

Fear and Legitimacy in São Paulo, Brazil:
Police-Citizen Relations in a High Violence, High Fear City

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Abstract

In this paper we examine consensual and coercive police-citizen relations in São Paulo, Brazil. According to procedural justice theory, legitimacy operates as part of a virtuous circle, whereby normatively appropriate police behavior encourages public self-regulation and pro-active cooperation, which then reduces the need for coercive forms of social control. Tests of the theory in the US, UK, Australia and elsewhere typically pit normative versus instrumental accounts of crime-control policy against one another. But can consensual and coercive police-citizen power relations be so easily disentangled in a city in which many people fear crime, where some people fear police but tolerate extreme police violence, and where the image of the police as “just another (violent) gang” seems still to have significant cultural currency? Our analysis of the composition, predictors and potential consequences of police legitimacy highlights points of similarity and difference in police-citizen relations in this high violence, high fear city of the Global South.

Key words: Policing, legitimacy, Brazil, obligation to obey, compliance with the law, procedural justice, distributive justice, bounded authority, police violence.

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Brazil provides a context rather different to that of most of the liberal democracies in which research on police legitimacy and legal compliance has been concentrated, such as the United States of America (Reisig et al., 2007), the United Kingdom (Bradford, 2014) and Australia (Murphy et al., 2016). A range of social problems combine in a possibly unique way in Brazil to shape the relationship between individuals and state authorities, especially the police. There are the low levels of trust in public institutions generally (Filgueiras, 2013). There are the high crime rates and high levels of fear of crime (Cardia et al., 2014). There is the role of organized crime at multiple levels in society (something which is a particular issue in our study site of São Paulo, see Dias, 2011; Ruotti, 2016; Willis, 2015). There are high levels of police violence and a relatively high level of public support for at least some of this violence (Peres et al., 2008; Caldeira, 2002). Brazil also stands somewhat apart from other Latin American countries in terms of crime, fear and trust. According to the Americas Barometer Survey fielded in 2016 and 2017, Brazil ranked 9th out of 28 countries in terms of victimization but 3rd in fear of crime, with almost a quarter of the respondents feeling that their neighborhood was “very unsafe”. Brazilians have the lowest faith in their justice system, with almost 9 out of 10 respondents of the opinion that they had little to no confidence in that the judiciary will punish the guilty (Cohen et al., 2017).

In this paper we present one of the first empirical assessments of police legitimacy and legal compliance in Brazil.¹ Drawing on data from two São Paulo-based surveys—one representative of eight neighborhoods chosen to reflect area-level diversity, the other representative of the city population as a whole—we test and extend procedural justice theory (PJT, see Tyler, 2006a, 2006b) in a city in which some people can have ambivalent, even conflicted, attitudes towards police, and where people can fear both crime and police. Our examination of which aspects of PJT translate—and which do not—contributes to the growing international literature on instrumental and normative police-citizen relations (Sunshine & Tyler, 2003; Papachristos et al., 2012; Tyler & Jackson, 2014; Murphy et al., 2016; Trinkner et al., 2018). Our findings also add to ongoing debate about the meaning, measurement, sources and consequences of legitimacy (Tyler, 2006a, 2006b; Reisig et al., 2007; Jackson et al., 2012; Bottoms & Tankebe, 2012; Tyler & Jackson, 2013; Jackson & Gau, 2015; Hamm et al., 2017; Jackson & Bradford, 2019; Trinkner, 2019; Posch et al., 2020).

Our two studies examine (a) the criteria that São Paulo residents use to judge the legitimacy of the police and (b) the nature of legitimacy and its link to instrumental connections to the police and legal compliance. Our conclusions center on the idea that the predictors of legitimacy in São Paulo are consistent with work in settings like the US, UK and Australia—i.e. that a conceptualization of primarily normative legitimating factors can be recovered even in high fear, low trust environments. But contrary to existing work, instrumental (coercive) and normative (consensual) considerations can usefully be framed in this new research setting as ranging along one single dimension, not as two separate forms of police-citizen relations, as it is traditionally conceived. Through our empirically supported argument that normative and non-normative police-citizen relations can be viewed of as two ends of a single continuum, we reassess the standard conception of legitimacy and reveal the complex nature of police-citizen relations in this major city of the Global South.

Literature review

According to PJT, when police officers act in ways that accord with widely shared norms about how power should be exercised, citizens tend to believe that the institution is legitimate (Tyler, 2006a, 2006b; Trinkner & Tyler, 2016; Tyler & Trinkner, 2018). Legitimacy of a legal authority is generally defined along two connected lines: (a) the belief that the institution is moral, just and appropriate and (b) the belief that the institution is entitled to enforce the law, make decisions and expect people to willingly comply with their orders (Tyler, 2006a, 2006b; Tyler & Jackson, 2013; Jackson & Bradford, 2019; Trinkner, 2019). On the one hand, people judge the legitimacy of the police as an institution against the societal norms that dictate what is appropriate conduct (e.g. do police officers make neutral and objective decisions when dealing with citizens?). On the other hand, the content of legitimation (i.e. the bases on which legitimacy is justified or contested) are an empirical question—i.e. they are not assumed by an outside expert on the basis of political, moral, legal, religious or some other philosophy. Indeed, what citizens of a particular social, political and legal context deem to be legitimating or

delegitimizing police conduct may vary from one country to another. For example, people in one context might judge the legitimacy of the police most keenly on the extent to which officers respect principles of fair process, while effectiveness might be more important in a different context.

PJT posits that procedural justice is the most important (legitimizing) norm regarding the appropriate use of power, and study after study has shown that procedural justice (in direct and indirect encounters with the police and in terms of general perceptions of police fairness) is the strongest predictor of perceived police legitimacy (Tyler & Huo, 2002; Tyler & Fagan, 2008). Recent US and UK work has also explored the role of respecting the limits of one's rightful authority—something that overlaps with procedural justice but is not reducible to it (Huq et al., 2017; Tyler & Trinkner, 2017; Trinkner et al., 2018). Crucially, police effectiveness and whether police allocate outcomes such as arrests, citations, protection, and service fairly across aggregate social groups (i.e. distributive justice) are typically less important predictors of legitimacy in these contexts (Tyler, 2006a; Jackson et al., 2013; Mazerolle et al., 2013; Bradford et al., 2014a; White et al., 2016; Mentovich et al., 2018).² Legitimacy has also been shown to be more important predictor of legal compliance than instrumental factors based on deterrence and fear of sanction (Tyler, 2006a, 2006b; Papachristos et al., 2012; Jackson et al., 2012; Murphy et al., 2016; Trinkner et al., 2018). Overall, PJT posits that self-regulation is encouraged through procedural-justice based approaches to rule enforcement (Tyler, 2006a, 2006b).

Overall, the findings of studies from an increasing number of countries across the world—including Australia (Murphy & Cherney, 2012), Israel (Jonathan-Zamir & Weisburd, 2013), UK (Huq et al. 2017), Ghana (Tankebe, 2009), South Africa (Bradford et al. 2014), Pakistan (Jackson et al. 2014), Hong Kong (Cheng, 2015), Japan (Tsushima & Hamai, 2015), China (Sun et al., 2017) and Trinidad & Tobago (Kochel, 2012)—generally support PJT's two core predictions: (a) on the importance of procedural justice in explaining variation in police legitimacy and (b) on the role that police legitimacy plays in predicting people's willingness to cooperate with legal authorities and comply with the law (for reviews, see Jackson, 2018; Bolger & Walters, 2019; Walters & Bolger, 2019).

There is, however, evidence from some other countries that concerns about effectiveness and overstepping the limits of their rightful authority are at least as important to legitimacy as procedural justice in contexts that have (a) high levels of crime, (b) legal institutions that are not yet able to provide a bare minimum of security to citizens, (c) police with a long history of abuse of power, and (d) where people tend not to identify so strongly with the group that the police represent. This is backed up by research in places like South Africa (Bradford et al., 2014b), Pakistan (Jackson et al., 2014), Ghana (Tankebe, 2009) and China (Sun et al., 2017). In South Africa, for instance, Bradford et al., (2014b) found that normative judgements about fair process may to some degree be crowded out by concerns about police effectiveness and corruption, the sheer scale of the crime problem, and the association of the police with a historically oppressive and underperforming state.

Crime and policing in Brazil

Brazil comprises a different setting in which to explore the role of police legitimacy and police legitimation. In addition to the social issues outlined above, the history of the Brazilian police is entwined with the history of slavery. During the period of European colonization in South America, Brazil was the country with the largest number of slaves for the longest period, as well as the last country in the Americas to abolish slavery (in 1888). In an echo of the history of the southern United States, police throughout the period of slavery were essentially privately controlled by slave owners, and policing was targeted at slaves. However, abolition did not secure effective redress to the emancipated population, who experienced an incomplete and deficient form of citizenship (Schwarcz & Starling, 2015; Huggins, 2000; Guimarães et al., 2005) characterized by high levels of dependence on the state, patrimonial-like relations with local power-holders and an absence of genuine civil rights (Schwarcz & Starling, 2015).

Brazil also lived through an unstable twentieth century, shifting between authoritarian dictatorship (1937-45 and 1964-85) and democratic rule. Even the democratic regimes had a *de facto* authoritarianism, with high levels of social control exerted over the marginalized poor and widespread evidence of political repression and illegal physical violence (Pinheiro 1991; Holstein 2008). Although

the professionalization of the police was formally completed during the twentieth century (Batitucci, 2010), it remains associated with patrimonial power structures constituted by an overlap of the public and the private spheres. These relations are characterized by a power imbalance and significant social distance between a large excluded population and the State (dominated by a powerful minority).

More recently, a form of penal populism in Brazilian society is reflected partly by the expanding prison population, where the per capita incarceration rate doubled between 2000 and 2014 (Iturralde, 2018). This punitive demand is matched by use of lethal force by the police (Anuário de Segurança Pública, 2017). Cases of excessive violence by the São Paulo Military Police are common in 2018 alone, there were 6,160 confirmed police killings (Monitor da Violência, 2019³), which is more than 25 times higher per capita than in the United States (The Guardian: The Counted) – and official statistics likely fall short of the real number (Willis, 2015). While it is impossible to ascertain the proportion of these killings that were illegal, nor fully document the extent of unreported cases of killings committed by officers, this is a large enough number to characterize police violence in São Paulo as a significant societal problem. The election of Jair Bolsonaro to the Brazilian presidency is a further confirmation of these tendencies—Bolsonaro is a former army captain who speaks nostalgically about the 1964-1985 military dictatorship and has openly advocated police killings of criminals, promising iron-fisted policies and a crackdown on crime.

Within this context of multi-layered authoritarianism, the police remain highly militarized. Policing in each Brazilian state is carried out by two independent organizations: the Military Police is responsible for day-to-day policing and order maintenance; the Civilian Police, also known as the “judiciary police”, comprise less than one third of overall police numbers (Lima et al., 2016) and oversee crime registry and investigations. The Military Police retains a particularly strong historical link to the period of slavery, indeed it has remained essentially the same organization since the nineteenth century⁴, when its primary purpose was repressing insubordinate slaves (Batitucci, 2010). As all of its officers are part of the army reserve force, they must wear uniforms and carry weapons at all times, and their training and deployment involves a number of military features, e.g. strong hierarchical discipline.

The role and behavior of the police in Brazil suggests: (1) that the state does not guarantee an appropriate level of security for a significant portion of society and (2) that even when security is provided, social elites benefit more (Caldeira and Holston, 1999; Pereira and Ungar, 2004; González, 2017). The police are also more likely to use excessive force against people living in poor areas, who are more likely to be from ethnic minority background (Mitchell and Wood, 1999; Paes-Machado and Noronha, 2002; Goldstein, 2003; Garmany, 2014; Willis, 2015). Black residents seem to be less likely to be involved in community policing programs, which tend to be concentrated in middle-class and upper-middle-class areas (Alves, 2014). There is some evidence that elites and sections of the middle-class support police violence that seems to them to be directed at maintaining existing class, race and gender hierarchies, and while they are unlikely to view the police in a favorable light, they are still supportive of state action that seeks to uphold the established order (Briceño-León et al., 1999).

Crucial to our argument in this paper is that the relationship between police and the policed in Brazil is marked by conflicting attitudes toward the police, including fear of being mistreated by the police, and relatively high levels of tolerance of, or at least ambivalence towards, what some might deem to be excessive police violence against certain out-groups. Studies show that a fair amount of Brazilians distrust the police (Silva and Beato, 2013), and some fear them (Cleber, 2015; Oliveira Junior and Alencar, 2015), yet also that a considerable number do not necessarily condemn police violence when it is targeted at the marginalized and excluded (Cleber, 2017; Garmany, 2014; Paes-Machado and Noronha, 2002; Caldeira, 2002; Briceño-León et al., 1999). There have also been calls in upper-middle-class neighborhoods to reinstate the edicts of the military dictatorship, which disproportionately targeted people from ethnic minority background (González, 2017).

São Paulo presents, then, a fractured social, political, and economic policing climate—at least compared to cities and countries in which PJT have been thus far tested. The police represent the proximate face of a paternalistic and authoritarian state; low levels of trust may have had a negative impact on the democratic legitimation of the State and even satisfaction with the general idea of democracy (Filgueiras, 2013; González, 2017).

Study one: What legitimates the police in São Paulo?

What might the context of Sao Paulo, Brazil, mean for the construal of legitimacy, its antecedents, and its consequents? By way of contribution, study one assesses whether people's perceptions of police as a moral, just and appropriate institution—operationalized as normative alignment between police and citizen values (Jackson et al., 2012, 2013; Tyler & Jackson, 2013, 2014)—are founded primarily in judgements of procedural justice, as has been found in the US (Sunshine & Tyler, 2003; Tyler & Fagan, 2008; White et al., 2016), UK (Jackson et al., 2012, 2013), Australia (Murphy & Cherney, 2012; Mazerolle et al., 2013; Bradford et al., 2014a) and indeed Israel (Jonathan-Zamir & Weisburd, 2014; Mentovich et al., 2018), or whether São Paulo residents place greater emphasis on bounded authority (the restrained use of power, which extends beyond procedural justice), distributive justice and effectiveness in the fight against crime. We also assess whether those who see police violence against criminal out-groups as acceptable also view this as a normatively justifiable use of power, above and beyond traditional perceptions of police conduct, i.e. we test whether tolerance of excessive police violence predicts normative alignment, adjusting for procedural justice, distributive justice, effectiveness and bounded authority.

The first posited predictor of normative alignment is procedural justice. Procedural justice is about police officers treating people with respect and dignity, making neutral decisions, and allowing citizens the chance to give their 'side of the story'. The second potential predictor of normative alignment is distributive justice: namely, judgements concerning the fair allocation of the outcomes of power exercised across salient social groups in society. Distributive justice concerns the fair allocation of 'goods' and 'bads', and it was measured by asking research participants whether they thought that police 'treated people equally' whether those people were 'rich or poor, white or black'. Distributive justice may be a more important legitimating factor in São Paulo than in more traditional settings of tests of PJT. We find in study two of the current paper that public concerns about the distributive justice of the police are relatively strong in the current context, with around two-thirds of research participants (63%) saying that the police either 'never' treated people equally, 'rarely' treated people equally, or only 'sometimes' treated people equally. This compares to Tyler & Jackson's (2014) nationally representative study of US citizens, which found lower levels of perceived distributive injustice (45% of US citizens said the police treated people differently according to their wealth and 40% said the police treated people differently according to their ethnicity). Distributive justice may be more important to the legitimation of the police in São Paulo because distributive justice is a more salient perceived problem in the eyes of citizens.

The third potential predictor of normative alignment is effectiveness. Effectiveness in the fight against crime (dealing with drug dealing and armed robberies, investigating crime, keeping people safe, responding to emergency calls, and providing general crime-related services) may be more important to police legitimacy in São Paulo compared to the US. On the one hand, levels of crime—and fear of crime—are relatively high, so people may place special importance on the ability of the police to keep them safe. On the other hand, perceived police effectiveness is relatively low. If special importance is placed on this aspect of policing, then low levels of perceived police effectiveness may damage the legitimacy of the institution. In study two of the current paper, for instance, we find that a relatively low proportion (just over two-fifths, 42%) of respondents said that local police were doing a good or very good job at responding to emergency calls. This compares to Tyler & Jackson's (2014) finding that around two-thirds of respondents (63%) reported that the police would arrive quickly if a violent crime were to occur in their neighborhood. As in South Africa (Bradford et al., 2014b, found just over two-fifths of people said that the police would arrive quickly in an emergency), it may be that the police in São Paulo have not yet established the baseline, minimum ability to provide basic levels of security to citizens, raising the importance of perceived effectiveness in the legitimation of the police.

The fourth potential predictor of normative alignment is bounded authority. Trinkner and colleagues (Tyler and Trinkner, 2016, 2017; Trinkner et al., 2018; Huq et al., 2017) have argued that the situations and powers that citizens believe that police should or should not have the right to operate within (in terms of situation) and exercise (in terms of power) represent an essential element of how people define and understand their relationship with legal authorities. Referencing the belief that

officers ‘should not be doing this thing, in this place, at this time, in this way’, the notion of bounded authority goes above and beyond traditionally conceived concerns about fair treatment and decision-making (Trinkner et al., 2018). It can also be distinct from whether officers have a legal right to intervene, since citizens tend to have little understanding of law in this regard, yet nevertheless make judgements about the appropriateness of police action.

We assess whether people place significant importance on not overstepping the limits of rightful authority in the appropriate exercise of police power. Could São Paulo residents reject the police as legitimate authorities partly because they feel they are encroaching on their own private domains of autonomous behavior and acting outside of their rightful sphere of activity, e.g. protecting drug dealers, independent of whether the police do this in a fair, or effective manner? As with distributive justice and effectiveness, concerns about police overstepping their boundaries are relatively high in São Paulo compared to the US. In study two’s city-wide representative survey, less than half of respondents said that the military police and the civil police (47% and 49% respectively) always or very often acted according to the law, while Tyler & Jackson (2014) found that more than two-thirds of respondents (68%) agreed or strongly agreed with the statement that ‘when the police deal with people they almost always behave according to the law’. Again, it may be that more widespread concerns about a particular element of policing raises its importance in terms of legitimation (cf. Tankebe, 2009; Bradford et al., 2014b).

The fifth (and final) potential predictor of normative alignment is tolerance of—or ambivalence towards—police violence. Many people in São Paulo may be aware, via extensive mass and social media coverage, that the police use excessive violence in certain situations (González 2017; Willis 2015). Study one presented research participants with three scenarios of actual cases that occurred in São Paulo over the last few years, involving murder of a suspect, torture of a person in custody and disproportionate violence against protesters. They were then asked what they thought about the officer behavior. We find, for example, that just under one-quarter (22%) thought that the police torturing a drug dealer to get information was either ‘good’ or ‘excellent’. Even though people may generally expect the police to act in fair and effective ways, some might make an exception in the sort of situations where police can sometimes be extremely aggressive. Of particular interest is whether people who approve of or tolerate this kind of behavior are more likely to believe that the police is a normatively appropriate institution (adjusting for perceptions of procedural justice & distributive justice, effectiveness and bounded authority) compared to people who view this kind of behavior in disapproving ways, because they see it as an appropriate (legitimizing) use of power.

Data, measures and analytical strategy

To test the predictors of normative alignment with the police, we draw on data from the second wave of a three-wave longitudinal survey that was designed to be representative of eight neighborhoods of São Paulo (we use the second wave because it contained the variables required for the current analysis). The first wave was conducted in 2015 and 150 citizens were selected in each area based on demographic quotas (gender, age, and education), producing a sample of 1,200 respondents. A total of 928 of those respondents then took part in the second wave of the study in 2017 (an attrition rate of 22.7%). All interviews were conducted face-to-face at the respondents’ place using Tablet-Assisted Personal Interviewing (TAPI).

Table 1 provides full details of the measures. Normative alignment with the police was captured using items covering expectations, shared values and perceived appropriate behavior; we assume that positive answers to these questions reflect ascribed normative justifiability of power (Hough et al., 2013a, 2013b), i.e. when people believe that officers act in ways that align with their own expectations and values, this lends the institution they represent the right to power and the authority to enforce the law (Jackson et al., 2012, 2013; Bradford et al., 2014a, 2014b). We find significant variation in levels of normative alignment. For instance, around one-third of respondents said that the police in their neighborhood ‘never’ or ‘rarely’ act according to what the respondent believe is right, while around one-third said they did so ‘always’ or ‘very often.’ Similarly, just over one-quarter of respondents said that the police in their neighborhood ‘never’ or ‘rarely’ defended values that are important to a person

like the respondent, while around two-fifths said they do so ‘always’ or ‘very often.’ We then address the factors that explain this variation.

Table 1. *Measures used in study one*

<i>Construct</i>	<i>Items</i>	<i>Mean, standard deviation</i>	<i>Response alternatives</i>
Normative alignment	How often do police in your neighborhood: <ul style="list-style-type: none"> Act according to what you believe is right? Have the same expectations you have about your community? Defend values that are important to a person like you? 	3.1, 1.3 3.0, 1.3 3.3, 1.3	
Procedural justice	How often do police in your neighborhood: <ul style="list-style-type: none"> Explain clearly why they pull over or arrest someone? Make impartial and just decisions? Pay attention to the information that people provide them with? Treat people with respect? 	2.8, 1.5 3.1, 1.2 3.3, 1.3 3.7, 1.3	<i>Never rarely sometimes very often always (1-5)</i>
Distributive justice	How often do police in your neighborhood: <ul style="list-style-type: none"> Treat all people, rich or poor, black or white, equally? 	2.9, 1.4	
Bounded authority	How often do police in your neighborhood: <ul style="list-style-type: none"> Accept bribes? Protect drug dealers? Act as if above the law? 	3.0, 1.3 3.3, 1.4 2.8, 1.4	
Effectiveness	How effective are the police in your neighbourhood at: <ul style="list-style-type: none"> Reducing drug trades? Reducing armed robbery? Responding to emergency calls (190)? Providing Police Station services? Criminal investigation? Marches and protests? Keeping neighborhood safe? 	2.5, 1.2 2.7, 1.3 3.0, 1.3 2.8, 1.3 2.7, 1.3 2.8, 1.3 3.0, 1.2	<i>Very bad bad neither good nor bad good very good (1-5)</i>
Violence vignettes	The police are called after a motorcycle is robbed. Officers identify the suspects and chase one of them down. Suspect tries to hide in a dark alley, but officers catch him and get him handcuffed. By radio, officers learn the suspect in custody was already a justice fugitive who had previously been condemned for drug trafficking. Officers then release him, tell him to run away, and then shoot him in the back. He dies immediately. During a demonstration with thousands of people demanding improvements for the city, some protesters start to destroy storefronts’ glass doors and throw litter bins on fire. Officers who were standing by the protest intervene using rubber bullets and tear gas on all protesters. Protesters begin to run away, and underneath the smoke a young woman is shot in the eye with a rubber bullet, thereby losing her vision for life. Officers catch a man in the action and arrest him for drug trafficking. Before taking him to the police station, they decide to go to the arrestee’s place with no warrants in order to look for more evidences. There, officers torture him so	1.6, 1.1 2.1, 1.2 2.3, 1.3	<i>Very poor poor neither good nor bad good excellent (1-5)</i>

	that he would tell them where he keeps the rest of the drugs and give his partners' names.		
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Procedural justice was measured using items that cover fair interpersonal treatment, neutral decision-making, explaining decisions and allowing the citizen voice in interactions with the police (Table 1). Distributive justice was measured using a single indicator of equal police treatment of different social groups. Bounded authority items address corruption and acting as if they are above the law. Effectiveness indicators capture crime reduction, responding to emergencies, investigating crime, and keeping order on the streets. Tolerance of ‘excessive’ police violence was measured using three vignettes: the first involving the killing of a suspect, the second involving the shooting of a protestor using rubber bullets, and the third involving the torturing of a drug dealer to gain information.

Our analysis has three stages. First, we use confirmatory factor analysis (CFA) to assess the empirical distinctiveness and scaling properties for procedural justice, distributive justice, effectiveness, bounded authority and normative alignment. Second, we use latent class analysis to assess the underlying structure of people’s responses to the three excessive police violence scenarios. We test whether two, three or four classes best represent the data structure; we choose the model with the most appropriate fit; and we derive a variable based on modal probabilities for the final stage of analysis. Third, we use structural equation modeling to estimate which factors (procedural justice/distributive justice, effectiveness, bounded authority and the two dummy variables for the police violence latent classes) most strongly predict normative alignment.

We should note that we focus only on explaining variance in normative alignment (and not duty to obey, the other dimension of legitimacy). By assessing the predictors of normative alignment, we can estimate empirically what defines normatively appropriate action in the minds of São Paulo residents. If, for example, procedural justice is a strong positive predictor of normative alignment, then we infer from this is an important dimension of appropriate (i.e. legitimate) police conduct—it is, we infer, a key element that defines what exercising authority in appropriate ways means in practice (for discussion, see Huq et al., 2017; Jackson & Bradford, 2019; Trinkner, 2019). We turn to duty to obey in study two.

Results

Confirmatory factor analysis

To fit a four factor (plus distributive justice as a single indicator) CFA model, we use MPlus 7.2, setting all indicators as categorical (ordinal). All latent constructs and the single indicator of distributive justice were allowed to covary. The approximate fit statistics suggest that this model fits the data adequately (RMSEA=0.039, RMSEA_{C190%}=[0.33, 0.045]; CFI=0.980, TLI=0.987). The factor loadings and R² statistics are fairly strong for all the measures, indicating reasonable scaling properties (procedural justice: $\lambda=0.71$ to 0.78, R²=0.51 to 0.61; effectiveness: $\lambda=0.67$ to 0.83, R²=0.45 to 0.69; bounded authority: $\lambda=0.61$ to 0.72, R²=0.37 to 0.52; normative alignment: $\lambda=0.85$ to 0.90, R²=0.72 to 0.80). The constructs were all positive correlated, e.g. procedural justice and distributive justice ($r=.76$), procedural justice and effectiveness ($r=.66$), distributive justice and effectiveness ($r=.52$), procedural justice and bounded authority ($r=.27$), and bounded authority and effectiveness ($r=.24$).

Latent class analysis

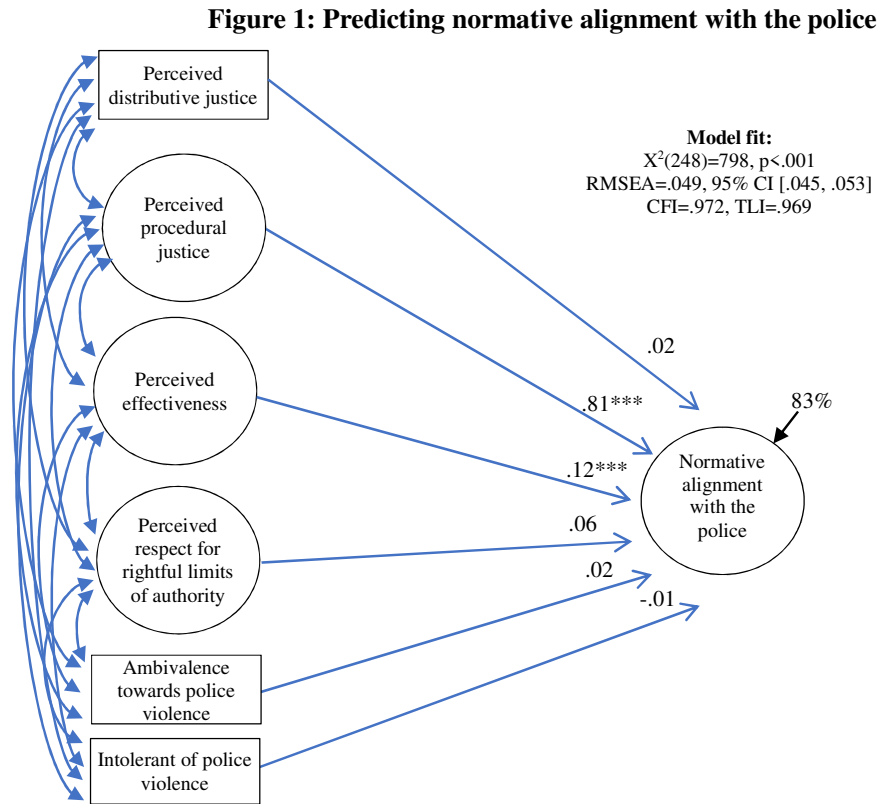
Appendix A summarizes the analysis for the latent class analysis of people’s responses to the three police violence vignettes. Briefly, the modeling implies that:

- 50% have mixed views about police use of force, albeit with a slight negative skew (the ‘ambivalent group');
- 42% are strongly against it (the ‘intolerant’ group); and,
- 8% are supporters of excessive police use of force (the ‘tolerant’ group).

In preparation for the next stage of analysis, the most likely (i.e. expected) latent class membership was derived for each respondent given their scores on the various indicators.

Structural equation modelling

Figure 1 reports the results of a fitted structural equation model (SEM) that specifies normative alignment as the outcome variable and procedural justice, distributive justice, effectiveness, bounded authority and the two dummy variables for perceptions of police violence (“ambivalent towards police” and “intolerant of police violence”) as predictor variables. The model controlled for age, gender and each of the eight areas (the coefficients for these variables are omitted for visual ease).



Fitted structural equation model with standardized coefficients. The reference category for the two attitudes towards police violence dummy variables is ‘tolerant of police violence’. Controls were gender, age and seven dummy variables regarding the eight areas.

Despite theoretical expectations derived from our reading of the social, political and legal context of São Paulo, our results are consistent with those from Anglo-Saxon countries (e.g., Sunshine and Tyler, 2003; Tyler & Fagan, 2008; Jackson et al., 2012, 2013; Murphy et al., 2016). Procedural justice was the strongest positive predictor of normative alignment ($\beta=.81, p<0.001$). People who believed that officers tended to treat people with respect and dignity, make fair and neutral decisions, listen to people and explain their decisions also tended to be normatively aligned with the police (and by inference, thought the police has the moral right to power). Effectiveness ($\beta=.12, p<0.001$), bounded authority ($\beta=.06, p=0.051$) and distributive justice ($\beta=.02, p=0.586$) were relatively weak positive predictors. Intolerance of and ambivalence towards excessive police violence was unrelated to normative alignment in the fitted model (‘intolerant’ $\beta=-.01, p=0.727$, ‘ambivalent’ $\beta=.02, p=0.484$, the reference category was ‘tolerant’). We should note that we also fitted a SEM without procedural justice, distributive justice, effectiveness and bounded authority, and found similar results: ‘intolerant’ $\beta=.05, p=0.440$ and ‘ambivalent’ $\beta=.07, p=0.226$.

On this basis, it seems that tolerance of excessive police violence is not a source of legitimation in São Paulo, at least in the sense that those who tolerate police violence are not more likely to believe

that officers generally act in normatively appropriate ways. Our analysis suggests that what is most important is procedural justice, which aligns with most research evidence from other social, political and legal contexts (Jackson, 2018).

Study two: Examining the nature of legitimacy and its link to legal compliance in São Paulo

Study two turns to the obligation to obey part of the legitimacy concept and its connection to normative alignment, fear of police and legal compliance. We show in the descriptive part of our findings that São Paulo is a city in which a fair amount of people fear the police; some would obey an officer because of fear of the consequences of disobedience; and some would disobey an officer for moral reasons. People express a range of different ambivalent attitudes between the police.

This is relevant because PJT distinguishes between instrumental and normative police-citizen relations, based on a fundamental distinction between value-based motivations to comply (that imply consensual modes of policing based on fairness and legitimacy) and deterrence-based motivations to comply (that imply coercive modes of policing on effectiveness and deterrence). PJT predicts that a normative model of crime-control policy works better than an instrumental model. But can instrumental and normative motivations be so easily separated in a city in which a significant number of people can simultaneously fear police and view them as legitimate? Are, in other words, instrumental and normative factors distinct in people's minds, or should instrumental and normative factors be placed on a continuum that ranges from instrumental at one end to normative at the other end, with some mixture of the two intermingling in the middle? And what does this mean for the link between police legitimacy and offending behavior?

Our analysis proceeds in four stages: (1) we test whether people in São Paulo have different motives to feel and not feel obliged to obey the police, (2) consider the correlations between different motivations, (3) we employ latent variable modeling, and (4) we use the resulting scale(s) to model legal compliance.

(1) Are there different motives to feel (and not feel) obligated to obey the police?

PJT frames the obligation to obey part of the legitimacy concept as comprising the presence or absence of a normatively-grounded internalized moral value, i.e. that one should obey the commands of officers because that is the right thing to do. But as Bottoms and Tankebe (2012), Tankebe (2009: 1279-1281, 2013: 105-106) and Johnson et al., (2014: 970) argue, people could feel an obligation to obey police for non-normative reasons, including pragmatism, dull compulsion, and fear of the consequences of non-compliance. Where there are high levels of police violence, malpractice and corruption, and where police-community relations are often tense and conflictual, people could feel obligated to obey because they feel defiance is dangerous and/or that they have little choice but to be obedient. We employ a combination of closed- and open-ended survey questions to probe the issue—we use survey respondents' own assessments of why they might or might not obey the police to gauge the extent of normative and non-normative obedience.

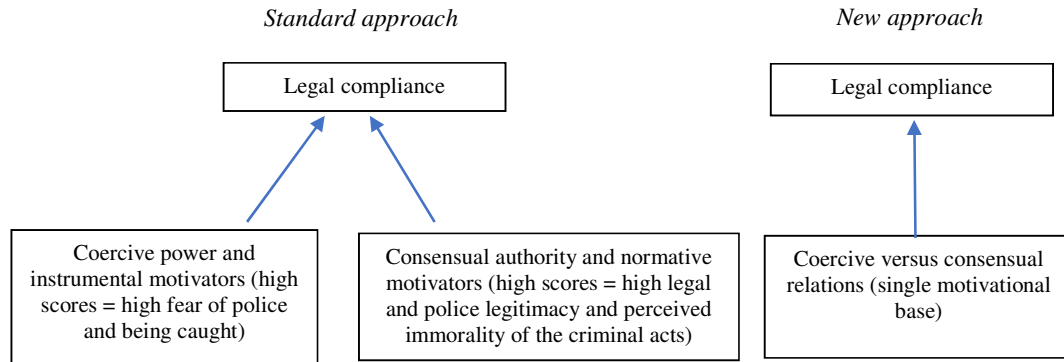
We also assess whether there is a normative obligation *not to comply*. Some people might imagine police giving out illegitimate orders when answering the question “Do you think you have a duty to obey the police when you think they are wrong?” They might imagine the content and/or context of the order, and they might report a duty *not* to obey the police out of an active sense of moral protest. This links back to the boundary concerns that we investigated in study one—where people assess whether officers stray into spaces that they have no right to be—but it references a situation in which respondents imagine themselves being ordered by the police to do something. We thus use the combined closed- and open-ended survey questions to test the existence of normative and non-normative disobedience).

(2) Are motivations to comply with the law distinct from each other?

We then investigate the correlations between fear of the police, different motives to obey or disobey, and normative alignment with the police. If people can simultaneously fear the police and view them as legitimate, then this would complicate the standard PJT account, summarized in the left hand-side of Figure 2. The standard approach is to measure instrumental police-citizen relations using items like ‘I

only obey police because I am afraid of them’ (Posch et al., 2020) and ‘What is the likelihood that you be caught and punished if you bought something you think might be stolen?’ (Sunshine & Tyler, 2003) and normative police-citizen relations using items like ‘You should do what the police tell you, even if you disagree’ (Jackson et al., 2012), ‘Obeying the law ultimately benefits everyone in the community’ (Gur & Jackson, 2020), ‘The police usually act in ways consistent with your own ideas about what is right or wrong’ (Peyton et al., 2019), ‘I trust the leaders of the NYPD to make decisions that are good for everyone in the city’ (Tyler & Fagan, 2008), and ‘How wrong is it to buy something you think might be stolen?’ (Trinkner et al., 2018).

Figure 2: Standard and new approaches to instrumental and normative motivations to comply with the law



Can such a clean differentiation between normative and instrumental police-citizen relations (and motivations to comply with the law) be identified in São Paulo? To foreshadow the findings, we find that a sizeable minority of people (around 20%) also report a normatively grounded obligation to obey were also afraid of the police, and a sizeable minority of people (around 15%) who report a strong sense normative alignment (i.e. they are also afraid of the police). If attitudes towards the police can be ambivalent—if instrumental and normative police-citizen relations cannot be so easily differentiated—then perhaps they are better represented not as two unipolar scales (the standard approach in Figure 2) but as one bipolar scale that moves from instrumental to normative (the new approach in Figure 2)? At the positive end of such a continuum could be normative alignment with the police, low fear of the police, and normative forms of obligation to obey the police. At the negative end of the continuum could be the lack of normative alignment, high fear of the police, and a felt obligation to obey the police based on fear of non-compliance. In the middle could be ambivalent mix of instrumental and normative factors.

(3) What are the predictors of legal compliance?

Taking the standard approach depicted in Figure 2, a number of studies have found that legitimacy (defined as the presence or absence of consensual authority) is a stronger predictor of legal compliance than fear of being caught, supporting the idea that legitimacy encourages value-based forms of self-regulation (chiefly, cooperation and compliance) and instrumental motivations are both separate to legitimacy and less important (Bolger & Walters, 2019). What about the relationship between legitimacy and legal compliance in São Paulo? To foreshadow the results once more, we find that a one latent trait model fits the data better than a two latent trait. By using the latent trait as a predictor of offending behavior, and compare its predictive power against alternate measures of legitimacy, we can test the idea that the more coercive the relationship between police and citizens (from the citizens’ perspective), the more likely they are to having reported committing a crime, and the more consensual the relationship is between police and citizens, the less likely they are to having reported committing a crime.

Data and methods

A representative survey of adults in the city of São Paulo was conducted between the months of June and July 2015. A two-stage cluster sampling design was used. During the first stage, clusters were randomly selected—census tracts of the city were polled, taking into consideration a systematic Probability Proportional to Size (PPS) at the region level. In the second stage, after randomly selecting houses, a fixed number of respondents was specified in each census tract, following specific quotas on demographic variables defined considering gender, age, education, and occupation. All interviews were conducted face-to-face in respondents' homes using Tablet-Assisted Personal Interviewing (TAPI) (for details, see NEV-USP, 2017). The final sample consisted of 1,804 respondents aged 16 and over living in 96 districts of the city.

Measures and analytical strategy

To measure duty to obey, we use a traditional closed-ended measure (“Do you think you have a duty to obey the police even when you believe they are wrong?”, with a binary “yes” or “no” response) and an open-ended follow-up question (“Why do you think you have/do not have a duty to obey the police even if you believe the police is wrong?”). We use thematic analysis on the open-ended question (for further details see Appendix B). Normative alignment with the police is measured using a single indicator: “The police act according to what I believe is right”, (1) never to (5) always. Personal and general fear of the police was also measured (personal: “Are you afraid of the police?”, with three responses of “no”, “undecided” and “yes”; general: “How often would you say that people are afraid of the police?”, “never” to “always” on a 1 to 5 Likert-scale).

We use latent trait analysis to assess the scaling properties of the different motives to obey or disobey the police, normative alignment and fear of police. In addition to answers to the closed-ended obligation question (binary) and the categories derived based on the open-ended follow-up (nominal), normative alignment (ordinal) and general and personal fear of the police (ordinal) are included in the latent trait modelling. We test whether a two or a one latent trait model fits the data best (see Figure 2), with the two trait model distinguishing between instrumental and normative police-citizen relations, while the one trait model places instrumental factors at one end (fear of the police, normative motives to disobey the police, instrumental motives to obey the police, and the absence of normative alignment) and normative factors at the other end (fear of police, normative motivations to obey the police, and the presence of normative alignment).

We then use the resulting measurement model to predict self-reported compliance with the law, adjusting for personal morality. To measure personal morality, five questions were asked: “Do you think it is right or wrong that people: (i) try to bribe a traffic warden to avoid a fine?; (ii) buy counterfeit goods?; (iii) use cable TV signal without paying for it?; (iv) buy goods without a receipt to pay less?; and (v) pay for a private doctor or a private dentist without a receipt?”. Answers were either “right” or “wrong”. To measure compliance with the law, these same five items were asked, but considering the question: “Have you ever...?”, and answers could be either “yes” or “no”. For both personal morality and offending the “no” and “wrong” answers were coded as 0, and the “yes” and “right” answers as 1. For the final scales of personal morality and offending, the responses from these five variables were summed, such that two six category variables representing offending behavior and (associated) personal morality judgements.

We assess whether legitimacy predicts offending behavior, adjusting for geographical region, gender (self-identified male or female), age, income (with regards to the minimum wage, six categories), education (seven categories), ethnicity (White, Black, ‘Mulato’, Asian, Native Brazilian⁵) and personal morality. Measures of duty to obey or the coercive power to consensual authority continuum trait scores were included with personal morality and demographic variables (gender, age, income, education, and ethnicity). Regional clustering was considered when estimating the standard errors. In the current data, missing data is an issue—in some cases pursuing complete case analysis would have resulted in losing almost quarter of the data. Multiple imputation (Lall, 2016; Lang & Wu, 2017) was carried out using chained equations and thirty-seven variables with partially missing values from the dataset. Because the highest proportion of missingness among the variables of interest was approximately 13%, thirteen imputations were done following von Hippel’s (2009) recommendation.

Based on the nature of the outcome variable, ordered logistic regression models⁶ were fitted with clustered robust standard errors for the regions considering the clustering of the sampling design. We specify legitimacy in the fitted regression models according to the 3 stages outlined above: (1) as a simple yes/no binary variable of duty to obey, (2) as the different categories created based on combining the closed-ended and open-ended responses of duty to obey, and (3) as a single latent trait, with normative considerations at one end, and instrumental considerations on the other.

Results

Are there different motives to feel obligated (and not feel obligated) to obey the police?

Some 74% of respondents who reported feeling a duty to obey police. Of these, just under half (34% of all respondents and 46% of those who said they would obey the police) gave a reason that indicated a sense of normatively-grounded obligation (Table 2 contains illustrative examples of the responses given to the open-ended question). This makes up the “acceptance of authority” group. The remainder of those who reported feeling obligated to obey (40% of all respondents and 54% of those who said they would obey the police) indicated that they obeyed for instrumental reasons. This makes up the “coercive obligation” group. Turning to the 26% of respondents who reported not feeling obligated to obey, just over two thirds of them (18% of all respondents and 69% of those who said they would disobey the police) believed that the police lack moral authority, making up the “rejection to authority” category. The rest of the respondents’ (8% of all respondents and 31% of those who said they would disobey the police) answers implied some sense that officers were acting in an immoral way, potentially giving illegitimate orders, and that not complying is therefore the right thing to do, making up the “disobedient protest” category.

Table 2: Answers to the closed-ended duty to obey question and the four categories derived by the content analysis of the open-ended follow-up question

Do you think you have a duty to obey the police even when you believe they are wrong?			
Motivation	Yes (74%)	No (26%)	
	Acceptance of authority (34%)	Disobedient protest (8%)	Rejection of authority (18%)
Normative reasoning	<i>"It is the citizen's duty to act in accordance with the law"; "The police officer represents the law and must be respected"; "We must obey the police, whether it's right or wrong"</i>	<i>"They are wrong and if I obey I will be going against my beliefs"; "Laws are for everyone and I can call internal affairs"; "I must make the officer understand my point of view"</i>	<i>"Because you cannot trust them"; "Because they wear uniforms and have the prerogative to say what the law is, and then engage in abuse of authority"; "Because they are corrupt and are worse than many outlaws"</i>
	Coercive obligation (40%)		
Instrumental reasoning	<i>"So that I do not suffer the consequences"; "I must obey because if I do not I can be imprisoned and accused of contempt of authority"; "If you do not obey, you can get beaten"</i>		

Descriptive findings

A significant minority of respondents reported being afraid of the police (around 30%). Table 3 shows that levels of fear were lower among those individuals who reported a normative sense of obligation to

obey (20%) and a normatively-grounded duty to disobey the police (25%). Levels of fear were higher among individuals who reported they would not comply because they viewed the police as illegitimate (32%) and those who said they would comply because they feared the consequences of non-compliance (39%). However, it is noticeable (a) that a surprisingly high number of those who expressed normative forms of obedience or disobedience also feared the police, and (b) a surprisingly high number of those who expressed an instrumental form of obligation to obey did *not* also fear the police.

Table 3: Fear of the police and forms of obligation to obey/not to obey the police

Are you afraid of the police?			
<i>Motivation</i>	<i>No</i>	<i>Yes</i>	<i>Total</i>
Normative acceptance of authority	385 (80%)	99 (20%)	484 (100%)
Disobedient protest (normative)	68 (75%)	23 (25%)	91 (100%)
Coercive obligation (instrumental)	321 (61%)	209 (39%)	530 (100%)
Normative rejection of authority	178 (68%)	83 (32%)	261 (100%)
Total	952 (70%)	414 (30%)	1366 (100%)

The association between fear of the police and normative alignment with the police is a little stronger (Table 4). Of those who strongly agreed with the statement ‘The police act according to what I believe is right’, 15% were afraid of the police, compared to 48% of those who strongly disagreed with the statement. Again, though, there does seem to be a certain amount of ambivalence—on the face of it, it is puzzle why would people who believe that the police act in normatively appropriate ways would also fear them.

Table 4: Fear of the police and normative alignment with the police

Are you afraid of the police?			
<i>Normative alignment with the police</i>	<i>No</i>	<i>Yes</i>	<i>Total</i>
Never act appropriately	150 (52%)	140 (48%)	290 (100%)
Rarely act appropriately	126 (55%)	103 (45%)	229 (100%)
Sometimes act appropriately	259 (72%)	101 (28%)	360 (100%)
Almost always act appropriately	206 (77%)	60 (23%)	266 (100%)
Always act appropriately	285 (85%)	50 (15%)	335 (100%)
Total	1026 (69%)	454 (31%)	1480 (100%)

Are instrumental and normative police-citizen relations two ends of a single continuum?

Appendix C provides complete results of the latent variable modelling, but briefly, we find that a two latent trait model that distinguishes between instrumental and normative factors fits the data, but a one latent trait model (with instrumental factors at one end of the continuum and normative factors at the other) fits the data even better. We proceed with the one trait solution for reasons of parsimony (there is value in going with the simplest solution) and because the descriptive findings above show ambivalence in the overlapping nature of instrumental and normative sentiments.

To get a better sense of what a certain score of the coercive to consensual continuum corresponds to, it is worth noting that—as with any latent trait—its mean is close to zero ($M=-0.001$) and it is normally distributed ($SD=0.84$, $Min=-2.21$, $Max=2.29$). Table 5 shows how the continuum is constituted via fitted probabilities of different levels of fear of the police, obligation to obey and normative alignment, conditional on continuum placement, holding all other variables constant at their

mean/reference category. First, levels of personal and general fear of the police are high at the -2SD (coercive) end of the continuum, low at the +2SD (consensual) end of the continuum, and below the middle at the mean (the probability of being personally afraid of the police for people at the mean of the continuum is 0.21) and the probability of saying that people are ‘almost always’ or ‘always’ afraid of the police is 0.66).

Second, people at the -2SD (coercive) end of the continuum are likely to either feel a coercive obligation to obey the police (probability of .48) or no obligation to obey the police because they do not think officers have rightful authority (probability of .41). People at the +2SD (consensual) end of the continuum are likely to feel an obligation to obey the police based on consent (probability of .73), although interestingly, there is a .16 probability of feeling a coercive obligation to obey the police. People at the mean of the continuum had a 0.31 probability of feeling a consensual obligation to obey the police and a 0.41 probability of feeling a coercive obligation to obey the police.

Third, people at the -2SD (coercive) end of the continuum are highly likely to feel that the police ‘never’ act according to what they believe is right (probability of .88). People at the +2SD (consensual) end of the continuum are highly likely to feel that the police ‘always’ act according to what they believe is right (probability of .90). People at the mean of the continuum had a 0.17 probability of saying ‘rarely’, a 0.39 probability of saying ‘sometimes’ and a .22 probability of saying ‘almost always.’

On this account, it does not seem to be the case that people in São Paulo have two distinct sets of attitudes toward police, one marked by normative concerns and the other by instrumental concerns. Rather, we find these attitudes exist in a symmetrical relationship at the two extremes and are intermingled in the middle of the continuum.

Table 5: Fitted probabilities to illustrate the composition of the coercive-consensual continuum

<i>Fitted probabilities</i>		<i>Personal fear of the police – Are you afraid of the police?</i>		
		<i>No</i>	<i>Don’t know</i>	<i>Yes</i>
<i>Coercive-consensual continuum</i>	<i>-2SD</i>	0.091	0.082	0.827
	<i>-1SD</i>	0.297	0.171	0.533
	<i>Mean</i>	0.639	0.148	0.213
	<i>+1SD</i>	0.882	0.058	0.060
	<i>+2SD</i>	0.969	0.016	0.015

<i>Fitted probabilities</i>		<i>General fear of the police – How often would you say that people are afraid of the police?</i>				
		<i>Never</i>	<i>Rarely</i>	<i>Sometimes</i>	<i>Almost always</i>	<i>Always</i>
<i>Coercive-consensual continuum</i>	<i>-2SD</i>	0.008	0.012	0.060	0.160	0.760
	<i>-1SD</i>	0.020	0.028	0.127	0.259	0.567
	<i>Mean</i>	0.046	0.061	0.230	0.310	0.352
	<i>+1SD</i>	0.105	0.121	0.325	0.265	0.184
	<i>+2SD</i>	0.221	0.192	0.334	0.167	0.085

<i>Fitted probabilities</i>		<i>Duty to obey content analysis categories</i>			
		<i>Consent</i>	<i>Normative resistance</i>	<i>Coercive</i>	<i>Rejection of authority</i>
<i>Coercive-consensual continuum</i>	<i>-2SD</i>	0.060	0.056	0.475	0.409
	<i>-1SD</i>	0.148	0.078	0.474	0.300
	<i>Mean</i>	0.312	0.094	0.406	0.189
	<i>+1SD</i>	0.531	0.091	0.282	0.096
	<i>+2SD</i>	0.730	0.071	0.159	0.039

<i>Fitted probabilities</i>		<i>Normative alignment – The police act according to what I believe is right</i>				
		<i>Never</i>	<i>Rarely</i>	<i>Sometimes</i>	<i>Almost always</i>	<i>Always</i>
<i>Coercive-consensual continuum</i>	<i>-2SD</i>	0.878	0.083	0.032	0.006	0.002
	<i>-1SD</i>	0.469	0.280	0.192	0.043	0.016
	<i>Mean</i>	0.098	0.172	0.390	0.220	0.119
	<i>+1SD</i>	0.013	0.030	0.151	0.282	0.524
	<i>+2SD</i>	0.002	0.004	0.023	0.072	0.900

Predictors of legal compliance

Finally, we turn to the question of whether duty to obey and coercive to consensual continuum predict self-reported compliance. The results of the regression models can be found in Table 6. Model 1 uses the original binary duty to obey variable, Model 2 the four content analysis categories, while Model 3 the coercive power to consensual authority continuum latent trait. In the first model, only personal morality is significant; ceteris paribus, a one-unit increase in the score of personal morality is associated with 46% decrease in the odds of reporting higher levels of offending behavior. In contrast, the original duty to obey variable does not seem to have an impact on offending behavior, controlling for all else.

Table 6: Ordinal regression analysis with odds ratios, multiple imputation and clustered robust standard errors for the sampling regions in squared brackets

	<i>Model1</i>	<i>Model2</i>	<i>Model3</i>
<i>Duty to obey</i>	1.107 [0.118]		
Content analysis categories			
<i>Acceptance of authority</i>		0.700*** [0.062]	
<i>Disobedient protest</i>		0.702 [0.153]	
<i>Rejection of authority</i>		0.809 [0.141]	
<i>Coercive/consensual continuum</i>			0.795*** [0.036]
<i>Personal morality</i>	0.540*** [0.025]	0.544*** [0.026]	0.546*** [0.025]
<i>Female</i>	0.708** [0.074]	0.708** [0.076]	0.699** [0.072]
<i>Age</i>	0.992* [0.004]	0.993 [0.004]	0.995 [0.004]
Income			
<i>1-2 times the minimum wage</i>	1.043 [0.192]	1.065 [0.196]	1.063 [0.192]
<i>2-5 times the minimum wage</i>	1.455** [0.192]	1.490** [0.211]	1.497** [0.196]
<i>5-10 times the minimum wage</i>	1.565** [0.262]	1.585** [0.267]	1.546** [0.243]
<i>10-20 times the minimum wage</i>	1.539 [0.440]	1.544 [0.431]	1.575 [0.444]
<i>20+ times the minimum wage</i>	1.001 [0.399]	0.988 [0.396]	1.039 [0.403]
Education			
<i>Literate, no schooling</i>	0.308*** [0.093]	0.320*** [0.096]	0.289*** [0.087]
<i>Incomplete primary school</i>	0.610 [0.181]	0.623 [0.183]	0.570* [0.157]
<i>Complete primary school</i>	0.608 [0.241]	0.633 [0.183]	0.569 [0.218]
<i>Incomplete elementary school</i>	0.873 [0.285]	0.633 [0.249]	0.828 [0.260]
<i>Complete elementary school</i>	0.916 [0.308]	0.908 [0.282]	0.852 [0.288]
<i>Incomplete high school</i>	1.018 [0.341]	0.940 [0.312]	0.980 [0.300]
<i>Complete high school</i>	1.192 [0.347]	1.048 [0.352]	1.150 [0.322]
<i>Incomplete college</i>	1.268 [0.484]	1.237 [0.358]	1.259 [0.453]
<i>Complete college</i>	0.928 [0.381]	1.310 [0.499]	0.898 [0.350]
Ethnicity			

<i>Black (African/Caribbean descent)</i>	1.069 [0.155]	1.061 [0.157]	1.020 [0.151]
<i>Mulato (mixed descent)</i>	0.989 [0.139]	0.994 [0.138]	0.971 [0.136]
<i>Yellow (Asian descent)</i>	0.739 [0.202]	0.697 [0.191]	0.758 [0.203]
<i>Native Brazilian</i>	0.794 [0.280]	0.819 [0.271]	0.800 [0.282]
Intercepts			
<i>Cutoff1</i>	0.015	0.013	0.016
<i>Cutoff2</i>	0.063	0.055	0.068
<i>Cutoff3</i>	0.227	0.200	0.247
<i>Cutoff4</i>	1.081	0.954	1.184
<i>Cutoff5</i>	6.322	5.581	6.990
<i>N</i>	1804	1804	1804

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ Reference categories: minimum wage, illiterate, white, male, coercive obligation (Model 2)

Model 2 finds a similar partial association for personal morality, where a one-unit increase in morality decreases the fitted odds of higher levels of offending by 46%. From the content analysis categories with coercive obligation as reference category, only acceptance of authority emerges as a significant predictor. All else equal, belonging to the acceptance of authority category instead of the coercive obligation category reduces the fitted odds of higher levels of reported offending by 30%. Neither belonging to the disobedient protest category, nor belonging to the rejection of authority category, are significant predictors of offending behavior. Finally, Model 3⁷ finds comparable statistical effects for personal morality, where holding all else constant, a single unit increase in morality decreases the fitted odds of higher levels of offending by 45.4%. Yet, here, the latent trait of the coercive power to consensual authority continuum is also significant: a one-unit increase in the latent trait reduces the fitted odds of higher levels of offending by 21%.

Another way of interpreting the results of Model 3 is to derive the fitted probabilities of the outcome, conditional on the changes in the coercive power to consensual authority continuum latent trait, while holding all other variables constant at their mean/reference category. Results are presented in Table 7, and show that a one standard deviation increase in the coercive power to consensual authority continuum latent trait corresponds, approximately, to a 5 percentage-point expected increase in the probability of reporting not to have committed any crime. In other words, the more normatively appropriate respondents felt their relationship with the police was, the less likely they were to report committing crimes. Conversely, those whose relationship with police was based on fear and a lack of consent were more likely to report breaking the law.

Table 7: Fitted probabilities of number of crimes committed for Model 3

<i>Fitted probabilities</i>	<i>Number of crimes committed</i>					
	<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>Normative compass</i>						
-2SD	0.251	0.310	0.242	0.141	0.045	0.010
-1SD	0.306	0.321	0.216	0.114	0.034	0.008
Mean	0.367	0.322	0.188	0.091	0.026	0.006
+1SD	0.432	0.312	0.160	0.072	0.020	0.005
+2SD	0.500	0.293	0.132	0.056	0.015	0.003

Discussion

The past decade has seen an increasing number of tests of procedural justice theory in the US, UK, Australia, as well as Israel, China, South Africa, Japan, Ghana, Pakistan and countries across continental Europe (for a review of the international literature, see Jackson, 2018). Most of these studies have shown (a) that the main factor explaining variation in perceived legitimacy (procedural justice) is relatively constant across multiple contexts, (b) that normative motivations of legitimacy and personal morality are distinct from instrumental motivations to comply and cooperate that focus on fear, risk and reward, and (c) that legitimacy is more strongly associated with self-reported compliance with the law (Walters

& Bolger, 2019) and cooperation with legal authorities (Bolger & Walters, 2019) than instrumental factors like the perceived risk of sanction (although see Glöckner et al., 2019).

São Paulo is a city with a long history of crime, police violence, and relatively widespread fear of the police. The starting premise for our two studies was that the social, political and legal history and context may have important implications for how we think about the sources of legitimacy, the nature of instrumental and normative police-citizen relations, and the link between legitimacy and legal compliance. We sought to address a few ways in which some of the central tenets of procedural justice theory (PJT) might need to adapt to the reality of policing in this city of the Global South

In PJT, legitimacy is typically defined along two connected dimensions: (1) normative justifiability of power in the eyes of citizens and (2) willing citizen consent to the legal demands associated with an authority. Our two studies map onto each of these two constituent parts. Study one contributed to the increasingly international literature on the dimensions of police conduct that legitimate (or delegitimize) the police in the eyes of citizens. We found in study one that a fair amount of individuals in São Paulo tolerate—or at least are ambivalent towards—police use of excessive force against certain out-groups, and moreover that significant numbers believe that the police are ineffective against crime and believe the police lack distributive justice. We asked, given these findings, whether tolerance of excessive violence partly legitimates the police in the eyes of citizens (for discussion of the theoretical and empirical links between legitimacy and attitudes towards citizen and police violence, see Jackson et al., 2013, Gerber & Jackson, 2017, and Bradford et al., 2017), and whether effectiveness and distributive justice are also important legitimating factors.

Contrary to expectations—and consistent with previous research—we found that procedural justice was key to police legitimation in São Paulo. PJT distinguishes between normative sources of legitimacy (procedural justice and bounded authority) and instrumental sources of legitimacy (effectiveness and distributive justice) and we found that procedural justice had by far the strongest partial association with normative alignment, followed by police effectiveness and respect for boundaries, both of which were relatively weak predictors. Our results imply that even in a low trust and high fear city like São Paulo, where certain forms of excessive use of force by the police are not firmly rejected, the key normative component of appropriate police behavior (procedural justice) is the best predictor of perceived appropriateness of the police as an institution.

Study two then turned to the obligation to obey part of the legitimacy concept: namely, the belief ‘...that it is appropriate and right for some external authority to make decisions about law and legal policy and that they ought to voluntarily follow those decisions, without concerns about reward and punishment’ (Tyler & Trinkner, 2018: 39). PJT scholars make a sharp distinction between consensual and coercive policing and police-citizen motivations to comply with the law (and the police). The first assumes that rule-following is rooted in norms and values, whereby people follow rules and commands because they think it is the right thing to do. The second assumes that rule-following is rooted in instrumental judgements of risk and punishment, whereby people obey the law and police because they fear the consequences of non-compliance.

Contrary to work from the US, UK and Australia, we showed in São Paulo that legitimacy can be usefully conceived as existing as one pole on a *coercive to consensual continuum*, moving from an instrumental relationship at one end to a normative relationship at the other. We found in São Paulo that people’s obligation to obey the police are more complex and varied: some people reported feeling a duty to obey the police ‘even if they think the officer is wrong’, suggesting a voluntary deference that flows from internalization of group norms and values; others reported feeling a duty to obey because they were concerned about the consequences of non-compliance. Our analysis indicated that the instrumental police-citizen relationship is based on fear of the police and the absence of normative appropriateness and normative obligation. By contrast, the normative police-citizen relationship is based on a lack of fear of the police, an absence of instrumental obligation, and the presence of normative appropriateness and normative obligation to obey police. People who fall in the middle of the continuum exhibit both instrumental and normative connections to the police.

Prior tests of PJT have found that legitimacy predicts legal compliance, adjusting for fear of being caught by the police and personal morality (Sunshine & Tyler, 2003; Jackson et al., 2012; Murphy et al., 2016; Trinkner et al., 2018). We found that the resulting coercive to consensual continuum was a

positive predictor of legal compliance, adjusting for people's views on the immorality of the illegal acts under investigation. People who were more likely to engage in criminal activities were also more likely to fear the police, more likely to feel obligated to obey officers for instrumental reasons, and more likely to not believe that the police lacks normative appropriateness. This contrasts with extant work in the US, for instance, that approaches something akin to fear of the police (or at least fear of being caught by the police if one were to commit a crime) as conceptually distinct from legitimacy (indeed orthogonal to) and find that legitimacy is a stronger separate predictor of legal compliance than instrumental factors (Sunshine & Tyler, 2003; Tyler, 2006a, 2006b; Trinkner et al., 2018).

This is striking for four reasons. First, it suggests that the sense of normative obedience toward authority should not in São Paulo be considered as fundamentally distinct from an understanding that obedience is necessary, a rational (instrumental) response to an often brutal police agency. A fair number of respondents in study two felt that they 'should' obey police instructions, but they had two distinctly different reasons for doing so. In some cases, obedience was normative, and thus premised in and representative of a relationship with police marked by legitimacy. In other cases, though, obedience was prudential and essentially coerced.

Second, we found that only normatively grounded obedience of police was linked to greater compliance with the law; those who indicated they would obey police through fear were *less* likely to say they would obey the law. This finding may have important implications for how we think about instrumental compliance in criminal justice settings. It is often assumed that even if people do not comply with the law for legitimacy-based reasons, then instrumental motivations may still be in play, at least in some times and places. On this account, if all else fails, aggressive policing that demonstrates the risks of non-compliance can hold the line. Yet our results suggest that when people obey police through fear this may not only fail to increase legal compliance but actually *diminish* it. Policing styles oriented toward increasing prudential compliance, at least as far as this is generated by fear of the police, may therefore be actively counter-productive, and indeed criminogenic.

Third, this last point may have relevance for policing beyond Brazil because, we suspect, the notion that legitimacy exists on a continuum with prudential or coerced compliance will be relevant in many other contexts as well. There are two somewhat contrasting ways to position this argument. First, to the extent that legitimacy is founded in norms of fairness and due process, to say one would obey police out of fear of the consequences of disobedience is in some senses inevitably to indicate the absence of legitimacy. A relationship based on fear is antithetical to legitimacy, not something that merely runs alongside it, and this may be the case outside Brazil as well as within it. Second, 'obedience' may be better positioned on continuum representing 'reasons for obedience' because, in the end, most people will comply with police instructions (i.e. they will obey). Bittner argues that police are "a mechanism for the distribution of nonnegotiable coercive force" (1990:131). Non-compliance with police instructions will always risk violence, and if the policed do not comply through the mechanism of legitimacy they will be coerced, ultimately at the end of a gun (in most countries at least). To put it another way, compliance with police instructions will be forthcoming in the vast majority of cases, whether it stems from normative or instrumental concerns, and this brute fact should be taken into account in our models of public obedience toward police. What is at stake in PJT, of course, is precisely the *reason for* obedience, the claim being that normative compliance (willing consent) is both ethically more desirable and a more sustainable model for police authority and the exercise of power. In as much as they suggest that coerced compliance may be actively criminogenic, our results here support this latter claim.

Finally, our findings speak to the difficulty of measuring police legitimacy in contexts outside advanced liberal democracies. But despite such difficulties we have demonstrated that 'the moral duty to obey' can be measured in countries where the question might prompt ambiguous responses, provided that proper methodological care is taken. In study two we used a combination of methods, content analysis followed by latent trait analysis, to capture people's understanding of legitimacy of the police. We would encourage other researchers to employ similar techniques. At the same time, we also want to emphasize the need for more thorough question testing. It is possible that there are still better measures of duty to obey that could be successfully fielded both in high legitimacy and low legitimacy environments alike.

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Appendix A: Latent class analysis of public attitudes towards excessive police violence

We use latent class analysis (LCA) to assess the underlying structure of approval/disapproval of excessive police use of force. We set the indicators as ordered categorical variables. When deciding the number of classes, researchers generally rely upon three considerations (Nylund, Asparouhov, and Muthén, 2007): (1) model fit statistics, in particular the likelihood-ratio (LR) tests and model fit indices gauging how well the model represents the data, (2) the entropy of the model and the average latent class probabilities, establishing whether clear delineation of classes is feasible, and (3) substantive considerations, or in other words, whether the derived classes make sense.

From the three models, the 4-class solution is the least preferable option (Table A1). The bootstrapped LR-test is not significant, implying that the model does not improve upon the 3-class solution, and the BIC (Bayesian Information Criterion) value is the highest, which indicates the worst fit. Entropy represents how well the LCA model differentiates between the latent classes, with values closer to one representing better solutions. In comparison, the average latent class probabilities quantify how precisely units can be assigned to their classes. On these two statistics, the 4-class solution does not perform well either, with the entropy being lower compared to the 3-class solution, and the average latent class probabilities being the lowest across the models.

Table A1: Model fit comparison of the latent class analysis

Number of classes	Bootstrapped LR-test	BIC	Entropy	Average latent class probability
2-class solution	LR=-2570.616, $p < 0.001$	5204.419	0.387	0.757-0.844
3-class solution	LR=-2537.210, $p > 0.05$	5253.214	0.670	0.724-0.883
4-class solution	LR=-2527.503, $p > 0.05$	5310.437	0.635	0.466-0.944

On the one hand, then, from the 2- and 3-class solutions, the 2-class solution has the better model fit statistic according to the BIC and the 3-class model does not appear to be significantly better than the 2-class one (although it comes close with $p=0.072$). On the other hand, both the entropy and latent class probabilities favor the 3-class approach with much higher entropy and slightly higher average class probabilities. These apparently contradictory test statistics can be explained by looking at the emergent latent classes in the 3-class model (Table A2), where one of the classes is much smaller than the other two. Tests of global fit and model comparisons tend to be very sensitive to imbalances in class sizes and the presence of a small, but distinctive class can make it appear as if the 2-class solution performed better. All things considered, therefore, we find the 3-class model to be more appropriate, particularly because it also makes more sense from a theoretical point of view, as discussed above.

Table A2: Latent Class Analysis results in probability scales for each variable

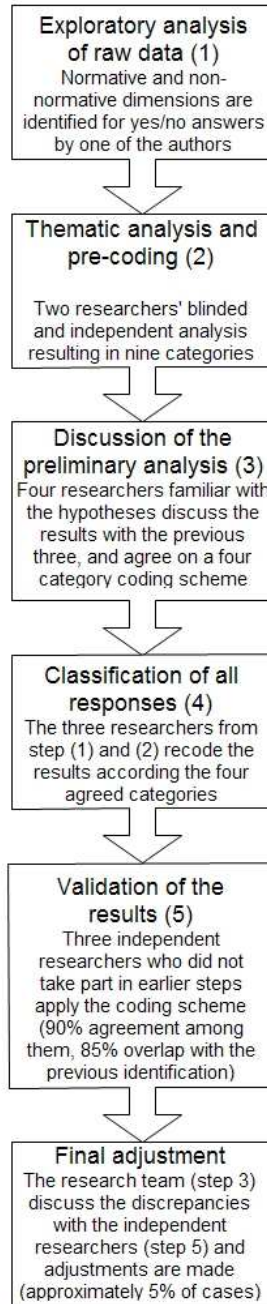
Variable	Response alternatives	LCA results in probability scale		
		“Ambivalent towards violence”	“Tolerant of violence”	“Intolerant of violence”
Murder of a suspect in custody	<i>Very poor</i>	0.563	0.171	0.958
	<i>Poor</i>	0.240	0.171	0.006
	<i>Neither good or bad</i>	0.105	0.204	0.016
	<i>Good</i>	0.060	0.296	0.019
	<i>Excellent</i>	0.032	0.158	0.000
Excessive use against student protesters	<i>Very poor</i>	0.310	0.155	0.733
	<i>Poor</i>	0.294	0.209	0.097
	<i>Neither good or bad</i>	0.248	0.135	0.105
	<i>Good</i>	0.148	0.261	0.036
	<i>Excellent</i>	0.000	0.239	0.030
Search without a warrant and torture of a suspect	<i>Very poor</i>	0.186	0.000	0.757
	<i>Poor</i>	0.369	0.000	0.051
	<i>Neither good or bad</i>	0.310	0.040	0.023
	<i>Good</i>	0.135	0.453	0.083
	<i>Excellent</i>	0.000	0.507	0.085
<i>N</i>		468	74	385
<i>%</i>		50.5%	8.0%	41.5%

The best way to understand the three emergent latent classes is to juxtapose each variable’s categories to the probability of belonging to a certain class. We named the biggest group (n=468) in the 3-class model “ambivalent towards violence” because most people belonging to this class disapproved of excessive police use of force, although a minority were either undecided or willing to approve of excessive police violence. We named the second and smallest (n=74) class “tolerant of violence” because in this group the majority of people were either undecided regarding the use of excessive police violence or approved of it. Finally, we named the third group “intolerant of violence” (n=385). In this group, in each variable at least approximately three-fourths of the respondents found the way the police handled the described scenarios ‘very poor’.

Appendix B: Details of the thematic analysis

For the thematic analysis, an elaborate coding scheme was devised with six distinct steps as shown by the flowchart (Figure B). Further details regarding the coding are available from the authors upon request.

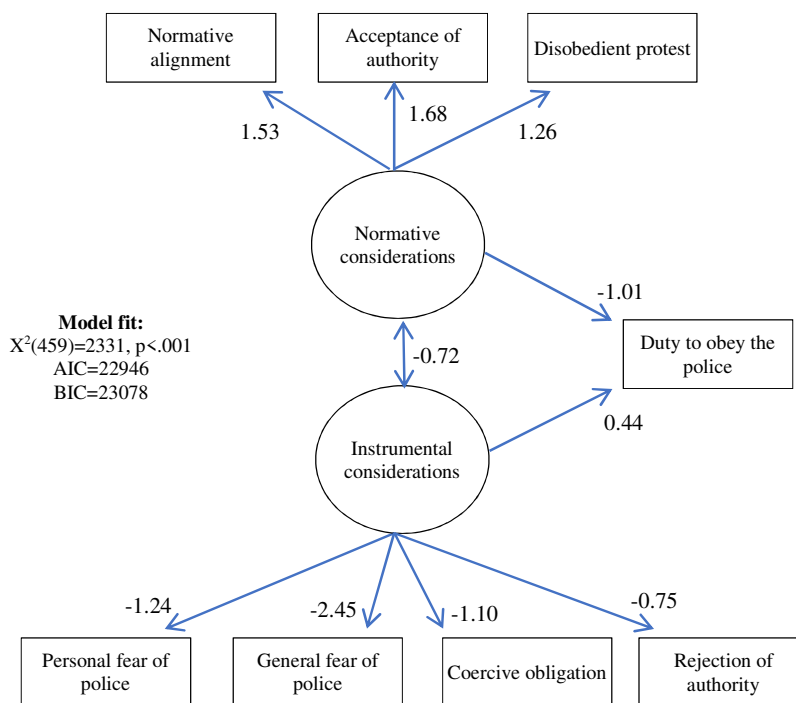
Figure B: Outline of the thematic analysis carried out responses to the open-ended question



Appendix C: Latent trait analysis

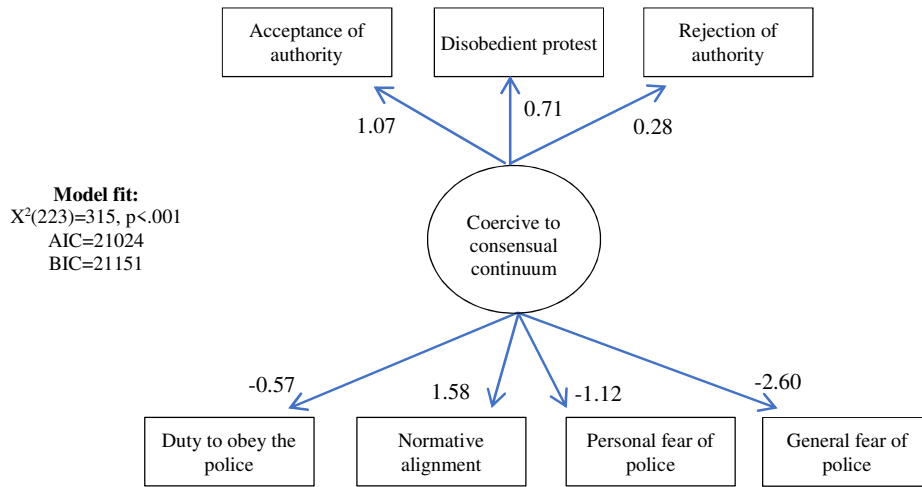
We first fit a two-trait model. This is based on the idea that people differentiate between instrumental and normative considerations when they think about whether they would obey police instructions. The model for normative considerations included the original duty to obey variable, the two consensual content analysis categories (i.e. acceptance of authority and disobedient protest), and an item tapping into normative alignment with the police. The instrumental latent trait contained the original duty to obey variable, the two prudential content analysis categories (rejection of authority and coercive obligation), and two items regarding personal and general fear of police. The normative and instrumental latent traits were correlated with one another. To make the relative contribution of each variable comparable, the coefficients reported here were standardized by the corresponding continuous latent variable's variance, quantifying relative influence of the nominal, binary, and ordinal variables for each trait (this, however, does not permit cross-model comparison).

Figure C1: Two latent traits for normative and instrumental considerations



The results for the two-trait solution are shown in Figure C1.⁸ For the normative considerations trait, acceptance of authority had the strongest positive loading ($\lambda_{\text{accept_norm}}=1.68$), then normative alignment ($\lambda_{\text{normative_norm}}=1.53$), and disobedient protest ($\lambda_{\text{disobprot_norm}}=1.26$). The trait loading of the original duty to obey variable was weaker ($\lambda_{\text{obey_norm}}=-1.01$). For the instrumental considerations trait, all of the trait loadings were negative, as an indication of the negative association between the two latent traits. General fear of police has the strongest trait loading ($\lambda_{\text{genfear_coerc}}=-2.45$), followed by personal fear of police ($\lambda_{\text{persfear_coerc}}=-1.24$), the coercive category ($\lambda_{\text{coerc_coerc}}=-1.10$), rejection of authority category ($\lambda_{\text{rejaht_coerc}}=-0.75$), and finally, the original duty to obey variable ($\lambda_{\text{obey_coerc}}=0.44$). As expected, being afraid of the police was the strongest indicator of instrumental considerations, followed by the duty to obey related constructs. Yet, it is still notable that general fear of the police contributes almost twice as much to the latent trait compared to personal fear of the police, twice as much compared to the coercive category, and more than three times as much compared to the rejection of authority category, and more than five times as much as the original duty to obey variable.

Figure C2: Single latent trait, the coercive to consensual continuum



Note, however, the high correlation between the two latent traits ($r=-0.72$). This suggests that instrumental and normative considerations might indeed be two sides of the same coin (i.e. part of a single underlying dimension). We next fit a single trait model, incorporating all the observed variables described above, and named it coercive to consensual authority continuum. The results from this modified model are shown in Figure C2. General fear of police has the strongest trait loading ($\lambda_{\text{genfear_polleg}}=-2.60$), followed by normative alignment ($\lambda_{\text{moral_polleg}}=1.58$), personal fear of police ($\lambda_{\text{persfear_polleg}}=-1.12$), acceptance of authority ($\lambda_{\text{accept_polleg}}=1.07$), disobedient protest ($\lambda_{\text{disobprot_polleg}}=0.71$), duty to obey ($\lambda_{\text{obey_polleg}}=-0.57$), and rejection of authority ($\lambda_{\text{rejaut_polleg}}=0.28$). As with the instrumental model, general fear of the police made the greatest contribution to the latent trait, but the contribution of normative alignment is also almost three times that of duty to obey. Overall, the latent trait of coercive power to consensual authority continuum comprises mainly the presence or absence of fear of the police and the recognition (or not) of shared values, whilst obligation related deliberations only appear to play a secondary role.

A straightforward way to compare the latent trait models is to rely on the penalised model selection criteria, the AIC (Akaike Information Criterion) and the BIC (Bayesian Information Criterion). These indices can be used to compare non-nested models, lower values, suggesting a better fit (Kuha, 2004). For both the AIC and BIC, the single-trait solution (AIC=21024.49, BIC=21150.94) outperformed the two-trait one (AIC=22560.85, BIC=22714.79). This implies that consensual and instrumental relationships with the police can be reflected along the same, single dimension which we call normative compass. Crucially, while high scores on this scale indicate that people feel that the police are normatively appropriate, share their values and are not to be feared, and thus, they ought to obey them (i.e. legitimacy); low scores do not indicate simply an absence of legitimacy but rather the presumption of an antithetical, illegitimate relationship (that the police do not share their values, are to be feared, and are not justified in commanding obedience).

¹ See Trinkner et al., (2019) in English and in Portuguese see Oliveira et al., (2019), Oliveira et al., (forthcoming) and Zanetic (2017). Trinkner et al., (2019) analyzed the second wave of the São Paulo Legal Socialisation Study of adolescents, finding a strong association between procedural justice and legitimacy, and that procedural justice has a moderately strong relationship with crime perception. Oliveira *et al.*, (2019) discussed how to measure police legitimacy among São Paulo citizens based on respondents' normative alignment and duty to obey the police, as well as tested procedural justice theory. Oliveira et al., (forthcoming) studied the extent to which a normatively grounded duty to obey the police mediates the association between perceived fairness and self-reported compliance with the law. Zanetic (2017) analyzed the association between perception of procedural fairness and both trust in the police and legitimacy of the law. All four studies found empirical evidence that supports Tyler's (2006a, 2006b) process-based model of self-regulation.

² We should note that a recent development of PJT predicts that bounded authority concerns are also important. The idea is that concerns about process and about officers overstepping the limits of their rightful authority are both important criteria by which people judge the legitimacy of the police as an institution, with emerging evidence in the UK (Huq et al., 2017) and the US (Trinkner et al., 2018).

³ See <<https://g1.globo.com/monitor-da-violencia/noticia/2019/04/19/numero-de-pessoas-mortas-pela-policia-no-brasil-cresce-em-2018-assassinatos-de-policiais-caem.ghtml>> (access on 08.28.2019).

⁴ Though their name has changed a few times since then, "Military Police" has been the organization's name since 1970.

⁵ Self-reported ethnicity was measured following the official ethnical distribution of the Brazilian Institute of Statistics and Geography (IBGE).

⁶ Alternative link functions (i.e. negative binomial and poisson) were also tested. The ordinal regression model fitted the data better according to AIC and BIC.

⁷ Alternative models were also tested with higher order effects of coercive power to consensual authority continuum (e.g., squared, cubic) and interactions with other variables (e.g., personal morality, gender), but none of these were significant.

⁸ For both Figure 3 and Figure 4, all pathways were significant on the 0.1% level and the stars were left out for visual ease.