Assessing the Effectiveness of Procedural Justice Training for Police Officers: Evidence from the Mexico City Police

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September 29, 2020

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Abstract

Organizations face the dilemma of how to ensure that their agents use discretion productively in complex situations while at the same time complying routinely and repeatedly with the organization's standards and processes. No organization confronts this plight more strongly than policing institutions, where misconduct and bad decisions by their "street level bureaucrats" can have large negative consequences. This paper investigates if police officers can be trained effectively to incorporate the principles of procedural justice in their interactions with citizens. The procedural justice framework has been proven to increase citizen trust and build police legitimacy. In collaboration with the Mexico City police, we implemented a randomized controlled trial with 1,854 officers to measure whether training changed their perceptions and behavioral intentions to policing, and the potential mechanisms behind any observed effects. We find significant, substantive, and positive effects of the training across all measures of the procedural justice model. Our research yields insights into critical elements to consider in organizational training programs, including managerial alignment with the objectives of the training and a consideration of employees' perceptions of the extent to which their work is understood by others.

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1 Introduction

A fundamental question for any organization is how to ensure that its employees "do the right thing," by always pursuing the organization's interests and goals in their behaviors. Of particular importance are behaviors that will be perceived to be fair and just (Colquitt, 2001; Brockner, 2017). Perceptions of fair treatment (of internal and external stakeholders) largely predict critical organizational outcomes including employee performance (Colquitt et al., 2012, 2013), effort (Cropanzano et al., 2003; Holtz and Harold, 2009), and well-being (Cropanzano et al., 2003; Judge and Colquitt, 2004; Greenberg, 2006), organizational commitment and citizenship (Skarlicki and Latham, 1996, 1997), customer loyalty (Skarlicki et al., 2008; Lavelle et al., 2015) and stakeholder engagement (Luo, 2005).

A key challenge is that perceptions of justice are necessarily subjective and dependent on the discretionary choices of organizational actors (Folger and Martin, 1986; Scott et al., 2009). Standards of organizational justice, much like other organizational rules, guidelines, and procedures, are enacted by individuals who must interpret how to apply them to each situation to determine what is in the organization's best interest (Heimer, 1992; Feldman, 2003). And these interpretations cannot be hard-coded, but will always depend on the subjective judgment of individual members (Emirbayer and Mische, 1998). The more complex the environment, the more likely that individuals will have to use their discretion to enact organizational rules and standards (Lipsky, 2010; Silbey, 2011).

Few organizations experience this dilemma more intensely than the police. While there are laws, procedures, and protocols that establish limits to available behaviors, every situation is different and requires a unique interpretation. Indeed, police officers are the prototypical "street level bureaucrats" given the extreme gap between the amount of regulations and scrutiny that they face and the constant need to use their discretion in unique, messy, and unpredictable encounters (Lipsky, 2010). Officers face extremely complex situations that are often emotionally charged and require rapid decisions. Both because of the inherent uncertainty of interactions with the police and because they are the most visible, formal representatives of the justice system, citizens will inevitably interpret interactions with the them through a justice frame (Folger and Martin, 1986; Van den Bos et al., 1998; Lind et al., 2000; Van den Bos et al., 2008).

When officers do not use their discretion well, decisions can have enormous negative consequences for those involved (Manning, 1978). As research shows, negative encounters with policing institutions and police misconduct can proliferate legal cynicism among citizens (Weitzer, 2002; Kirk and Papachristos, 2011), can take people away of basic forms of legal engagement, such as crime reporting (Baumer, 2002; Desmond et al., 2016), and in turn, the mistrust that is generated may lead individuals to solve conflicts by themselves (Kirk and Papachristos, 2011) or look for out-of-law groups to mediate their conflicts (Zaluar and Barcellos, 2013; García-Ponce et al., 2018).

In contrast, it has been extensively demonstrated that police officers who display interactional and procedural justice in their interactions with citizens—by giving citizens voice, demonstrating neutrality, treating every individual with equal respect, and conveying trustworthiness through clear explanations of their decisions—systematically ensure more productive interactions with citizens, decrease the likelihood of escalation, increase citizen trust, and enhance police legitimacy (Tyler, 2006; Mazerolle et al., 2013). In consequence, it is often recommended or mandated for police organizations to train all their police officers in the frameworks and tools of procedural justice as a means to increase police legitimacy, improve how officers use their discretion, and establish trusting relationships with the communities they serve (President's Task Force, 2015; Meares, 2017).

For all the empirical evidence in support of interactional and procedural justice as a framework for better police officer behavior, there is little causal evidence that training police officers works (Skogan et al., 2015). More broadly, research has mostly treated perceptions of organizational justice as an independent variable, identifying how different components and types of justice translate to improved organizational outcomes (Colquitt, 2012; Brockner et al., 2015; Lind, 2019). Yet, as part of the "fifth wave" of organizational justice research advocates, presumably one of the benefits of understanding the mechanisms, functions, and outcomes of organizational justice is to use it to actually improve the behavior of organizational actors (Brockner et al., 2015). This requires us to treat justice as a *dependent* variable to better understand, among other things, whether people can be effectively trained to act in ways that will be perceived to be more just. There are reasons to be skeptical. Even the most common corporate training initiatives seem to have generated no discernible benefits and, in some cases, they seem to have backfired (Kalev et al., 2006; Castilla and Benard, 2010; Dobbin and Kalev, 2019).

In this study, we conducted a randomized controlled trial to rigorously test whether there is a causal effect between training police officers in procedural justice and their perceptions and approach to policing, as well as in their actual behavior on the field. Through a partnership with the Mexico City Ministry of Citizen Security (Secretaría de Seguridad Ciudadana, or SSC) a randomly-selected treatment group of 966 police officers, including their managers, participated in the training program. We find that attending the training substantively and significantly increased police officer perceptions around all principles of procedural justice, and had positive effects on the extent to which police officers identified with their institution and profession. This shift in perceptions, furthermore, also translated to behavioral changes, evaluated using a "mystery shopper" approach. We also observe relevant heterogeneities in treatment effects. Officers who at baseline manifested more positive views about the perceptions that citizens may have of their work, benefited more from attending the training, calling attention to the importance of a connection of empathy and understanding between citizens and the police. In addition, we exploit good-as-random variation in

the timing of manager training to provide evidence on the importance that managers have in the alignment of incentives between the organization and its lower-level employees. The results suggest that training managers on procedural justice enhances the effectiveness of the training for their officers.

Our research thus makes several contributions. First, it provides causal evidence that police officers can be trained to incorporate procedural justice into their ethos of policing and that this is reflected in their behavior. Second, we begin to unpack some of the mechanisms behind the effectiveness of the intervention. In particular, our findings on the importance of managers, on the effect of the training on institutional and professional identification, and the trusting and potentially self-reinforcing bond between citizens and the police are especially informative. Third, we provide some conceptual bridges between the organizational justice literature and how the framework of procedural justice has evolved in the legal and policing tradition. While both streams of research share an origin, they have diverged in their approach and especially in how they have operationalized perceptions of justice. One point of convergence, provided in this paper, is the renewed focus on aggregate measures of perceptions of justice as a dependent variable. The rest of the paper is structured as follows. Section 2 discusses the theory of procedural justice and its literature. Section 3 provides contextual information about Mexico City and our partner organization. Section 4 describes the design and content of the intervention. The results are presented in section 5, followed by a discussion of our main conclusions in section 6.

2 Citizen Trust, Police Legitimacy, and Perceptions of Justice

Police forces are mandated with protecting the life and property of citizens, preserving public peace, preventing crime, and generally enforcing the law. While ubiquitous and generally accepted, this mandate is, in fact, impossibly broad (Manning, 1978). Law enforcement in particular and the functioning of a democratic society in general depends on citizens' willingness to *voluntarily* accept generalized norms, follow rules, and obey the law (Tyler, 2006). This willingness, however, is entirely dependent on citizens' perceptions of the legitimacy of the laws, and especially of the agencies of law enforcement (Tyler and Jackson, 2014). By legitimacy, we mean that citizens recognize, understand, and accept an authority's right to enforce the law (Tyler, 2006). Indeed, a rich body of evidence has demonstrated that perceptions of legitimacy determine compliance with the law to a greater extent than any other factor, including fear of possible sanctions or expectations about the favorability of outcomes (Nagin and Telep, 2017). This is why trust between law enforcement and the citizens they serve is essential for the safe and effective delivery of policing services.

Research has consistently shown that citizens identify a police force as legitimate if they perceive that representatives of the institution act fairly and justly in their processes and decisions (Tyler, 2006; Sun et al., 2017). And these perceptions of police legitimacy will be determined more by citizen experiences of inter-

acting with police officers than by the end result of those interactions (Casper et al., 1988; Jonathan-Zamir and Weisburd, 2013; Mazerolle et al., 2013; White et al., 2016; Worden and McLean, 2017). Extensive research has identified four principles of procedural justice that, when present in interactions between authorities and citizens, dramatically increase the probability that an interaction will be interpreted as fair and just—irrespective of its outcome (Tyler and Fischer, 2014). Citizens want to be given *voice*, they want to be heard prior to decisions made by the police; they want police officers to be *neutral* in how they approach and interpret a given situation; they want to be treated with *respect* regardless of the situation that precipitated an encounter with the police; and they want the police to transmit *trustworthiness* in their actions by explaining the rationale behind each decision and showing genuine concern for citizen well-being.

Perceptions of justice, in turn, matter. Using survey data from the U.S. Tyler and Huo (2002); Tyler (2005, 2006) show that perceptions of procedural justice correlate with perceptions of trust and confidence in the police, and that these perceptions, in turn, are positively correlated with citizens' willingness to cooperate with the police and obey the law (De Cremer and Tyler, 2007). Such findings have been broadly replicated in other contexts (Hinds and Murphy, 2007; Jonathan-Zamir and Weisburd, 2013; Murphy et al., 2014).

This is consistent with decades of research on organizational justice that has identified the organizational precursors, mechanics, and effects of perceptions of justice (Fortin et al., 2015; Lind, 2019). Organizational justice scholars have explored how different types of justice operate through different paths and mechanisms and relate to different types of outcomes. In particular, there is reasonable consensus that there are four different types of organizational justice—procedural, interactional, informational, distributive—that are relevant at different levels of analysis and for different types of organizational outcomes (Colquitt, 2001). And there are literally hundreds of papers documenting how perceptions of fairness translate to critical organizational outcomes including organizational commitment (Masterson et al., 2000; Bianchi and Brockner, 2012) and citizenship behaviors (Lind et al., 2000; Ambrose et al., 2013); employee performance (Brockner and Wiesenfeld, 1996), well-being (Judge and Colquitt, 2004; Greenberg, 2006), compliance (Tepper et al., 2008), and fairness (Masterson et al., 2000; Tepper et al., 2006; Skarlicki et al., 2008). In general, it has been shown that perceptions of *procedural* justice are linked with organizational-level outcomes, while perceptions of *interactional* justice are linked with outcomes related to the manager-subordinate relationship (Bies, 2001, 2005) and according to perceptions of where discretion lies and how it is used (Scott et al., 2009).

The research streams on perceptions of justice in organizations and in the police have evolved in parallel from a shared origin (Thibaut and Walker, 1975; Lind and Tyler, 1988). They are thus mostly consistent in their approach, general theory, and outcomes. There are, however, some divergences. Findings around distributive justice are both largely consistent and, particularly for practitioners, less relevant. This is partly because research has consistently shown that outcomes are less important drivers of overall perceptions

of justice than other factors (Brockner and Wiesenfeld, 1996; Cohen-Charash and Spector, 2001; Ambrose et al., 2013; Colquitt et al., 2013). Also, organizations in general and legal institutions such as police forces in particular often have less control in the (range of) possible outcomes, in part because they are in theory, constrained by laws and protocols.

Treatment of the other categories of justice, however, while consistent in the general set of approaches, ideas, and outcomes, is considerably different in how the concepts are grouped. While organizational scholars have been careful to disentangle the mechanisms and paths of the three remaining types of justice (procedural, interactional, informational), legal scholars—particularly those studying policing—have collapsed all elements of non-distributive perceptions of justice into a broader category, also labeled procedural justice (Tyler, 2006; Tyler and Jackson, 2014). Several of the concepts used to measure the four principles of procedural justice in policing (voice, neutrality, respect, and trustworthiness), arguably, are better captured by the two other categories of organizational justice. Most notably, certain elements of *giving voice* and demonstrating *respect* would seem to match elements of interactional justice. Several aspects of *trustworthiness*, on the other hand, would seem to map well on to both interactional justice and especially informational justice (Colquitt, 2001).

That said, these discrepancies are smaller than they appear and not particularly concerning, for a number of reasons. First, when studying trust in legal institutions and in the police, what matters most are overall perceptions of justice and the behavioral markers that generate them. This is in line with recent trends in organizational justice that, in part because of the high correlation observed between the different types of justice, suggest that more research should look at the *aggregated* measure of perceptions of justice (Colquitt, 2012).

Second, different types of justice are most relevant at different levels of analysis and levels of the organization (Bies, 2005; Lavelle et al., 2015). For example, interactional justice is most important within the long-term relationship between subordinates and their manager. Procedural justice, in contrast, relates more to the organizational level of analysis and the formal policies and procedures for making decisions (Colquitt et al., 2013). In addition, it has been shown that not all types of interactions or decisions are evaluated using a justice frame (Folger and Martin, 1986; Brockner et al., 1994). Rather, instances where individuals are primed to think about justice (Van den Bos et al., 1999) or where they experience uncertainty are more likely to result in evaluations of decisions from a justice frame (Lind et al., 2000; Lind and Van den Bos, 2002; Van den Bos et al., 2008).

Consider now the world of policing. First, interactions between police officers and citizens are typically understood to be one-off exchanges, revolving around a specific incident. Furthermore, police officers are not *intended* to be seen as individuals, but as formal representatives of their institution. Their individ-

ual identities are purposefully de-emphasized by their institutional identity, represented by their uniform, equipment, and badge. Second, and related, within a police officer-citizen interaction, it is expected that officers are not operating as individuals, but as official representatives of the justice system. Thus, interactions are inherently about justice. And, citizens are bound to experience moderate to high degrees of uncertainty in their interactions with police officers, as decisions can have large, mostly negative consequences for citizens.

For all these reasons, during interactions between officers and citizens, perceptions of justice will almost inevitably take center stage and those perceptions will most likely refer to the police *force* as an organization, rather than to the dyadic relationship with a given officer. Put differently, because police officers wear a badge and uniform, because they are seen as formal representatives of their organization, and because they are mandated and expected to act according to laws and protocols, it is reasonable to aggregate interactional factors into a broader perception of procedural justice. For the remainder of the paper, therefore, we will use the term procedural justice as is commonly used in policing, as an aggregate measure of the perceptions of justice that, in organizational justice terms, may also include elements of interactional and informational justice.

Both streams of research, thus, have given us valuable clarity on the mechanisms of the perceptions of justice—what it looks like at different levels of analysis and what types of outcomes we can expect when it is (not) present. Recently, however, researchers have shifted to a different set of questions. Of particular relevance, this new wave of research in organizational justice calls for an expanded focus on justice as a *dependent* variable to better understand what can shift the desire for justice and how this can translate to a change in behaviors (Colquitt, 2012; Brockner et al., 2015; Lind, 2019). In the case of policing, we can confidently predict, based on existing research, that when police officers follow certain behaviors, their actions and decisions will be more likely to be interpreted as fair and therefore as legitimate and worthy of trust. For a police agency, especially one in need of improving legitimacy and trust among citizens, this is not enough. A chief of police will be much less interested in the mechanisms or categories of justice and more in *whether* and *how* we can change how police officers understand their job and how they behave in their interactions with citizens.

Put differently, presumably what we ultimately care about are organizational outcomes. Now that we have documented that perceptions of justice matter enormously for a variety of critical outcomes, it is equally important to learn how to increase or promote the *desire* for justice, as well as the types of behaviors that we know will be perceived as fair (Brockner et al., 2015). Yet, while there is evidence that police officers who exhibit procedural justice increase citizen perceptions of legitimacy and trust in the police, it does not address how to help police officers understand, internalize, and apply procedural justice in their work

(Nagin and Telep, 2017). Indeed, a frequent recommendation for police departments seeking to improve citizen engagement is to train their officers on the principles and tools of procedural justice (President's Task Force, 2015; Abt and Winship, 2016). Can such programs be effective? And if so, how?

Part of the challenge is the inherent difficulty in determining the causal impact of police training programs (and training programs more broadly). Undertaking, for instance, experimental evaluations within law enforcement organizations is particularly challenging because of how interventions will necessarily impact operations (e.g. certain officers must be temporarily rotated out of their beats). The minimum scale necessary to run an appropriately powered, controlled, and matched experiment also excludes all but a few exceptionally large police departments. Thus, it is not surprising that there is relatively scant evidence on the causal impacts of training programs for police officers—or the mechanisms that explain why these trainings work (Nagin and Telep, 2017).

A few recent studies find mixed evidence on perceptions of police-citizen interactions of training programs that incorporate concepts of procedural justice in a broad sense (see Wheller et al., 2013; Banerjee et al., 2014; Rosenbaum and Lawrence, 2017). Mostly, they evaluate police training programs designed to develop communication skills, soft skills, and stress management.[1]

The study that most closely assesses the effect of a training on principles of procedural justice is Skogan et al. (2015). They evaluated a one-day training program on the principles of procedural justice organized by the Chicago Police Department using a quasi-experimental design. The authors present short-term effects—comparing officers that took a perception survey just before training to officers that took the survey immediately after training—and long-term effects—comparing officers that had been trained with officers that had not (yet) been trained at the time of the survey implementation.[2] They find evidence that training increases officer support in the short-run for all the procedural justice dimensions measured in the survey—neutrality, respect, and voice—and these effects remain in the long-run. While this is suggestive evidence that police officers can react positively to procedural justice training, the absence of a purely random allocation into the experimental and respondent groups may have introduced bias in the results. We advance and complement this body of evidence by conducting the first RCT of police training on procedural justice

[1] Wheller et al. (2013) assess the impact of a communication skills training with officers from the Greater Manchester Police. Treated officers held more positive attitudes towards providing a quality service, showing empathy with victims, and making fair decisions. In addition, victims who had interactions with them were more likely to report a good experience. Banerjee et al. (2014) analyze a training program on stress management, communication, mediation, and team building with the state police of Rajasthan, India. Training increased the satisfaction with the police of crime victims who were attempting to register a crime. Rosenbaum and Lawrence (2017) study a new induction course for recruits designed to develop interpersonal skills incorporating elements of procedural justice, and other communication skills. They find no impact on attitudes toward police-civilian encounters, but positive effects in the amount of respectful and supportive behavior in role-playing scenarios.

[2] The long-term effects refer to perceptions that were measured as long as 10 months after training, or as recently as 7 days after training. 2,681 police officers completed the survey that analyzes the short-term effects, while 714 officers participated in the long-term survey.

in Latin America.

Our goal with this study is threefold. First, to rigorously examine whether the principles, tools, and behaviors associated with procedural justice can be effectively taught. We know that police officers who routinely display procedural justice—because of their natural disposition or approach to policing—increase citizen trust and perceptions of police legitimacy. But there is no causal evidence to demonstrate that police officers can be trained to incorporate procedural justice into their approach to policing. Second, and given the prominence that procedural justice training has taken in the public safety agenda (e.g. President's Task Force, 2015), we seek to better understand what exactly is happening when police officers receive procedural justice training. If training has an effect, what changes is it generating in a police officer's attitude, disposition, or approach? For example, we know that police officers perceive a gap between themselves and citizens, which hinders their ability or desire to empathize with them (Patil, 2018). But one of the core principles of procedural justice is rooted in empathy, "to treat others like I would like to be treated if I found myself in that situation." Presumably, for procedural justice training to work, it would need to change how police officers perceive their relationship with citizens. Our approach allows us to test different paths through which procedural justice training could have an impact. Third, we seek to establish a clearer connection between perceptions of and desires for procedural justice and actual behaviors. When individuals express a desire for procedural justice, to what extent does this translate to behaviors that are perceived to be more fair?

3 Institutional Background and Context

With a population of 9 million citizens (and a conurbation spread over neighboring states of an additional ten million), a group of 4 million people who commute into the city every day, 4.5 million private vehicles, around 3 million dwellings, and a GDP that represents 17.5 percent of the country's total (INEGI, 2017a), Mexico City is one of the largest and most vibrant in the world.

Considering its size, complexity, and the fact that over the past decade crime and violence have consistently trended upwards in Latin America in general and in Mexico in particular, Mexico City is relatively safe. For example, the City has had an average of 12.2 homicides per 100,000 inhabitants over the past decade, way below the country's average of 19.8. Other crimes, such as car theft, have also seen a general decline in the past years (Torreblanca and Lara, 2018).

The protection and preservation of public order in Mexico City is under the responsibility of the Mexico City Police, which resides within the Ministry of Citizen Security (*Secretaría de Seguridad Ciudadana*, or SSC). In total, the Mexico City Police has over 80,000 officers, split into different forces. The largest of these is the Preventive Police—our experimental population—comprised of around 25,000 officers in charge of public

safety.[3] Over the past decade, the SSC has implemented a comprehensive strategy of territorial organization and deployment of the Preventive Police that has reduced emergency response times. At the heart of the strategy is the division of Mexico City into 847 quadrants, grouped into 72 sectors, 15 regions and 5 zones. This is complemented by a robust system for the integration and analysis of information in real time, including a state-of-the-art intelligence center that controls over 17,000 cameras. Each sector is led by a sector-chief (equivalent to a lieutenant or captain in the U.S. context), who determines the distribution of car- and foot-patrol officers within the quadrants under their supervision, and who appoints and oversees the quadrant chiefs (equivalent to a sergeant) who will supervise patrolling. For the most part, the Mexico City Police is seen as one of the leaders in the country in independent measures of police quality, professionalization, and development (e.g. INDEPOL, 2018).

At the same time, citizen perception of public safety in Mexico City and of the reliability of the SSC has remained systematically low. The City ranks among the worst in the country regarding security perception (INEGI, 2017c), and 66.1 percent of its citizens report not trusting the police—14 percentage points worse than the national average—placing the city as the worst ranked among the country's 32 states (INEGI, 2018a). Corruption is also a central concern for the population. More than 85 percent of Mexico City citizens believe that the City Police is corrupt (INEGI, 2018b).

Consistent with existing research and the experience of numerous police forces, there seems to be a persistent disparity between the SSC's operational effectiveness and sophistication and citizen perceptions of its legitimacy and trustworthiness. This mirrors the disparity observed in the U.S. where, despite the drop in crimes since 2008, people believe crime has gotten worse (Gramlich, 2016). This disparity not only has reputational and political costs, but also translates into critical operational challenges. The main and most immediate is that the prevalent public perception of insecurity drastically reduces the intensity with which citizens are willing to take ownership of their public space—and thus the intensity of citizen participation in public safety. This, in turn, hinders the quality of operational intelligence for the police, weakens the quality of initial diagnoses of citizen needs, and erodes the motivation of police officers, thus contaminating all interactions between citizens and the police. Low citizen trust, moreover, results in less operational leeway, greater difficulty in recruiting top-talent, and greater difficulty securing budgets to improve operational capacity. It also limits the ability of the SSC to communicate its accomplishments, as it reduces the credibility of its messages to the public. To build citizen trust, one of the most urgent needs for the police is to have the right tools to interact and communicate with citizens; and this is recognized by the police officers themselves. For instance, in a recent survey, 87.9 percent of the Mexico City Police

[3]Other groups within the SSC include the Banking and Industrial Police (to provide surveillance of private establishments), the Transit Police, a group of emergency first respondents for police officers, and several special forces units.

officers that were surveyed identified the need for a training that covers mediation and conflict resolution with citizens (INEGI, 2017b).

4 Intervention

4.1 Experimental setting

Our training intervention was conducted during a 20-week period, between November 2017 and June 2018, in downtown Mexico City. Police officers from the Preventive Police were assigned to treatment and control groups following a pairwise-matching randomization (Bruhn and McKenzie, 2009) at the sector level, stratified on 911 calls, number of crimes reported, and population density. In our original design, we planned to randomize at the quadrant level, which, given the high number of clusters (847), would have allowed us to have several different treatment arms. In particular, we had planned to have at least three different arms: training managers and officers, only officers, only managers, and the control group. During our pilot, however, we discovered that contrary to the descriptions we had received from the SSC, but consistent with the fact that sector chiefs are the level of the hierarchy at which discretion is concentrated, there was significant police officer rotation across quadrants (but not across sectors). As a result and to limit contamination and attrition issues, we had to randomize at the sector level and only retain one treatment arm, as described below.

The results of the pairwise-matching randomization allowed for the creation of 30 pairs of sectors. From each of these matched pairs, one sector was randomly assigned to treatment and the other to control (see Figure 1). We then randomly selected 966 treatment and 888 control officers from the Preventive Police, all of whom completed a baseline survey and were approved in a vetting process. Only police officers in treatment sectors were invited and allowed to attend the training sessions. Treatment officers were split into 64 batches to ensure that trainee groups were no larger than 20 officers.

4.2 Procedural Justice training

Given the robustness of the evidence in support of procedural justice as a guiding principle to improve citizen trust in the police, our intervention sought to test the causal effects of training police officers in its principles and tools. The design of the training intervention followed several steps. First, in alliance with the Justice Collaboratory, we interviewed 15 researchers and practitioners who had led related training or research efforts and we reviewed the materials that had been used for procedural justice training in several police forces in the U.S. and the U.K. We were also given access to a vast number of survey instruments that had been used (and validated) to measure the different elements of procedural justice in a variety of settings.[4] From this initial review of training and measurement materials and experiences, we identified

[4]We are particularly indebted to Tom Tyler and his vast and generous network of collaborators for these materials.

a set of common and best practices that we distilled and translated into a first draft of a training tool in Spanish. With this initial collection of materials, we ran a set of sessions with carefully selected groups of police officers from the SSC, to co-design a set of training materials that contained all the fundamental theoretical and practical components of the best procedural justice training materials, but that were also adapted in language, examples, and training exercises, to the specific context faced by Mexican police officers. During this process we also created a first version of our baseline and endline surveys and of our evaluation instruments.

In the next stage, we selected six well-matched, representative quadrants to conduct a pilot. Three quadrants were randomly assigned to treatment, for a total of 40 trained and 40 control police officers. We then piloted the training materials and evaluation instruments with all police officers assigned to those quadrants. This included conducting baseline and endline surveys (after a 12-week period). We also conducted extensive interviews with police officers to ensure that they were understanding the training concepts and survey language as intended. This pilot led to additional adjustments in our training materials, evaluation instruments, and randomization strategy.

The resulting final training was divided into six modules, with a total duration of 9 hours taught over a 3-day period. Each module was presented by a training expert, backed by slides, video clips, and group exercises. As described in Figure 2, at the heart of the training, and of each module, were the four principles of procedural justice: give *voice* by listening to what citizens have to say and actively motivating them to speak; show *neutrality* by being self-aware of potential prejudices or stereotypes and by projecting that no decision is driven by a person's appearance, gender, or preferences; give *respect* by treating all citizens with the same amount of dignity, using equally deferential language, and maintaining a professional demeanor regardless of a person's actions; and cultivate *trustworthiness* by communicating the process and rationale behind the decisions or actions taken, and demonstrating genuine concern for citizen well-being.[5] Two additional concepts played an equally central role in the training. The first was an emphasis on "the golden rule," that simply states that you should treat others the same way you would like to be treated if you were *in that situation*. The second is the existence of a "community bank of trust," in which the account's balance is determined by generalized citizen perceptions of the police. It is communal because every police officer benefits if the account balance is high. The balance is determined one interaction at a time, where every single interaction between a police officer and a citizen will result in either a deposit or a withdrawal, and where deposits tend to be small and difficult to make while withdrawals—resulting from a negative interaction—tend to be quite large (Skogan, 2006; Li et al., 2016).

During the pilot we discovered that it was critical to devote the first third of the training to the establish-

[5]During training the principle *trustworthiness* was presented to police officers using the word *explain*, as our co-design process revealed that they otherwise often misinterpreted the concepts in Spanish.

ment of trust between police officers and facilitators. Police officers have a strong perception that the public does not understand what they do (Patil, 2018) and SSC officers are not the exception. For instance, in a survey of 529 police officers from the Preventive Police, 49.2 percent answered that citizens do not understand the risks and challenges faced by the police at work. Only 15.7 percent believe that citizens have a good understanding. Accordingly, we learned that, in order for police officers to open up to the concepts of the training, we first needed to give them ample space to express their frustrations and experiences interacting with citizens. This open conversation not only built trust between themselves and in the facilitator, but, also and more critically, created a natural transition point to a productive conversation about the importance of institutional legitimacy and citizen trust in the police. This created a baseline for the rest of the training where it was accepted that every component of a police officer's work would become easier, safer, and less stressful if levels of legitimacy and trust in the SSC increased. It also established the unavoidable fact that, regardless of whether citizens sometimes treated police officers unfairly, it was evidently the responsibility of the police to rebuild that trust. The training then presented the four principles of procedural justice as the most reliable way for police officers to "make deposits," gave police officers heuristics, tools, and examples to illustrate how to use each principle in a variety of situations, and also provided different scenarios so participants could practice through role-playing and give each other feedback.

In line with this, the training also devoted significant time to reflections of the structurally complex relationship between the police and citizens. Policing is difficult. Police officers tend to interact only with a small minority of citizens and, normally, those interactions are initiated by circumstances that make the interaction complex and emotionally charged. There are important discrepancies in the baseline expectations that citizens and police officers have of each other and there are many conditioning factors (e.g. stereotypes, context, prejudices) that could negatively affect interactions. All of this is amplified by a long and complex history between the SSC and the Mexico City population.

For participants who completed the training we implemented a booster strategy to reinforce and support knowledge retention. At the end of the training, each officer received a brochure and a pocket card containing the four principles of procedural justice, the "golden rule," and the "community bank of trust" (see Figures 3 and 4). Starting one week after training, five text messages were sent over a 5-week period (one per week) with reminders of the principles and the "golden rule." As previously highlighted, control group officers were not allowed to attend the training sessions, nor did they receive any of the reinforcement materials.

4.3 Data

Officers' perception. Our main sources of data to measure changes in perceptions are a series of anonymous, self-administered surveys of police officers that were conducted to establish baseline levels of proce-

dural justice perceptions and individual characteristics, as well as to estimate the effectiveness of the procedural justice training. In total, 1,854 officers completed the baseline survey and 1,683 filled the endline survey (90.8 percent follow-up rate), with no differential attrition between treatment and control groups. The endline survey was applied, on average, 3 months after completion of training, and control officers were surveyed on the same dates as treatment officers to ensure that surveys of both groups were implemented in a similar time-frame. The surveys lasted approximately 30 minutes and, as mentioned, were designed based on the instruments and experiences of a variety of previous interventions (such as Skogan et al. (2015), which we drew upon quite heavily), that we adjusted and customized to the Mexican context with the collaboration of a group of academics specialized on procedural justice and organizational behavior. The most important part of the survey presented police officers with statements designed to elicit perceptions about statements linked to the four principles of procedural justice, using a Five-Point Likert-Scale from "strongly disagree" to "strongly agree". Appendix B presents the survey questions. For a sub-sample of treatment officers, at the end of their endline survey we added a set of 12 multiple-choice questions that directly asked them about concepts from the training (see questions in Appendix C). Our rationale was to test their understanding and internalization of the actual concepts as taught.

We also collected information on perceptions of occupational risk, pro-social attitudes, job satisfaction, perception of colleagues and managers, perception of citizens (and perception of citizens' perceptions of the police), perception of internal processes, and 'big five' personality traits, among others. These perceptions are not necessarily related to procedural justice, and some were not explicitly part of the training modules. We collected these, however, with three purposes in mind. First, and based on related research, we sought to further explore the mechanisms that could help explain any observed impacts. Second, to understand whether the exposure to the training changed perceptions that are not directly linked to procedural justice concepts, or that were not presented during the training, and thus could constitute an indirect measure of the experimenter demand effect (Zizzo, 2010). Third, we wanted to explore whether any observed impacts would be moderated or mediated by different baseline characteristics or perceptions of the participants. We complemented our baseline and endline surveys with administrative data from the SSC and socio-demographic information at the sector level from the National Institute of Statistics and Geography of Mexico (INEGI).

Officers' behavior. To measure changes in *actual* behavior on the streets we implemented a mystery shopper study that uses external observers evaluations. 3 to 12 months after training, the "shoppers", posing as citizens, interacted with 487 police officers—210 control group officers and 277 treatment group officers.[6] Officers were unaware of the objective of the interaction and did not know that they were partici-

[6]Due to recording and audio problems, observers were not able to assess 3 interactions of control group officers and 6 interactions of treatment group officers.

pating in a simulated encounter until the evaluation was completed.[7] Likewise, "shoppers" were unaware of the real purpose of the study, the specifics of the experiment, and did not receive any information about the procedural justice theory. They were also naturally blind to whether they were interacting with treatment or control police officers. Furthermore, in order to diminish potential individual bias by "shoppers" in the interactions, we randomly varied every two days the assignment of "shoppers" to sectors (i.e. to treatment and control officers).

A big challenge that we faced during the evaluation was how to generate an encounter with the police officers from our sample. Given the nature of policing, difficulties with police schedules such as night shifts, vacations, and police rotation, added to the complexity of the exercise. We piloted several strategies. First, we asked the command post of the SSC to call officers to a given street to perform the interaction. However, as the command post is not the area that normally approaches police officers to answer a citizen call, suspicion of an evaluation was imminent. Some anecdotal experiences recall that officers mentioned words such as "test", "fake", or "evaluation" to the actors. Second, we were informed that the majority of police officers were assigned a radio and it was possible to geolocate the radio using software. Yet, in the field the software did not allow us to rapidly identify to whom each radio was assigned—radios could be assigned to different officers within the same day, and the radios were not always active. The most effective, and experimentally safer, strategy that we tested was to invite officers to participate in a survey and approach them before or after they responded to it. In coordination with the transparency and training area of the SSC, we sent invites to the sample officers at least 3 days before the planned interactions. Neither the invites nor the survey had any information that could directly be linked to the training intervention.

Since the goal was to identify dimensions of attitudes and actions related to the procedural justice framework, we designed two scenarios that challenged police officers to put in practice the principles of the model. The narrative of both scenarios involved two citizens, in which one of them accused the other of committing a civil misdemeanor in a public space to an on-duty police officer. That is, per interaction, there was one "shopper" impersonating the role of the accuser citizen, and a second "shopper" posing as the accused citizen. In the scenario termed as *suspicious person*, the accuser citizen requires the help of a police officer because there is a person—the accused citizen—walking around suspiciously and supposedly taking pictures of vehicles and houses. In the scenario labeled as *administrative misconduct*, the accuser citizen asks a police officer for help because a transgender woman—the accused citizen—seems to be exposing herself in the streets. We chose these scenarios because they are representative of what a given Mexico City police officer faces daily in the streets (Urusquieta Salgado, 2011; Hernandez, 2016), and because, among other

[7] Given the risk of police officers informing their peers of the deception, informed consent was provided to all officers after the entire intervention was completed. We sent letters to all participants explaining the intervention and giving them the means to ask for removal of their data form the sample if desired. Only one police officer requested to be removed from the mystery shopper evaluation.

alternative scenarios, it minimized the risk for the field staff, officers, and any neighbor that could have been near the interaction. Each scenario and the corresponding script, was co-designed with the SSC, and with an experienced theater director. Interactions were recorded by hidden audio and video devices to allow later evaluation by external observers.

We recruited 12 external observers who received a week-long training on the principles of procedural justice in order to specifically identify procedurally just police behavior. Each interaction was analyzed and discussed by a team of two observers to avoid evaluation discrepancies. Teams rotated every third day, to ensure precision and decrease potential biases. To form the teams, the observers who had the best performance were identified so that they could team up with those who still had some doubts, and those who were identified as needing specific supervision teamed up with a supervisor. This decision affected the randomness of the allocation of the interactions across observers teams. Since some teams are collinear with treatment status, we cannot include team controls in the regression analysis. Nonetheless, we do not believe that this is a real concern for the validity of the results as the allocation of treatment and control interactions was evenly distributed within individual observers.[8] The measures used to analyze officers' behavior were based on Likert-Scales and Yes/No type questions. Appendix D presents the evaluation questions.

4.4 Sample and balance

Our experimental population consists of police officers from the Mexico City Preventive Police. More precisely, officers eligible for the study met the following criteria: they belonged to any of the 60 sectors that were selected through the pairwise-matching randomization process; they were car- (or foot-) patrol officers; and they passed the vetting process. The sample selection of police officers involved two steps. First, an invitation was sent to each sector chief with the police officers selected randomly to participate in the baseline survey. In total, 2,629 officers were invited. Second, a comparison was made between the self-administered data of those that filled the survey with the administrative data provided by the SSC. In approximately 5 percent of the cases the data did not match in at least one of the selection criteria. To avoid any potential contamination of the experimental sample, and to meet the demands of the project funder, we decided to not include those officers.[9] We ended up with 1,854 officers who completed the baseline survey and met the three selection criteria. This represents 70 percent of the police officers originally invited, and around 8 percent of the total officers from the Preventive Police.

Table 1 presents summary characteristics of the experimental sectors. We can observe, for instance,

[8] 41 percent of the observers' teams only evaluated interactions of treatment officers or only interactions of control officers. Each individual observer, however, evaluated on average a total of 48.3 percent of treatment interactions and 51.7 percent of control interactions.

[9] Including these officers does not affect our balance in any significant way.

that average sector population is around 125,000 inhabitants, almost 75 percent of the population older than 15 years old has at least a high school diploma, and there are approximately 15 (0.3) monthly 911 calls (reported crimes) per thousand inhabitants. The table also shows that control and treatment groups are balanced on sector characteristics. We report differences in mean tests, treating standard errors in the same way that we do in our main specifications that test for differences in outcomes. That is, we estimate robust standard errors clustering at the sector level (there are 60 sectors), and adjust the standard errors for the small number of clusters and the unbalanced number of observations within clusters through the *wild cluster bootstrap* procedure (Cameron et al., 2008; MacKinnon and Webb, 2018; Roodman et al., 2019).

Table 1 also presents summary characteristics of our sample of police officers. We report information gathered from administrative data and from the baseline survey itself. We see, for example, that police officers are 37 years old on average, around 7 percent have a college degree, approximately 27 percent stated that the main motivation to join the police force was "to help others," and that on average an officer has been in the force for 12 years. Aside from these characteristics, control and treatment officers are balanced at baseline on characteristics such as civil status, type of patrol (foot- or car-), 'big five' personality traits, perception of occupational risk, job satisfaction, and perception of colleagues and managers. Gender and "adherence to rules" are the only individual characteristics that display a statistically significant (albeit small) difference between the groups. Likewise, we test for mean differences in our main outcomes of officers' perceptions at baseline. Only the procedural justice principle *voice* presents a statistically significant (but small) difference. Nonetheless, the F-test reported in the table fails to reject the joint hypothesis that all coefficients are zero.

Attrition. We observe a low level of attrition from the baseline survey to the endline survey. We retained 90.4 percent of the police officers in the treatment group and 91.2 percent in the control group. Moreover, attrition is uncorrelated with treatment status, as reported in the last row of Table 1, and observable characteristics of the interviewed officers at endline are similar across both groups. All things considered, our pairwise-matching randomization was successful at generating statistically similar treatment and control groups at baseline, and the endline attrition did not affect this similarity.

The mystery shopper evaluation was carried out in 37 sectors—17 treatment and 20 control—out of the 60 sectors that were part of the training intervention. The sectors were chosen considering where the interactions could be performed without putting any team member, police officer, or bystander at risk, and based on operational complexities. In total, we were able to implement the simulated interactions with 26.3 percent of the total sample, that is equivalent to 34.7 percent of the officers that belong to the 37 sectors in which we conducted the evaluation due to safety and logistical concerns. As Table 1 also shows, the observable characteristics of those officers that participated in the mystery shopper evaluation are similar

between treatment and control groups, and the attrition to the interactions is uncorrelated with treatment status. The 487 police officers that interacted with the "shoppers" preserve the balance of the sample at baseline.

Training participation. Approximately one month after baseline we sent the invites to the training sessions through the Department of Police Operations. The Department directly requested the appropriate sector chief to give notice and authorize the participation of treatment officers. On average, officers were notified 4 or 5 days before the training. 89.3 percent of the police officers from the treatment group were trained, which is in line with other RCTs that trained police officers. (Wheller et al., 2013; Banerjee et al., 2014). In contrast, only 3 out of the 888 officers from the control group attended—at most—one day of training.

5 Results

As discussed in the previous section, compliance with the procedural justice training was not perfect. In light of our interest in determining the impact of the training on those who were invited and actually were trained, our parameter of interest is the average treatment effect on the treated (ToT). In addition, as is standard in experiments with imperfect compliance, we also show intent-to-treat effects (ITT) in the Appendix.

A natural instrument that arises in our context to recover ToT estimates is the random assignment to receive an invitation to attend the training session. Insofar as assignment to treatment predicts whether an officer was trained, the random assignment can be used as an instrument for having been trained. In section 4.4 we showed that the instrument—treatment assignment—does not correlate with observable characteristics of the treatment and control groups (i.e. the exogeneity condition is fulfilled). Next, we verify whether the relevance condition is satisfied. That is, whether the instrument affects training rates differently in the treatment and control groups. We do so by estimating:

$$PJ_i = \omega + \delta T_i + \epsilon_i \tag{1}$$

Where PJ_i indicates whether officer i was trained on procedural justice, T_i is a dummy indicating whether officer i was assigned to the treatment group, and ϵ_i is a disturbance term. Appendix Table A.1 shows the estimates for the parameter of interest δ. The instrument works as expected as random assignment to treatment strongly predicts training. More specifically, being assigned to treatment increased the likelihood of being trained by 89.3 percentage points.

Since random assignment satisfies the two basic conditions for a valid instrument (i.e. exogeneity and relevance), we use it to recover ToT estimates of the procedural justice training as follows:

$$Y_i = \alpha + \beta \widehat{PJ_i} + \mu_i \tag{2}$$

Where Y_i is an outcome of interest for officer i, and β indicates the training impact. Because officers within a cluster (i.e. sector) work together and may share common shocks, we allow for arbitrary intra-cluster correlation of the error term μ_i by clustering standard errors at the sector level. In addition, acknowledging the small number of clusters and the disparate number of observations within clusters, we present p-values generated using the more conservative wild cluster bootstrap procedure (Roodman et al., 2019) to adjust standard errors. When analyzing officer behavior in the field, we cluster the standard errors at the sector level by observer. Results are robust to different ways of estimating the standard errors.

We now discuss whether training police officers in procedural justice and police legitimacy makes officers change their perceptions about it, internalize the concepts of the theory, and apply its principles in their behavior.

Procedural justice perception. As discussed earlier, one of the contributions of our paper is to use justice as a dependent variable (Brockner, 2017). The most relevant result, therefore, is an aggregate measure of justice (Colquitt, 2012). We thus provide estimates on perceptions using a general procedural justice index, where the outcome variable is constructed as a mean score of scaled variables of the four principles—voice, neutrality, respect, and trustworthiness. Likewise, the indexes for the four procedural justice principles, and for most of the variables presented in this study, are mean scores of all the statements that seek to measure (different aspects of) the same underlying concept.[10] Table 2 presents the results for the general index (see ITT estimates in Appendix Table A.3). As shown in column 1, treated officers scored, on average, 0.19 units higher than control officers in the general procedural justice index. This result implies an increase of 4.8 percent relative to the control group mean, and is equivalent to a *Cohen's d* standardized effect size of 0.39—which is considered a medium effect size (Cohen, 2013). To ease interpretation, an officer in the control group who was at the 50th percentile of the general procedural justice index at baseline would have moved up to the 70th percentile if treated. Is this a big shift in perceptions? If we consider that the upper-bound of the procedural justice index is 5, the effect of the training comprises around 20 percent of the maximum improvement that the average officer could have attained from baseline.

Columns 2 to 5 show that the parameter of interest (β) remains similar in terms of point estimates and significance relative to column 1, when we add controls for several factors, including those that were not balanced at baseline, as well as individual and sector characteristics. Considering that we lose many observations when we add some of the controls, in Appendix Table A.4 we restrict the sample to observations

[10] In Appendix Table A.2 we present Cronbach's alpha coefficients of internal consistency for every perception index constructed in the study. The alpha reliability of the scales falls within the acceptable ranges for practically all the constructs, ranging from 0.62 to 0.97.

with no missing values in the control variables to show that the stability of the results is not an artifact of the sample used.

We next investigate whether any of the procedural justice principles drives the aforementioned results. Table 3 presents the results of our most conservative specification, which controls by both the outcome variable at baseline and factors that were not balanced, disaggregating the general procedural justice index into its components (ITT estimates in Appendix Table A.5). We see that the effects on the four principles are fairly similar relative to the control group mean. We find an increase of 5.0 percent on neutrality (0.37 *Cohen's d* std), 4.2 percent on respect (0.33 *Cohen's d* std), 4.9 percent on trustworthiness (0.35 *Cohen's d* std), and 3.9 percent on voice (0.30 *Cohen's d* std)—this last one having the smallest effect since officers had the largest score on it at baseline, leaving less space for improvement. These effect sizes are comparable to those found in previous studies (e.g. Skogan et al., 2015), but with the added confidence and precision of random assignment.

Despite the robustness of our findings to alternative models and specifications, a remaining concern may be that the results could be driven by an experimenter demand effect. Although we cannot fully discard it, our data collection design and following evidence minimize the concern. First, the fact that neither the baseline survey nor the endline survey asked respondents' names may reduce reporting bias as a possible confound of our estimates. Second, we analyze whether officers comprehended and internalized the main procedural justice concepts presented during training using a right-wrong quiz type. Third, we present evidence that officers changed their *actual* behavior following the training. Lastly, we investigate changes in perceptions that have no direct theoretical linkage to procedural justice and police legitimacy.

Procedural justice knowledge. As previously mentioned, at endline a sub-sample of officers was asked 12 questions about their understanding of procedural justice concepts. Questions were designed as multiple-choice, with four options and one correct answer (see survey questions in Appendix C). Thus, our *conceptual knowledge* outcome variable takes the values 0 to 12 conforming to the number of correct answers attained by an officer. In total, 50.1 percent of our sample took this part of the survey, with a relatively large difference between the proportion of respondents in the treatment group (59.4 percent) and control group (40.2 percent).[11] Nevertheless, this difference in attrition rates does not seem to be driven by any systematic, observable factor, as the treatment and control groups remain relatively well balanced (Appendix Table A.6), and our model specifications contemplate the small unbalance that could exist. Table 4 displays the results. As before, we introduce different blocks of variables as controls in columns 2 to 5.[12] We find

[11] The reason for this difference is that the conceptual knowledge section was added to the endline survey halfway through the implementation. Unfortunately, by the time this change was implemented, more respondents from the treatment group were left to take the endline survey.

[12] Since the baseline survey did not ask conceptual questions we cannot control by the dependent variable at baseline.

positive and significant treatment effects. On average, trained officers attain 1.5 more correct answers than control officers, which is equivalent to an increase of 24 percent relative to the control group mean of 6.2 correct answers.

Taken together, the results on perceptions and knowledge suggest that training police officers in procedural justice and police legitimacy has first-order intended effects on changing perceptions regarding procedural justice principles and on internalizing procedural justice concepts.

Procedural justice behavior. We now analyze whether training police officers in procedural justice and police legitimacy influences officers' behavior in the field. To this end, we study the perceptions of external observers specifically trained to identify and evaluate procedurally just police behaviors. The observers filled an assessment survey after watching videos of 478 experimental interactions and using transcripts of the verbal exchanges between the officers and the "shoppers" as a guiding tool. With this information we construct a general procedural justice index (Cronbach's alpha coefficient of 0.87), which includes statements of the four principles—*voice*, *neutrality*, *respect*, and *trustworthiness*. Table 5 presents the results. As column 1 reports, treated officers show actions and attitudes in their interactions with citizens that are associated with a procedural justice index that is on average 4.1 percent (0.21 *Cohen's d* std) larger than the index of control officers. The estimated coefficients are statistically significant and almost identical in most of the specifications tested from column 2 to column 5. Column 2 controls by the general procedural justice index of officers' perceptions at baseline. In column 3 we add as controls the variables that cause the imbalance in the mystery shopper sample—gender, experience, and education. Column 4 includes sector characteristics. Finally, in column 5, we introduce characteristics of the interactions, such as simulated scenario —suspicious person or administrative misconduct, field staff involved, month, day of the week, whether the interaction was implemented during the morning or the afternoon, and a dummy variable that indicates whether the observers consider that the interaction was implemented as planned (i.e. the script was followed appropriately). We do not include all the variables described in Table 1 as some of them have many missing values, and results are generally robust to their inclusion.

Procedural justice perception and behavior. To what extent do changes in procedural justice perceptions translate into changes in actual procedurally just behavior in the field? Does having more positive perceptions of procedural justice after the training positively affect officers' behavior? Although we have reason to expect that a pre-condition to change actual behavior is to change perceptions and beliefs, it is not obvious that this is the case for street-level bureaucrats that frequently confront complex situations on the streets. Since random treatment assignment has a positive and significant effect on procedural justice perceptions, we could use it as an instrument for procedural justice perceptions in order to study the relation between officers' perceptions and behavior. This exercise is valid as long as treatment only affects behavior

through perceptions of procedural justice. Undoubtedly, this is a strong assumption. Treatment could affect behavior through other means such as organizational incentives, salience of operational efficacy, other perceptions and contextual factors, etc. Nevertheless, we believe that the exercise could shed light on the previous questions, and we interpret the results as purely descriptive. Table 6 shows that increasing the general procedural justice index of perceptions by 1 unit increases the general procedural justice index of behavior by about 0.5 units. Relative to the control group mean, the estimates imply that a 25 percent improvement on perceptions would enhance behavior by 21 percent.

5.1 Heterogeneous effects

Recent research by justice scholars provides important insights on the perspectives and characteristics that may mediate the perceptions and enactment of procedural justice by the "agents" of justice—those with decision-making authority. We next discuss whether the effect of the training is mediated by officers' perspectives and characteristics at baseline.

Attitudes towards citizens. The relational models of justice suggest a linkage between agents' relationship to their social context and the tendency to behaving fairly (Tyler and Blader, 2003; Blader et al., 2013; Blader and Rothman, 2014; Fortin et al., 2015). When the agent of justice is socially aligned (by admiration, empathy, communal views, etc.) with the recipient of justice, the agent's motivation to be fair is likely to increase. At baseline, we collected two measures that are related to the social alignment—from the agent's perspective—between police officers and citizens—the agents and recipients of justice in our context. In particular, we have information about officers' pro-social attitudes towards the community (*pro-social attitudes*), and officers' views about the perceptions that citizens may have of the police (*view of citizens' trust*). Rows 1 and 2 of Figure 5—Panel A for perceptions of procedural justice as an outcome and Panel B for procedurally just behaviors as an outcome—present heterogeneity in treatment effects considering attitudes towards citizens as mediators.

For each potential mediator we identify officers who, when evaluated at baseline, scored above (and below) the median of the officer distribution. All regressions subsequently control for the general procedural justice index of officers' perceptions at baseline. In black we present the estimates when the indicators are equal to 1 (i.e. above the median), and in gray we show the results for the base categories (i.e. below the median). Treatment effects are significantly different within mediators, whenever the point estimate of one indicator is not within the confidence interval of the other indicator, and vice-versa (the same applies to the analysis of the rest of the section). While we do not see heterogeneous effects on procedural justice perceptions for officers who bore greater pro-social attitudes towards the community (i.e. the training has similar positive impacts for the entire distribution of the mediator), we do observe that the training only seems to have changed the behavior of these officers—row 1 of Panel B. Likewise, we find evidence that

officers who held more positive beliefs about the perceptions that citizens may have of the police work, responded to the training by changing both perceptions and behavior—row 2 of Panels A and B. On average, these officers experienced close to a 60 percent larger impact on perceptions (0.08 units) than officers who had views below the median of the distribution, and also significantly changed their behavior, whereas officers with views below the median did not. These heterogeneities in treatment effects call attention to the importance that a relation of empathy and trust between citizens and the police can have in the disposition of police officers with respect to those they serve.

Personality traits. Personality theory and empirical research illustrate that people's general dispositional tendencies to view and interpret the world have important consequences on many aspects of social and economic life (Borghans et al., 2008). Within the justice literature, scholars have studied how different personality traits and beliefs relate to fairness judgment, reaction, and provision (Colquitt et al., 2006; Mayer et al., 2007; Bianchi and Brockner, 2012). For instance, research suggests that individuals higher in negative affectivity (akin neuroticism) show less interpersonal justice and are more likely to retaliate when faced an unfair treatment, while agreeable managers tend to adhere more to informational justice (Skarlicki et al., 1999; Mayer et al., 2007). At baseline, we measured personality traits using the Ten-Item Personality Inventory of the 'big five' personality dimensions (Gosling et al., 2003). Figure 5, rows 3 to 7, shows treatment effects by mediator. We observe suggestive positive heterogeneous treatment effects on procedural justice perceptions that map on to the 'big five' personality traits *agreeableness*, *conscientiousness* and *openness to experience*, respectively. At the same time, officers higher in agreeableness, conscientiousness and that were more open to experiences and emotions at baseline, significantly changed their behavior after the training relative to control officers, and also, for the traits conscientiousness and openness to experience, relative to their counterparts.

Perceptions of risk. A common hypothesis raised by collaborators of police training academies is that officers with high-risk assignments may be less able (or willing) to behave in procedurally just ways (Skogan et al., 2015). Behaving justly requires time and involves distinct mental efforts that depending on the situation and context can be difficult to exert. For instance, agents may believe that acting justly reduces their power and control of the situation (Brockner et al., 2009). This could be believed, in particular, by police officers patrolling high-crime areas, as these officers are exposed more frequently to unpredictable interactions. At baseline, we collected officers' perceptions about the frequency of life-threatening and stressful situations on the job (*occupational risk*). In addition, we have statistics about the number of crimes in each of the experimental sectors. Our analysis on procedural justice perceptions as an outcome suggest that officers who (rightly, because they have tougher assignments, or subjectively) perceive their assignments as higher-risk were less influenced by the training, although the estimated difference between the

indicators is not precise enough to be statistically significant (Panel A, row 8, of Figure 5). We do not observe the same direction in the heterogeneity if we consider the number of reported crimes in the sector that the officer works in as a proxy of risk in the job (Panel A, row 9). Interestingly, when we consider treatment effects on behavior we observe a null effect for officers patrolling in riskier sectors—measured by the number of crimes—and a positive and significant effect for those who patrol in less intense areas (row 9 of Panel B). The null effect is directionally positive, but imprecise in its estimation. Furthermore, there is no evidence that perceptions of occupational risk mediate the impact of the training on behavior. The results suggest that even though the training positively changed the perceptions of the officers patrolling both high-crime sectors and low-crime sectors, the former were less likely (deliberately or not) to clearly use principles of procedural justice in their interactions with the "shoppers". We hope that future research will determine whether other forms or intensities of training could be used to mitigate this heterogeneity.

Relationship with the job. The internal dynamics of the workplace can also have important consequences on how individuals perceive justice and in their ability and willingness to enact it. Cohen-Charash and Spector (2001) and Colquitt et al. (2013) in their respective reviews of the justice literature find that procedural justice is positively related to several workplace characteristics such as task performance, satisfaction with managers and with the job, among other. Likewise, scholars of procedural justice in policing show that officers' who feel that are fairly treated in their workplace feel a higher commitment with the organization and are more supportive of community policing models (Farmer et al., 2003; Bradford et al., 2014; Trinkner et al., 2016).

At baseline, we collected several measures directly connected with the internal workplace atmosphere. We asked officers about satisfaction with the police career, with managers and with the SSC (*satisfaction with job*); confidence in peers' behavior and honesty (*satisfaction with peers*), perceptions about managers' adoption of procedural justice principles in their interactions with their staff and trust in their decisions (*satisfaction with managers*); perceptions of fairness in institutional decision-making and transparency (*internal procedural justice*); and about institutional identification with the police as a collective and interdependent force (*institutional identification*). Panel A, rows 10 to 14, of Figure 5 estimates heterogeneity in treatment effects on procedural justice perceptions by internal characteristics of the workplace. No clear evidence of heterogeneity is found, except for some suggestive negative heterogeneity for those who were more satisfied with their peers' behavior (row 11). Upon further exploration, this result is driven by officers who, at baseline, were in the top of the distribution of *both* positive perceptions of their peers' behavior *and* perceptions of procedural justice. It could thus be the case that this is the result of a "ceiling effect," as these officers already had a strong sense of what constituted procedurally just police behavior and had less room for improvement. Of course, some of this heterogeneity may also reflect noise in the *satisfaction with*

peers-elicitation process.

Panel B reports heterogeneity in treatment effects on procedural justice behavior, and show that relative to their counterparts and also to the control group, the training seems to have changed significantly more the behavior of those officers who were more satisfied with their job (row 10). The coefficient for the less satisfied officers suggests that the training did not significantly change their behavior. On the other hand, institutionally identified officers seem to be more likely to adopt the principles of procedural justice in their interactions, although the estimated difference regarding officers with below-median identification is not precise enough to be statistically significant (row 14). There is no evidence that any other workplace characteristic or perceptions of the officers mediate the impact of the training.[13]

Managers. In the original quadrant-level design of the intervention we had planned to cross-randomize whether quadrant managers received training. This component had two objectives: first, to observe whether the effect of training police officers was more pronounced if their managers were also trained. Second, to analyze whether the information of the training flowed from managers to officers when *only* managers were trained. Indeed, officer interviews during our initial pilot confirmed our intuition that they believed managers would play a fundamental role in an officer's ability to follow the principles of procedural justice in their job. Unfortunately, various administrative obstacles with our partner organizations hindered a clear implementation of this component. Once it became clear that we would have to randomize at the sector and not the quadrant level, which would not allow for an extra treatment arm for manager training, we decided that the ethical approach would be to train *all* managers at the sector level.[14] Fortunately, we still ended up with significant—quasi-random—variation in the treatment sectors: the extreme demands placed on managers meant that they were trained in small batches throughout our entire training period, as their availability allowed. As a result, some police officers filled the endline survey before and others some time after their managers had received training. In total, out of the 863 trained officers, 463 (53.6 percent) had at least one of their managers trained by endline. This quasi-random variation allows us to present suggestive evidence about heterogeneous effects of training managers on police officers' perceptions of procedural justice. We are not able to study heterogeneous effects on officers' behavior because by the time the mystery shopper study was run all officers already had their managers trained.

Table 7 tests the effects of the training on our general procedural justice index and on each of the four procedural justice principles, displaying separately the estimates for officers without (line 1) and with

[13]We also performed an exploratory analysis of heterogeneity in treatment effects by all the characteristics and perceptions described in Table 1 but no clear evidence emerged for most of them. The only statistically significant result that we find is that more experienced officers scored higher on procedural justice perceptions than less experienced officers.

[14]The managers targeted by the intervention were sector chiefs and quadrant chiefs. Manager training was similar to the officers' training, but added an extra hour of training per day to include a module on leadership and management.

trained managers (line 2). In the third line of the table we present the wild bootstrap p-value of the equality of effects. Consistent with the view that training managers would augment the effects of training police officers, we find, in most cases, that the estimates of the training are higher when managers were also trained, although the coefficients are statistically different only for the principle neutrality (p-value 0.093). While these results should be interpreted with caution, as the order of manager training was not controlled with the same rigor as the rest of our intervention, they are both of a magnitude and consistency that give us some confidence in their validity.

5.2 Effects of training on other perceptions

At endline, we also measured perceptions of internal procedural justice and occupational risk, attitudes towards rules, job satisfaction, perceptions of colleagues and managers, perceptions about citizens' perception of the police, and institutional identification. Hence, we now study as an outcome of the training, officers' perceptions about attitudes and behavioral intentions that may or may not be related to the procedural justice theory, and that may not have been explicitly presented to police officers during the experimental training.

Figure 6 summarizes the point estimates of our most conservative specification, which includes both the outcome variable at baseline and variables that were not balanced between treatment and control officers. As can be seen, we do not find effects on perceptions that were not the focus of the training such as perception of occupational risk, perception of internal procedural justice, and satisfaction with managers. These null effects further increase our confidence that the effects we estimate on procedural justice perceptions are not driven by reporting biases.

We do find, however, positive and significant effects on a few measured perceptions. Behavioral intentions regarding rule compliance (*adherence to rules*), pro-social attitudes towards the community, perceptions about the trust that citizens may have in the police, and institutional identification, are all perceptions which conceivably might have been affected by the training, as the topics and their connections to procedural justice and police legitimacy were explicitly discussed. For example, the training emphasized the importance of always acting professionally as police officers, and how drifting away from this in any interaction hurts everyone in the institution, which could have been especially salient for institutional identification and adherence to rules. Moreover, justice and adherence to rules are inherently linked (Colquitt et al., 2015). Alternatively, the findings on pro-social attitudes and view of citizens' trust could have resulted from the effects that the training might have had on officers' daily interactions with citizens (e.g. the training pushed police officers to *seek* positive interactions with citizens, "when nothing bad is happening," as a critical part of their job), potentially generating a self-reinforcing bond between citizens and the police.[15] We also ob-

[15]Unfortunately, we are not able to empirically disentangle whether the effects are explained directly by the training,

serve marginally significant effects on satisfaction with job and satisfaction with peers. We further discuss these and the previous results in section 6.

6 Discussion and Conclusion

We started this paper with three goals in mind. First, research has shown that perceptions of justice are reliable predictors of a variety of key organizational outcomes (e.g. see Colquitt, 2012, for a review). One such outcome is citizen trust in and willingness to comply with the police (Tyler, 2006; Tyler and Jackson, 2014). Given this, and following the new wave of research that places justice as a dependent variable (Brockner et al., 2015), we explored whether the principles, tools, and behaviors associated with procedural justice can be effectively taught. Second, and related, we sought to explore the relationship between desires and perceptions of procedural justice and the actual behavior of authority figures. And third, to the extent that there are causal links between training and changes in the perceptions and behaviors of authority figures, we sought to understand the mechanisms through which such changes may occur.

The causal effects of procedural justice training. On the first question, our paper demonstrates that there is a causal, significant, and substantive impact of procedural justice training for individual police officers. Across all measures of procedural justice perceptions and its constitutive parts, and through our most conservative estimations we found treatment effects in the range of 0.4 standard deviations, or what would be considered a medium experimental effect (Cohen, 2013). To put this in context, the treatment effects are equivalent to turning a police officer who sits in the worst quartile of the procedural justice distribution into an almost median police officer. Likewise, the training also positively changed the actual behavior of police officers—and we show that perceptions have good predictive power on behavior.

This is extremely promising, not only because of its statistical significance but also because we know that trust in the police is disproportionately eroded—and determined—by problematic behavior of the few, worst performers (Skogan, 2006). By shifting the entire distribution—which this intervention seems to accomplish—training could improve how all police officers practice their profession, but most importantly it could *dramatically* reduce the frequency and gravity of the negative encounters between citizens and the police, which are overwhelmingly generated by officers in the bottom of the distribution (and can have "contagious" effects) (Quispe-Torreblanca and Stewart, 2019; Wood et al., 2019). We also have reason to believe that all our estimates are a conservative measure of the true and potential impacts of procedural justice training. First, because, as described in the paper, on every measure and estimation we always took the most conservative approach. Second, as discussed, given the nature of our measures there may be certain ceiling effects that limit the extent to which we can measures improvements that are nonetheless reflected in perceptions and behaviors. Third, and more important, it is worth noting that our training

or by the effect that the training had on officers' interactions with citizens.

and the evaluation process that followed took place at the end of the government's administration—and after elections had determined that an opposition party would take over the administration of the City government. As a result, the intervention period was one of political turmoil for the government in general and for the police in particular. For example, after the training had ended, but before the evaluations had taken place, the chief of police resigned for political reasons. The new (but temporary, given that the government was already in the transition period) chief of police was recognized to be an "old guard" chief, committed to a hard line of policing and with a notoriously questionable record. The new chief also enacted some changes to the top and mid-level leadership, which is always accompanied by uncertainty and turmoil.

That we still observed the documented impacts of training despite these factors makes us confident that our observed effects, if anything, underestimate the potential benefits of the training. Beyond the estimation of its causal effects, our design uncovers additional useful insights into the pathways and limits of procedural justice training.

Empathy and trust between citizens and the police. It has been shown that police officers perceive a lack of empathy and understanding of police work by citizens. This perceived lack of understanding seems to both "harden" the perspective of police officers who see themselves as "enforcers of the law"—and who therefore *should* keep their distance from citizens—and it undermines the motivation of officers who believe in the importance of a trusting bond between citizens and the police (Patil, 2018). Indeed, research on organizational justice shows that, when individuals in positions of authority use a power frame (instead of a status frame, which is other-oriented) they are less likely to behave in procedurally just ways (Blader and Chen, 2012). Consistent with this intuition, officers who, at baseline, demonstrated higher levels of trust in citizens benefited significantly more from receiving the training (the magnitude of the training effects on officer perceptions was around 50 percent larger for police officers with above-median trust in citizens). Furthermore, police officers with low initial perceptions of citizens did not seem to significantly change their behavior. But this is only part of the story.

Beyond its effects on measures of procedural justice, the training had a causal, positive, and significant impact on police officers' perceptions of citizens—and this was true for police officers across the entire distribution. Our results suggest that there are three paths through which this enhanced trust in citizens could occur. First, the training seems to have changed the baseline disposition of police officers with respect to citizens. More specifically, it significantly enhanced *pro-social attitudes* for participants. Indeed, interviews with police officers who took the training revealed that, for many of them, this was one of the most appreciated aspects. The training specifically prompted a reflection on the determinants and consequences of police officer perceptions about citizens. It allowed participants to openly express their mistrust

of citizens and share their daily experiences of interacting with them. This was followed, however, by an evidence-backed reflection to help police officers understand that their experience of citizens and their behavior, while valid, was not representative. Officers where shown evidence that, on a regular basis, only a very small fraction of citizens naturally interact with the police. Those who do, officers were led to reflect, are either experiencing a very bad moment of a very bad day, or—in the case of "frequent fliers"—have a structurally complex relationship with law enforcement because of their (livelihoods). It is therefore not surprising that the average encounter between a police officer and a citizen typically ranges from unpleasant to dangerous. Nonetheless, it is not representative of citizens and should therefore not determine how a police officer defines them.

Second, and related to the previous point, trainers tied this last reflection with the core premise of the entire training, which is that citizen trust is not simply desirable, but rather constitutes a *fundamental principle of operational efficacy*, as police officers cannot do their work effectively or safely without it. Officers were thus prompted to expand what they normally defined as "their job" to also include *proactive* attempts to generate positive interactions with *regular* citizens "when nothing bad is happening."[16] Finally, the training provided officers with tools (i.e. the procedural justice framework and its associated toolkit) that not only helped them contextualize and understand difficult interactions with citizens, but, more importantly, also helped them manage, de-escalate, and become less emotionally or personally involved in those interactions.

In summary, police officers with better perceptions of citizens are more likely to incorporate elements of procedural justice into their thinking and behavior. And all officers, regardless of their starting point, improve their perceptions of citizens when trained on procedural justice—which, therefore, leaves them better positioned to incorporate procedural justice into their work. This raises several potential implications that, while not explicitly tested in our work, are worth exploring. One is that the combination of data suggest—but cannot confirm—a plausible self-reinforcing cycle, where police officers become more open to proactively seeking positive interactions with citizens, which overwhelmingly results in positive experiences that then, through a form of Bayesian updating, translates into an improved perception of the citizens they serve. Equipped with better tools to contain and improve their negative experiences with citizens, police officers can also reduce the frequency and intensity of negative interactions. Interviews with trained police officers, while anecdotal, provide support for this hypothesized cycle.

Furthermore, our data show that police officers who started with a negative view of citizens did not seem to improve their behavior. They did, however, improve their general perception of procedural justice as well as their perceptions of citizens. Why were these two shifts in perceptions not reflected in behavior?

[16] At an earlier stage in the training, police officers are asked what it means to do good police work, and it unsurprisingly clusters around "catching criminals," "bravery in the face of danger and conflict," or "teaching citizens how to respect the law."

One possibility is that these police officers did embark on a path that would eventually lead to improved behavior, as hypothesized above, but the process takes time and we observed them before it crystallized. A more conservative option is that, after the initial round of training shifted perceptions for these officers, a later round of subsequent, booster training could yield behavioral effects. These potential cycles that connect shifts in perceptions to behavior seem well worth exploring in future research, as part of the broader fifth wave of justice research (Brockner et al., 2015).

Professional identity and police legitimacy. The above discussion is related to a second set of insights. The training had an additional, positive, and significant effect on the extent to which police officers identified with their institution and profession. More specifically, the training substantially improved *institutional identification*, and *adherence to rules*. It is worth noting that there was no evidence of mediated effects, so officers across the distribution in each of these measures seem to have benefited equally. This is promising, as prior research suggests that police officers often face an apparent dichotomy between a tougher perspective on policing that is more distant from citizens but allows them to retain higher self-esteem vs. disenchantment caused by the dissonance between a belief in trust-based policing and negative interactions with the citizens they seek to serve (Patil, 2018). More broadly, authority figures who enact decisions that are perceived to be unfair experience declines in self-esteem (Wiesenfeld et al., 1999, 2000), which, ironically, will make them even more vulnerable to ethical or moral breaches (Baumeister et al., 2007; Tice et al., 2007). Our paper, in contrast, suggests a third alternative. Training can help police officers adjust their perceptions of citizens—and the need to maintain their trust—while at the same time providing them with the tools to contextualize, understand, and manage challenging interactions.

More specifically, the intervention explicitly prompted a collective reflection on what it means to be a *professional* police officer—and there is suggestive evidence that police officers who had a better perception of their profession at baseline benefited more from the training. Early in the training process, participants often expressed that citizens who do not respect police officers—representatives of *the law*—do not deserve to be treated with the same respect as law-abiding, respectful citizens. They were also prompted to activate—and identify—their explicit and implicit biases related to citizen appearance and behavior. As an example, there is a word association 'game' that asks police officers to quickly write down the first word that comes to mind when hearing a particular phrase or seeing a particular image. One such example is the phrase "a person who steals is...", the most common officer response to which is "a rat." These discussions were followed with a lengthy reflection around the idea that, one of the definitions of "a professional" is someone who does difficult work and who, regardless of what other people do or the complexity of the situation faced, maintains the same standards and behavior. Put differently, being a professional means that your behavior is not dictated by others, but by your own professional standards. This could help ex-

plain why police officers improved their perception of the rules and protocols of the profession, and its institutions, as a result of the training. In some ways, this is similar to other types of interventions that have proven to help improve professional identities and outcomes, such as asking new recruits to envision their "best professional selves" as part of their induction training (Cable et al., 2013).

The importance of managers and *internal* procedural justice. There is evidence that police officers who, at baseline, had lower perceptions of their managers and of internal procedural justice, also began the intervention with lower measures of procedural justice (there is no interaction effect, which suggests that they still benefited from the training in equal measures as their peers, but starting from a lower based also ended in a lower endline measure). Indeed, our baseline measures showed an almost perfect correlation between job satisfaction, perception of managers, and perceptions of transparency in internal organizational processes (such as promotions, sanctions, and recognitions). This combination of factors is also an excellent predictor of baseline measures of procedural justice. All of this is consistent with a "trickle-down" view of justice, where perceptions of justice at higher levels affect behavior and outcomes at lower levels (Masterson, 2001; Ambrose et al., 2013; Wo et al., 2015). Put differently, when police officers do not experience procedural justice inside their corporation, they will be less likely to display procedural justice in their interactions with citizens. On this, our results offer both promise and caution.

On the promising side, our quasi-random variation in the order and timing in which managers were trained allowed us to find suggestive evidence that training managers on procedural justice enhances the impact of the training for their subordinates—as one would hope. While manager training seemed to have no effect in subordinate perceptions of their managers, there is some evidence that it did enhance their perceptions of internal procedural justice. Indeed, manager training strongly emphasized that police officers who did not experience procedural justice in their jobs would find it harder to behave in procedurally just ways. This, combined with the fact that the intervention took place during a moment of organizational turmoil, as described above, are reasons to be optimistic.

On the cautionary side, managers, like their subordinates, are significantly affected by their perceptions of transparency and fairness, and their own experience of internal procedural justice. For example, during manager training sessions, there was a noticeable turning point once managers collectively "bought into" the procedural justice framework. Discussion promptly shifted from challenging the principles of procedural justice to (often heated) expressions of how the performance evaluations and the institutional demands that they were permanently subjected to were at best in tension with, and sometimes in contradiction of, the principles of procedural justice. As an example, sector chiefs are constantly evaluated on the (official) crime statistics of the sectors they are in charge of and their clearance rates, or the number of arrests performed relative to those crimes. The constant demand for arrests, however, is at odds with expectations

for citizen engagement and proactive search for positive interactions. This may partially explain why more experienced officers seem to benefit more from the training. It is likely that they have learned how to better navigate organizational tensions and the contradictions between organizational rules and field realities.

The broader point is that *organizational structures* and *incentives* matter. Structures and incentives that are not well aligned with training objectives would not only plausibly create a ceiling for any expected returns from training individuals, but also would likely limit the sustainability of any observed effects in time. While the results we observed had persisted after an average time of three months, suggesting significant internalization of training effects, it is difficult to imagine that officers who believe in procedural justice but are supervised by unfair managers and/or are evaluated on behaviors that inhibit citizen engagement, would be able to sustain their intentions for long—and it is easy to imagine that some of them might even devolve into cynicism or anomie.

We do not seek to imply that training should be embarked on with suspicion. This paper, and the research it builds upon, strongly support procedural justice as a worthy enterprise. Rather, we want to emphasize that building citizen trust is not only an individual endeavor—it naturally and necessarily is, as trust can only be built through individual interactions—but also an *organizational* one. No amount of training for individual police officers is likely to overpower an organization that, in its culture, routines, evaluation metrics, or internal processes is not conducive to building citizen trust.

Implications for other contexts. As summarized above, there is a wealth of evidence that perceptions of justice matter in organizations, across levels and across a variety of contexts. We also know which types of behaviors are likely to be interpreted as just. Yet, justice has rarely been treated as a dependent variable (Colquitt, 2012; Brockner et al., 2015), so we have less clarity on how to *improve* existing behaviors (c.f. Skarlicki and Latham, 1996, 1997; Skogan et al., 2015). In general, evaluations of corporate or organizational training programs paint a pessimistic picture. There is little evidence of effectiveness, even in ambitious interventions, ranging from diversity and sexual harassment training (Dobbin et al., 2011; Dobbin and Kalev, 2017, 2019) to teacher improvement programs (Stecher et al., 2018). Against this backdrop, our study provides evidence that training can improve perceptions and desires for justice, as well as actual behaviors.

We expect these findings to replicate well in other settings with similar structural characteristics—street level bureaucracies (Lipsky, 2010) where organizational actors have discretion over decisions that can have large implications, perceptions of justice matter for critical outcomes, there are important hierarchical or "trickle down" effects, and where there is a complex relationship between professionals (and their professional identity) and the people they serve. The courts are a clear example (Lind and Tyler, 1988), as are medical settings (Pratt et al., 2006; Shekelle, 2013; Ball et al., 2018; Beane, 2018). In many ways, the work of nurses can be similar to that of police officers. We thus expect that training medical professionals

(including doctors and nurses) could help improve patient outcomes, as well as these professionals' relationship to their work. But it is easy to imagine how incorporating standards of procedural justice could also help many other settings where organizational actors frequently have contentious interactions with clients (Skarlicki et al., 1999, 2008; Cable et al., 2013).

That said, the sobering evidence around corporate training programs should give us pause. It may be, of course, that procedural justice, as a policing framework, is categorically different from, say, training programs that seek to improve diversity in the workplace (e.g. Dobbin and Kalev, 2019). But looking at the thematic content and underlying principles—such as implicit bias and the importance of neutrality—there also seem to be important similarities. Ultimately, our research design did not test questions of training format, but the lessons we learned throughout the intervention in general and the design and pilot stages in particular can be informative. In summary, we have reason to believe (but not enough evidence to confirm) that at least some of the differences in effectiveness have less to do with the thematic content or general type of training, and more to do with the *format* of the training itself and the *process* of adapting the training to the context and organization. Our experience resonates strongly with the advice codified by Skarlicki and Latham (2005).

Regarding the format of the training, police officers are most commonly trained in large groups, both because police organizations have limited resources and because logistical efficiency is an imperative. It is cheaper, quicker, and easier to train officers in large batches. Our ethnographic observations of regular training programs, as well as our own pilots with different group sizes, however, convinced us of the necessity to deliver procedural justice training through small groups (in our case, groups of 20). As discussed throughout the paper, procedural justice concepts (not unlike workplace diversity) require true internalization to work. And police officers (not unlike average members of large business organizations) are negatively predisposed towards training initiatives in general (Haarr, 2001; Dobbin and Kalev, 2018, 2019; Wolfe et al., 2019) and many of the concepts of procedural justice in particular (Patil, 2018). When trained in large groups, we noticed that most officers seek to blend into the background and never engage with the materials. In small groups, however, every participant is forced to engage with the discussion. The sessions were intensive and required active participation. In our experience, a large-scale format (or an equivalent, individual online version) of the training would have generated no significant improvement.

We also learned from the piloting process through which developed our training that, because of the generalized perception amongst police officers that outsiders do not understand their work or context, it was critical to engage actual, Mexico City police officers in the design of the training materials. This proved necessary not only to adapt the concepts to their specific language, codes, and expressions; but especially to also draw from their own examples, challenges, and experiences to make the training relevant *to them*.

The training did not ask police officers to accept a value system that was different from theirs. Rather, the training took real-life examples from *their* reality and demonstrated how a procedural justice approach could make *their* jobs easier, safer, and less stressful. Nothing is simpler for a police officer than to dismiss concepts or evidence from other settings because "their city is easier than ours." In reality, police forces face remarkably similar challenges across contexts, but individual police officers naturally believe their context and challenges are unique. The corollary is that, while this paper shows that the core principles and elements of procedural justice training travel well across contexts, we believe that programs should be carefully adapted, with the active participation of local actors, to each setting before delivery. We are thus persuaded that there is no "cheap" way to effectively impart these training programs. And there are probably no shortcuts.

Limitations and future research. We have shown that the effects of the training are mostly homogeneous across officers from sectors with very different characteristics. This suggests that the effects may not be dependent on the environment in which the police officers operate. We also adapted the training from interventions that are believed to have created positive effects in the U.S. and the U.K., which reinforces the idea that procedural justice training and the principles behind it "travel well." Furthermore, these results build on decades of research on organizational justice, which have consistently shown the importance of perceptions of justice (Colquitt et al., 2013; Lind, 2019). At the same time, we only tested our approach in one police organization within one city, so questions about generalizability will remain.

Another important question that remains unanswered, as discussed earlier, is how long the effects would sustain without broader changes in the organization. It is likely, given our discussion above, that police officers who are subject to organizational incentives, manager pressures, or other environmental factors that are not conducive to citizen engagement would regress to behaving in ways that are not consistent with their intentions and beliefs around procedural justice. It will probably take a long time (and many interactions) to change citizens' perceptions of police legitimacy. Without a realignment of incentives and organizational structures, the training objectives could clash with the institutional heritage, limiting the effectiveness of the intervention. Even though we showed that officer behavior is impacted by training, it is unclear how long it would take for a training program to affect generalized citizen perceptions. Additional research could thus explore how complementary interventions both at the organizational level (e.g. changing certain components of police officer and/or manager incentive schemes) and at the territorial level (e.g. communication campaigns to foster empathy and engagement between citizens and the police) can amplify and accelerate the effects of procedural justice training. We hope these questions are explored in future work.

References

Abt, Thomas and Christopher Winship. 2016. What works in reducing community violence: A meta-review and field study for the northern triangle. United States Agency for International Development.

Ambrose, Maureen L., Marshall Schminke, and David M. Mayer. 2013. Trickle-down effects of supervisor perceptions of interactional justice: A moderated mediation approach. *Journal of Applied Psychology 98*(4), 678–689.

Ball, Jane E., Luk Bruyneel, Linda H. Aiken, Walter Sermeus, Douglas M. Sloane, Anne Marie Rafferty, Rikard Lindqvist, Carol Tishelman, and Peter Griffiths. 2018. Post-operative mortality, missed care and nurse staffing in nine countries: A cross-sectional study. *International Journal of Nursing Studies 78*, 10–15.

Banerjee, Abhijit, Raghabendra Chattopadhyay, Esther Duflo, Daniel Keniston, and Nina Singh. 2014. Improving police performance in Rajasthan, India: Experimental evidence on incentives, managerial autonomy and training. NBER Working Paper No. 17912.

Baumeister, Roy F., Kathleen D. Vohs, and Dianne M. Tice. 2007. The strength model of self-control. *Current Directions in Psychological Science 16*(6), 351—355.

Baumer, Eric P. 2002. Neighborhood disadvantage and police notification by victims of violence. *Criminology 40*(3), 579–616.

Beane, Matthew. 2018, 2020/09/25. Shadow learning: Building robotic surgical skill when approved means fail. *Administrative Science Quarterly 64*(1), 87–123.

Bianchi, Emily C and Joel Brockner. 2012. In the eyes of the beholder? the role of dispositional trust in judgments of procedural and interactional fairness. *Organizational Behavior and Human Decision Processes 118*(1), 46–59.

Bies, Robert J. 2001. International (in)justice: The sacred and the profane. pp. 89–118.

Bies, Robert J. 2005. Are procedural justice and interactional justice conceptually distinct? pp. 85–112.

Blader, Steven L. and Ya-Ru Chen. 2012. Differentiating the effects of status and power: A justice perspective. *Journal of Personality and Social Psychology 102*(5), 994–1014.

Blader, Steven L and Naomi B Rothman. 2014. Paving the road to preferential treatment with good intentions: Empathy, accountability and fairness. *Journal of Experimental Social Psychology 50*, 65–81.

Blader, Steven L, Batia M Wiesenfeld, Marion Fortin, and Sara L Wheeler-Smith. 2013. Fairness lies in the heart of the beholder: How the social emotions of third parties influence reactions to injustice. *Organizational Behavior and Human Decision Processes 121*(1), 62–80.

Borghans, Lex, Angela Lee Duckworth, James J Heckman, and Bas Ter Weel. 2008. The economics and psychology of personality traits. *Journal of Human Resources 43*(4), 972–1059.

Bradford, Ben, Paul Quinton, Andy Myhill, and Gillian Porter. 2014. Why do 'the law'comply? procedural justice, group identification and officer motivation in police organizations. *European Journal of Criminology 11*(1), 110–131.

Brockner, Joel. 2017. *The process matters: Engaging and equipping people for success*. Princeton University Press.

Brockner, Joel, Mary Konovsky, Rochelle Cooper-Schneider, Robert Folger, Christopher Martin, and Robert J Bies. 1994. Interactive effects of procedural justice and outcome negativity on victims and survivors of job loss. *Academy of Management Journal 37*(2), 397–409.

Brockner, Joel and Batia M. Wiesenfeld. 1996. An integrative framework for explaining reactions to decisions: Interactive effects of outcomes and procedures. *Psychological Bulletin 120*(2), 189–208.

Brockner, Joel, Batia M Wiesenfeld, and Kristina A Diekmann. 2009. 4 towards a "fairer" conception of process fairness: Why, when and how more may not always be better than less. *The Academy of Management Annals 3*(1), 183–216.

Brockner, Joel, Batia M Wiesenfeld, Phyllis A Siegel, D Ramona Bobocel, and Zhi Liu. 2015. Riding the fifth wave: Organizational justice as dependent variable. *Research in Organizational Behavior 35*, 103–121.

Bruhn, Miriam and David McKenzie. 2009. In pursuit of balance: Randomization in practice in development field experiments. *American Economic Journal: Applied Economics 1*(4), 200–232.

Cable, Daniel M., Francesca Gino, and Bradley R. Staats. 2013. Breaking them in or eliciting their best? reframing socialization around newcomers'authentic self-expression. *Administrative Science Quarterly 58*(1), 1—36.

Cameron, A Colin, Jonah B Gelbach, and Douglas L Miller. 2008. Bootstrap-based improvements for inference with clustered errors. *Review of Economics and Statistics 90*(3), 414–427.

Casper, Jonathan D, Tom Tyler, and Bonnie Fisher. 1988. Procedural justice in felony cases. *Law & Society Review 22*(3), 483–508.

Castilla, Emilio J. and Stephen Benard. 2010. The paradox of meritocracy in organizations. *Administrative Science Quarterly 55*(4), 543–676.

Cohen, Jacob. 2013. *Statistical power analysis for the behavioral sciences*. Routledge.

Cohen-Charash, Yochi and Paul E. Spector. 2001. The role of justice in organizations: A meta-analysis. *Organizational Behavior and Human Decision Processes 86*(2), 278 – 321.

Colquitt, Jason A. 2001. On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology 86*(3), 386.

Colquitt, Jason A. 2012. Organizational justice. *The Oxford Handbook of Organizational Psychology, Volume 1*.

Colquitt, Jason A, Jeffery A LePine, Ronald F Piccolo, Cindy P Zapata, and Bruce L Rich. 2012. Explaining the justice–performance relationship: Trust as exchange deepener or trust as uncertainty reducer? *Journal of Applied Psychology 97*(1), 1.

Colquitt, Jason A, David M Long, Jessica B Rodell, and Marie DK Halvorsen-Ganepola. 2015. Adding the "in" to justice: A qualitative and quantitative investigation of the differential effects of justice rule adherence and violation. *Journal of Applied Psychology 100*(2), 278.

Colquitt, Jason A, Brent A Scott, Timothy A Judge, and John C Shaw. 2006. Justice and personality: Using integrative theories to derive moderators of justice effects. *Organizational Behavior and Human Decision Processes 100*(1), 110–127.

Colquitt, Jason A, Brent A Scott, Jessica B Rodell, David M Long, Cindy P Zapata, Donald E Conlon, and Michael J Wesson. 2013. Justice at the millennium, a decade later: A meta-analytic test of social exchange and affect-based perspectives. *Journal of Applied Psychology 98*(2), 199–236.

Cropanzano, Russell, Deborah E Rupp, and Zinta S Byrne. 2003. The relationship of emotional exhaustion to work attitudes, job performance, and organizational citizenship behaviors. *Journal of Applied psychology 88*(1), 160.

De Cremer, David and Tom R Tyler. 2007. The effects of trust in authority and procedural fairness on cooperation. *Journal of Applied Psychology 92*(3), 639–649.

Desmond, Matthew, Andrew V Papachristos, and David S Kirk. 2016. Police violence and citizen crime reporting in the black community. *American Sociological Review 81*(5), 857–876.

Dobbin, Frank and Alexandra Kalev. 2017. *Are Diversity Programs Merely Ceremonial? Evidence-Free Institutionalization*, pp. 808–828. London: Sage.

Dobbin, Frank and Alexandra Kalev. 2018. Why doesn't diversity training work? The challenge for industry and academia. *Anthropology Now 10*(2), 48–55.

Dobbin, Frank and Alexandra Kalev. 2019. The promise and peril of sexual harassment programs. *Proceedings of the National Academy of Sciences 116*(25), 12255–12260.

Dobbin, Frank, Soohan Kim, and Alexandra Kalev. 2011. You can't always get what you need: Organizational determinants of diversity programs. *American Sociological Review 76*(3), 386–411.

Emirbayer, Mustafa and Ann Mische. 1998. What is agency? *American Journal of Sociology 103*(4), 962–1023.

Farmer, Suzanne J, Terry A Beehr, and Kevin G Love. 2003. Becoming an undercover police officer: A note on fairness perceptions, behavior, and attitudes. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior 24*(4), 373–387.

Feldman, Martha S.. 2003, 08. A performative perspective on stability and change in organizational routines. *Industrial and Corporate Change 12*(4), 727–752.

Folger, Robert and Chris Martin. 1986. Relative deprivation and referent cognitions: Distributive and procedural justice effects. *Journal of Experimental Social Psychology 22*(6), 531–546.

Fortin, Marion, Steven L Blader, Batia M Wiesenfeld, and Sara L Wheeler-Smith. 2015. Justice and affect: A dimensional. *The Oxford Handbook of Justice in the Workplace*, 419.

García-Ponce, Omar, Lauren Young, and Thomas Zeitzoff. 2018. Anger and support for punitive justice in mexico's drug war.

Gosling, Samuel D, Peter J Rentfrow, and William B Swann Jr. 2003. A very brief measure of the big-five personality domains. *Journal of Research in Personality 37*(6), 504–528.

Gramlich, John. 2016. Voters' perceptions of crime continue to conflict with reality. https://www.pewresearch.org/fact-tank/2016/11/16/voters-perceptions-of-crime-continue-to-conflict-with-reality/. [Online; accessed 16-May-2019].

Greenberg, Jerald. 2006. Losing sleep over organizational injustice: Attenuating insomniac reactions to underpayment inequity with supervisory training in interactional justice. *Journal of Applied Psychology 91*(1), 58.

Haarr, Robin N.. 2001, 2020/09/25. The making of a community policing officer: The impact of basic training and occupational socialization on police recruits. *Police Quarterly 4*(4), 402–433.

Heimer, Carol A. 1992. Doing your job and helping your friends: Universalistic norms about obligations to particular others in networks. In *Networks and organizations: Structure, form, and action*, pp. 143–164.

Hernandez, Sandra. 2016. Las 10 faltas cívicas de los chilangos. https://www.eluniversal.com.mx/articulo/metropoli/cdmx/2016/12/4/las-10-faltas-civicas-de-los-chilangos. [Online; accessed 04-October-2019].

Hinds, Lyn and Kristina Murphy. 2007. Public satisfaction with police: Using procedural justice to improve police legitimacy. *Australian & New Zealand Journal of Criminology 40*(1), 27–42.

Holtz, Brian C and Crystal M Harold. 2009. Fair today, fair tomorrow? A longitudinal investigation of overall justice perceptions. *Journal of Applied Psychology 94*(5), 1185.

INDEPOL. 2018. Indice de Desarrollo Policial - causa en común. http://causaencomun.org.mx/beta/wp-content/uploads/2018/12/INDEPOL-2018-1.pdf. [Online; accessed 16-May-2019].

INEGI. 2017a. Instituto Nacional de Estadística y Geografía. Banco de información económica - producto interno bruto por entidad federativa, base 2013. https://www.inegi.org.mx/sistemas/bie/?idserPadre=10200070#D10200070. [Online; accessed 16-May-2019].

INEGI. 2017b. Instituto Nacional de Estadística y Geografía. Encuesta nacional de estándares y capacitación profesional policial. https://www.inegi.org.mx/programas/enecap/2017/. [Online; accessed 16-May-2019].

INEGI. 2017c. Instituto Nacional de Estadística y Geografía. Encuesta nacional de victimización y percepción sobre seguridad pública 2010-2017. https://www.inegi.org.mx/temas/percepcion/. [Online; accessed 16-May-2019].

INEGI. 2018a. Instituto Nacional de Estadística y Geografía. Encuesta nacional de victimización y percepción sobre seguridad pública 2011-2018. https://www.inegi.org.mx/programas/envipe/2018/default.html#Tabulados. [Online; accessed 16-May-2019].

INEGI. 2018b. Instituto Nacional de Estadística y Geografía. Encuesta nacional de victimización y percepción sobre seguridad pública 2018: Principales resultados ciudad de méxico. https://www.inegi.org.mx/contenidos/programas/envipe/2018/doc/envipe2018_cdmx.pdf. [Online; accessed 16-May-2019].

Jonathan-Zamir, Tal and David Weisburd. 2013. The effects of security threats on antecedents of police legitimacy: Findings from a quasi-experiment in Israel. *Journal of Research in Crime and Delinquency 50*(1), 3–32.

Judge, Timothy A. and Jason A. Colquitt. 2004. Organizational justice and stress: The mediating role of work-family conflict. *Journal of Applied Psychology 89*(3), 395–404.

Kalev, Alexandra, Frank Dobbin, and Erin Kelly. 2006. Best practices or best guesses? Assessing the efficacy of corporate affirmative action and diversity policies. *American Sociological Review 71*(4), 589–617.

Kirk, David S and Andrew V Papachristos. 2011. Cultural mechanisms and the persistence of neighborhood violence. *American Journal of Sociology 116*(4), 1190–1233.

Lavelle, James J, Deborah E Rupp, Jennifer Manegold, and Meghan A Thornton. 2015. Multifoci justice and target similarity: Emerging research and extensions. *The Oxford Handbook of Justice in Work Organizations*, 165–186.

Li, Yudu, Ling Ren, and Fei Luo. 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.

Lind, E.A. and T.R. Tyler. 1988. *The Social Psychology of Procedural Justice*. Critical Issues in Social Justice. Springer US.

Lind, E. Allan. 2019. *Social Psychology and Justice*. Routledge.

Lind, E Allan, Jerald Greenberg, Kimberly S Scott, and Thomas D Welchans. 2000. The winding road from employee to complainant: Situational and psychological determinants of wrongful-termination claims. *Administrative Science Quarterly 45*(3), 557–590.

Lind, E. Allan and Kees Van den Bos. 2002. When fairness works: Toward a general theory of uncertainty management. *Research in Organizational Behavior 24*, 181—223.

Lipsky, Michael. 2010. *Street-level bureaucracy: Dilemmas of the individual in public service*. Russell Sage Foundation.

Luo, Yadong. 2005. How important are shared perceptions of procedural justice in cooperative alliances? *Academy of Management Journal 48*(4), 695–709.

MacKinnon, James G and Matthew D Webb. 2018. The wild bootstrap for few (treated) clusters. *Econometrics Journal 21*(2), 114–135.

Manning, Peter K. 1978. The police: Mandate, strategies, and appearances. *Policing: A view from the street*, 7–31.

Masterson, Suzanne S.. 2001, Aug. A trickle-down model of organizational justice: Relating employees' and customers' perceptions of and reactions to fairness. *Journal of Applied Psychology 86*(4), 594–604.

Masterson, Suzanne S., Kyle Lewis, Barry M. Goldman, and M. Susan Taylor. 2000. Integrating justice and social exchange: The differing effects of fair procedures and treatment on work relationships. *Academy of Management Journal 43*(4), 738–748.

Mayer, David, Lisa Nishii, Benjamin Schneider, and Harold Goldstein. 2007. The precursors and products of justice climates: Group leader antecedents and employee attitudinal consequences. *Personnel Psychology 60*(4), 929–963.

Mazerolle, Lorraine, Sarah Bennett, Jacqueline Davis, Elise Sargeant, and Matthew Manning. 2013. Procedural justice and police legitimacy: a systematic review of the research evidence. *Journal of Experimental Criminology 9*(3), 245–274.

Meares, Tracey L.. 2017. The path forward: Improving the dynamics of community-police relationships to achieve effective law enforcement policies. *Columbia Law Review 117*(5), 1355–1368.

Murphy, Kristina, Lorraine Mazerolle, and Sarah Bennett. 2014. Promoting trust in police: Findings from a randomised experimental field trial of procedural justice policing. *Policing and Society 24*(4), 405–424.

Nagin, Daniel S and Cody W Telep. 2017. Procedural justice and legal compliance. *Annual Review of Law and Social Science 13*, 5–28.

Patil, Shefali V. 2018. "The public doesn't understand": The self-reinforcing interplay of image discrepancies and political ideologies in law enforcement. *Administrative Science Quarterly 64*(3), 737–769.

Pratt, Michael G., Kevin W. Rockmann, and Jeffrey B. Kaufmann. 2006, 2020/09/25. Constructing professional identity: The role of work and identity learning cycles in the customization of identity among medical residents. *Academy of Management Journal 49*(2), 235–262.

President's Task Force. 2015. Final report of the President's task force on 21st century policing. Office of Community Oriented Policing Services Washington, DC.

Quispe-Torreblanca, Edika G. and Neil Stewart. 2019. Causal peer effects in police misconduct. *Nature Human Behaviour 3*(8), 797–807.

Roodman, David, Morten Ørregaard Nielsen, James G MacKinnon, and Matthew D Webb. 2019. Fast and wild: Bootstrap inference in stata using boottest. *Stata Journal 19*(1), 4–60.

Rosenbaum, Dennis P and Daniel S Lawrence. 2017. Teaching procedural justice and communication skills during police–community encounters: Results of a randomized control trial with police recruits. *Journal of Experimental Criminology 13*(3), 293–319.

Scott, Brent A., Jason A. Colquitt, and E. Layne Paddock. 2009. An actor-focused model of justice rule adherence and violation: The role of managerial motives and discretion. *Journal of Applied Psychology 94*(3), 756–769.

Shekelle, Paul G.. 2013, 2020/09/25. Nurse–patient ratios as a patient safety strategy. *Annals of Internal Medicine 158*(5_Part_2), 404–409.

Silbey, Susan S.. 2011. The sociological citizen: Pragmatic and relational regulation in law and organizations. *Regulation & Governance 5*(1), 1–13.

Skarlicki, Daniel P, Robert Folger, and Paul Tesluk. 1999. Personality as a moderator in the relationship between fairness and retaliation. *Academy of Management Journal 42*(1), 100–108.

Skarlicki, Daniel P and Gary P Latham. 1996. Increasing citizenship behavior within a labor union: A test of organizational justice theory. *Journal of Applied Psychology 81*(2), 161.

Skarlicki, Daniel P and Gary P Latham. 1997. Leadership training in organizational justice to increase citizenship behavior within a labor union: A replication. *Personnel Psychology 50*(3), 617–633.

Skarlicki, Daniel P. and Gary P. Latham. 2005. How can training be used to foster organizational justice? pp. 499–522.

Skarlicki, Daniel P, Danielle D Van Jaarsveld, and David D Walker. 2008. Getting even for customer mistreatment: The role of moral identity in the relationship between customer interpersonal injustice and employee sabotage. *Journal of Applied Psychology 93*(6), 1335.

Skogan, Wesley G. 2006. Asymmetry in the impact of encounters with police. *Policing & Society 16*(2), 99–126.

Skogan, Wesley G, Maarten Van Craen, and Cari Hennessy. 2015. Training police for procedural justice. *Journal of Experimental Criminology 11*(3), 319–334.

Stecher, Brian M., Deborah J. Holtzman, Michael S. Garet, Laura S. Hamilton, John Engberg, Elizabeth D. Steiner, Abby Robyn, Matthew D. Baird, Italo A. Gutierrez, Evan D. Peet, Iliana Brodziak de los Reyes, Kaitlin Fronberg, Gabriel Weinberger, Gerald Paul Hunter, and Jay Chambers. 2018. *Improving teaching effectiveness: Final report: The intensive partnerships for effective teaching through 2015 - 2016*. RAND Corporation.

Sun, Ivan Y, Yuning Wu, Rong Hu, and Ashley K Farmer. 2017. Procedural justice, legitimacy, and public cooperation with police: Does Western wisdom hold in China? *Journal of Research in Crime and Delinquency 54*(4), 454–478.

Tepper, Bennett J, Michelle K Duffy, Christine A Henle, and Lisa Schurer Lambert. 2006. Procedural injustice, victim precipitation, and abusive supervision. *Personnel Psychology 59*(1), 101–123.

Tepper, Bennett J., Christine A. Henle, Lisa Schurer Lambert, Robert A. Giacalone, and Michelle K. Duffy. 2008. Abusive supervision and subordinates' organization deviance. *Journal of Applied Psychology 93*(4), 721–732.

Thibaut, John W and Laurens Walker. 1975. *Procedural justice: A psychological analysis*. L. Erlbaum Associates.

Tice, Dianne M., Roy F. Baumeister, Dikla Shmueli, and Mark Muraven. 2007. Restoring the self: Positive affect helps improve self-regulation following ego depletion. *Journal of Experimental Social Psychology 43*(3), 379 – 384.

Torreblanca, Carolina and Adrián Lara. 2018. Estamos en la época más violenta de la cdmx? https://parentesis.nexos.com.mx/?p=591. [Online; accessed 16-May-2019].

Trinkner, Rick, Tom R Tyler, and Phillip Atiba Goff. 2016. Justice from within: The relations between a procedurally just organizational climate and police organizational efficiency, endorsement of democratic policing, and officer well-being. *Psychology, Public Policy, and Law 22*(2), 158.

Tyler, Tom and Craig Fischer. 2014. Legitimacy and procedural justice: A new element of police leadership. In *Police Executive Research Forum*.

Tyler, Tom R. 2005. Policing in black and white: Ethnic group differences in trust and confidence in the police. *Police Quarterly 8*(3), 322–342.

Tyler, Tom R. 2006. *Why people obey the law*. Princeton University Press.

Tyler, Tom R and Steven L Blader. 2003. The group engagement model: Procedural justice, social identity, and cooperative behavior. *Personality and Social Psychology Review 7*(4), 349–361.

Tyler, Tom R and Yuen Huo. 2002. *Trust in the law: Encouraging public cooperation with the police and courts*. Russell Sage Foundation.

Tyler, Tom R and Jonathan Jackson. 2014. Popular legitimacy and the exercise of legal authority: Motivating compliance, cooperation, and engagement. *Psychology, Public Policy, and Law 20*(1), 78.

Urusquieta Salgado, Ulises. 2011. La relación entre policías y ciudadanos como un factor de inseguridad ciudadana. https://www.animalpolitico.com/proyecto-ciudadania/la-relacion-entre-policias-y-ciudadanos-como-un-factor-de-inseguridad-ciudadana/. [Online; accessed 04-October-2019].

Van den Bos, Kees, Jan Bruins, Henk A. M. Wilke, and Elske Dronkert. 1999. Sometimes unfair procedures have nice aspects: On the psychology of the fair process effect. *Journal of Personality and Social Psychology 77*(2), 324–336.

Van den Bos, Kees, Jaap Ham, E Allan Lind, Marieke Simonis, Wiljo J Van Essen, and Mark Rijpkema. 2008. Justice and the human alarm system: The impact of exclamation points and flashing lights on the justice judgment process. *Journal of Experimental Social Psychology 44*(2), 201–219.

Van den Bos, Kees, Henk AM Wilke, and E Allan Lind. 1998. When do we need procedural fairness? the role of trust in authority. *Journal of Personality and Social Psychology 75*(6), 1449.

Weitzer, Ronald. 2002. Incidents of police misconduct and public opinion. *Journal of Criminal Justice 30*(5), 397–408.

Wheller, Levin, Paul Quinton, Alistair Fildes, and Andy Mills. 2013. The Greater Manchester Police procedural justice training experiment. Coventry, UK: College of Policing.

White, Michael D., Philip Mulvey, and Lisa M. Dario. 2016. Arrestees' perceptions of the police: Exploring procedural justice, legitimacy, and willingness to cooperate with police across offender types. *Criminal Justice and Behavior 43*(3), 343–364.

Wiesenfeld, Batia M, Joel Brockner, and Christopher Martin. 1999. A self-affirmation analysis of survivors' reactions to unfair organizational downsizings. *Journal of Experimental Social Psychology 35*(5), 441–460.

Wiesenfeld, Batia M., Joel Brockner, and Valerie Thibault. 2000. Procedural fairness, managers' self-esteem, and managerial behaviors following a layoff. *Organizational Behavior and Human Decision Processes 83*(1), 1–32.

Wo, David X. H., Maureen L. Ambrose, and Marshall Schminke. 2015, 2020/09/11. What drives trickle-down effects? a test of multiple mediation processes. *Academy of Management Journal 58*(6), 1848–1868.

Wolfe, Scott E., Kyle McLean, Jeff Rojek, Geoffrey P. Alpert, and Michael R. Smith. 2019, 12. Advancing a theory of police officer training motivation and receptivity. *Justice Quarterly*, 1–23.

Wood, George, Daria Roithmayr, and Andrew V. Papachristos. 2019, 2020/09/24. The network structure of police misconduct. *Socius 5*, 2378023119879798.

Worden, Robert E and Sarah J McLean. 2017. *Mirage of police reform: Procedural justice and police legitimacy*. University of California Press.

Zaluar, Alba and Christovam Barcellos. 2013. Mortes prematuras e conflito armado pelo domínio das favelas no Rio de Janeiro. *Revista Brasileira de Ciências Sociais 28*(81), 17–31.

Zizzo, Daniel John. 2010. Experimenter demand effects in economic experiments. *Experimental Economics 13*(1), 75–98.

TABLE 1: SUMMARY STATISTICS AND BALANCE: FULL SAMPLE

	at Baseline		at Endline		at Mystery Shopper	
Variables	Mean Control	Δ Treatment	Mean Control	Δ Treatment	Mean Control	Δ Treatment
Sectors' Characteristics						
Population	121.82	7.39	121.82	7.39	121.64	-3.80
Marginalization	-0.66	-0.06	-0.66	-0.06	-0.75	-0.11
High School	75.05	1.88	75.05	1.88	76.15	2.58
911 Calls	15.38	-1.97	15.38	-1.97	14.11	-0.39
Crimes	0.32	-0.06	0.32	-0.06	0.28	-0.05
Officers' Characteristics						
Female	15.90	-4.61**	15.80	-4.81**	16.59	-7.20**
Age	36.77	-0.21	36.83	0.01	37.65	-1.14
Experience	12.60	-0.61	12.61	-0.46	13.24	-1.27*
College	7.60	-0.85	7.47	-1.04	9.18	-4.78*
Married	72.90	4.03	72.22	4.76	70.79	6.74
Motivation	27.32	1.05	26.85	2.07	30.65	-3.11
Car-Patrol	52.70	-5.50	52.35	-4.35	48.34	-6.82
Public Sector Occupation	10.39	0.06	10.70	-0.10	12.11	-3.36
Extroversion	3.73	0.00	3.75	-0.02	3.85	-0.07
Agreeableness	4.40	0.01	4.40	0.01	4.40	0.01
Conscientiousness	4.49	0.03	4.49	0.03	4.49	-0.01
Emotional Stability	4.43	0.04	4.43	0.04	4.44	0.00
Openness	4.10	0.04	4.09	0.04	4.05	0.01
General Perceptions at Baseline						
Pro-social Attitudes	3.78	0.01	3.78	0.01	3.75	-0.02
Occupational Risk	3.23	-0.03	3.22	-0.02	3.15	-0.03
Satisfaction w/ Job	3.48	0.00	3.50	-0.01	3.46	0.09
Satisfaction w/ Managers	2.44	-0.04	2.45	-0.04	2.40	0.02
Satisfaction w/ Peers	3.20	0.07	3.21	0.07	3.17	0.09
Internal PJ Index	2.31	0.03	2.31	0.05	2.38	-0.01
View of Citizens' Trust	2.82	0.03	2.81	0.04	2.81	0.03
Adherence to Rules	3.80	0.08***	3.80	0.09***	3.77	0.08
Institutional Identification	3.23	0.03	3.24	0.02	3.25	0.00
PJ Perceptions at Baseline						
PJ Index	3.88	0.04	3.88	0.04	3.86	0.06
PJ Neutrality	3.86	0.04	3.87	0.05	3.88	0.03
PJ Respect	3.83	0.04	3.83	0.04	3.79	0.08
PJ Trustworthiness	3.83	0.03	3.83	0.03	3.79	0.05
PJ Voice	4.07	0.07**	4.08	0.06**	4.07	0.08
Joint F-test (p-value)		0.48		0.50		0.23
Attrition						
Officers			8.80	-0.84	76.24	-4.89

Notes: Sample means by experimental group and differences in means between groups at baseline and endline. There were 888 (810) [210] officers in control group and 966 (873) [277] officers in treatment group at baseline (endline) [mystery shopper]. Population indicates sector number of inhabitants (in thousands). Marginalization indicates sectors' marginalization index (it considers dimensions of education, income, housing, and population). High school indicates sector share of population older than 15 years old with a high school diploma. 911 calls refers to sector monthly number of 911 calls per thousand inhabitants. Crimes refers to sector monthly number of reported crimes per thousand inhabitants. Female is equal to 1 if officer gender is female, 0 otherwise. Age indicates officer age in years at baseline. Experience refers to officer tenure in years at baseline. College is equal to 1 if officer has a college degree, 0 otherwise. Married is equal to 1 if officer is married or in domestic partnership, 0 otherwise. Motivation is equal to 1 if officer stated that the main motivation to join the police was to help others, 0 otherwise. Car-patrol is equal to 1 if officer was assigned to a police vehicle unit, 0 otherwise. Extroversion-openness, indicates officer 'big five' personality traits score, from 1 to 5. Pro-social attitudes-institutional identification perception scales range from 1 to 5. Pro-social attitudes measure perceptions of social attitudes towards the community. Occupational risk measures perceptions of frequency of life-threatening and stressful situations on the job. Satisfaction with job measures perceptions of satisfaction with the police career, with managers and the SSC. Satisfaction with managers measures perceptions of managers' adoption of procedural justice principles in their interactions with their staff and trust in their decisions. Satisfaction with peers measures perceptions of confidence on peers' behavior and honesty. Internal procedural justice index measures perceptions of fairness in institutional decision-making and transparency. View of citizens' trust measures perceptions about the trust that citizens have in the police. Adherence to rules measures behavioral intentions regarding rules compliance. Institutional identification measures perceptions of identification with the police as a collective and interdependent force. PJ index-PJ voice perception scales range from 1 to 5, and measure the four procedural justice principles, and a general procedural justice index constructed as a mean score of statements of the four principles. Joint significance F test p-value, and follow-up survey attrition rate. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$ based on wild bootstrap p-values with 2,000 replications clustered at the sector level.

TABLE 2: TOT TRAINING EFFECTS: GENERAL PROCEDURAL JUSTICE INDEX PERCEPTION

	Officers' Perception				
	(1)	(2)	(3)	(4)	(5)
LHS Variable	PJ Index	PJ Index	PJ Index	PJ Index	PJ Index
Training	0.1899***	0.1822***	0.1814***	0.1799***	0.1918***
	(0.0252)	(0.0258)	(0.0237)	(0.0232)	(0.0229)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Observations	1,661	1,650	1,650	1,246	1,168
Baseline DV	Yes	Yes	Yes	Yes	Yes
Unbalance Baseline	No	Yes	Yes	Yes	Yes
Sector Controls	No	No	Yes	Yes	Yes
Officer Controls	No	No	No	Yes	Yes
Perceptions Controls	No	No	No	No	Yes
Clusters (Sectors)	60	60	60	60	60
Mean Control	3.976	3.977	3.977	3.995	3.990

Notes: 2SLS estimation results. The dependent variable is the general procedural justice index perception and can take the values 1 to 5. Training is a dummy that takes the value of 1 if the police officer attended the procedural justice training, 0 otherwise. This last variable is instrumented with treatment assignment. Baseline DV indicates whether the outcome variable at baseline is included in the regression. Unbalance baseline indicates whether the variables—at baseline—female, adherence to rules, and pj voice are included in the regression. Sector controls indicate whether the variables—at baseline—population, marginalization, high school, 911 calls, and crimes are included in the regression. Officer controls indicate whether the variables—at baseline—age, experience, college, married, motivation, car-patrol, public sector occupation, extroversion, agreeableness, conscientiousness, emotional stability, and openness are included in the regression. Perception controls indicate whether the variables—at baseline—pro-social attitudes, occupational risk, satisfaction with job, satisfaction with managers, satisfaction with peers, internal pj index, view of citizens' trust, and institutional identification are included in the regression. Robust standard errors clustered at the sector level are in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Wild bootstrap p-values with 2,000 replications of $Training = 0$ clustered at the sector level are in squared brackets.

TABLE 3: TOT TRAINING EFFECTS: PROCEDURAL JUSTICE PRINCIPLES PERCEPTION

	Officers' Perception			
	(1)	(2)	(3)	(4)
LHS Variable	PJ Neutrality	PJ Respect	PJ Trustw	PJ Voice
Training	0.1974***	0.1672***	0.1917***	0.1595***
	(0.0293)	(0.0258)	(0.0305)	(0.0297)
	[0.000]	[0.000]	[0.000]	[0.000]
Observations	1,652	1,653	1,649	1,652
Baseline DV	Yes	Yes	Yes	Yes
Unbalance Baseline	Yes	Yes	Yes	Yes
Sector Controls	No	No	No	No
Officer Controls	No	No	No	No
Perceptions Controls	No	No	No	No
Clusters (Sectors)	60	60	60	60
Mean Control	3.987	3.978	3.918	4.111

Notes: 2SLS estimation results. The dependent variables are the four principles of procedural justice perception and can take the values 1 to 5. Training is a dummy that takes the value of 1 if the police officer attended the procedural justice training, 0 otherwise. This last variable is instrumented with treatment assignment. Baseline DV indicates whether the outcome variable at baseline is included in the regression. Unbalance baseline indicates whether the variables—at baseline—female, adherence to rules, and pj voice are included in the regression. Sector controls indicate whether the variables—at baseline—population, marginalization, high school, 911 calls, and crimes are included in the regression. Officer controls indicate whether the variables—at baseline—age, experience, college, married, motivation, car-patrol, public sector occupation, extroversion, agreeableness, conscientiousness, emotional stability, and openness are included in the regression. Perception controls indicate whether the variables—at baseline—pro-social attitudes, occupational risk, satisfaction with job, satisfaction with managers, satisfaction with peers, internal pj index, view of citizens' trust, and institutional identification are included in the regression. Robust standard errors clustered at the sector level are in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Wild bootstrap p-values with 2,000 replications of $Training = 0$ clustered at the sector level are in squared brackets.

TABLE 4: TOT TRAINING EFFECTS: PROCEDURAL JUSTICE CONCEPTUAL KNOWLEDGE

	Officers' Knowledge				
	(1)	(2)	(3)	(4)	(5)
LHS Variable	PJ Concepts	PJ Concepts	PJ Concepts	PJ Concepts	PJ Concepts
Training	1.4799***	1.4734***	1.4628***	1.6196***	1.6109***
	(0.1756)	(0.1694)	(0.1756)	(0.1871)	(0.2008)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Observations	931	889	889	673	627
Baseline DV	No	No	No	No	No
Unbalance Baseline	No	Yes	Yes	Yes	Yes
Sector Controls	No	No	Yes	Yes	Yes
Officer Controls	No	No	No	Yes	Yes
Perceptions Controls	No	No	No	No	Yes
Clusters (Sectors)	58	57	57	55	55
Mean Control	6.241	6.219	6.219	6.347	6.326

Notes: 2SLS estimation results. The dependent variable is an indicator that groups 12 questions about procedural justice concepts, which takes the values 0 to 12 depending on the number of correct answers given by the officer. Training is a dummy that takes the value of 1 if the police officer attended the procedural justice training, 0 otherwise. This last variable is instrumented with treatment assignment. Baseline DV indicates whether the outcome variable at baseline is included in the regression. Unbalance baseline indicates whether the variables—at baseline—female, married adherence to rules, pj index, pj neutrality, pj respect, and pj voice are included in the regression. Sector controls indicate whether the variables—at baseline—population, marginalization, high school, 911 calls, and crimes are included in the regression. Officer controls indicate whether the variables—at baseline—age, experience, college, motivation, car-patrol, public sector occupation, extroversion, agreeableness, conscientiousness, emotional stability, and openness are included in the regression. Perception controls indicate whether the variables—at baseline—pro-social attitudes, occupational risk, satisfaction with job, satisfaction with managers, satisfaction with peers, internal pj index, view of citizens' trust, and institutional identification are included in the regression. Robust standard errors clustered at the sector level are in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Wild bootstrap p-values with 2,000 replications of $Training = 0$ clustered at the sector level are in squared brackets.

TABLE 5: TOT TRAINING EFFECTS - OBSERVERS SURVEY: GENERAL PROCEDURAL JUSTICE INDEX BEHAVIOR

	Officers' Behavior				
	(1)	(2)	(3)	(4)	(5)
LHS Variable	PJ Index	PJ Index	PJ Index	PJ Index	PJ Index
Training	0.1010**	0.1006**	0.1005**	0.0842*	0.1013*
	(0.0461)	(0.0466)	(0.0490)	(0.0497)	(0.0546)
	[0.034]	[0.038]	[0.048]	[0.105]	[0.091]
Observations	478	474	465	465	465
Baseline PJ Index Perception	No	Yes	Yes	Yes	Yes
Unbalance Baseline	No	No	Yes	Yes	Yes
Sector Controls	No	No	No	Yes	Yes
Interaction Controls	No	No	No	No	Yes
Clusters (Sectors X Observers)	206	206	202	202	202
Mean Control	2.461	2.460	2.452	2.452	2.452

Notes: 2SLS estimation results based on observers' assessments. The dependent variable is the general procedural justice index behavior and can take the values 0 to 4.25. Training is a dummy that takes the value of 1 if the police officer attended the procedural justice training, 0 otherwise. This last variable is instrumented with treatment assignment. Baseline pj index perception indicates whether the general procedural justice index of officers' perceptions at baseline is included in the regression. Unbalance baseline indicates whether the variables—at baseline—female, age, and college are included in the regression. Sector controls indicate whether the variables—at baseline—population, marginalization, high school, 911 calls, and crimes are included in the regression. Interaction controls indicate whether the regression includes indicators for the scenario simulated—suspicious person or administrative misconduct, the field staff involved in each interaction, month and day of the week of the interaction, whether the interaction was completed during the morning or the afternoon, and whether the observers consider that the interaction was implemented as planned (i.e. the script was followed appropriately). Robust standard errors clustered at the sector by observers level are in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Wild bootstrap p-values with 2,000 replications of $Training = 0$ clustered at the sector by observers level are in squared brackets.

TABLE 6: TRAINING EFFECTS:
GENERAL PROCEDURAL JUSTICE INDEX - PERCEPTION AND BEHAVIOR

	Officers' Behavior				
	(1)	(2)	(3)	(4)	(5)
LHS Variable	PJ Index	PJ Index	PJ Index	PJ Index	PJ Index
PJ Index - Officers' Perception	0.4525**	0.5275**	0.5506**	0.4565*	0.5274*
	(0.2054)	(0.2358)	(0.2616)	(0.2453)	(0.2692)
	[0.014]	[0.013]	[0.025]	[0.052]	[0.052]
Observations	464	461	453	453	453
Baseline PJ Index Perception	No	Yes	Yes	Yes	Yes
Unbalance Baseline	No	No	Yes	Yes	Yes
Sector Controls	No	No	No	Yes	Yes
Interaction Controls	No	No	No	No	Yes
Clusters (Sectors + Actors)	200	200	197	197	197
Mean Control	2.446	2.445	2.440	2.440	2.440

Notes: 2SLS estimation results based on observers' assessments. The dependent variable is the general procedural justice index behavior and can take the values 0 to 4.25. PJ Index - Officers' Perception is the general procedural justice index of officers' perceptions at endline and can take the values 1 to 5. This last variable is instrumented with treatment assignment. Baseline pj index perception indicates whether the general procedural justice index of officers' perceptions at baseline is included in the regression. Unbalance baseline indicates whether the variables—at baseline—female, age, and college are included in the regression. Sector controls indicate whether the variables—at baseline—population, marginalization, high school, 911 calls, and crimes are included in the regression. Interaction controls indicate whether the regression includes indicators for the scenario simulated—suspicious person or administrative misconduct, the field staff involved in each interaction, month and day of the week of the interaction, whether the interaction was completed during the morning or the afternoon, and whether the observers consider that the interaction was implemented as planned (i.e. the script was followed appropriately). Robust standard errors clustered at the sector by observers level are in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Wild bootstrap p-values with 2,000 replications of $PJIndex - Officers'Perception = 0$ clustered at the sector by observers level are in squared brackets.

TABLE 7: TOT TRAINING EFFECTS WITH MANAGERS: GENERAL PROCEDURAL JUSTICE INDEX PERCEPTION AND ITS PRINCIPLES

	Officers' Perception				
	(1)	(2)	(3)	(4)	(5)
LHS Variable	PJ Index	PJ Neutrality	PJ Respect	PJ Trustw	PJ Voice
(1) Training without Managers	0.1588***	0.1658***	0.1596***	0.1648***	0.1599***
	(0.0321)	(0.0327)	(0.0319)	(0.0359)	(0.0408)
	[0.001]	[0.000]	[0.000]	[0.001]	[0.000]
(2) Training with Managers	0.2031***	0.2256***	0.1740***	0.2156***	0.1593***
	(0.0269)	(0.0335)	(0.0289)	(0.0334)	(0.0290)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.006]
Wild Bootstrap P-value (1)=(2)	0.209	0.093	0.714	0.207	0.989
Observations	1,650	1,652	1,653	1,649	1,652
Baseline DV	Yes	Yes	Yes	Yes	Yes
Unbalance Baseline	Yes	Yes	Yes	Yes	Yes
Sector Controls	No	No	No	No	No
Officer Controls	No	No	No	No	No
Perceptions Controls	No	No	No	No	No
Clusters (Sectors)	60	60	60	60	60
Mean Control	3.977	3.987	3.978	3.918	4.111

Notes: 2SLS estimation results. The dependent variables are the general procedural justice index perception (can take the values 1 to 5), and the four principles of procedural justice perception (can take the values 1 to 5). Training is a variable that takes the value of 1 if the police officer attended the procedural justice training and filled the endline survey without having the manager trained (*Training without Managers*), takes the value of 2 if the police officer attended the procedural justice training and filled the endline survey having the manager trained (*Training with Managers*), and 0 otherwise. This last variable is instrumented with treatment assignment. P-value (1)=(2) presents the wild bootstrap p-value with 2,000 replications of the test of equality of the coefficients *Training without Managers* and *Training with Managers*. Baseline DV indicates whether the outcome variable at baseline is included in the regression. Unbalance baseline indicates whether the variables—at baseline—female, adherence to rules, and pj voice are included in the regression. Sector controls indicate whether the variables—at baseline—population, marginalization, high school, 911 calls, and crimes are included in the regression. Officer controls indicate whether the variables—at baseline—age, experience, college, married, motivation, car-patrol, public sector occupation, extroversion, agreeableness, conscientiousness, emotional stability, and openness are included in the regression. Perception controls indicate whether the variables—at baseline—pro-social attitudes, occupational risk, satisfaction with job, satisfaction with managers, satisfaction with peers, internal pj index, view of citizens' trust, and institutional identification are included in the regression. Robust standard errors clustered at the sector level are in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Wild bootstrap p-values with 2,000 replications of $Training = 0$ clustered at the sector level are in squared brackets.

FIGURE 1: PROCEDURAL JUSTICE TRAINING: EXPERIMENTAL SECTORS

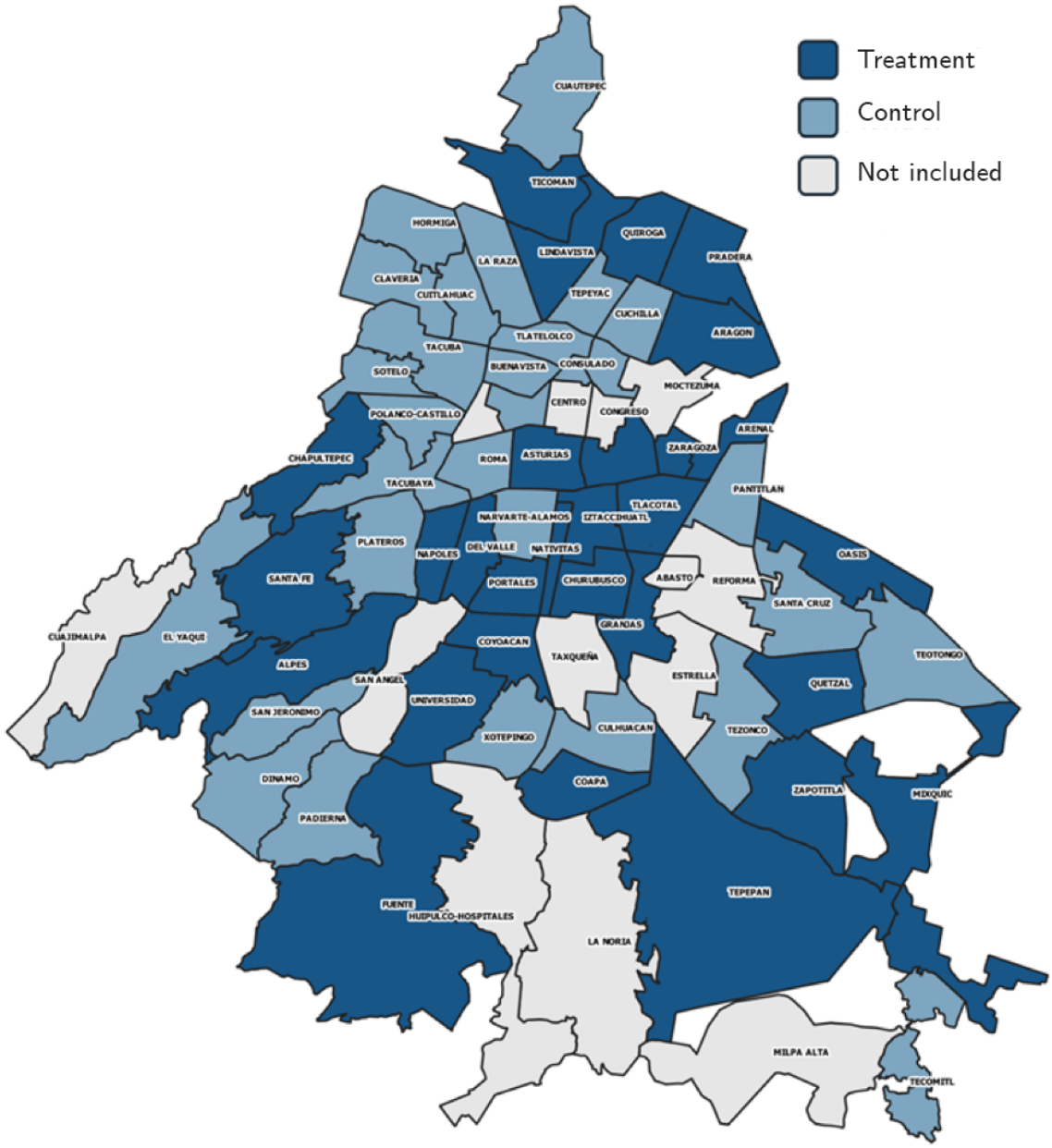


FIGURE 2: PROCEDURAL JUSTICE TRAINING: MODULES CONTENT

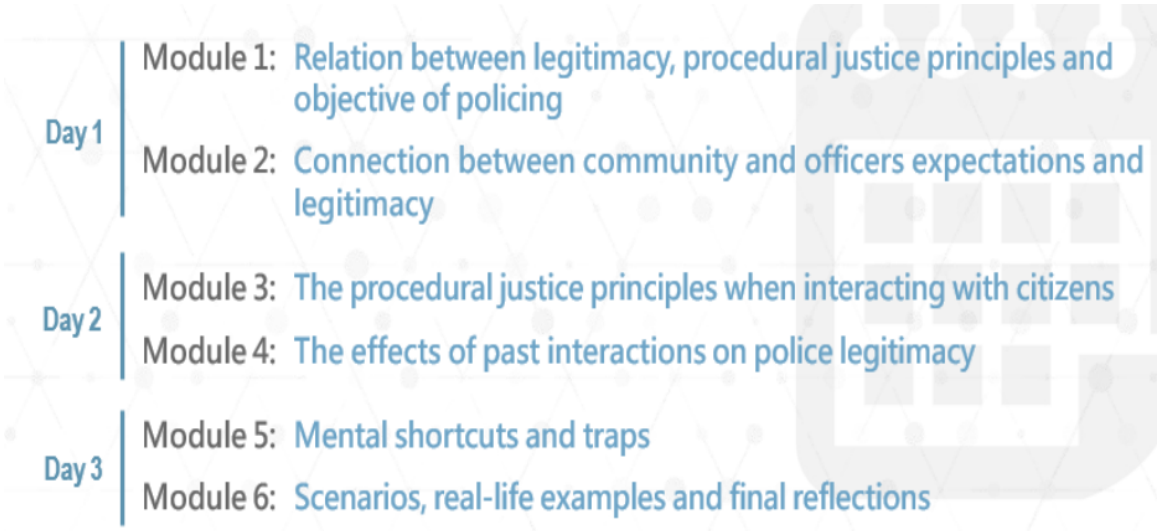
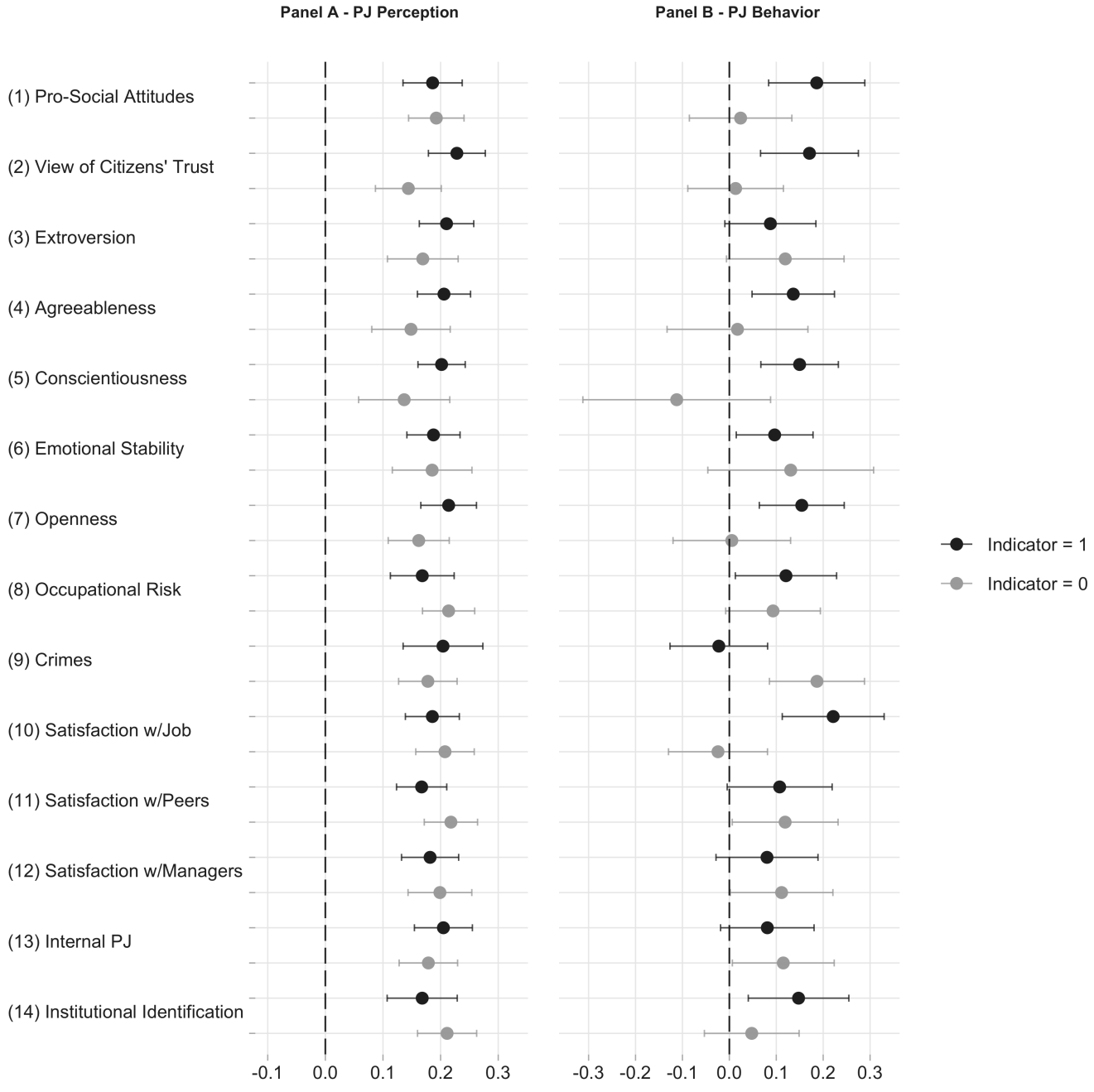


FIGURE 3: PROCEDURAL JUSTICE TRAINING: BROCHURE

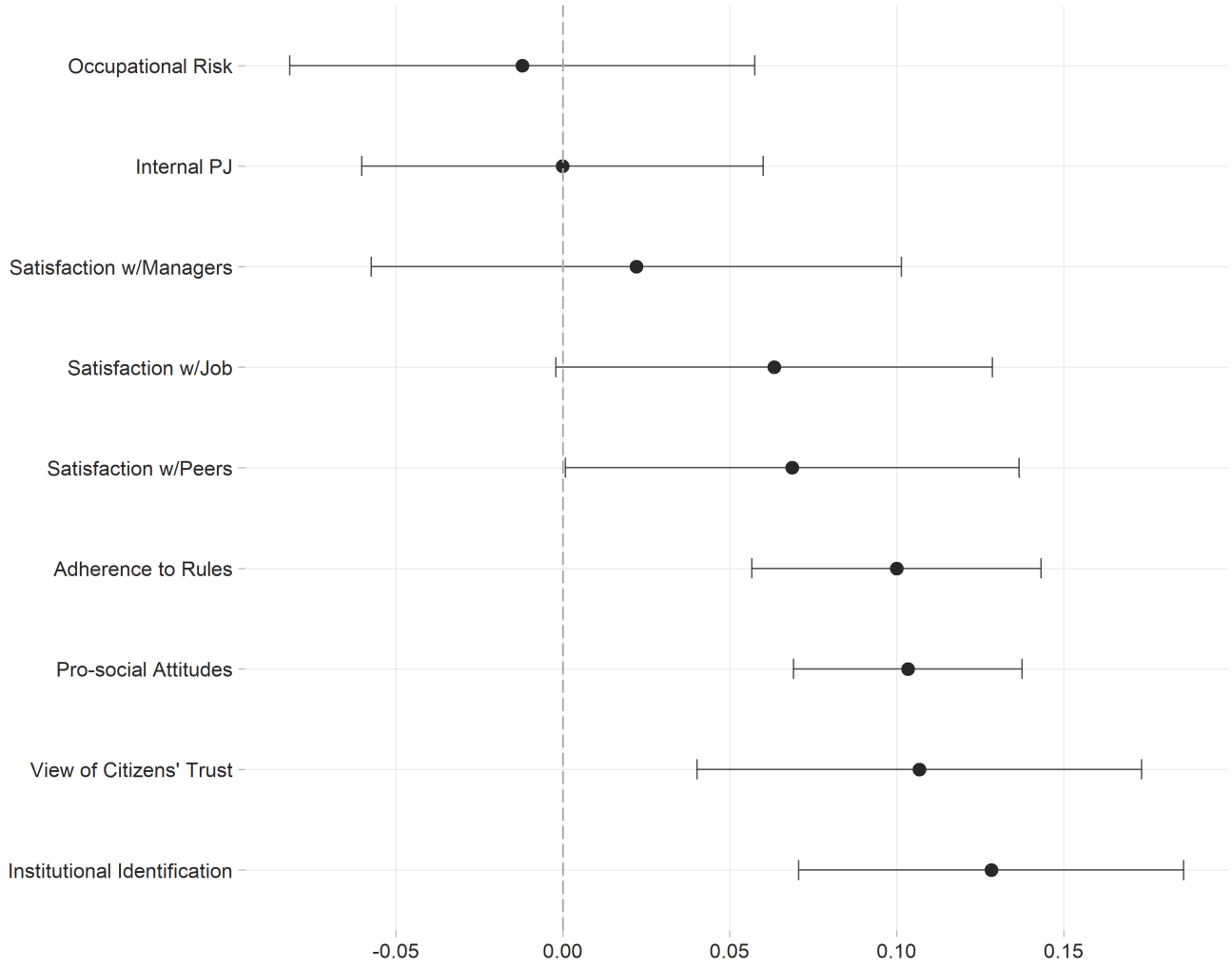
FIGURE 4: PROCEDURAL JUSTICE TRAINING: POCKET CARD

FIGURE 5: TOT TRAINING EFFECTS - HETEROGENEITIES: GENERAL PROCEDURAL JUSTICE INDEX PERCEPTION AND BEHAVIOR



Notes: 2SLS estimation results, where training participation is instrumented with treatment assignment. In Panel A, the dependent variable is the general procedural justice index perception and can take the values 1 to 5. In Panel B, the dependent variables is the general procedural justice index behavior and can take the values 0 to 4.25. This last variable is based on observers' assessments. In each row, we run separate regressions by indicators of officers' perspectives and characteristics at baseline. In color black are illustrated the estimates when the indicators are equal to 1 (i.e. above the median for continuous variables), and in color gray are illustrated the estimates when the indicators are equal to 0 (i.e. below the median for continuous variables). All regressions include the general procedural justice index of officers' perceptions at baseline. 90% confidence intervals indicated around the point estimates based on robust standard errors clustered at the sector level (Panel A), and at the sector by observers level (Panel B).

FIGURE 6: TOT TRAINING EFFECTS: OTHER PERCEPTIONS



Notes: 2SLS estimation results, where training participation is instrumented with treatment assignment. The dependent variables are officer perceptions and can take the values 1 to 5. Pro-social attitudes measure perceptions of social attitudes towards the community. Occupational risk measures perceptions of frequency of life-threatening and stressful situations on the job. Satisfaction with job measures perceptions of satisfaction with the police career, with managers and the SSC. Satisfaction with managers measures perceptions of managers' adoption of procedural justice principles in their interactions with their staff and trust in their decisions. Satisfaction with peers measures perceptions of trust on peers' job and honesty. Internal procedural justice measures perceptions of fairness in institutional decision-making and transparency. View of citizens' trust measures perceptions about the trust that citizens have in the police. Adherence to rules measures behavioral intentions regarding rule compliance. Institutional identification measures perceptions of identification with the police as a collective and interdependent force. All regressions include the outcome variable at baseline and unbalanced variables at baseline. 90% confidence intervals based on robust standard errors clustered at the sector level indicated around the point estimates.

TABLE A.1: PROBABILITY OF TRAINING PARTICIPATION

LHS Variable	(1) Training
Treatment Assignment	0.8934***
	(0.0105)
Observations	1,854
Clusters (Sectors)	60
Mean Control	0.000

Notes: OLS estimation results. The dependent variable is a dummy that takes the value of 1 if the police officer attended the procedural justice training, 0 otherwise. Treatment assignment is a dummy that takes the value of 1 if the police officer was assigned to the treatment group, 0 otherwise. Robust standard errors clustered at the sector level are in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

TABLE A.2: SCALES INTERNAL RELIABILITY COEFFICIENTS: CRONBACH'S ALPHA

		Cronbach's Alpha	
Variables	N Items	Baseline	Endline
General Perceptions			
Pro-social Attitudes	16	0.87	0.90
Occupational Risk	4	0.81	0.81
Satisfaction w/ Job	6	0.86	0.85
Satisfaction w/ Managers	12	0.95	0.97
Satisfaction w/ Peers	4	0.85	0.89
Internal PJ Index	4	0.90	0.89
View of Citizens' Trust	5	0.77	0.77
Adherence to Rules	5	0.70	0.75
Institutional Identification	4	0.80	0.78
PJ Perceptions			
PJ Index	18	0.83	0.91
PJ Neutrality	4	0.67	0.75
PJ Respect	7	0.62	0.78
PJ Trustworthiness	8	0.72	0.82
PJ Voice	4	0.70	0.79

Notes: Scale reliability coefficients and the number of items in each scale are reported. All scales can range from 1 to 5. Pro-social attitudes measure perceptions of social attitudes towards the community. Occupational risk measures perceptions of frequency of life-threatening and stressful situations on the job. Satisfaction with job measures perceptions of satisfaction with the police career, with managers and the SSC. Satisfaction with managers measures perceptions of managers' adoption of procedural justice principles in their interactions with their staff and trust in their decisions. Satisfaction with peers measures perceptions of confidence on peers' behavior and honesty. Internal procedural justice index measures perceptions of fairness in institutional decision-making and transparency. View of citizens' trust measures perceptions about the trust that citizens have in the police. Adherence to rules measures behavioral intentions regarding rules compliance. Institutional identification measures perceptions of identification with the police as a collective and interdependent force. PJ index measures a general procedural justice index. PJ neutrality-PJ voice measure the four procedural justice principles.

TABLE A.3: ITT TRAINING EFFECTS: GENERAL PROCEDURAL JUSTICE INDEX PERCEPTION

	Officers' Perception				
	(1)	(2)	(3)	(4)	(5)
LHS Variable	PJ Index	PJ Index	PJ Index	PJ Index	PJ Index
Treatment Assignment	0.1808***	0.1734***	0.1725***	0.1710***	0.1822***
	(0.0244)	(0.0249)	(0.0231)	(0.0227)	(0.0226)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Observations	1,661	1,650	1,650	1,246	1,168
Baseline DV	Yes	Yes	Yes	Yes	Yes
Unbalance Baseline	No	Yes	Yes	Yes	Yes
Sector Controls	No	No	Yes	Yes	Yes
Officer Controls	No	No	No	Yes	Yes
Perceptions Controls	No	No	No	No	Yes
Clusters (Sectors)	60	60	60	60	60
Mean Control	3.976	3.977	3.977	3.995	3.990

Notes: OLS estimation results. The dependent variable is the general procedural justice index perception and can take the values 1 to 5. Treatment assignment is a dummy that takes the value of 1 if the police officer was assigned to the treatment group, 0 otherwise. Baseline DV indicates whether the outcome variable at baseline is included in the regression. Unbalance baseline indicates whether the variables—at baseline—female, adherence to rules, and pj voice are included in the regression. Sector controls indicate whether the variables—at baseline—population, marginalization, high school, 911 calls, and crimes are included in the regression. Officer controls indicate whether the variables—at baseline—age, experience, college, married, motivation, car-patrol, public sector occupation, extroversion, agreeableness, conscientiousness, emotional stability, and openness are included in the regression. Perception controls indicate whether the variables—at baseline—pro-social attitudes, occupational risk, satisfaction with job, satisfaction with managers, satisfaction with peers, internal pj index, view of citizens' trust, and institutional identification are included in the regression. Robust standard errors clustered at the sector level are in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Wild bootstrap p-values with 2,000 replications of $TreatmentAssignment = 0$ clustered at the sector level are in squared brackets.

TABLE A.4: TOT TRAINING EFFECTS: GENERAL PROCEDURAL JUSTICE INDEX PERCEPTION - CONSTANT SAMPLE

	Officers' Perception				
	(1)	(2)	(3)	(4)	(5)
LHS Variable	PJ Index	PJ Index	PJ Index	PJ Index	PJ Index
Training	0.1967***	0.1886***	0.1893***	0.1901***	0.1918***
	(0.0280)	(0.0274)	(0.0232)	(0.0238)	(0.0229)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Observations	1,168	1,168	1,168	1,168	1,168
Baseline DV	Yes	Yes	Yes	Yes	Yes
Unbalance Baseline	No	Yes	Yes	Yes	Yes
Sector Controls	No	No	Yes	Yes	Yes
Officer Controls	No	No	No	Yes	Yes
Perceptions Controls	No	No	No	No	Yes
Clusters (Sectors)	60	60	60	60	60
Mean Control	3.990	3.990	3.990	3.990	3.990

Notes: 2SLS estimation results restricting the sample to observations with no missing values in the control variables. The dependent variable is the general procedural justice index perception and can take the values 1 to 5. Training is a dummy that takes the value of 1 if the police officer attended the procedural justice training, 0 otherwise. This last variable is instrumented with treatment assignment. Baseline DV indicates whether the outcome variable at baseline is included in the regression. Unbalance baseline indicates whether the variables—at baseline—female, adherence to rules, and pj voice are included in the regression. Sector controls indicate whether the variables—at baseline—population, marginalization, high school, 911 calls, and crimes are included in the regression. Officer controls indicate whether the variables—at baseline—age, experience, college, married, motivation, car-patrol, public sector occupation, extroversion, agreeableness, conscientiousness, emotional stability, and openness are included in the regression. Perception controls indicate whether the variables—at baseline—pro-social attitudes, occupational risk, satisfaction with job, satisfaction with managers, satisfaction with peers, internal pj index, view of citizens' trust, and institutional identification are included in the regression. Robust standard errors clustered at the sector level are in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Wild bootstrap p-values with 2,000 replications of $Training = 0$ clustered at the sector level are in squared brackets.

TABLE A.5: ITT TRAINING EFFECTS: PROCEDURAL JUSTICE PRINCIPLES PERCEPTION

	Officers' Perception			
	(1)	(2)	(3)	(4)
LHS Variable	PJ Neutrality	PJ Respect	PJ Trustw	PJ Voice
Treatment Assignment	0.1879***	0.1591***	0.1824***	0.1520***
	(0.0282)	(0.0249)	(0.0295)	(0.0284)
	[0.000]	[0.000]	[0.000]	[0.000]
Observations	1,652	1,653	1,649	1,652
Baseline DV	Yes	Yes	Yes	Yes
Unbalance Baseline	Yes	Yes	Yes	Yes
Sector Controls	No	No	No	No
Officer Controls	No	No	No	No
Perceptions Controls	No	No	No	No
Clusters (Sectors)	60	60	60	60
Mean Control	3.987	3.978	3.918	4.111

Notes: OLS estimation results. The dependent variables are the four principles of procedural justice perception and can take the values 1 to 5. Treatment assignment is a dummy that takes the value of 1 if the police officer was assigned to the treatment group, 0 otherwise. Baseline DV indicates whether the outcome variable at baseline is included in the regression. Unbalance baseline indicates whether the variables—at baseline—female, adherence to rules, and pj voice are included in the regression. Sector controls indicate whether the variables—at baseline—population, marginalization, high school, 911 calls, and crimes are included in the regression. Officer controls indicate whether the variables—at baseline—age, experience, college, married, motivation, car-patrol, public sector occupation, extroversion, agreeableness, conscientiousness, emotional stability, and openness are included in the regression. Perception controls indicate whether the variables—at baseline—pro-social attitudes, occupational risk, satisfaction with job, satisfaction with managers, satisfaction with peers, internal pj index, view of citizens' trust, and institutional identification are included in the regression. Robust standard errors clustered at the sector level are in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Wild bootstrap p-values with 2,000 replications of $TreatmentAssignment = 0$ clustered at the sector level are in squared brackets.

TABLE A.6: SUMMARY STATISTICS AND BALANCE: PROCEDURAL JUSTICE CONCEPTUAL KNOWLEDGE SUB-SAMPLE

	at Endline	
Variables	Mean Control	Δ Treatment
Sectors' Characteristics		
Population	123.15	6.21
Marginalization	-0.66	-0.06
High School	75.03	2.10
911 Calls	15.61	-2.11
Crimes	0.33	-0.07
Officers' Characteristics		
Female	21.29	-8.57***
Age	36.52	-0.07
Experience	12.60	-0.82
College	9.74	-2.62
Married	66.86	8.73**
Motivation	27.12	-0.13
Car-Patrol	46.78	-3.57
Public Sector Occupation	9.18	-0.27
Extroversion	3.72	-0.03
Agreeableness	4.39	0.01
Conscientiousness	4.49	0.02
Emotional Stability	4.40	0.05
Openness	4.08	0.04
General Perceptions at Baseline		
Pro-social Attitudes	3.78	0.02
Occupational Risk	3.18	0.05
Satisfaction w/ Job	3.47	-0.04
Satisfaction w/ Managers	2.39	-0.03
Satisfaction w/ Peers	3.14	0.11
Internal PJ Index	2.30	-0.02
View of Citizens' Trust	2.82	0.00
Adherence to Rules	3.76	0.10**
Institutional Identification	3.21	0.03
PJ Perceptions at Baseline		
PJ Index	3.86	0.06*
PJ Neutrality	3.81	0.09**
PJ Respect	3.80	0.07*
PJ Trustworthiness	3.82	0.04
PJ Voice	4.08	0.07**
Joint F-test (p-value)		0.50
Attrition		
Officers	59.80	-19.22***

Notes: Sample means by experimental group and differences in means between groups, for the sub-sample of officers that were asked procedural justice conceptual questions at endline. This sub-sample consists of 357 officers in control group and 574 officers in treatment group. Population indicates sector number of inhabitants (in thousands). Marginalization indicates sectors' marginalization index (it considers dimensions of education, income, housing, and population). High school indicates sector share of population older than 15 years old with a high school diploma. 911 calls refers to sector monthly number of 911 calls per thousand inhabitants. Crimes refers to sector monthly number of reported crimes per thousand inhabitants. Female is equal to 1 if officer gender is female, 0 otherwise. Age indicates officer age in years at baseline. Experience refers to officer tenure in years at baseline. College is equal to 1 if officer has a college degree, 0 otherwise. Married is equal to 1 if officer is married or in domestic partnership, 0 otherwise. Motivation is equal to 1 if officer stated that the main motivation to join the police was to help others, 0 otherwise. Car-patrol is equal to 1 if officer was assigned to a police vehicle unit, 0 otherwise. Extroversion-openness, indicates officer 'big five' personality traits score, from 1 to 5. Pro-social attitudes-institutional identification perception scales range from 1 to 5. Pro-social attitudes measure perceptions of social attitudes towards the community. Occupational risk measures perceptions of frequency of life-threatening and stressful situations on the job. Satisfaction with job measures perceptions of satisfaction with the police career, with managers and the SSC. Satisfaction with managers measures perceptions of managers' adoption of procedural justice principles in their interactions with their staff and trust in their decisions. Satisfaction with peers measures perceptions of confidence on peers' behavior and honesty. Internal procedural justice index measures perceptions of fairness in institutional decision-making and transparency. View of citizens' trust measures perceptions about the trust that citizens have in the police. Adherence to rules measures behavioral intentions regarding rules compliance. Institutional identification measures perceptions of identification with the police as a collective and interdependent force. PJ index-PJ voice perception scales range from 1 to 5, and measure the four procedural justice principles, and a general procedural justice index constructed as a mean score of statements of the four principles. Joint significance F test p-value, and follow-up survey attrition rate. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$ based on wild bootstrap p-values with 2,000 replications clustered at the sector level.

B Survey Items - Perceptions

Please indicate how much you agree with the following statements

a) not at all; b) a little; c) indifferent; d) somewhat; e) a lot; f) prefer not to answer

PJ Index

(1) When interacting with citizens, it is important to show interest in what they have to say
(2) An officer should demonstrate that he or she cares about citizen problems
(3) An officer should allow citizens to express themselves, even if they are just complaining about their problems
(4) When interacting with citizens, it is important to show them that they are being listened to carefully (e.g. looking into the eyes and nodding as they speak)
(5) All citizens deserve an explanation for their arrest, regardless of whether they acted correctly or not
(6) It is important for an officer to gain people's sympathy when interacting with them
(7) When interacting with citizens, taking their feelings into consideration is important
(8) The police must work with local community members to resolve problems
(9) After interacting with a citizen, a police officer must always explain to the citizen the process to follow
(10) Explaining why a decision was made can prevent a situation from worsening
(11) It is important that the police explain to the citizen their options
(12) A police officer should stand to explain his or her actions to a citizen
(13) The police must respond to issues citizens consider important, even if they are minor ones
(14) Citizens deserve to be treated with respect, even when they break the law
(15) When interacting with a citizen, an officer must call the citizen by his or her name
(16) All citizens deserve equal treatment, regardless of their behavior
(17) Police must treat all citizens the same way when interacting with them
(18) I always try to treat citizens in the same way whether they are respectful towards me or not

PJ Neutrality

(1) All citizens deserve equal treatment, regardless of their behavior
(2) Citizens deserve to be treated with respect, even when they break the law
(3) Police must treat all citizens the same way when interacting with them
(4) I always try to treat citizens in the same way whether they are respectful towards me or not

PJ Respect

(1) When interacting with citizens, it is important to show interest in what they have to say
(2) An officer should demonstrate that he or she cares about citizen problems
(3) The police must respond to issues citizens consider important, even if they are minor ones
(4) All citizens deserve an explanation for their arrest, regardless of whether they acted correctly or not
(5) Citizens deserve to be treated with respect, even when they break the law
(6) When interacting with citizens, taking their feelings into consideration is important
(7) When interacting with a citizen, an officer must call the citizen by his or her name

PJ Trustworthiness

(1) All citizens deserve an explanation for their arrest, regardless of whether they acted correctly or not
(2) It is important for an officer to gain people's sympathy when interacting with them
(3) When interacting with citizens, taking their feelings into consideration is important
(4) The police must work with local community members to resolve problems
(5) After interacting with a citizen, a police officer must always explain to the citizen the process to follow
(6) Explaining why a decision was made can prevent a situation from worsening
(7) It is important that the police explain to the citizen their options
(8) A police officer should stand to explain his or her actions to a citizen

PJ Voice

(1) When interacting with citizens, it is important to show interest in what they have to say
(2) An officer should demonstrate that he or she cares about citizen problems
(3) An officer should allow citizens to express themselves, even if they are just complaining about their problems

(4) When interacting with citizens, it is important to show them that they are being listened to carefully (e.g. looking into the eyes and nodding as they speak)

Pro-Social Attitudes
(1) I admire people who initiate or participate in activities that support the community
(2) It is important to contribute to activities that address social problems
(3) Having meaningful and useful public services is important to me
(4) It is important to contribute to the common good
(5) It is very important that everyone have the same opportunities
(6) It is important that public utilities (such as light, water, and security) be reliable for citizens
(7) When developing public programs and policies, it is important that future generations' interests be considered
(8) Acting honestly is essential for public officials
(9) I worry about the plight of the most disadvantaged
(10) I identify with people facing difficulties
(11) I get very upset when I see other people being treated unfairly
(12) Considering the well-being of others is very important
(13) I am willing to make great sacrifices for the good of the community
(14) I believe in putting civil duty before personal interests
(15) I am willing to take personal risks for the good of the community
(16) I would support a good plan to improve the lives of the poorest even if it cost me money

Occupational Risk[17]
(1) In your day-to-day, how often do you have to do things at work that endanger your life?
(2) In your day-to-day, how often do you feel concerned about your safety?
(3) In your day-to-day, how often are you in high-stress situations?
(4) In your day-to-day, how often are you in situations where you could be seriously injured?

Satisfaction w/ Job[18]
(1) In general, how satisfied are you with your job?
(2) How satisfied are you with the police officer career?
(3) How satisfied are you with your superiors?
(4) In general, how satisfied are you with the SSC?
(5) How satisfied do you think your peers are with your superiors?
(6) In general, how satisfied do you think your peers are with the SSC?

Satisfaction w/ Managers
(1) I consider that my superiors treat me with respect
(2) My superiors take the time to explain their decisions
(3) My superiors take the time to listen to my opinions
(4) I can trust my superiors
(5) Always abiding the orders of your superiors is necessary in police work
(6) My superiors' orders help to carry out police work
(7) My superiors' orders make my job easier
(8) My superiors are well-intentioned
(9) My superiors generally make the right decisions
(10) My superiors treat my colleagues with dignity and respect
(11) My colleagues trust our superiors
(12) My colleagues believe our superiors are well-intentioned

Satisfaction w/ Peers
(1) I trust that my colleagues are well-intentioned
(2) My colleagues act honestly and ethically

[17] The scale points are a) never; b) rarely; c) sometimes; d) often; e) always; f) prefer not to answer
[18] The scale points are a) not at all; b) a little; c) indifferent; d) somewhat; e) very; f) prefer not to answer

(3) My colleagues generally trust other police officers
(4) My colleagues believe that police officers generally act honestly and ethically

Internal PJ Index[19]
(1) How transparent is the promotion process within your institution?
(2) How transparent is the sanctioning process within your institution?
(3) How transparent is the decision-making process within your institution?
(4) How fair is the decision-making process within your institution?

View of Citizens' Trust
(1) Citizens are willing to help the police identify suspects
(2) Citizens believe the police make fair, efficient, and effective decisions
(3) Citizens believe the police receive (or accept) bribes - (*reversed score*)
(4) Citizens trust the police
(5) Citizens rely on the police's ability to fight crime and respond to emergencies

Adherence to Rules
(1) Following rules to the letter is best for everyone
(2) Rules apply to everyone
(3) Those who break the law must be punished
(4) It is always possible to follow the rules to the letter
(5) In the long run, the police performance will improve if the organizational rules and policies are abided

Institutional Identification
(1) When I talk about what the SSC does, I say "we" instead of "The Police..."
(2) I consider the SSC successes as my own
(3) When someone says something good about the SSC, it feels like a personal compliment
(4) When newspapers criticize the SSC, I take it as a criticism of my work

C Survey Items - Knowledge

Please formulate your answers based on what you know and understand of the topics covered in the following questions.

PJ Concepts
(1) What do you understand by police legitimacy?
a) The SSC endorses police actions towards citizens
b) Citizens acknowledge, understand, and accept that the police may exercise their powers in order to maintain order and manage conflicts
c) Citizens acknowledge, understand, and accept that any and all police action is sanctioned under the law
d) The police enforce the law

(2) To increase community trust in the police, which of the following options is most important?
a) The number of arrests
b) Response times and effectiveness
c) The means and processes followed by the police when interacting with citizens and when making arrests
d) The Public Prosecutor's performance

(3) What is the result of building trust with citizens?
a) Police force effectiveness decreases because citizens start believing that they will not be punished for breaking the law
b) Police force authority and respect decreases
c) Police force work increases because citizens want the police to solve everything
d) The ease and impact of police work increases

[19] The scale points are a) not at all; b) a little; c) somewhat; d) very; e) totally; f) prefer not to answer

(4) Why do citizens obey the law?

a) Because they have read it and know it
b) For fear of punishment
c) Because they recognize that laws and police are legitimate
d) Because they believe it is well written and they trust the legislators who made it

(5) How should a suspect be treated during an arrest or detention?

a) The individual should be treated as the officer would like to be treated
b) With force to prevent recidivism and deter others from committing crimes
c) Treatment should depend on case and detainee particulars
d) Ensure witnesses are present to avoid accusations of police abuse

(6) When interacting with civilians, what actions should help increase police legitimacy and community trust in the police?

a) Interview, proceed, refer
b) Give voice, listen, ask questions, explain
c) Interview, request support, record, refer
d) Give voice, respect, be neutral, explain

(7) Why is it important that a civilian explain his/her point of view when interacting with the police?

a) To avoid the civilian filing a complaint against the police
b) To involve the civilian in the police officer's decision-making process
c) To avoid having civilians report crimes or press charges
d) For the civilian to make all the decisions

(8) In stressful situations, which of the following options requires particular care and consideration?

a) The civilian's verbal communication
b) The civilian's nonverbal communication
c) Proving to the civilian why his/her behavior is problematic
d) Using force to prevent the situation from going out of control

(9) Which of the following situations represents an example of a neutral or impartial attitude?

a) Treating women well because they are more sensitive to abuse
b) Carefully assessing a civilian's appearance to know who we're dealing with
c) Applying different decisions to similar situations depending on the civilian
d) Behaving the same with all civilians, even if one of them makes us uncomfortable

(10) When should the police treat civilians respectfully?

a) At all times, whether civilians are obeying or breaking the law
b) When civilians are also respectful of the police
c) When civilians know their rights and responsibilities
d) All of the above

(11) Why is it important to explain law enforcement processes to civilians?

a) It isn't important because the police are in a position of authority
b) To avoid having civilians file complaints with other authorities
c) To demonstrate that police are professionals and capable of resolving cases
d) It is good practice for when a case goes to trial

(12) What effect does civilian stereotyping or profiling have on your job?

a) It makes my job easier to protect myself from criminals
b) None
c) It makes my job harder because I have interactions predestined to have negative outcomes
d) It helps me manage civilians and suspects in my sector adequately

D Survey Items - Behavior

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(1) The police officer demonstrates that he/she is actively listening to the accused citizen (rephrases, summarizes, acknowledges the accused citizen and asks questions)
a) strongly disagree; b) disagree; c) somewhat disagree; d) neither agree, nor disagree; e) somewhat agree; f) agree; g) strongly agree

(2) The police officer demonstrates that he/she is actively listening to the accuser citizen (rephrases, summarizes, acknowledges the accuser citizen and asks questions)
a) strongly disagree; b) disagree; c) somewhat disagree; d) neither agree, nor disagree; e) somewhat agree; f) agree; g) strongly agree

(3) How many times did the police officer raise his/her voice in a disrespectful or intimidating way to show superiority? - (*reversed score*)
a) 0 times; b) 1 time; c) 2 times; d) 3 times; e) 4 times; f) 5 times; g) 6 or more times

(4) How many times was the police officer sarcastic, offensive, mocking, rude, or indifferent? - (*reversed score*)
a) 0 times; b) 1 time; c) 2 times; d) 3 times; e) 4 times; f) 5 times; g) 6 or more times

(5) How many times within a sentence did the police officer change the tone or volume of his/her voice to intimidate, threaten, and/or deter? - (*reversed score*)
a) 0 times; b) 1 time; c) 2 times; d) 3 times; e) 4 times; f) 5 times; g) 6 or more times

(6) In general, the police officer's explanations created rapport and trust with the accused citizen
a) strongly disagree; b) disagree; c) somewhat disagree; d) neither agree, nor disagree; e) somewhat agree; f) agree; g) strongly agree

(7) How many times did the police officer use commanding words to control or coerce the accused citizen? Examples include language such as, "Do not...", "Listen to me!", "Let me talk!", "You shouldn't!", "Calm down!", "I'm going to tell you one thing", "Don't lie!", "I'm going to ask you to please leave the premises", "Would you like me to introduce you to the judge?", and "If I see you around here again..." - (*reversed score*)
a) 0 times; b) 1 time; c) 2 times; d) 3 times; e) 4 times; f) 5 times; g) 6 or more times

(8) How many times did the police officer use commanding words to control or coerce the accuser citizen? Examples include language such as, "Do not...", "Listen to me!", "Let me talk!", "You shouldn't!", "Calm down!", "I'm going to tell you one thing", "Don't lie!", "I'm going to ask you to please leave the premises", "Would you like me to introduce you to the judge?", and "If I see you around here again..." - (*reversed score*)
a) 0 times; b) 1 time; c) 2 times; d) 3 times; e) 4 times; f) 5 times; g) 6 or more times

(9) Did the police officer give the accused citizen the opportunity to explain the situation from his/her point of view within the first few minutes of the interaction?
a) no; b) yes

(10) Did the police officer listen carefully to what the accused citizen was saying? To answer yes, 3 or more of the following criteria need to be met: i) The police officer didn't interrupt the interlocutor; ii) The conversation was consistent (do not forget the information the interlocutor provided); iii) The officer was not doing something else at the same time; iv) The officer nodded at least once while the interlocutor spoke; v) The officer asked questions to clarify parts of the story or to dig deeper
a) no; b) yes

(11) Did the police officer listen carefully to what the accuser citizen was saying? To answer yes, 3 or more of the following criteria need to be met: i) The police officer didn't interrupt the interlocutor; ii) The conversation was consistent (do not forget the information the interlocutor provided); iii) The officer was not doing something else at the same time; iv) The officer nodded at least once while the interlocutor spoke; v) The officer asked questions to clarify parts of the story or to dig deeper
a) no; b) yes

(12) The officer argued with the accuser citizen. For example, the officer was stubborn - (*reversed score*)
a) strongly disagree; b) disagree; c) somewhat disagree; d) neither agree, nor disagree; e) somewhat agree; f) agree; g) strongly agree

(13) The officer argued with the accused citizen. For example, the officer was stubborn - (*reversed score*)
a) strongly disagree; b) disagree; c) somewhat disagree; d) neither agree, nor disagree; e) somewhat agree; f) agree; g) strongly agree

(14) How many times did the officer show an interest in the accused citizen well-being (physical integrity). Please count the cases when the officer used language such as, "Would you like me to come with you?", "You should bring identification in case something happens to you," "It's for your safety."
a) 0 times; b) 1 time; c) 2 times; d) 3 times; e) 4 times; f) 5 times; g) 6 or more times

(15) How many times did the officer genuinely comfort and/or reassure the accuser citizen with sincerity and empathy? Please count the cases when the officer used language such as, "don't worry," "are you okay, how do you feel?", "my intention is not to make you feel bad", "I'm not trying to give you a hard time." When examining tone of voice and conversation flow to assess whether the officer took a person's emotional well-being into account, it is important to also consider the conversation's context
a) 0 times; b) 1 time; c) 2 times; d) 3 times; e) 4 times; f) 5 times; g) 6 or more times

(16) How many times did the officer genuinely comfort and/or reassure the accused citizen with sincerity and empathy? Please count the cases when the officer used language such as, "don't worry," "are you okay, how do you feel?", "my intention is not to make you feel bad", "I'm not trying to give you a hard time." When examining tone of voice and conversation flow to assess whether the officer took a person's emotional well-being into account, it is important to also consider the conversation's context
a) 0 times; b) 1 time; c) 2 times; d) 3 times; e) 4 times; f) 5 times; g) 6 or more times

(17) During the interaction, the officer genuinely made the situation seem important. For instance, the officer asked questions to fully understand the situation, showed concern, interest, and empathy, and listened without interrupting, dismissing, or laughing at what the interlocutor had to say
a) strongly disagree; b) disagree; c) somewhat disagree; d) neither agree, nor disagree; e) somewhat agree; f) agree; g) strongly agree

(18) How many times did the officer attempt to identify with the accused citizen? Please count the cases when the officer used language such as, "Me too...", "Let's ..." (depending on the context), "We all have the same rights"
a) 0 times; b) 1 time; c) 2 times; d) 3 times; e) 4 times; f) 5 times; g) 6 or more times

(19) How many times did the officer use "calming" language? Please count all the times the officer used language such as, "All I would like is...", "The only thing I would like...", "All I'm asking is...", "That's all", "From my point of view", "It's doable", "Maybe", "I believe", "Sometimes", and "In my experience, I've seen..."
a) 0 times; b) 1 time; c) 2 times; d) 3 times; e) 4 times; f) 5 times; g) 6 or more times

(20) Did the officer explain why he/she approached? For example, the officer explained his/her presence using language such as "I'm here to...", "I'm coming to you to...", "I've approached you because...", "I was asked to come over to..."
a) no; b) yes

(21) Did the officer ignore or decline at least one of the accused citizen requests without saying why? - (*reversed score*)
a) no; b) yes

(22) Did the officer ignore or decline at least one of the accuser citizen requests without saying why? - (*reversed score*)
a) no; b) yes

(23) Did the officer explain, of his own initiative, the process the accused citizen had to follow? Do not include an explanation provided after the accused citizen asked for one
a) no; b) yes

(24) Did the officer explain, of his own initiative, the process the accuser citizen had to follow? Do not include an explanation provided after the accuser citizen asked for one
a) no; b) yes

(25) Did the officer explain that the accused citizen had options in terms of the processes that could be followed to resolve the matter at hand? In other words, the officer explained that there were various ways the issue could be resolved. For instance, "If you decide to go to the delegation, the process is XYZ. However, if you decide to stay here, the process is QRS"
a) no; b) yes

(26) Did the officer explain that the accuser citizen had options in terms of the processes that could be followed to resolve the matter at hand? In other words, the officer explained that there were various ways the

issue could be resolved. For instance, “If you decide to go to the delegation, the process is XYZ. However, if you decide to stay here, the process is QRS”
a) no; b) yes

(27) Did the officer convincingly explain why he/she resolved the situation in one way and not another? For example, “I can’t remove him/her from the premises because he has the right to be here”
a) no; b) yes

(28) The officer offered the accuser citizen "tips" or recommendations for the future
a) no; b) yes

(29) The officer offered the accused citizen "tips" or recommendations for the future
a) no; b) yes

(30) In general, the officer treated the accused citizen with dignity
a) strongly disagree; b) disagree; c) somewhat disagree; d) neither agree, nor disagree; e) somewhat agree; f) agree; g) strongly agree

(31) In general, the officer was respectful towards the accuser citizen
a) strongly disagree; b) disagree; c) somewhat disagree; d) neither agree, nor disagree; e) somewhat agree; f) agree; g) strongly agree

(32) The officer was respectful during the interaction
a) strongly disagree; b) disagree; c) somewhat disagree; d) neither agree, nor disagree; e) somewhat agree; f) agree; g) strongly agree

(33) The officer throughout the interaction was consistently a good police officer. That is, consistent in the good treatment
a) strongly disagree; b) disagree; c) somewhat disagree; d) neither agree, nor disagree; e) somewhat agree; f) agree; g) strongly agree

(34) Did the officer use friendly and respectful language when talking to the accused citizen? For instance, the officer referred to the accused citizen in the third person
a) 0 times; b) 1 time; c) 2 times; d) 3 times; e) 4 times; f) 5 times; g) 6 or more times

(35) In general, the officer remained neutral during the interaction with the accused citizen
a) strongly disagree; b) disagree; c) somewhat disagree; d) neither agree, nor disagree; e) somewhat agree; f) agree; g) strongly agree

(36) In general, the officer remained neutral during the interaction with the accuser citizen
a) strongly disagree; b) disagree; c) somewhat disagree; d) neither agree, nor disagree; e) somewhat agree; f) agree; g) strongly agree

(37) The officer remained impartial during the interaction. In other words, the officer refrained from taking anyone’s side
a) strongly disagree; b) disagree; c) somewhat disagree; d) neither agree, nor disagree; e) somewhat agree; f) agree; g) strongly agree

(38) How many times did the police officer use incriminating language when addressing the accused citizen? Examples of incriminating language include, “You’ve committed a mistake/crime”, “Doing ABC is bad”, “Stop doing ABC”, “Bad people do ABC”, “I’m not saying you are that way...”, “Apologize!”, “The problem is not that you are here, it’s what you did”, “Taking pictures is prohibited”, “I’m asking you to stop doing that” - (*reversed score*)
a) 0 times; b) 1 time; c) 2 times; d) 3 times; e) 4 times; f) 5 times; g) 6 or more times