STATE PRESENCE AND DEMOCRATIC CULTURE: A SPATIAL INVESTIGATION

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Abstract: The relationship between state presence and individual-level democratic attitudes remains an open line of inquiry long after the third-wave of democratization. While greater access to state resources implies stronger integration into the state's legality, increased exposure to ineffective or violent state agents can have a toxic effect on notions of citizenship. This article seeks to measure the relationship between perceived access to agents of the state and individual support for democracy as the best form of government. To develop a measure of daily access to street level state organizations such as the police, firefighters, and public healthcare workers, this article uses the geocoded locations of each survey respondent in the Local Democracy Index (Índice de Democracia Local - IDL) of the city of São Paulo. Several different multilevel model specifications suggest that this measure of distance negatively correlates with support for democracy, implying that respondents living closer to state offices are more likely to express pro-democratic views while controlling for important socio-economic characteristics. These results suggest that a higher level of access to state agents and the services they provide could promote certain dimensions of democratic citizenship, though the relationship can be negated when those interactions are mostly violent in nature.

Keywords: state presence, GIS, local government, citizenship

Recebido em: 24/04/2020
Aceito em: 01/09/2020

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Revista Teoria & Pesquisa, v. 29, n. 2, 2020, p. 159-186.
DOI: http://dx.doi.org/10.31068/tp.29206

A PRESENÇA DO ESTADO E A CULTURA DEMOCRÁTICA: UMA INVESTIGAÇÃO ESPACIAL

Resumo: A relação entre a presença do estado e atitudes democráticas permanece uma linha aberta de investigação após a terceira onda de democratização. Embora maior acesso aos recursos do estado implique uma integração no estado de direito, maior exposição a agentes do estado que são ineficazes ou violentos pode ter um efeito tóxico nas noções de cidadania. Este artigo busca medir a relação entre a percepção de acesso a agentes estatais e o apoio à democracia como a melhor forma de governo. Para desenvolver uma medida de acesso cotidiano às burocracias estatais de rua como a polícia, os bombeiros e os profissionais de saúde pública, este artigo usa as localizações geocodificadas de cada entrevistado da pesquisa no Índice de Democracia Local da cidade de São Paulo. Diversas especificações de diferentes modelos multiníveis sugerem que essa medida de distância se correlaciona negativamente com o apoio à democracia, o que implica que os respondentes que moram perto de agências estatais são mais propensos a expressar opiniões pró-democráticas, mesmo controlando por características socioeconômicas importantes. Esses resultados sugerem que um nível mais alto de acesso aos agentes do Estado e aos serviços que eles prestam pode promover certas dimensões da cidadania democrática, embora essa relação possa ser negativa quando as interações com agentes estatais são majoritariamente de natureza violenta.

Palavras-chave: Presença do Estado, GIS, governo local, cidadania

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DOI: http://dx.doi.org/10.31068/tp.29206

1. Introduction

In post-authoritarian and post-conflict societies, the question of how to cultivate democratic culture among the population, where individuals support the democratic regime and see themselves as active, participating citizens as opposed to passive clients or excluded outsiders looms large. The role that state institutions and agents of the state play in this story is recognized as important but remains subject to much debate. On the one hand, state capacity and state penetration in civil society have been identified as critical factors for democratic consolidation. Having at least a minimally capable state is often considered a necessary condition for any stable democracy. As (Stepan and Linz, 1996) succinctly put it, "[n]o state, no democracy" (14). It is difficult, though not impossible, to imagine a strong democratic culture emerging in a national territory that suffers from acute state absence.

On the other hand, stronger states and increased contact with state agents are hardly guaranteed to promote democratic citizenship. One need only look to instances of widespread state-sanctioned violence (Cruz, 2010; Willis, 2018) and clientelist networks built on the infrastructure of state welfare programs (Grzymala-Busse, 2008; Stokes, 2005) to see that the *wrong kind* of state presence has the potential to be toxic to democratic attitudes. This paper zooms into a specific political context, the city of São Paulo, to examine the impact that increased access to state resources has on one dimension of democratic citizenship, the minimal but necessary support for democracy as the best form of government, regardless of the circumstances.

São Paulo, just as many other Brazilian cities, contains stark inequalities across its territory. In wealthier, well-connected neighborhoods the state is clearly present and efficient while in large swaths of certain favelas criminal organizations effectively govern with minimal challenge from the state (Lessing and Willis, 2019; Magaloni, Franco-Vivanco, and Melo, 2020). Surveys of post-transition outcomes in Latin America and other "third wave" transitions demonstrate similar unevenness between and within single countries (O'Donnell, 1993). While there have been advances in understanding the relationship between public goods provisions and democratic attitudes at the individual level (Gottlieb and Kosec, 2019), much of the empirical work on the question remains cross-national in nature despite the often subnational quality of the relationship.

The context of São Paulo means that the data presented in the Local Democracy Index (*Índice de Democracia Local de São Paulo* - IDL) provide an excellent opportunity to investigate the relationship between access to state resources and democratic attitudes at the appropriate level of analysis. By focusing on the relationship between individual attitudes and spatial patterns of state service distribution, measured using the physical locations of state offices such as police stations, conflict mediation centers, hospitals, and welfare distribution centers, this paper

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represents a first step in developing a more complete picture of how the organs of the state impact democracy at the micro level.

The findings indicate that there is a strong and robust relationship between a respondent's support for democracy and the distance that the respondent lives from key state offices. The further away a respondent lives from these symbols of state power, the less likely they are to support democracy as the best form of government. While the current design does not allow for definitive conclusions about the direction or causality of this relationship, the evidence presented in this paper calls for further investigation, including repeating the IDL in future years and expanding to other cities to more precisely identify the mechanisms by which this relationship functions.

2. Democracy and the State

Democratic rule, the quality of democratic institutions, and the democratic culture of citizens have all had a contentious theoretical relationship with the concepts of state power and penetration.[2] Operating in the context of mass sovereignty at minimum changes the incentive structure of public servants, as they have to respond to a larger group of principals (Besley, 2006). However, much of the work theorizing this relationship focuses on how the institutions and practices of democracy at the regime level affect state power and the size and strength of the public sector. Micro-level work examining how access to state resources and participating in democratic governance affects individual attitudes has emerged in political economy, judicial institutions (Brinks, 2008), and political behavior. However, this question and the details of how state power, democratic culture, and democratic institutions relate to one another remains a rich and open line of research.

Uneven Outcomes

One of the most consistent findings about the quality of democratic governance in Latin America is its highly uneven distribution across national territories. O'Donnell, 1993, for instance, recognized early that not all subnational regions were achieving equal levels of democratic consolidation. He placed the cause of the divide at the feet of the state, dividing Latin American territories into various differently colored regions. "Green" territories of strong, consolidated

[2] See Evans et al., 1985 for some early discussion of this debate, particularly Skocpol 1985. (Mann, 1984; 2008) provide another perspective, suggesting that democratic societies are conducive to certain kinds of state power, namely infrastructural as opposed to despotic power.

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democratic rule where the state enjoyed deep penetration and legitimacy, a "blue" intermediate category, and the infamous "brown" regions where the state remained absent, weak, or reliant on patrimonial or clientelist relations with citizens. For O'Donnell, the nature of the state, the regime, and the sense of citizenship among individual citizens were highly interconnected. However, it was unclear from his setup how "brown" areas could become "green". Would greater state penetration lead to stronger democratic attitudes, improving the quality of democracy, or would a stronger state lead to more repressive and effective pockets of authoritarianism? While the status quo was well described, the dynamic relationship between state and democracy remained less understood.

Continuing this line of research, scholars have advanced in their understanding of subnational regimes. The level and quality of democratic governance at the national level is often insufficient for understanding day to day local realities. The presence of subnational authoritarian regimes has been further recognized and extensively explored in Brazil (Behrend and Whitehead, 2016; C. Souza, 2016), Mexico (Herrman, 2016), and Argentina (Gervasoni, 2010). Explanations for subnational variation in regime type range from the institutional to the cultural. Gervasoni, 2018, for instance, develops an economic model of subnational regime type in Argentina based on the logic of unearned fiscal rents as a sort of "resource curse" for the provinces. Others identify the values of individual leaders or groups who represent authoritarian holdovers as explaining variation below the national level in the consolidation and quality of democratic governance (Baldwin and Holzinger, 2019; Berman and Nugent, 2019).

The expansion of the agenda from cross-national to sub-national studies has been a positive one and has allowed for greater theorizing and fine-grained empirical work that approximates more closely the daily functioning of national and subnational state apparatuses and regimes. However, there is good reason to extend the investigation even further down to the level of the individual citizen. Beyond the institutions that enable undemocratic governance or individual leaders who seek to perpetuate their hold on power is the self-perception and actions of the citizens. In O'Donnell's "brown zones", for instance, the efforts of would-be reformers can be frustrated by the fact that residents do not relate to the state as active, participatory citizens. Understanding the relationship between greater state presence and democratic attitudes will go far in informing advocates for democracy how to best promote a consolidation of democratic norms within the minds of individual citizens.

Democracy and Public Goods

One highly developed line of inquiry in the relationship between state institutions and democratic governance is the impact that electoral competition has on the provision of public

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goods. Besley, 2006 develops a comprehensive rational choice model of the political economy of democratic governance, highlighting the impact that different incentive structures and institutional designs can have on the effectiveness of economic policy making in democratic governments. Scholars of democratization have also noted a positive relationship between democracy and the size of the public sector (Adserà and Boix, 2002; Boix, 2001).

It seemed a contradiction at first that open, democratic regimes who generally pushed liberalizing economic reforms in the post-Cold War also measurably expanded their public sector and welfare spending. However, the logic of political competition can explain much. Rodrik, 1998, for example, outlines a theory of social insurance where voters exposed to greater economic threat from foreign competitors demand a stronger and more extensive social safety net in order to compensate for this risk. While societal pressures exist in authoritarian regimes, the electoral competition component of democracies amplify the impact of such demands on policy makers.

Much of the previously cited literature occupies a very high level of analysis at the national or international level. Implicit in their theories or not directly considered is the relationship between democratic governance and individual attitudes about citizenship. Several recent studies have lowered the level of analysis to the individual or the municipality. Gottlieb and Kosec, 2019 leverage changes in electoral rules in Mali to identify a relationship between electoral competitiveness and public goods provisions. Ashworth et al., 2014 similarly find that greater electoral competitiveness leads to more efficient municipal policies in Flanders while Alves, 2015 finds that the nature of political competition in Brazil helps to determine the extent of public health provision at the municipal level. Since public goods such as healthcare, public safety, and enforcement of economic contracts represent a citizen's most direct daily interaction with the state apparatus, these micro-level studies represent an important step forward.

More work remains to be done studying variation within a single electoral context. Electoral politics can only go so far in explaining variation where all voters participate in the same electoral system and vote for the same slate of candidates. While many empirical studies demonstrate correlations between democratic governance and the size of the public sector, social welfare spending, and efficient distribution of public goods, it is less understood how contact with these goods and institutions, once established, affects the individual's sense of citizenship and democratic attitudes. Stronger networks of public goods provision could strengthen citizenship in a democratizing society, as such goods demonstrate that the state apparatus exists to serve the needs of its citizens. However, an expanded public sector could also cultivate clientelist relations between citizens and agents of the state, poisoning individual senses of agency and ownership of nominally democratic regimes (Auyero, 2012).

The ways in which the distribution of public goods and contact with agents of the state affect democratic attitudes within individual citizens is therefore a line of investigation equally important as the macro-level impact of regime type on public goods distribution. The answer will

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help identify potential vicious or virtuous cycles between state action, individual attitudes and behaviors, and regime type outcomes at all levels of government.

Citizenship and Coercion

The institution of the police holds a central role in democratic societies as the institution at least formally in charge of enforcing the rule of law. Police departments vary dramatically in how successfully they accomplish this task, however. While democratization and security sector reform can go hand-in-hand (Bayley, 1995), democracy paired with authoritarian remnants or deeply embedded anti-democratic police culture has the potential to actually weaken the rule of law (Davis, 2006).

At the individual level, how the police behave and treat citizens has been shown to have powerful effects on citizen attitudes. Citizen-focused, community-based policing tactics are shown to increase feminist attitudes among men (Córdova and Kras, 2020) and improve state-society relations in certain favelas (S. I. de Souza, 2019). However, perceptions of police impunity (Brinks, 2008) and high continuity in the security sector with repressive, authoritarian predecessor organizations (Cruz, 2011) are toxic to individual-level citizenship and therefore the health of a democratic regime.

The police forces of São Paulo present an interesting wrinkle to the story of expanded state presence exerting a positive influence on democratic attitudes such as support for democracy. The police forces of São Paulo are some of the largest, best funded, and most violent of the continent, killing an average of 1.6 people per day even in the relatively peaceful year of 2012 (Ahnen, 2007; Willis, 2015). The rate has increased since then with over 700 deaths in 2019. However, most of the violence is isolated to marginal communities (Cardia and Schiffer, 2002), meaning that *Paulistanos* interact with the police in different ways depending on who they are and where they live (Adorno, 2002). For some, the police are a helpful state bureaucracy while for others the police reasonably represent security threats. The effect of expanded access to police might be different for these distinct groups.

3. Hypotheses and Empirical Expectations

The literature on the relationship between state presence, democratic consolidation, and citizenship present several empirical expectations that can be tested with the data provided by the IDL. First, much of the literature on democratic consolidation places much explanatory power in the geographic distribution of state institutions, and the strength of state penetration in society.

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Cases of failed transitions or weak, "delegative democracy" are blamed on weak, incapable state institutions while cases of successful transition and vibrant post-authoritarian civic life are credited to strong, well-endowed states and deeply embedded state-society relationships. We should expect, therefore, that increased access to state resources should *ceterus paribus* lead to greater support for the democratic regime.

H1: Greater availability of state resources to an individual will increase the probability of supporting democracy as the best form of government

However, in regions where state agents are perceived to have high levels of impunity or where the police regularly are involved in violent confrontations, expanded access to state resources might actually weaken support for the democratic regime. In cases where there are ineffective or abusive state agents, increased access to the resources they provide could simply highlight their negative qualities and cast the democratic regime that supplies them in a negative light. We should therefore expect for increased exposure to state violence to diminish support for democracy generally.

H2: Greater exposure to state-sanctioned violence will decrease the probability of supporting democracy as the best form of government

Since the statistical models estimated in this paper operationalize the level of state resource availability as distance from certain offices of state agents, the hypotheses will be reformulated slightly to fit the measurements more precisely. Respondents who live further away from state offices should experience a lower sense of day-to-day availability of state resources, regardless of how often they utilize them. Therefore:

H1a: Greater physical distance between respondents and state offices will decrease the probability of supporting democracy as the best form of government

H2a: Greater physical distance between respondents and incidents of state-sanctioned violence will increase the probability of supporting democracy as the best form of government

The principal aim of this investigation is to evaluate the overall effect that increased access to public resources of all kinds has on support for democracy, one of the most fundamental elements of democratic culture. While there is initial exploration of the variable effect that the

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despotic face of the state can have on support for democracy with H2, a more precise design focused specifically on state-sanctioned violence is needed to reach definitive conclusions.

4. **Data and Methods**

Dependent Variable

The statistical models estimated in this paper rely upon the Local Democracy Index (*Índice de Democracia Local* - IDL) of the city of São Paulo developed and applied by the Sivis Institute in 2019. The dependent variable, *Democratic Support*, is drawn from the IDL. *Democratic Support* is measured based on the response to the question *to what degree do you agree with the following phrase: democracy is preferable to any other form of government, independent of the circumstances?*.[3] The responses range from 1 (completely disagree) to 4 (completely agree). Both ordered models using the original scaling and binary models rescaled to estimate the probability of strongly supporting democracy are estimated below.

The IDL contains many other variables apt for similar investigations. Examples include regularity of political discourse (Smith, 2018), political knowledge (BARABAS et al., 2014), and frequency of voting. However, this analysis focuses on *Democratic Support* alone to keep the analysis tightly centered on a single dimension widely acknowledged as a requirement for democratic culture.

Distance as a Proxy for State Availability

The models presented in this paper are based upon certain assumptions about distances and spatial relationships. The main independent variable of interest, for instance, is *Mean State Distance* which is operationalized as the mean physical distance between an individual's geocoded location in the IDL and the nearest civil police office, military police office, conflict mediation center, fire station, and hospital. These agents of the state were selected for being the agents that generally have the greatest day to day contact with individual citizens and representative of the various faces of the state including public safety, conflict management, and healthcare provision.

[3] In the original Portuguese: *Em que grau o (a) sr./sra. concorda com a seguinte frase: "A democracia é preferível à qualquer outra forma de governo, independente das circunstâncias"?*

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With the expansion in the availability of Geographic Information System (GIS) Software, distance has become a tractable and precisely measurable variable in social science research. Distance is often used as a proxy for level of exposure between individuals and institutions or organizations. Braun 2016, for example, leveraged distance between Jewish residences and the nearest Catholic or Protestant Church in Amsterdam to evaluate whether minority religious groups are more likely to help another persecuted minority than are majority religious groups. Nunn and Wantchekon 2011 also famously used distance to the coast as an instrument for the prevalence of the slave trade in Africa. Although distance may not perfectly measure exposure, the basic logic underpinning the proxy is generally credible. Namely, individuals generally have less exposure to things that they live further away from *ceteris paribus*.

Scholars have also leveraged distance already as a proxy for exposure and interaction with the police and other organs of the state. Córdova and Kras 2020 for instance demonstrate that men living in municipalities with a women's police station in Brazil are less likely to express sexist attitudes and to support actions aimed at minimizing violence against women.

To leverage distance as a measure of state presence in this way, I collected data from the City of São Paulo's *Dados Abertos* (open data) system including coordinates for São Paulo military and civil police stations and offices, public hospitals, and fire stations. I then measured the distance between each geocoded respondent's location and each of the nearest of each of these offices. The distances were then combined into two indices of distance to state office using both the simple mean and the first principal component from a principal component analysis (PCA). While the precise estimates differ between these two index construction methods, neither the substantive interpretation nor the significance of the relationship changes between them. The index constructed from PCA is therefore only presented in the Appendix.

Crime and Punishment

An important dimension to include in this design is exposure that individual citizens have to the coercive arm of state power. The level of violence that the police use against citizens along with popular conceptions of police impunity for violent acts has consistently been shown to be toxic for democratic citizenship (Brinks, 2008). For many Brazilians, particularly poorer residents in favelas, often the only or most direct contact with the state is through violent confrontations with the military police. Exposure to police violence, especially in a context of low service provision, is likely to damage the relationship between individuals and the state and therefore diminish the attitudes and behaviors most important for democratic citizenship. In these cases, there might be a qualitative shift in how state presence is perceived, potentially reversing the effect of state

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availability. Proximity to incidents of state-sanctioned violence is therefore a vitally important control.

In order to control for and conduct an initial exploration into the effects that violent interactions with the state can have on democratic culture, the variable *Police Violence* will be included. The information regarding the dates and locations of lethal altercations with the police is published by the *Ouvidoria de Policia* (police ombudsman). The variable *Police Violence* is therefore a measure of physical distance between an individual respondent and the nearest recorded location of a lethal altercation with the police in the previous year, 2018.[4]

Two more dimensions of police-citizen interactions pertinent to the models estimated in this paper are *Trust in the Police* and *Police Legitimacy*. Tankebe 2013 identifies these two dimensions as critical in determining the nature of the relationship between citizens and police officers. The IDL contains two questions that address these two features directly. The first asks for respondents to rate the degree to which they trust the police and the second asks for respondents to rate how corrupt they believe the police to be.[5] The responses to both of these questions will be included in the models to help address the concern that both low support for democracy and distance from state institutions are influenced by these same factors.

The sort of additive model estimated in this paper is likely to not capture the true relationship between these police variables and support for democracy. The true relationship may be one of mediation, for example. However, exploring these possibilities is beyond the scope of this paper so all police variables will be estimated in an additive model.

Additional Controls

Although distance between an individual's place of residence and various state, party, or religious sites has been used in an emerging field of geospatial analysis, it is important to recognize that distance is a proxy for the theoretically important variable and to seriously consider what other possible confounding variables the measure could be introducing.

To hedge against this possibility and to boost the credibility of distance as a measure of contact with state agents, a number of additional spatial controls will be included in certain model

[4] All incidents are recorded by the police as *Morte Decorrente de Intervençao Policial* (death due to police intervention).

[5] The questions ask: (i) "To which degree do you trust in the following institutions/organizations?" (*Em que medida o (a) sr./sra. confia nas seguintes instituições/organizações?*), then listing a number of institutions/organizations including the police and measuring from "1 - do not trust" (*não confia*) to "4 - totally trust" (*confia totalmente*); and (ii) "Using grades from 0 to 10, wherein 0 means no corruption at all and 10 means the maximum level of corruption, in your opinion, which is the corruption level within the following institutions?" (*Usando notas de 0 a 10, sendo que a nota 0 significa que não existe nenhuma corrupção e a nota 10 significa que existe o máximo de corrupção, na sua opinião, qual é o nível de corrupção existente nas seguintes instituições?*), then again listing a number of institutions including the police.

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specifications. First, there is the danger that the measure of distance is simply a measure of marginality and that the results simply confirm the well-established finding that democratic culture is weaker in poorer, peripheral areas. To confront this possibility, two variables are included. *Capitol* is a measure of physical distance between the individual respondent and the mayor's office, which should be a more direct measure of how peripheral an individual is. *Favela*, on the other hand, is a measure representing the proportion of land within each district that has been designated a favela by the government of São Paulo.

While *Capitol* interprets marginality quite literally, *Favela* understands the periphery as a socioeconomic concept as opposed to physical one. Since the measure is based on physical distance, however, both meanings are important to include in the models.

Additional individual-level controls are included from the IDL including income level, educational attainment, race, and gender. Including these controls will help to address some concerns about self-selection effects, that poorer, less educated citizens live further away from state institutions and support democracy less and that citizens that do not trust the police are also skeptical of democracy and are choosing to live far away from symbols of state power. These individual-level controls include income, educational attainment, gender, race, and employment status. Unsurprisingly, several of these control variables, particularly income and education, are strong predictors of support for democracy.

Modeling Choices

Several different models will be estimated in order to explore the evidence available in the IDL. One of the most important considerations is to account for the multi-level nature of the data. All the covariates derived from the IDL and the measures of distance are at the individual level, for instance, but all other covariates are measured at the district level. Since there might be different individual-level and group-level effects, estimating a purely individual-level model could produce biased estimates.

For that reason, I elect to employ a random intercept model that allows for the intercept to vary across city districts for my preferred specification. While a district fixed effects model would account for between-group heterogeneity, the fixed effects model would be too harsh a solution for this case and would not allow for several of the group-level covariates of interest to be included. This sort of multilevel or hierarchical modeling amounts to a weighted average of complete pooling and fixed effects estimation where the weights are derived from group-level averages.

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Since multilevel models estimate more parameters than pooled models, they are less efficient. I will therefore present the pooled logistic regression results alongside the multilevel estimates, but will generally prefer the multilevel models for interpretation.

Binary dependent variable models have the advantage of being intuitive and relatively simple to explain, but sacrifice valuable information by converting the ordered, categorical nature of the response variable into a binary variable. Therefore, I will also estimate hierarchical ordered logistic regression models using the variables' original codings. While the results of these models are more precise representations of the original data structure, their substantive interpretation turns out to be more or less the same as the binary regression models in this case. As with the binary models, I allow for the intercept to vary across districts.

Imputation

As is typical of mass opinion surveys, many of the survey questions have a good amount of non-response. Most worryingly for our purposes, some of the geographic coordinates are missing, making distances impossible to calculate. Handling missing data is a subject of lively debate in the social sciences, but list-wise deletion is shown to bias model estimates. To avoid this source of bias, I have chosen to impute the missing values using the AMELIA II package (King et al., 2001).

Exploring the raw data, we observe that a number of respondents chose not to share their support for democracy with their interviewer. Altogether, 2.36% of these responses had to be imputed and 8.52% of distances. The missingness for these two items had no overlap. For observations with missingness, either geographic coordinates or support for democracy was missing, but never both. While multiple imputation has gained widespread acceptance in survey-based research, 8.52% is a relatively high level of missingness for the value used to compute the independent variable. I therefore estimate all models using list-wise deletion and present them in the Appendix to alleviate any remaining concerns about the imputation process. The reader can confirm that there is very little substantive difference between the results calculated from the imputed and list-wise deleted data, so there can be reasonable certainty that imputation lent greater precision to the estimates and did not introduce bias. Where the difference between the two estimates is notable, it will be mentioned in the body of the text.

Descriptive Spatial Exploration

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As Figures 1 through 4 shows, the IDL managed to gather responses from citizens all over the municipality of São Paulo, with significant numbers in areas of high and low levels of police violence as well as areas with dense networks of state offices and sparser areas. One interesting observation from seeing these two maps side-by-side is that the districts with the highest levels of violent confrontations with police forces also seem to have generally a lower number of police stations within the district. This somewhat unexpected relationship suggests that while most police are stationed near the city center, most violent operations take place in the periphery. The mismatch means that perhaps the negative effects of being distant from state offices are compounded by the fact that most interactions these peripheral districts do have consist of violent, coercive engagements with police forces, suggesting that distance could be a proxy for both level and type of interactions with the state.

As Figures 5 and 6 show, we also see major differences between the usual suspects of socio-economic and racial divisions. The mean for support for democracy among white respondents was significantly higher than either black or brown (*parda*) respondents while the mean support for democracy among the wealthiest respondents was almost a full point higher than the poorest respondents. Figure 5 demonstrates that strong support for democracy is nearly hegemonic among the wealthiest respondents. A vast majority of respondents in the highest income bracket claim to support or strongly support democracy, regardless of the circumstances. However, respondents in the lowest income bracket still largely support democracy, though a good number do admit democracy-skeptical attitudes.

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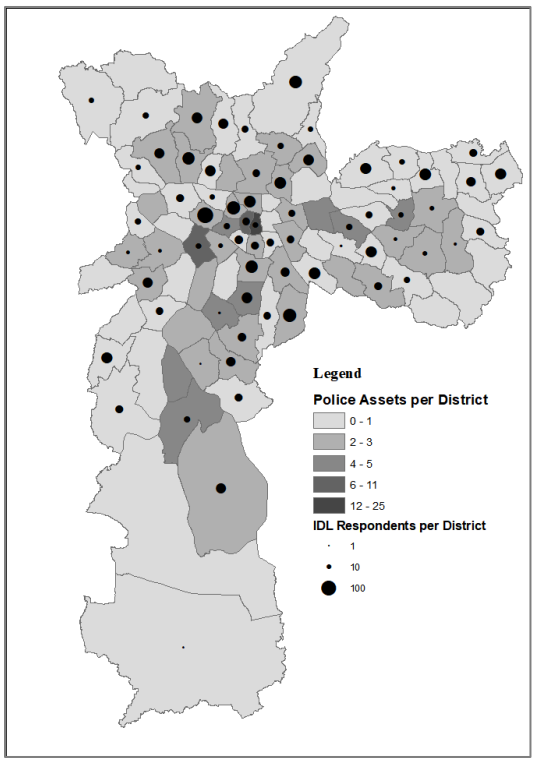

Figure 1: Distribution of respondents (circles) and police assets (shading)

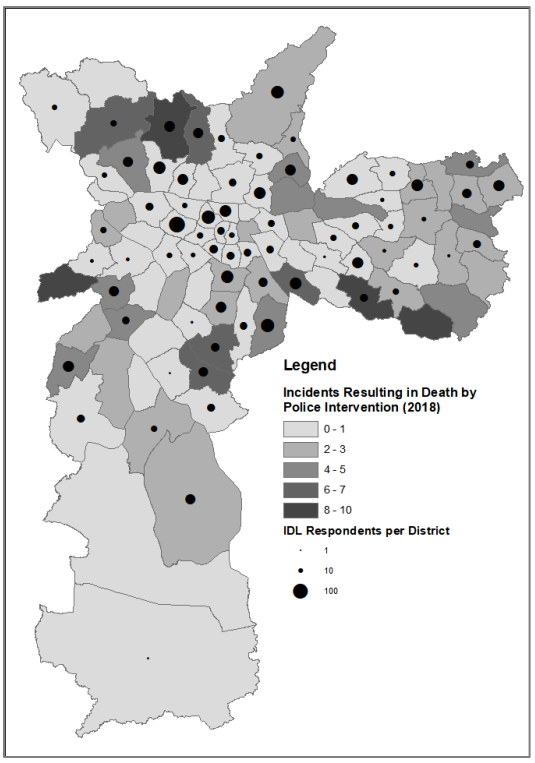

Figure 2: Distribution of respondents (circles) and deaths by police intervention (shading)

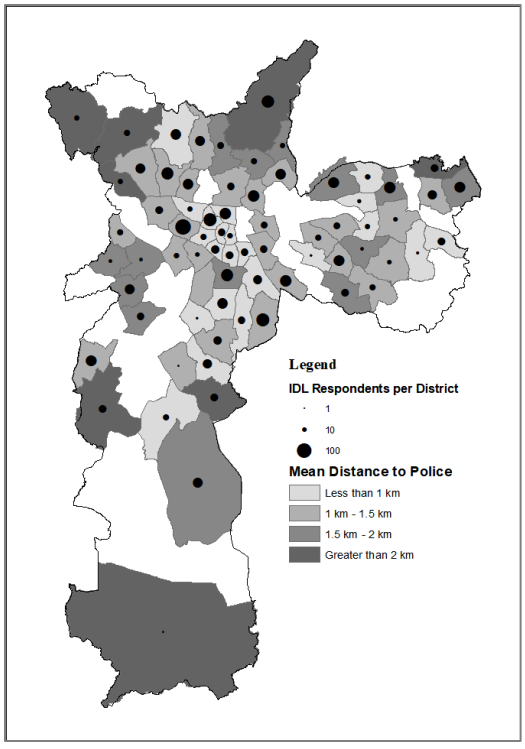

Figure 3: Distribution of respondents (circles) and mean distance to police stations (shading)

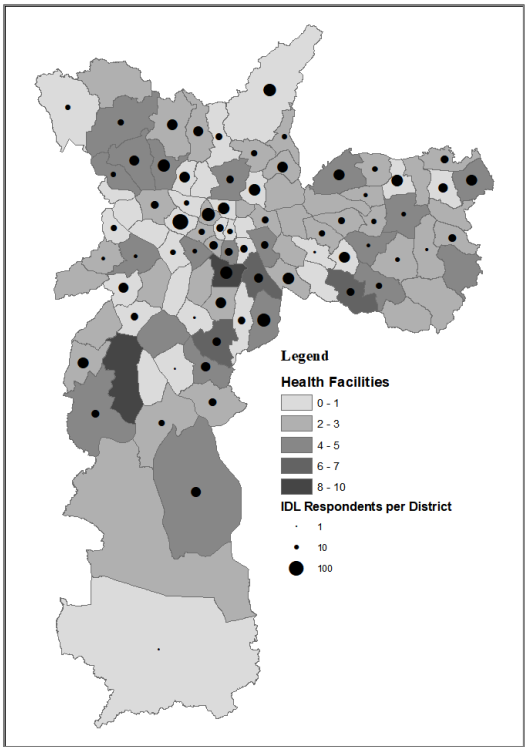

Figure 4: Distribution of respondents (circles) and number of public health facilities (shading)

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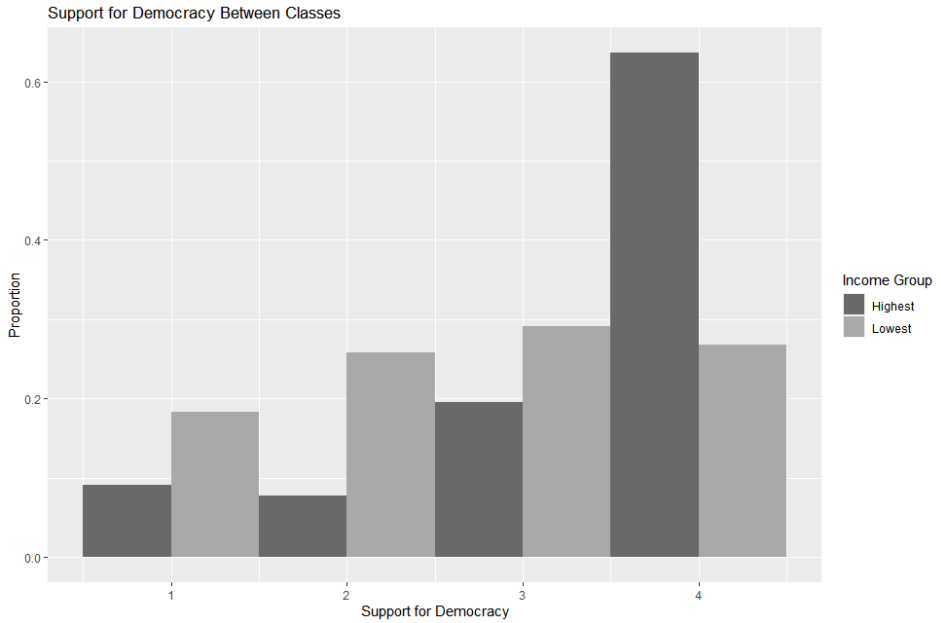

Figure 5: Support for Democracy for highest and lowest income groups

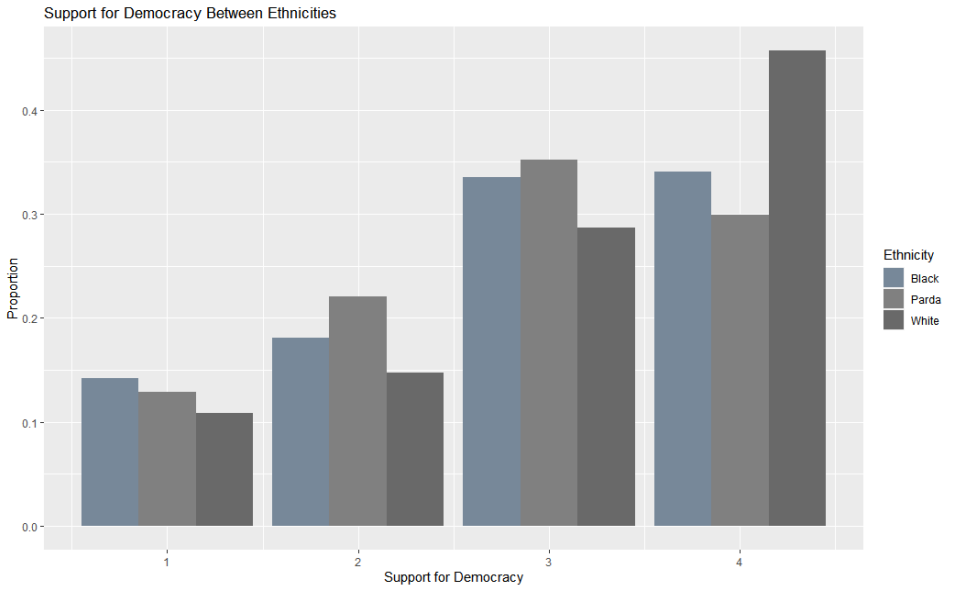

Figure 6: Support for democracy across major racial groups

The fact that the distribution of democratic attitudes seems to fall along well-recognized, mutually reinforcing social cleavages presents an empirical challenge, especially since the proposed measure of state distance also correlates with these features. However, this makes the case of São Paulo somewhat of a hard test. If state distance still has explanatory power even after

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controlling for race, income, and education, then the results are even stronger evidence that there is a real relationship between democratic attitudes and behaviors and state distance.

5. Results

Table 1 presents summaries of the regression models of the likelihood of supporting democracy over all other forms of government, regardless of the circumstances. Both indices of distance from state institutions, the simple mean and PCA presented in the Appendix, demonstrate negative and statistically significant results across multiple specifications. Although the models presented in the body of the text only use the mean index, full model estimates using the PCA index can be found in the Appendix and a graphical representation of the PCA measure of distance can be found in Figure 6. Table 1 presents the estimated coefficients for the independent variables of interest. In order to save space, a full summary of the model estimates is not presented in the body of the text but can be found in the Appendix.

Figure 7 graphically demonstrates the estimated relationship between the measures of distance and the predicted probability of strongly supporting democracy. For mean distance, going from the observed minimum to the median represents a sizable 17% drop in the probability of strongly supporting democracy, from 44% to roughly 26%. Although there is less density at the extremely distant end of the plot, the multi-level logit model predicts support in the neighborhood of 14%. The results for the index formed using PCA presented in the Appendix are substantively similar with respondents living closest to state offices being about 16% more likely to express strong support for democracy.

Comparing the magnitude of this effect to other well-established socio-economic variables suggests that the measured effect of state availability represents a substantively meaningful effect, and one roughly on par with socio-economic characteristics. For example, the estimated increase in the probability of supporting democracy when moving from the lowest income bracket to the median bracket is 13%, actually lower than the 17% change predicted by moving from the observed minimum to median value of *Mean Distance to State*. However, the difference between these two estimates is not statistically significant from zero, so we should not expect state availability to cancel out differences between classes completely and consistently. However, it might be able to somewhat temper the divide in starkly unequal societies such as in Brazil.

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Table 1: Regression results

	(1)	(2)	(3)	(4)
Mean State Distance	-0.362***	-0.219***	-0.190**	-0.144***
	(0.072)	(0.073)	(0.081)	(0.055)
Police Violence	0.172***	0.009	0.049	-0.018
	(0.054)	(0.045)	(0.055)	(0.038)
Spatial Controls	NO	YES	YES	YES
Individual Controls	NO	YES	YES	YES
N	2,417	2,417	2,417	2,417
Log Likelihood	-1,562.544	-1,491.040	-1,486.168	-3,039.868
AIC	3,133.088	3,010.079	3,002.335	6,109.737
BIC	3,156.249	3,091.143	3,089.190	6,196.591

*p < .1; **p < .05; ***p < .01

Notes: Models 1 and 3 present results for multilevel binary logit models clustered at the district level. Model 2 presents pooled binary logit. Model 4 presents results for a multilevel ordered logit clustered at the district level. Clustered standard errors in parentheses.

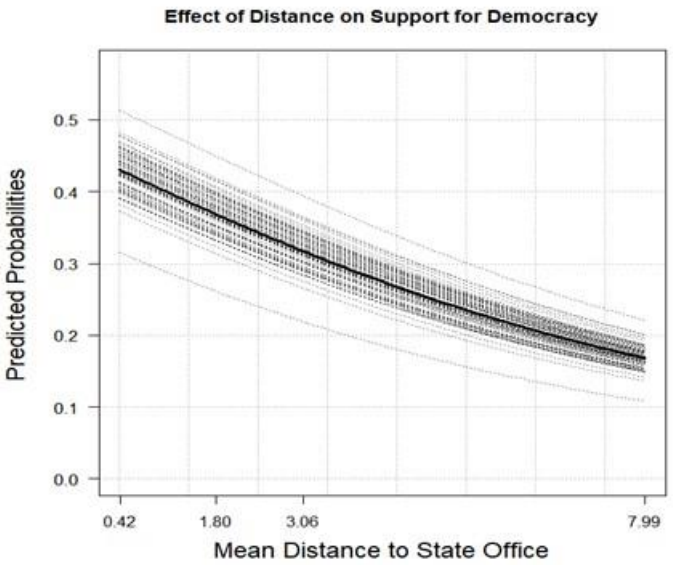

Figure 7: Predicted probabilities (Model 3)

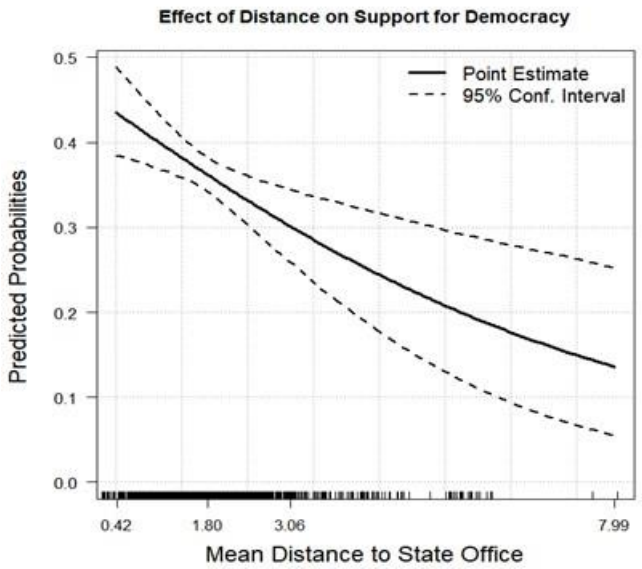

Figure 8: Predicted probabilities, random intercepts plotted

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While the results are weaker, the estimated models present some suggestive evidence in favor of *H2*. As expected, respondents who live closer to the locations of incidents where an individual dies as the result of police action are less likely to express strong support for democracy. However, the magnitude of this effect diminishes dramatically with the full specification and the predicted effect loses statistical significance. This result presents some initial evidence that contact with state officials can have different effects upon an individual's support for democracy depending on the nature of that contact. However, this finding is more suggestive than conclusive and requires a separate research design aimed at specifically identifying the causal effect of police behavior on individual-level attitudes. Most importantly for current purposes is to note that *Mean State Distance*, the measure of access to state institutions, remains substantively large and statistically significant with the inclusion of the police controls.

This finding suggests that support for democracy among the respondents of the IDL correlates significantly with physical distance from certain state institutions, even after accounting for wealth, education, district-level characteristics, and residence in favelas. A future step in this line of investigation would be to improve the measurement of district-level spatial features to better measure even more specific dimensions of state presence at the group-level. Currently, the distribution of healthcare facilities is the only purely group-level predictor. Modeling using variables that paint a more complete picture of how different neighborhood-level environments differ would produce more credible and precise estimates.

Discussion

As demonstrated in the models presented in the previous section, the measure of distance from police institutions has a significant negative effect on the probability of supporting democracy. The distance based measure of exposure to the coercive power of the state found only weak support, on the other hand. While the simplest models estimated that respondents living closest to sites of police violence were less likely to support democracy and engage in political dialogue, the relationship lost all significance when including the spatial and individual controls.

These results present preliminary evidence that certain dimensions of democratic citizenship are positively related to contact with agents of the state. This finding aligns with the theoretic expectations from the literature and provides further support for the idea that stronger, more present state institutions can help strengthen democratic consolidation. However, the divergent effects of various faces of the state did not find definitive support. In other words, one theoretical expectation that closer contact with the state correlates with stronger democratic

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attitudes was confirmed while the other, that closer contact with state coercive power weakens democratic attitudes, found only weak support.

A couple of empirical issues deserve some further discussion. The design presented in this paper cannot completely eliminate the possibility of a self-selection effect. That is, it could be that individuals who support democracy simply choose to live close to state offices. The fact that the measure of distance varies within neighborhoods as well as the multilevel modeling strategy that allows for model parameters to vary between city districts helps address this concern somewhat, but cannot eliminate it. For that reason, the findings in this paper should be read as mostly descriptive in nature, uncovering certain patterns of place of residence and democratic attitudes, and at most simply suggestive of a potential causal relationship.

Another important question to consider with measurements based on distance is what exactly distance is measuring. While this paper understands the distance between a respondent's domicile and state offices to be a proxy for level of access to state resources, there are other possibilities. One such possibility is that distance determines not so much the frequency of contact but rather the type of contact. As shown in Figure 1, districts with higher average distance from police stations actually experience higher levels of police violence, suggesting that the amount of contact might be the same or perhaps even higher, but the type of contact is different. Further distances might be indicators of more violent, repressive state action while closer distances indicate a greater possibility for community-based policing tactics. While the inclusion of *Police Violence* in the model helps to control for this other interpretation, the possibility still exists. More work is therefore needed to understand the measure of distance and what exactly it is measuring.

One way to refine this measurement would be to collect more data through survey instruments or even more detailed records of police activity to generate an estimate of how often an individual encounters agents of the state and in what capacity on a daily basis. Such a refinement would also be helpful in probing further the hypothesized relationship between the coercive arm of the state and democratic attitudes and activities. It could be that the current distance-based measure is simply too noisy and collinear with other socio-economic features and that a more precise measurement strategy could uncover evidence of such a relationship.

The results presented above are therefore promising for this line of inquiry, but significant work remains to be done. Ultimately, these results demonstrate that there is a relationship between distance from state institutions such as police stations, fire stations, and hospitals and attitudes such as support for democracy and willingness to engage in political dialogue. The next steps would be to identify the mechanisms by which the relationship operates as well as more causal inference-minded designs to account for potential selection effects. As the IDL expands to other cities and is replicated over the years, these kinds of analyses will be possible.

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6. Conclusion

The results presented in this paper showcase a first step in a research agenda investigating the relationship between state presence and individual-level democratic attitudes. Employing data from the IDL and placing the geocoded locations of the respondents into the spatial context of São Paulo, this paper demonstrates that respondents living closer to police stations, hospitals, and other symbols of state institutional power are more likely to express a stronger support for democracy as the best form of government. There was also some initial evidence that the strength and nature of this relationship depends on the quality of interaction with the state. In certain specifications, proximity to violent confrontations with the military police cancelled out the effect of living close to the state. However, those results were not consistent across model specifications and should be understood as only suggestive and inconclusive.

Further avenues of research emerging from this study are clear. For instance, while a strong and significant relationship between the distance-based measure of state presence and democratic attitudes is shown, there is little that we can conclude about causality from the present design. Future work, perhaps with IDL data collected in future years, will be able to investigate the relationship from a more rigorous causal inference perspective. It will be important to know whether increased state presence is causing individuals to adopt democratic attitudes or if those individuals are choosing to live close to state offices, for instance.

Another path forward is to develop more precise measurements for the different faces of state presence such as public goods provision and coercive capacity in order to better estimate the variable impact that the different faces can have on democratic citizenship. While only weak evidence was presented in this paper in support of the idea that police coercion can mitigate the positive impact of living close to symbols of state power, the extensive literature on the relationship between policing and citizenship calls for further investigation. A careful design and data gathering method would be able to parse the effect of exposure to police violence from the other individual-level features that correlate.

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Appendix A: Complete Models

Table 2

	(1)	(2)	(3)	(4)
Mean Distance to State	-0.362***	-0.219***	-0.190**	-0.144***
	(0.072)	(0.073)	(0.081)	(0.055)
Income Bracket		0.234***	0.241***	0.239***
		(0.045)	(0.045)	(0.039)
Police Violence	0.172***	0.009	0.049	-0.018
	(0.054)	(0.045)	(0.055)	(0.038)
Educational Attainment		0.254***	0.249***	0.235***
		(0.045)	(0.045)	(0.038)
Employment		-0.100	-0.093	-0.019
		(0.094)	(0.095)	(0.079)
Black		-0.269**	-0.275**	-0.268**
		(0.123)	(0.125)	(0.105)
Brown (*Parda*)		-0.388***	-0.391***	-0.295***
		(0.102)	(0.104)	(0.086)
Trust in Police		0.008	0.004	0.021
		(0.029)	(0.029)	(0.025)
Male		-0.325***	-0.322***	-0.239***
		(0.091)	(0.092)	(0.078)
Capitol		-0.010	-0.011	-0.003
		(0.008)	(0.010)	(0.007)
Favela		-0.027	-0.083	0.002
		(0.191)	(0.199)	(0.151)
District Healthcare Facilities		0.015	0.017	
		(0.047)	(0.059)	
Police Legitimacy		-0.019	-0.016	-0.038***
		(0.017)	(0.017)	(0.014)
Constant	-0.120	-0.792***	-0.883***	
	(0.151)	(0.256)	(0.272)	
N	2,417	2,417	2,417	2,417
Log Likelihood	-1,562.544	-1,491.040	-1,486.168	-3,039.868
AIC	3,133.088	3,010.079	3,002.335	6,109.737
BIC	3,156.249	3,091.143	3,089.190	6,196.591

*p < .1; **p < .05; ***p < .01

Notes: Models 1 and 3 present results for multilevel binary logit models clustered at the district level. Model 2 presents pooled binary logit. Model 5 presents results for a multilevel ordered logit clustered at the district level. Clustered standard errors in parentheses.

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Appendix B: Models Estimated with List-wise Deletion

Table 3

	(5)	(6)	(7)	(8)
Mean State Distance	-0.350***	-0.187**	-0.180**	-0.141**
	(0.075)	(0.080)	(0.087)	(0.061)
Income Bracket		0.251***	0.256***	0.248***
		(0.050)	(0.050)	(0.044)
Police Violence	0.163***	0.002	0.030	-0.026
	(0.055)	(0.048)	(0.058)	(0.041)
Educational Attainment		0.259***	0.260***	0.246***
		(0.049)	(0.050)	(0.042)
Employment		-0.026	-0.024	0.025
		(0.103)	(0.104)	(0.088)
Black		-0.229*	-0.245*	-0.227*
		(0.135)	(0.137)	(0.116)
Brown (*Parda*)		-0.389***	-0.397***	-0.312***
		(0.112)	(0.113)	(0.096)
Trust in Police		-0.022	-0.023	0.001
		(0.031)	(0.031)	(0.027)
Male		-0.315***	-0.318***	-0.219**
		(0.100)	(0.100)	(0.087)
Capitol		-0.004	-0.005	0.003
		(0.009)	(0.011)	(0.007)
Favela		-0.202	-0.215	-0.182
		(0.204)	(0.210)	(0.161)
District Healthcare Facilities		0.033	0.021	
		(0.052)	(0.062)	
Police Legitimacy		-0.021	-0.021	-0.038**
		(0.019)	(0.019)	(0.016)
Constant	-0.093	-0.860***	-0.916***	
	(0.155)	(0.284)	(0.299)	
N	2,154	1,988	1,988	1,992
Log Likelihood	-1,417.470	-1,243.642	-1,242.565	-2,470.333
AIC	2,842.940	2,515.283	2,515.131	4,970.666
BIC	2,865.640	2,593.612	2,599.054	5,054.619

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$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Notes: Models 1, 3, and 4 present results for multilevel binary logit models clustered at the district level. Model 2 presents pooled binary logit. Model 5 presents results for a multilevel ordered logit clustered at the district level. Clustered standard errors in parentheses.

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Appendix C: Models Estimated Using PCA Index

Table 4:

	(9)	(10)	(11)	(12)
PCA Distance to State	-0.151***	-0.093***	-0.082**	-0.065***
	(0.030)	(0.030)	(0.034)	(0.023)
Income Bracket		0.234***	0.241***	0.239***
		(0.045)	(0.045)	(0.039)
Police Violence	0.164***	0.005	0.046	-0.019
	(0.054)	(0.044)	(0.054)	(0.037)
Educational Attainment		0.254***	0.249***	0.235***
		(0.045)	(0.045)	(0.038)
Employment		-0.100	-0.093	-0.019
		(0.094)	(0.095)	(0.079)
Black		-0.269**	-0.275**	-0.267**
		(0.123)	(0.125)	(0.105)
Brown (*Parda*)		-0.386***	-0.390***	-0.293***
		(0.102)	(0.104)	(0.086)
Trust in Police		0.007	0.004	0.021
		(0.029)	(0.029)	(0.025)
Male		-0.326***	-0.322***	-0.240***
		(0.091)	(0.092)	(0.078)
Capitol		-0.010	-0.011	-0.003
		(0.008)	(0.010)	(0.007)
Favela		-0.020	-0.077	0.012
		(0.191)	(0.199)	(0.151)
District Healthcare Facilities		0.017	0.018	
		(0.047)	(0.058)	
Police Legitimacy		-0.019	-0.016	-0.038***
		(0.017)	(0.017)	(0.014)
Constant	-0.129	-0.792***	-0.881***	
	(0.148)	(0.255)	(0.272)	
N	2,417	2,417	2,417	2,417
Log Likelihood	-1,562.547	-1,490.699	-1,485.944	-3,039.326
AIC	3,133.094	3,009.398	3,001.888	6,108.653
BIC	3,156.255	3,090.462	3,088.742	6,195.507

*p < .1; **p < .05; ***p < .01

Notes: Models 1, and 3 present results for multilevel binary logit models clustered at the district level. Model 2 presents pooled binary logit. Model 4 presents results for a multilevel ordered logit clustered at the district level. Clustered standard errors in parentheses.

Revista Teoria & Pesquisa, v. 29, n. 2, 2020, p. 159-186.
DOI: http://dx.doi.org/10.31068/tp.29206