect people on societal, institutional, and individual levels.

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Appendix

Table 1: Study 1: Exploratory Principal Components Analysis

	Factor 1	Factor 2	Communality
Police officers are friendly	.59	.45	.57
Police officers protect me	.62	.24	.49
Police officers treat all people fairly	.40	.75	.69
I like the police	.60	.46	.59
The police are good people	.71	.31	.59
The police do not discriminate	.17	.83	.68
The police provide safety	.80	.09	.60
The police are helpful	.62	.12	.46
The police are trustworthy	.65	.41	.63
The police are reliable	.74	.20	.59
Police officers are unbiased	.15	.79	.59
Police officers care about my community	.61	.43	.55

Table 2: Study 2: Confirmatory Principal Components Analysis

	Factor 1	Factor 2	Communality
Police officers are friendly	.54	.42	.52
Police officers protect me	.75	.23	.60
Police officers treat all people fairly	.44	.75	.71
I like the police	.66	.42	.69
The police are good people	.62	.41	.62
The police do not discriminate	.18	.83	.62
The police provide safety	.76	.19	.63
The police are helpful	.80	.21	.65
The police are trustworthy	.70	.44	.70
The police are reliable	.76	.43	.78
Police officers are unbiased	.34	.77	.66
Police officers care about my community	.68	.39	.63